WHICH COUNTRIES BECOME TAX HAVENS?

Dhammika Dharmapala
James R. Hines Jr.

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ABSTRACT

This paper analyzes the factors influencing whether countries become tax havens. Roughly 15 percent of countries are tax havens; as has been widely observed, these countries tend to be small and affluent. This paper documents another robust empirical regularity: better-governed countries are much more likely than others to become tax havens. Using a variety of empirical approaches, and controlling for other relevant factors, governance quality has a statistically significant and quantitatively large impact on the probability of being a tax haven. For a typical country with a population under one million, the likelihood of a becoming a tax haven rises from 24 percent to 63 percent as governance quality improves from the level of Brazil to that of Portugal. The effect of governance on tax haven status persists when the origin of a country's legal system is used as an instrument for its quality of its governance. Low tax rates offer much more powerful inducements to foreign investment in well-governed countries than elsewhere, which may explain why poorly governed countries do not generally attempt to become tax havens -- and suggests that the range of sensible tax policy options is constrained by the quality of governance.

Dhammika Dharmapala
Ford School of Public Policy
University of Michigan
Weill Hall 5219
735 South State St.
Ann Arbor, MI 48109-3091
dhammika@umich.edu

James R. Hines Jr.
Department of Economics
University of Michigan
343 Lorch Hall
611 Tappan Street
Ann Arbor, MI 48109-1220
and NBER
jrhines@umich.edu

1.   *Introduction*

Countries eager to attract foreign capital face considerable international pressure to minimize their taxation of income earned by foreign investors. Since reducing the taxation of investment income earned by foreigners may entail unappetizing budgetary or political compromises, not all countries seek to attract foreign investment in this way. The "tax havens" are locations with very low tax rates and other tax attributes designed to appeal to foreign investors. Tax haven countries receive extensive foreign investment, and, largely as a result, have enjoyed very rapid economic growth over the past 25 years (Hines, 2005). There are roughly 40 major tax havens in the world today, but the sizable apparent economic returns to becoming a tax haven raise the question of why there are not more.

This paper considers the determinants of who becomes a tax haven and who does not. Some of the characteristics of tax havens are well-documented in the literature: tax havens are small countries, commonly below one million in population, and are generally more affluent than other countries. What has not been previously noted in the literature, but is apparent in the data, is that tax havens score very well on cross-country measures of governance quality that include measures of voice and accountability, political stability, government effectiveness, rule of law, and control of corruption. Indeed, there are almost no poorly governed tax havens. In a regression framework that controls for other observable variables, the impact of good governance on the likelihood of becoming a tax haven is both statistically significant and quantitatively very large: improving the quality of governance from the level of Brazil to that of Portugal raises the likelihood of a small country being a tax haven from 24 percent to roughly 63 percent.

The basic finding that tax havens are well-governed is robust to the use of a number of different statistical approaches (including a nonparametric matching procedure). However, it can be difficult to interpret cross-country evidence of this type, since the decision to become a tax haven may ultimately affect the quality of local governance, and the quality of governance may itself be influenced by economic or political conditions that also determine whether or not a country becomes a tax haven. In either case, the data reflect a non-random assignment of local governance quality, and raise the possibility that the apparent effect of governance on tax haven

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status may represent a biased estimate of any true effects. In order to address this concern, the nature of a country's legal origin is used as an instrument for governance quality in estimating the impact of governance on the likelihood of becoming a tax haven. The results indicate that governance quality exerts at least as powerful an effect on tax haven status when instrumented by legal origin as it does in the basic regression analysis. This suggests strongly that the direction of causality runs from governance quality to tax haven status. The instrumental variables analysis, together with a series of additional robustness checks, tends not to support alternative explanations based on various omitted variables (such as natural resource abundance, unobserved tastes for government spending, or communications infrastructure).

Why are better-governed countries more likely than others to become tax havens? One possibility is that the returns to becoming a tax haven are greater for well-governed countries: that higher foreign investment flows, and the economic benefits that accompany them, are more likely to accompany tax reductions in well-governed countries than they are tax reductions in poorly-governed countries. In this interpretation, poorly governed countries do not forego potential economic benefits in not becoming tax havens, since few if any of the benefits would flow to them if they did. Evidence from the behavior of American firms is consistent with this explanation, in that tax rate differences among well-governed countries are associated with much larger effects on U.S. investment levels than are tax rate differences among poorly governed countries.

There is a substantial theoretical literature on the factors that influence the desirability of becoming a tax haven (e.g. Kanbur and Keen, 1993; Hansen and Kessler, 2001; Slemrod and Wilson, 2006). The empirical evidence presented in this paper suggests that tax policy choices are implicitly constrained by the quality of governance. The supplementary analysis in Section 4.4 identifies a large negative effect of governance quality on corporate tax rates, thereby adding to a growing literature on the determinants of these rates (e.g. Slemrod, 2004; Kenny and Winer, 2006; Hines, 2007). The analysis of investment by American firms in Section 5 suggests that governance quality is an important, and hitherto largely neglected, determinant of the tax elasticity of foreign investment. Hence it appears that tax policies can be added to the growing list of economic policies likely to be influenced by governance institutions.

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Section two of the paper reviews the factors that influence the desirability of becoming a tax haven. Section three describes the data used in the empirical analysis that follows, noting the robust pattern that tax haven countries are well governed. Section four presents the basic regression analysis of the determinants of tax haven status, along with instrumental variables specifications in which legal origins are used as instruments for current governance quality. It also reports the results of a series of robustness checks. Section five compares the tax sensitivity of American investment in well governed and poorly governed countries. Section six concludes.

2.   *Tax Havens in Theory and Practice*

Tax havens are well positioned to benefit from the considerable international mobility of business investment and the associated tax base.[1] There is ample reason to expect their low tax rates to influence both the investment and the tax avoidance activities of foreign investors, and an extensive literature documents the magnitudes of the effects of low tax rates.[2] With respect to investment, tax policies are obviously capable of affecting the volume and location of FDI since, all other considerations equal, higher tax rates reduce after-tax returns, thereby reducing incentives to commit investment funds. The first generation of empirical studies, reviewed in Hines (1997, 1999), reports tax elasticities of investment in the neighborhood of –0.6. What this means is that a ten percent tax reduction (for example, reducing the corporate tax rate from 35 percent to 31.5 percent) is typically associated with six percent greater inbound foreign investment. More recent evidence suggests that FDI is even more tax sensitive than this.[3]

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[1] Tax havens may serve different purposes for business investors than they do for individual and trust investors. The analysis that follows concerns only the business uses of tax havens, which in any case greatly exceed their use by individual investors. The sum of incomes earned in Panama, Bermuda, all Caribbean and West Indian countries, Ireland, Luxembourg, Switzerland, Hong Kong and Singapore by American individuals filing forms 1116 and 2555 (which entails some double counting, as the same individual may file both) in 2001, and trust income earned in 2002, was $7.4 billion. By contrast, the controlled foreign corporations of American corporations reported $57.3 billion of after-tax earnings and profits in these countries in 2002. See Curry and Kahr (2004), Holik (2005), and Masters and Oh (2006). Any unreported income is of course not captured in these figures.

[2] See Gordon and Hines (2002) and Devereux (2006) for recent surveys. For a fuller discussion of the tax rules facing U.S. multinational firms and the evidence on behavioral responses to international taxation of U.S. multinationals, see Hines (1997, 1999) and Desai, Foley and Hines (2003).

[3] For example, Altshuler *et al*. (2001) compare the tax sensitivity of aggregate capital ownership in 58 countries in 1984 to that in 1992, reporting estimated tax elasticities that rise (in absolute value) from -1.5 in 1984 to -2.8 in 1992. Using data drawn from a much larger sample of countries, and covering the years 1982, 1989, 1994 and 1997, Desai, Foley and Hines (2003) offer evidence of an average -1.5 tax elasticity of asset ownership. Altshuler and Grubert (2004) offer evidence of a -3.5 tax elasticity of investment in a sample of 58 countries in 2000.

Tax havens attract foreign investment not only because income earned locally is taxed at favorable rates, but also because tax haven activities facilitate the avoidance of taxes that might otherwise have to be paid to other countries. One way that tax havens facilitate tax avoidance is by permitting taxpayers to reallocate taxable income from high-tax to low-tax jurisdictions. For instance, investments in high-tax countries may be financed with loans from affiliates in tax havens; the resulting interest payments reduce taxable incomes in high-tax locations while producing taxable income in the havens. Another method of reallocating taxable income is to adjust transfer prices used for within-firm transactions. Multinational firms typically can benefit by reducing prices charged by affiliates in high-tax countries for items and services provided to affiliates in low-tax countries. OECD governments require firms to use transfer prices that would be paid by unrelated parties, but enforcement is difficult, particularly when pricing issues concern unique or proprietary items such as patent rights. Given the looseness of the resulting legal restrictions, it is entirely possible for firms to adjust transfer prices in a tax-sensitive fashion without violating any laws. Multinational firms can structure a variety of transactions – intrafirm debt, royalty payments, dividend repatriations, and intrafirm trade – in a manner that is conducive to tax avoidance.[4] Finally, tax haven operations can be used to avoid triggering home-country taxes that would otherwise be due on repatriated income. Placing a tax haven company at the top of the ownership chain of a firm's foreign operations creates opportunities to redeploy income between foreign jurisdictions without receiving the income in the firm's home country and thereby producing a home country tax obligation. The resulting tax savings can be substantial,[5] contributing to the value of tax haven operations.

Taken together, this evidence implies that countries contemplating adopting very low tax rates can reasonably expect to receive significant foreign investment as a consequence. Active tax avoidance on the part of international investors implies that taxable income conditional on investment levels is also very sensitive to tax rates. As a result, the budgetary cost to a country that unilaterally reduces its tax rate need not be very great, since a lower tax rate is accompanied

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[4] Studies of the responsiveness of firms to taxes on these margins examine reported profitability, tax liabilities, and specific measures of financial and merchandise trade in order to identify the effects of taxes; Hines (1999) and Devereux (2006) survey this evidence.

[5] See, e.g., Altshuler and Grubert (2003) and Desai, Foley and Hines (2003).

by a larger tax base due both to greater investment and to greater taxable income associated with local investment.

Any budgetary cost in the form of reduced government revenue that accompanies becoming a tax haven can, in principle, be recouped by increasing other taxes, such as personal income taxes, value-added taxes, property taxes, or sales taxes. Indeed, the classic argument of Diamond and Mirrlees (1971) that governments unnecessarily distort production when they tax intermediate production implies (Gordon, 1986) that governments with a sufficient number of available tax instruments can make all domestic residents better off by not taxing internationally mobile capital.[6] The reason is that small open economies are inevitably price-takers in world markets, from which it follows that they are unable to shift any of their tax burdens onto foreign investors. As a result, they have no incentive to tax foreign investors, since doing so simply distorts their economies without extracting resources from foreigners. Since the costs of taxing foreigners are borne by domestic factors in the form of lower wages and land prices, and these costs include deadweight losses due to inefficient taxation, domestic residents would be made better off by removing any taxes on foreign investors and instead directly taxing the returns to local factors of production.

The Diamond and Mirrlees argument offers countries a very powerful rationale in favor of becoming tax havens, so it is worth identifying some of the key assumptions on which the argument is based. The first assumption is that countries are relatively small, that they are price takers in the world economy, and in particular cannot substantially affect the world return to capital. While this is certainly a fair description of many countries, it may not characterize them all, so the Diamond and Mirrlees logic is thought to have strongest purchase on small countries. The second assumption is that foreign investors do not earn economic rents, in the form of supranormal rates of return, from their local investments – or that, if they do, then the local government is able to extract the rents with special charges, and need not use ordinary business taxes for this purpose. This assumption rules out the possibility that governments might want to maintain high rates of corporate income taxation in order to recoup some of the economic rents earned by local mining firms, for example.[7] The third assumption is that governments have at

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[6] See Gordon and Hines (2002) for a further elaboration of this argument, and Keen and Wildasin (2004) for an important caveat concerning the abilities of governments to transfer resources among themselves.
[7] Thus, countries that enjoy locational rents (e.g. through the presence of natural resources) may optimally choose to impose high corporate taxes, if they are unable to impose a pure profits tax of the type envisaged by Diamond and

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their disposal a sufficient number of tax instruments that they can effectively replicate the set of tax burdens that would be created by taxing foreign investment income, only do so in a more efficient manner. Finally, the fourth assumption is that foreign investors actually bear a burden from paying local taxes. While this seems a rather obvious assumption, there can be situations (analyzed, for example, by Gordon (1992)) in which greater home country taxes exactly offset the benefits of foreign tax reductions, leaving host governments with little or no incentive to offer investors low tax rates.

The experience of tax haven economies in the period since 1980 is consistent with the theory predicting significant associated economic benefits. Hines (2005) reports that tax haven economies grew at an average annual real per capita rate of 3.3 percent between 1982 and 1999, which compares favorably to the 1.4 percent growth rate of the world as a whole. Furthermore, the public finances of tax havens remain robust despite their low tax rates on foreign investment: by some measures, tax haven governments are actually larger (as a fraction of GDP) than governments elsewhere in the world, and by other measures there is no discernable difference between government sizes in the two groups of countries. It appears, therefore, that tax haven governments are able to tap revenue sources other than business taxes to finance significant levels of government spending, either through the greater economic activity that accompanies becoming a tax haven, or by imposing higher rates of other taxes.

Concern over the possible implications of international tax competition has prompted many governments to consider international cooperative efforts designed to preserve their abilities to tax mobile business income.[8] Despite enthusiasm expressed by some participants, differences of viewpoint and interest make international tax agreements involving more than two countries notoriously difficult to conclude. The most ambitious and effective multilateral tax agreement to date is an effort of the Organisation for Economic Cooperation and Development (OECD).[9] The OECD in 1998 introduced what was then known as its Harmful Tax Competition initiative (OECD, 1998), and is now known as its Harmful Tax Practices initiative. The purpose

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Mirrlees (1971). A locational advantage may also stem from agglomeration externalities that raise the returns to capital in the presence of a large preexisting capital stock (see Kind, Knarvik and Schjelderup (2000) and Borck and Pfluger (2006) for theoretical analyses).

[8] It is far from clear, however, that tax havens reduce incentives to conduct business in high-tax countries, and recent evidence (Desai, Foley and Hines, 2006a, b) suggests that the presence of nearby tax havens stimulates activity in high-tax locations.

[9] The following discussion of the OECD initiative is drawn from Hines (2006).

of the initiative was to discourage OECD member countries and certain tax havens outside the OECD from pursuing policies that were thought to harm other countries by unfairly eroding tax bases. In particular, the OECD criticized the use of preferential tax regimes that included very low tax rates, the absence of effective information exchange with other countries, and ring-fencing that meant that foreign investors were entitled to tax benefits that domestic residents were denied. The OECD identified 47 such preferential regimes, in different industries and lines of business, among OECD countries. Many of these regimes have been subsequently abolished or changed to remove the features to which the OECD objected.

As part of its Harmful Tax Practices initiative, the OECD also produced a List of Un-Cooperative Tax Havens, identifying countries that have not committed to sufficient exchange of information with tax authorities in other countries. The concern was that the absence of information exchange might impede the ability of OECD members, and other countries, to tax their resident individuals and corporations on income or assets hidden in foreign tax havens. As a result of the OECD initiative, along with diplomatic and other actions of individual nations, 33 countries and jurisdictions outside the OECD committed to improve the transparency of their tax systems and to facilitate information exchange. As of 2004 there remained five tax havens not making such commitments,[10] but the vast majority of the world's tax havens rely on low tax rates and other favorable tax provisions to attract investment, rather than using the prospect that local transactions will not be reported.

3.   *Evidence*

Most tax havens are small countries. Thus, the data used in this study pay particular attention to including smaller countries and territories. GDP and population data are available from the various sources detailed in the Data Appendix for 227 countries and territories in 2004. The governance measure described below is available for 209 of these countries and territories. Although a basic criterion for inclusion is some degree of fiscal autonomy, a number of the

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[10] These tax havens are Andorra, Liberia, Liechtenstein, the Marshall Islands, and Monaco (OECD, 2004). It is noteworthy that the commitments of other tax haven countries to exchange information and improve the transparency of their tax systems is often contingent on OECD member countries doing the same. Given the variety of experience within the OECD, and the remaining differences between what countries do and what they have committed to do, the ultimate impact of the OECD initiative is still uncertain. The OECD (2006) reports considerable progress in commitments to information exchange, though there remain many gaps, particularly among tax havens.

jurisdictions in the dataset (including many of the tax havens) are not independent sovereign states, as that term is generally understood. To take account of this, the models below include a control for membership in the United Nations (UN) organization, a status closely associated with state sovereignty. In addition, consistent results are obtained when samples are restricted to UN members.

While there are many alternative notions of what constitutes a tax haven, the analysis in this paper uses as its basic definition the list of 41 countries and territories provided in Appendix 2 of Hines and Rice (1994, p. 178), which is based on the coexistence of low business tax rates in a jurisdiction in 1982 and its identification as a tax haven by multiple authoritative sources. All 41 of these countries reappear in the subsequent Diamond and Diamond (2002) listing of the world's tax havens for 2002, and there have been no significant additions to this list. Of these 41 countries, 39 can be linked to currently existing entities for which GDP and population data for 2004 exist; governance data are available for 33 of these jurisdictions. Thus, the dependent variable in the basic analysis below is an indicator variable for whether a country is classified as a tax haven both in Hines and Rice (1994) and in Diamond and Diamond (2002). A list of countries and territories classified as tax havens under this definition, and under the OECD's criteria, is presented in Table 1.[11] As tax haven status is highly stable over time, there is no meaningful longitudinal variation in this measure, and the analysis is necessarily restricted to cross-sectional methods.

The primary explanatory variable of interest is a measure of countries' governance institutions. Drawing on the many indices that have been proposed as indicators of country-level institutional quality, Kaufmann, Kraay and Mastruzzi (2005) use a principal components analysis to construct 6 measures of different elements of country-level governance. These are labeled "voice and accountability" (VA), "political stability" (PS), "government effectiveness" (GE), "regulatory quality" (RQ), "rule of law" (RL), and "control of corruption" (CC). Each of these measures takes values from approximately -2.5 to 2.5 (with higher values indicating better governance), and is normalized so that the mean across all countries is 0 and the standard deviation is 1. These data are available at 2-year intervals for the period 1996-2004, and have

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[11] There are 40 countries and territories in the dataset that satisfy the criteria for tax haven status established in OECD (2000); more details are provided in the Data Appendix. The basic results below are robust to using the OECD definition rather than that of Hines and Rice (1994), and to combining the two definitions.

been used widely in recent research (e.g. Fisman and Miguel, 2006; Rose and Spiegel, forthcoming). The 2004 data are used in the basic analysis below,[12] as this includes significantly expanded coverage, relative to previous years, of smaller countries and territories (both tax havens and nonhavens). One or more of these governance measures for 2004 is available for 209 countries (of which 33 are tax havens by the Hines-Rice definition).

For the purposes of this paper, the individual measures described above are aggregated into a composite governance index for each country, using the (unweighted) mean of the available measures in 2004.[13] Note, however, that this calculation only includes VA, PS, GE, RL and CC; the regulatory quality (RQ) measure is excluded from the composite index. A few of the underlying surveys and measures used by Kaufmann *et al*. (2005) to calculate RQ are directly related to countries' tax systems, and so may be mechanically correlated with tax rates and tax haven status.[14] However, a detailed examination of the surveys and measures underlying the other 5 subindices (as described in Kaufmann *et al*. (2005, Appendix B)) does not suggest that any of these are related in any direct way to the tax system.

Control variables[15] used in the analysis below include GDP per capita (in purchasing-power-parity-adjusted US$) and population (both for 2004, obtained from the World Bank's World Development Indicators (WDI) database), and an indicator variable for membership in the United Nations organization. Another set of variables captures exogenous elements of each country's degree of international openness, constructed by Gallup, Sachs and Mellinger (1999). These include the physical distance (by air) from the country's capital city to the closest major capital exporting region (specifically, the closest of Rotterdam, New York or Tokyo), an indicator variable for whether the country is landlocked, and the fraction of the country's population that lives within 100km of the coast. Other geographical variables are the country's land area and an indicator variable for whether the country is an island.

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[12] However, the analysis of investment elasticities in Section 5 uses governance data from 2000 for consistency with the investment data, which cover 1999.

[13] Note that a country's governance index is missing only if all of the individual measures (VA, PS, GE, RL, and CC) are missing in 2004. However, the results are robust if the sample is restricted to countries for which all 5 individual measures are available.

[14] For example, RQ includes country investment profiles in which taxation is a component, and surveys that (among other things) ask respondents how distortionary they perceive the tax system to be (Kaufmann *et al*., 2005, Appendix B, pp. 106-7).

[15] All these variables and their sources are described in more detail in the Data Appendix. Some country characteristics (notably GDP per capita; see Hines (2005)) may be endogenous to tax haven status, but the vast

The instrumental variables analysis described in Section 4 below uses a set of (arguably) exogenous determinants of institutional quality, obtained from La Porta *et al.* (1999; hereafter LLSV). Of central importance is a set of indicator variables for each of five origins – British, French, German, Scandinavian and Socialist – of countries' systems of commercial law. In addition, the analysis uses a country's latitude (in absolute value, scaled to lie between 0 and 1), and its degree of ethnolinguistic fractionalization.

The robustness checks use a number of additional variables. These include World Bank data on government expenditures as a percentage of GDP, the number of telephone mainlines in a country (as a proxy for the level of development of communications infrastructure) and the value (in US$ per capita) of the deposits of oil, gas, coal, and ten metals known to exist in each country in 2000 (as a proxy for the country's exogenous natural resource endowment). In addition, the nature of the political system in each country is captured by an indicator variable for countries with parliamentary systems in 2004, using the World Bank's Database of Political Institutions (Beck *et al.*, 2001), while another dummy variable indicates whether each country uses English as one of its official languages. Summary statistics for all of the variables described above are presented in Table 2, compiled separately for tax havens and nonhavens (using the Hines-Rice definition).

The summary statistics in Table 2 confirm some well-known facts about tax havens – they are smaller in population and area, and more affluent, than nonhavens. Most striking, however, is the difference in the quality of governance institutions. Tax havens have a mean governance index of about 0.73, almost one standard deviation higher than that for nonhavens (-0.13), and substantially higher than the global mean of the measure (normalized to 0). Moreover, this difference is not entirely attributable to the greater affluence of tax havens. Figure 1a plots the governance index against the log of GDP per capita for all countries in the dataset, with tax havens represented by squares, and all other countries represented by dots. While havens tend to have relatively high GDP, they are also clustered predominantly above the fitted line, reflecting their generally higher governance quality at any given level of per capita GDP. (Figure 1b depicts the haven observations only, with the same fitted line as in Figure 1a). Thus, havens appear to be better governed than would be expected on the basis of their relative affluence.

majority of the (very wide) cross-country variation in GDP per capita, and other variables, captures differences in underlying wealth and other characteristics, rather than reflecting differences in tax policy.

There are other notable patterns in the data. Tax havens tend to have open economies (in that they are physically closer to major capital exporters, less likely to be landlocked, more likely to be islands, and have a larger proportion of their populations living close to the coast). They are also more likely to have British legal origins and parliamentary systems, and to use English as an official language, than are nonhavens. Conversely, they are less likely to have French, Scandinavian or Socialist legal origins than are nonhavens. Tax havens have more homogenous populations than nonhavens, and their governments' levels of spending relative to GDP are similar to those of nonhavens (consistent with Hines (2005)). Finally, tax havens have substantially smaller natural resource endowments than nonhavens, consistent with the discussion of locational rents in Section 2.

These statistics compare tax havens to all nonhavens. Clearly, however, this is not the most appropriate comparison group. For example, tax havens tend to have small populations (with only 8 of the 39 havens having populations of more than one million). Thus, Table 3a reports the means of selected variables separately for small havens and small nonhavens (where "small" is defined as having a population of less than one million), along with t-tests for the differences in these means. The difference in the mean governance index for havens and nonhavens is somewhat smaller than in Table 2; however, it remains statistically significant. The same pattern as in Figure 1a – with havens being clustered above the fitted line – also holds when looking only at small countries (as depicted in Figures 2a and 2b).[16]

4. *Characteristics of Tax Haven Countries*

The basic empirical specification used to model the determinants of tax haven status includes the governance index along with the following controls: GDP per capita, population, indicators for UN membership and landlocked status, distance by air from major capital exporters, and regional dummies (based on World Bank regional classifications). The sample includes all countries for which the required data exist.[17] Probit, logit and linear probability

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[16] Many of the general patterns noted above continue to hold in Table 3a. Small tax havens are significantly more affluent and less distant from major capital exporters than small nonhavens, and are more likely to use English as an official language. The greater linguistic homogeneity and greater propensity for parliamentary government of small havens are both of borderline statistical significance. However, small havens are *more* likely to be landlocked and to be sovereign states (although neither difference is statistically significant).

[17] The sole exception is Liberia, a tax haven which is not included in the data set used for the regressions. Liberia was a tax haven long prior to its recent social unrest and civil war, which triggered a dramatic reduction in the quality of its governance. As a result, it is difficult to know whether the current or prior level of governance quality is more appropriately used in the regressions. Including Liberia in the data at its current (very low) level of

models all lead to highly consistent results. However, Table 4 presents only the probit results, using robust standard errors, for consistency with the instrumental variable probit results discussed below.

The estimated 0.814 coefficient in Column 1 of Table 4 implies that the governance index has a positive and highly significant effect on the probability of being a tax haven. Moreover, this effect is robust to removing dependent territories from the sample by restricting observations to UN members, as the estimated 0.924 coefficient in Column 2 of Table 4 indicates. Africa has virtually no tax havens, and has many countries with low governance scores; however, this does not appear to drive the results, as consistent findings appear when African countries are excluded from the sample (Table 4, Column 3). The results are similarly unaffected by excluding from the sample the poorest countries, those with GDP per capita below $1000 (Table 4, Column 4), suggesting that nonlinear income effects in the range of very low incomes do not account for the apparent impact of governance on tax haven status.

As noted earlier, the most appropriate comparison group for havens is likely to be the set of small countries. Restricting the sample to small countries and territories (those with populations of less than one million) also leads to consistent findings (Table 4, Column 5), despite the much smaller sample size. Moreover, the magnitude of the estimated effect of governance is substantial: for a country with the average characteristics of jurisdictions with populations below one million, a one standard deviation increase in governance quality from 0 to 1 (corresponding to the difference between Brazil and Portugal) increases the probability of being a tax haven from 0.24 to approximately 0.63.

A view that is frequently expressed in both scholarly and popular writings is that tax havens are "outlaw" countries that disregard international norms.[18] The results in Table 4 may

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governance quality reveals it to be an outlier on the basis of different tests for influential observations (e.g. Belsley, Kuh and Welsch, 1980). For instance, when a linear probability model is estimated on a sample that includes Liberia, it (Liberia) has by far the largest raw, standardized and studentized residuals. The DFBETA measure also identifies Liberia as the most influential observation, in terms of its effect on the coefficient on the governance index. In addition, using an iterative robust estimation procedure that downweights influential observations (Li, 1985) leads to Liberia having the lowest weight of any country. It is noteworthy, however, that including Liberia in the sample makes no difference to the significance of the estimated effect of governance in the linear probability model; the logit and probit results are also in the same direction, although weaker. Omitting other countries that are also relatively influential (albeit less so than Liberia) leads to results that are highly consistent with those reported in Table 4. Moreover, the selection criteria would, in any case, omit Liberia from the samples used in the regressions reported in Columns 3, 4 and 5 of Table 4.

[18] Kudrle and Eden (2005) describe tax havens as "renegade states," and Hampton and Christensen (2002) refer to tax havens as "offshore pariahs;" see also Hishikawa (2002).

appear surprising from this perspective. It should be noted that there is indeed some degree of overlap between the set of tax haven countries and those countries alleged by the OECD to facilitate money laundering activity, and with those countries that provide "flags of convenience" for international shipping.[19] However, the mean of the governance index for tax havens (0.73) is considerably higher than that for "money laundering" countries and for "flag of convenience" countries (0.51 and 0.38, respectively). "Pure" tax havens (i.e. those tax havens that are not also alleged by the OECD to facilitate money laundering or identified as providing "flags of convenience") are even better-governed than tax havens as a group. Consequently, restricting attention to these "pure" havens would only strengthen the association between tax haven status and good governance.

It is noteworthy that the interpretation of tax havens as vendors of tax avoidance services (e.g., Slemrod and Wilson, 2006) appears largely inconsistent with the evidence presented in Table 4. The type of tax avoidance envisioned in this class of models involves tax havens receiving fees from taxpayers in return for assistance in avoiding home country taxes. Since adherence to existing laws and treaty obligations would otherwise prevent this type of behavior, it would require the complicity of corrupt government officials in tax havens. In fact, tax havens appear not to have corrupt governments, but, on the contrary, governments that score very well on measures of corruption and other indicators of governance quality.

The results reported in Table 4 are consistent with the recent noteworthy findings of Rose and Spiegel (forthcoming) on the determinants and economic effects of offshore financial centers (OFCs). Rose and Spiegel observe that OFCs are frequently tax havens, and present regressions in which, after controlling for tax haven status, governance quality measures are largely insignificant in explaining whether a country is an OFC. Combining these findings with the results presented in Table 4, it would appear that any significant governance effects on a country's choice to become an OFC take the form of influencing whether it becomes a tax haven. Rose and Spiegel report that a country's regulatory quality is positively associated with levels of foreign asset holdings, controlling for other attributes, which may reflect the value that investors

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[19] Both of these variables are obtained from Rose and Spiegel (forthcoming).

attach to confidence in a country's regulatory institutions.[20] The focus of Rose and Spiegel (forthcoming), however, is on the impact of OFCs on the banking sectors of nearby economies, a topic that is beyond the scope of the present study.

The control variables in Table 4 generally have the expected effects. Population size has a negative and highly significant effect on the likelihood of being a tax haven,[21] except when the sample is restricted to small countries. Distance has a negative effect that is significant in some specifications; the effects of GDP and landlocked status are insignificant. Interestingly, UN membership has a positive (albeit insignificant) effect, from which it appears that, controlling for other variables, dependent territories (who are not UN members) are if anything less likely than other jurisdictions to become tax havens. Dependent political status may commit territories not to expropriate foreign investors (who could seek recourse in courts of the sovereign country). The evidence, however, suggests that sovereign states with sufficiently high governance quality are at no particular disadvantage relative to dependent territories in making credible commitments of nonexpropriation.

The positive association between the governance index and the probability of being a tax haven is robust to a variety of additional (unreported) checks. The result is unchanged when additional geographical variables (land area or population density, and an indicator variable for island countries) are included; none of these additional variables are themselves significant. It is also unaffected by the addition of indicator variables for parliamentary systems and for the use of English as an official language (the coefficients on these variables are positive but insignificant). Adding a measure of ethnolinguistic fractionalization reduces the sample size considerably, but the coefficient on the governance index remains positive and significant (while the coefficient on the fractionalization index is negative but insignificant).

The results in Table 4 are also robust to using alternative definitions of tax havens. In particular, using the OECD (2000) list of tax havens as the dependent variable (instead of the Hines-Rice list) leads to highly consistent results. Combining the Hines-Rice and OECD criteria

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[20] Recall that the governance quality variable used in the empirical work presented in Tables 4-7 is based on only five of the six governance measures reported by Kaufman *et al.* (2005), excluding the regulatory quality measure since it may be based partly on perceptions of tax burdens.

[21] This is consistent with the theoretical predictions of Kanbur and Keen (1993), Hansen and Kessler (2001), and Slemrod and Wilson (2006).

(by defining as a tax haven any country or territory that appears on at least one of those lists) also does not affect the results. The results are also robust to reclassifying Estonia as a tax haven.[22]

The basic results hold under a number of alternative specifications. As noted earlier, using a logit model leads to consistent results, as does OLS estimation of a linear probability model. Including higher-order (squared and cubed) terms for per capita GDP and population, or using the logs of those variables, does not affect the results. Treating the governance index as a purely ordinal variable also does not affect the results; for instance, replacing the numerical governance index with an indicator variable that equals one for a country whose governance lies in the top 25% of countries (and zero otherwise) leads to consistent findings. Replacing the governance index by any one of its component measures leads to generally consistent results – i.e. each component of the governance index is strongly positively related to tax haven status, apart from VA (voice and accountability), which has an insignificant (positive) effect.

The regression analysis in Table 4 strongly supports the initial impression from Tables 2 and 3a that tax havens are better-governed than nonhavens. Moreover, it suggests that this finding is robust to controlling for a variety of observable country characteristics, and to various alternative specifications. However, a central concern that remains is that because havens and nonhavens differ along a number of other dimensions, the results may be attributable to correlated omitted variables. The remainder of the analysis largely focuses on using a variety of empirical approaches to address this and other concerns.

4.1 Matching Estimation

The potential concern about the comparability of havens and nonhavens is partially addressed by restricting attention solely to countries with small populations (as in Table 3a and Table 4, Column 5). However, this exercise uses only one dimension of variation, and leaves only a rather small sample. A more systematic strategy for finding the optimal comparison group of nonhavens is to use a matching estimation approach (e.g. Dehejia and Wahba, 2002). However, an important caveat is that the number of possible matches, and their closeness, is necessarily constrained by the number of countries in the world, and are thus severely limited relative to those in a typical application of this methodology.

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[22] In 2000, Estonia reformed its income tax system to eliminate corporate taxes on corporate income that is not distributed – see Funke (2002) for details.

The first step in this procedure is to generate propensity scores (i.e. estimated probabilities of being a tax haven) using a logit model of the indicator variable for tax haven status, with the following independent variables: GDP per capita, population, UN membership, landlocked status, distance, and the regional dummies (note that this includes all the independent variables in the specification in Table 4, except for the governance index).[23] Given these propensity scores, stratifying the observations into 3 blocks is sufficient to ensure that there is no significant difference between the mean propensity scores of havens and nonhavens within each block (this is shown by the t-tests in Column 5 of Table 5). Moreover, the balancing property – i.e. that there is no significant difference between the means of each of the covariates within each block – is satisfied for these blocks.

This procedure enables the identification of those nonhavens that have estimated propensity scores that are within the same range as the estimated propensity scores for the 38 havens used in the analysis.[24] In total, there are 76 nonhavens that fall into this category (i.e. have estimated propensity scores that exceed approximately 0.05), and these constitute the most appropriate comparison group for the tax havens on the basis of the multi-dimensional vector of observed country characteristics. Column 6 of Table 4 reports the results of the logit regression model, with the sample being restricted to the "common support" – the havens, plus those nonhavens within this comparison group (missing data for the governance index reduces the sample size to 99). Clearly, the coefficient of the governance index is highly significant, and its magnitude is very similar to that in Table 4, Column 1 (using the full sample of countries).

Column 7 of Table 5 reports the difference between the mean governance index values for havens and nonhavens for countries in this common support, using the stratification method (based on the 3 blocks identified in Table 5). This difference (approximately 0.3) is somewhat

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[23] Formally, this approach involves viewing tax haven status as the "treatment" and the governance index as the "outcome" measure, and so appears to reverse the assumption about causality that is implicit in the regression reported in Table 4. However, recall that the primary aim of that regression is to document the positive association between the two variables; issues of causality are addressed more fully in the instrumental-variables analysis below. Similarly, the aim of the matching estimation is simply to measure whether there is a difference in the mean governance quality of havens and of the subset of nonhavens that are most closely matched in terms of observables. Because tax haven status is dichotomous while the governance index is continuous, and because the Table 4 regression already suggests a reasonable specification of the covariates of tax haven status, it proves more convenient to view governance as the "outcome."

[24] Recall that (as discussed above) Liberia is omitted from the analysis. Intuitively, the matching procedure seeks to identify nonhavens that are closely matched on observable variables with havens. The inclusion in the analysis of a haven with exceptionally low GDP makes low-GDP nonhavens appear better-matched than is perhaps truly the case

smaller than the raw difference in Tables 2 and 3a. However, it is positive, and is of borderline statistical significance, using a standard error that is generated by bootstrapping with 500 replications. Thus, it appears that, notwithstanding the caveats above regarding the small number of observations, tax havens have a substantially higher governance quality than do comparable nonhavens.

4.2   *Instrumental Variables Estimation*

The regression and matching approaches used above establish a positive association between tax haven status and governance quality, controlling in different ways for observable country characteristics. However, the methods used above do not rule out the possibility that this apparent relationship is driven by unobserved correlated omitted variables. Moreover, even accepting the existence of the relationship does not settle the issue of the direction of causality: in particular, do better-governed countries choose to become tax havens, or does becoming a tax haven lead to an improvement in the quality of governance?

An instrumental variables approach is used to address these issues. LLSV (1999) identify legal origin as a determinant of various measures of countries' governance quality. Legal origins are typically determined by historical events that occurred centuries ago, long before the introduction of modern tax systems. Thus, it is reasonable to think of legal origins as exogenous with respect to current tax haven status. Legal origins have been used in the literature to instrument for a variety of different country characteristics, but the notion of governance institutions used here is sufficiently broad that the exclusion restriction (that a country's legal origin does not affect its tax policy other than through governance) is likely to be satisfied.

The results reported in Table 6 use an instrumental-variable probit model with a continuous endogenous regressor (e.g. Wooldridge, 2002, pp. 472-77), namely the governance index. In Column 1, the indicator variables for legal origins are used as instruments (they are jointly significant in the (unreported) first-stage regression). Clearly, the use of these instruments strengthens the basic result. The results are highly consistent when a linear specification is used instead of the IV probit model (in effect, this involves running two-stage least squares on the

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(at least with respect to havens other than Liberia), creating a bias towards finding differences in governance between havens and nonhavens.

linear probability model, with legal origins as the instruments). Moreover, the results are also unchanged when latitude is included as an additional instrument (Column 2).[25]

4.3   Alternative Explanations

The results in Table 6 suggest a causal interpretation of the effect of governance on tax haven status – in particular, it appears that better governance leads countries to become tax havens. There remain, however, a number of concerns about omitted correlated variables, and especially about the validity of the exclusion restriction implicit in the IV approach. For instance, unobserved tastes for government expenditures may differ across countries. A taste for government spending may be correlated with good governance (e.g. citizens may demand more government activity when the government is more effective and less corrupt) and also cause tax rates to be high (thereby reducing a country's willingness to become a tax haven). Another possibility is that a more sophisticated communications infrastructure (which may be positively correlated with governance quality) may increase the willingness of foreign investors to invest, and hence raise the returns to becoming a tax haven.

To a large extent, the IV strategy in Section 4.2 addresses concerns about omitted correlated variables. However, it is possible that these omitted variables may be correlated with the instruments (i.e. legal origins) as well. For example, suppose that Socialist legal origins are associated with stronger tastes for government spending, and are also (as is apparent from Table 2) negatively correlated with being a tax haven. Then, the apparent causal effect of governance may be driven by the omitted taste variable. To address these concerns, the specification in Column 3 of Table 6 adds two controls to the basic IV probit model. The first is a proxy for countries' tastes for government spending: government expenditures as a percentage of GDP. The second is a proxy for countries' communications infrastructure: the number of telephone lines, scaled by area (both variables use World Bank data). Because of limited coverage for these variables, the sample size falls substantially. Even so, while both the additional controls are significant and in the expected direction, the governance index remains positive and highly significant.

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[25] LLSV argue that governance quality also depends on ethnolinguistic fractionalization and religious composition. However, unlike legal origins and latitude, these variables are not significant in the first-stage regression with this sample, and are hence not used as instruments.

The exclusion restriction may also be invalid if legal origins are correlated with cultural or linguistic links that facilitate cross-border investment and thus raise the returns to being a tax haven. For instance, suppose (as argued by LLSV) that British legal origins lead to higher governance quality. If British legal origins are also correlated with the use of the English language, then the apparent causal effect of governance on tax haven status found in Table 6 may instead be due to the effects on investment of the use of English. However, adding an indicator variable for the use of English as an official language in the regression reported in Column 3 actually strengthens the effect of governance. Thus, it does not seem that these omitted variables drive the basic results.

Among the other possible explanations for the observed correlation between governance quality and tax haven status, two warrant further discussion and analysis. The first relates to the effects of corruption on tax structure. It may be argued that countries that have high levels of corruption will tend to impose higher statutory tax rates on firms (whether foreign or domestic) in order to increase the bargaining power of corrupt government officials in negotiating bribes from taxpayers. This would make more corrupt countries less likely to become tax havens, while also having intrinsically worse governance scores. It is not possible to test this story simply by finding a proxy for the omitted variable, as the crucial issue is how the empirical link between governance and tax structure is interpreted.

Another important alternative explanation relates to the role of natural resources. There is a substantial literature on the effects of natural resource abundance on economic performance (e.g. Sachs and Warner, 1995). An argument that has been made in this literature is that the availability of natural resources may raise the returns to rent-seeking activity, and lower the quality of institutions. On the other hand, natural resource abundance is also a source of locational rents, which imply that optimal corporate taxes are relatively high; thus, natural resource abundant countries will be less likely to become tax havens. Because of the limited sample of countries for which data on natural resources (specifically, the value of subsoil assets per capita) are available, testing this explanation by adding subsoil assets to the model leads to inconclusive results.

Although neither of the last two alternative explanations can be readily tested within the confines of the model of tax haven status, both carry implications for the distribution of corporate tax rates across countries. In particular, they are premised on corporate tax rates being

higher in more corrupt and more resource-abundant countries, respectively. These implications are testable with the available data.

4.4   *The Determinants of Corporate Tax Rates*

The factors that determine cross-country and longitudinal variation in corporate tax rates are the subject of a growing empirical literature (e.g. Slemrod, 2004; Kenny and Winer, 2006; Hines, 2007). The analysis in this section uses data from the World Tax Database maintained by the Office of Tax Policy Research at the University of Michigan on the top statutory corporate tax rate for 2002 (the latest year for which there are data with extensive coverage). As reported in the first row of Table 3b, these data are available for 148 countries (although the number of countries for which all independent variables are available is somewhat smaller); the mean tax rate is approximately 29%. Figure 3 plots this tax rate against the governance index. There is a definite, albeit weak, negative relationship: i.e. better-governed countries tend to have lower top statutory corporate tax rates. Particularly noteworthy is what might be characterized as the empty southwest quadrant – i.e. the virtual absence of countries that have both low governance scores and low tax rates.

The determinants of these tax rates are reported in Table 7. A Tobit specification is used, as tax rates are potentially left-censored at zero. The sample is restricted throughout to UN members, to ensure that the tax rates are chosen by sovereign governments that enjoy fiscal autonomy. Column 1 of Table 7 reports results using the same set of independent variables as in Table 4, Column 1 (the basic logit model of tax haven status). The negative coefficient (-2.998) on the governance index is consistent with the estimated positive effect of governance on tax haven status. The controls are generally insignificant (although landlocked status is negative and of borderline significance). In Column 2, a number of additional controls are introduced.[26] In particular, the value of subsoil assets appears unrelated to the corporate tax rate (with the point estimate being very small and negative). Although missing data for these additional variables reduces the sample size to just 60, the effect of governance is stronger than in Column 1.

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[26] The fraction of the population that lives within 100 km of the coast (a measure of openness constructed by Gallup, Sachs and Mellinger (1999) that was not used in the basic model in Table 4 because of its limited coverage) has a negative and significant effect. This reinforces the broader finding that openness tends to be associated with lower tax rates (as suggested by the negative coefficients on distance and landlocked status). Unobserved tastes for government spending are proxied by government expenditure as a percentage of GDP (which has a strongly positive effect, as expected). The indicator variable for parliamentary systems has a positive, albeit insignificant, effect.

In order to test the alternative explanation relating to corruption, the specification in Column 3 replaces the governance index with its various components. Generally, these have negative effects on corporate tax rates, with government effectiveness being significant despite the strong multicollinearity among the subindices. However, VA (voice and accountability) and CC (control of corruption) both have positive point estimates (though neither is significant). The latter implies that more corrupt countries tend to have (weakly) *lower* tax rates. Hence, the evidence clearly does not suggest that (controlling for other relevant factors) countries with higher levels of corruption have higher statutory corporate tax rates, as implied by the alternative explanation outlined in Section 4.3.

In order to shed more light on the nature of the causal relationship between governance and tax rates, Column 4 of Table 7 reports the results of an instrumental-variable Tobit model (using legal origins as instruments for the governance index). The effect of governance remains significant, and indeed is of dramatically larger magnitude. The point estimate of -23.130 suggests that (for uncensored observations) a one standard deviation increase in the governance index from its mean of zero would lead to a fall in the corporate tax rate from the maximum observed in the sample (55% in Kuwait) to below the U.S. rate of 35%. A linear 2SLS specification leads to consistent results, with a smaller but nonetheless comparable point estimate (of approximately -16).[27] The effects of the control variables in the IV Tobit specification are generally similar to those in the previous columns.[28] Most importantly (given the discussion in Section 4.3), the effect of subsoil assets remains insignificant, with a negative coefficient (as in Column 2).

This analysis thus provides no evidence to suggest that (controlling for other relevant factors) countries with larger natural resource endowments have higher corporate rates. This casts doubt on the natural resource hypothesis discussed in Section 4.3 above. Another piece of evidence in the same direction is reported in the final row of Table 3a. This examines the difference in the mean governance index for small tax havens and small nonhavens, restricting

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[27] This large effect of governance on tax rates (relative to that in Column 1) suggests that improvements in governance may lead to a substantial positive effect on the unobserved taste for government activity; in turn, this leads to higher tax rates, thus dampening the fall in tax rates caused by better governance *per se*. Moreover, the effect on tastes for government activity is apparently not fully captured by the government expenditures variable, possibly because this variable combines both beneficial government activities and government overspending.
[28] The variables capturing openness (notably landlocked status) have a negative effect on tax rates, and GDP per capita has a positive effect. The positive impact of having a parliamentary system is now of borderline significance.

the sample to only those countries that have zero subsoil assets (i.e. no discernible natural resource wealth); "small" countries are defined as those with populations below one million. The number of countries is very small (7 havens and 4 nonhavens). Nonetheless, the mean governance index for the havens is substantially higher than that for the nonhavens, and (despite the small sample) the difference is of borderline statistical significance. As none of the countries involved in this comparison have valuable subsoil assets, it appears unlikely that the wider differences in governance characteristics between havens and nonhavens are likely to be explained by the effects of natural resource abundance.

5.   *Interpretation*

The evidence that tax havens are better-governed than comparable nonhavens does not identify the mechanism through which governance affects the propensity to become a tax haven. There are two possible alternative channels through which this relationship might operate. The first possibility is that better-governed countries may make better policy choices. As discussed in Section 2, the welfare-maximizing (source-based) corporate tax rate for a small economy facing a perfectly elastic supply of capital is zero (Diamond and Mirrlees, 1971; Gordon, 1986). Better-governed countries may choose policies that are closer to this optimum for a variety of reasons (such as greater weight being attached to social welfare in formulating government policy). The second possibility is that all small countries ideally would like to be tax havens, independent of their governance characteristics, but that only better-governed countries can credibly commit not to expropriate foreign investors (either directly or through higher future taxes). Since this commitment is necessary for low taxes to induce high levels of foreign investment, the returns to being a tax haven would be sufficiently high only for better-governed countries.

It is possible to shed some light on these explanations by analyzing how the effect of tax rates on FDI varies with governance.[29] This analysis uses data from the Bureau of Economic Analysis (BEA) on FDI by U.S. firms in 60 countries in 1999. For each of these countries, it is possible to observe the total assets owned by U.S. firms in 1999, and to compute the tax rate faced by these firms. Following Hines and Rice (1994), the tax rate for a country is defined as the minimum of the average effective tax rate for U.S. firms observed in the sample, and the

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[29] Goodspeed *et al*. (2006) find that higher levels of corruption reduce FDI inflows; the focus here, however, is on the *interaction* of governance and tax rates.

country's statutory corporate tax rate. These data are matched with the governance index, GDP per capita and population for each country.[30] The summary statistics are reported in Table 3b. Note that the mean tax rate for these 60 countries is approximately 21%, and their average governance score (about 0.7) is considerably higher than the zero mean for all countries.

In Table 8, the countries in this sample are divided at the median governance index to form two subsamples of better-governed and less well-governed countries (each consisting of 30 countries). Column 1 reports results for the former subsample: controlling for GDP and population, there is a substantial and highly significant negative effect of the tax rate on US FDI in better-governed countries. The -0.0712 coefficient in Column 1 implies that one percent lower tax rates are associated with seven percent greater investment in these countries. Column 2 reports the results for less well-governed countries, for which the estimated tax effect is again negative (-0.0162), but considerably smaller in magnitude and statistically indistinguishable from zero. Thus, it appears that the elasticity of FDI with respect to taxes is greater in better-governed countries.

Figure 4 illustrates this pattern. The bars depict mean ratios of US FDI (i.e. assets owned by U.S. firms in 1999) to GDP for four groups of countries: those with below-median governance indices and below-median tax rates, those with below-median governance indices and above-median tax rates, those with above-median governance indices and below-median tax rates, and those with above-median governance indices and above-median tax rates. The barchart suggests that for a well-governed country, moving from a high to a low tax rate has a substantial effect on FDI. However, for a less well-governed country, the gains in terms of additional FDI from reducing tax rates appear to be considerably smaller. It appears that the returns to being a tax haven are greater for better-governed countries, as such countries are able to attract FDI by offering credible commitments to future policies necessary to induce FDI inflows to respond to lower announced tax rates.

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[30] The governance index is for 2000 or the closest available year, rather than for 2004 as in the earlier analysis, in order to match the 1999 FDI data more closely. GDP and population are obtained from the Penn World Tables.

6. *Conclusion*

Tax havens are small countries, they are affluent countries, and they have high-quality governance institutions. While all of these characteristics are to some extent associated with each other, it is noteworthy that poorly governed countries, of which the world has many, virtually never appear as tax havens. Their absence cannot easily be attributed to the desire on the part of poorly governed countries to conform to international tax norms, since these countries are not otherwise known for their conformity, and international tax norms are in any case not very well established. Instead, the most likely explanation is that tax havens are unsuccessful in the absence of high quality governance, and anticipating that, poorly run governments do not even attempt to become tax havens. Whether the absence of more tax havens is a good or a bad thing for the world as a whole is a fascinating question that lies beyond the scope of this paper, but from the standpoint of individual countries, the inability to tailor tax policies to maximum national advantage simply adds to the many woeful costs of poor governance.

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Data Appendix

Tax Haven Status:
Source: based on Hines and Rice (1994, Appendix 2, p. 178)
Indicator variable (=1 if the country appears on the list of tax havens in Hines and Rice (1994). 39 of the 41 countries and territories on their list (i.e. all apart from "UK Caribbean islands" and St. Martin), can be matched with current jurisdictions for which data on the other variables is available.[31]
The alternative (OECD) measure of tax haven status is based on the list of 35 countries and territories in OECD (2000, p. 17). However, this list does not include 6 countries and territories that were deemed by the OECD to satisfy its criteria for tax haven status, but which made "advance commitments" to eliminate allegedly harmful tax practices. The dataset in this paper adds these 6 jurisdictions (as listed in various sources, such as Hishikawa (2002, fn. 72, p. 397)) to the 35 in OECD (2000, p. 17) to form a combined list of 41 jurisdictions that are tax havens according to the OECD definition.[32]

Governance Index:
Source: Kaufmann, Kraay and Mastruzzi (2005)
This index is obtained by taking the (unweighted) mean of 5 of the 6 governance measures constructed by Kaufmann *et al.* (2005) for the year 2004, as specified in Equation (1). It is a continuous variable over the approximate interval (-2.5, 2.5), normalized to have mean 0 and standard deviation 1 (across all countries and territories), with higher values indicating better governance. The analysis of investment elasticities in Table 8, however, uses governance measures for the year 2000, in the interests of consistency with the investment data (which cover 1999).

GDP per capita:
Source: the World Bank's *World Development Indicators* (WDI), available at http://econ.worldbank.org
GDP per capita is expressed in thousands of US$, in PPP terms, for 2004. For countries and territories for which GDP data are missing in WDI, estimates of GDP per capita (also in thousands of US$, in PPP terms, for 2004 or the nearest available year) provided in the CIA's World Factbook (available at https://www.cia.gov/cia/publications/factbook/) are used.[33]

Population:
Source: the World Bank's *World Development Indicators* (WDI), available at http://econ.worldbank.org
Population is expressed in thousands, for 2004. For countries and territories for which population data are missing in WDI, estimates of population (also in thousands, for 2004 or the nearest available year) provided in the CIA's World Factbook are used.[34]

UN Member:

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[31] The omission of "UK Caribbean islands" and St. Martin, for which no matching data could be found, does not appear to be a serious problem. "UK Caribbean islands" is a general term used by the Bureau of Economic Analysis (BEA) for British dependencies in the Caribbean, most of which (Anguilla, Montserrat, Cayman Islands, and Turks and Caicos Islands) are included separately in the dataset. St. Martin is a Caribbean island that is divided between the Netherlands Antilles and Guadeloupe (both of which are included in the dataset).

[32] However, the OECD lists the Channel islands of Jersey and Guernsey as separate entities, while in this paper they are combined together (as the Channel Islands) for consistency with the classification of Hines and Rice (1994). Thus, the OECD criteria actually define a list of 40 tax havens.

[33] Note, however, that the analysis in Table 8 uses GDP per capita for 2000, obtained from the Penn World Tables, for greater consistency with the investment data (which covers 1999).

[34] Note, however, that the analysis in Table 8 uses population for 2000, obtained from the Penn World Tables, for greater consistency with the investment data (which covers 1999).

Source: obtained from the list of member states provided on the UN's website, at
http://www.un.org/Overview/unmember.html
An indicator variable (= 1 if the country was a member of the United Nations Organization in 2004).[35]

Distance by Air:
Source: Gallup, Sachs and Mellinger (1999)
Measured in km, this variable represents the "the smallest distance of the country's capital city to one of the following three cities: New York, Rotterdam, or Tokyo." (Gallup *et al*., 1999, fn. 13, pp. 4-5). For countries with missing values of this variable, but with nonmissing values for a close neighboring country, the latter is used as a proxy.

Landlocked:
Source: Gallup, Sachs and Mellinger (1999)
Indicator variable (=1 if the country is landlocked). For countries with missing values of this variable in Gallup, Sachs and Mellinger (1999), the data are supplemented using the similar variable in the Centre d'Etudes Prospectives et D'Informations Internationale (CEPII) dataset (available on Thierry Mayer's website at: http://team.univ-paris1.fr/teamperso/mayer/data/data.htm), and using information in the CIA's World Factbook.

Area:
Source: the CEPII dataset (available on Thierry Mayer's website); measured in square km.

Island:
Source: Coded using information in the CIA's World Factbook; indicator variable (=1 if the country is an island).

Fraction of Population within 100km of Coast:
Source: Gallup, Sachs and Mellinger (1999); defined as: "The proportion of a country's total land area within 100 km. of the ocean coastline, excluding coastline in the arctic and sub-arctic region above the winter extent of sea ice" (Gallup, Sachs and Mellinger, 1999, p. 35).

Parliamentary System:
Source: The World Bank's Database of Political Institutions (Beck *et al*., 2001)

Use of English as an Official Language:
Source: based on information in the CEPII dataset (available on Thierry Mayer's website)
Indicator variable (=1) if English is listed as one of the country's official languages (note that the CEPII dataset lists up to 3 official languages for each country).

Ethnolinguistic Fractionalization:
Source: LLSV (1999); defined as the average value of 5 different indices of ethnic and linguistic fractionalization; the values range from 0 to 1, with higher values indicating greater heterogeneity. See LLSV (p. 238) for more details.

Latitude:
Source: LLSV (1999); the absolute value of the country's latitude, scaled to lie in the interval [0, 1].

Legal Origins:

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[35] Note that Montenegro, which was admitted to the UN in 2006, is not included (and is considered as part of Serbia and Montenegro in the dataset).

Source: LLSV (1999); indicator variables for each of 5 origins of the country's commercial law: British, French, German, Scandinavian, and Socialist. For missing values, the data is extended by coding current UK and French dependent territories as having British and French legal origins, respectively (based on information in the CIA's World Factbook).

Government Expenditures:
Source: the World Bank's *World Development Indicators* (WDI), available at http://econ.worldbank.org; expressed as a % of GDP, for 2004 (for missing 2004 data, 2002 data is used instead, when available).

Telephone Lines:
Source: the World Bank's *World Development Indicators* (WDI), available at http://econ.worldbank.org; the number of telephone mainline connections in the country (for missing 2004 data, 2002 data are used instead, when available). WDI reports the number of telephone lines per 1000 population, but in Table 6, the telephone lines variable is scaled by area (as this is arguably a better measure of the ability of a foreign investor to communicate with the outside world).

Subsoil Assets:
Source: World Bank (2006, Appendix 2); the value of the stocks of subsoil mineral assets (oil, gas and coal, together with 10 metals and minerals - bauxite, copper, gold, iron ore, lead, nickel, phosphate rock, silver, tin, and zinc) per capita in US$ for the year 2000 (see World Bank (2006, p. 147) for more details).

Corporate Tax Rates:
Source: the World Tax Database maintained by the Office of Tax Policy Research at the University of Michigan, available at: http://www.bus.umich.edu/OTPR/

Assets Owned by U.S. Firms:
Source: Bureau of Economic Analysis (BEA); available at http://www.bea.gov

Tax Rate Faced by U.S. Firms:
Source: based on data available through the Bureau of Economic Analysis (BEA) at http://www.bea.gov

Offshore Financial Centers (OFCs)
Source: Rose and Spiegel (forthcoming)

Countries Alleged by the OECD to Facilitate Money Laundering
Source: Rose and Spiegel (forthcoming)

"Flag of Convenience" Countries
Source: Rose and Spiegel (forthcoming)

Regional Dummies:
Source: World Bank classifications; regions are Europe and Central Asia, Asia/Pacific, Americas, Middle East and North Africa (MENA), and Africa.[36]

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[36] Note that in Tables 4-6, MENA and Africa are combined into one region to avoid perfect collinearity between the Africa dummy and nonhaven status (given the exclusion of Liberia).

Table 1: List of Tax Havens

Country or Territory	World Bank Code	Tax Haven (Hines-Rice)	Tax Haven (OECD)
Andorra	ADO	1	1
Anguilla	AIA	1	1
Antigua and Barbuda	ATG	1	1
Aruba	ABW	0	1
Bahamas	BHS	1	1
Bahrain	BHR	1	1
Barbados	BRB	1	1
Belize	BLZ	1	1
Bermuda	BMU	1	1
British Virgin Islands		1	1
Cayman Islands	CYM	1	1
Channel Islands		1	1
Cook Islands	COK	1	1
Cyprus	CYP	1	1
Dominica	DMA	1	1
Gibraltar		1	1
Grenada	GRD	1	1
Hong Kong	HKG	1	0
Ireland	IRL	1	0
Isle of Man		1	1
Jordan	JOR	1	0
Lebanon	LBN	1	0
Liberia	LBR	1	1
Liechtenstein	LIE	1	1
Luxembourg	LUX	1	0
Macao	MAC	1	0
Maldives	MDV	1	1
Malta	MLT	1	1
Marshall Islands	MHL	1	1
Mauritius	MUS	0	1
Monaco	MCO	1	1
Montserrat		1	1
Nauru	NRU	0	1
Netherlands Antilles	ANT	1	1
Niue	NIU	0	1
Panama	PAN	1	1
Saint Kitts and Nevis	KNA	1	1
Saint Lucia	LCA	1	1
Saint Vincent and the Grenadines	VCT	1	1
Samoa	SAM	0	1
San Marino	SMR	0	1
Seychelles	SYC	0	1
Singapore	SGP	1	0
Switzerland	CHE	1	0
Tonga	TON	0	1
Turks and Caicos Islands		1	1
Vanuatu	VUT	1	1
Virgin Islands (U.S.)	VIR	0	1

Note: 1 = tax haven and 0 = nonhaven. The third column uses the definitions in Hines and Rice (1994) and Diamond and Diamond (2002). The fourth column uses the definition in OECD (2000), as described in the Data Appendix.

Table 2: Summary Statistics (All Countries and Territories)

	Tax Havens			Nonhavens		
	Mean	St. dev.	N	Mean	St. dev.	N
Governance Index	0.7284	0.7152	33	-0.1338	0.8984	176
GDP per capita (PPP; in thousands of US$)	18.51	14.68	39	9.55	10.22	188
Population (thousands)	1145.69	2043.9	39	33354.08	126475.9	189
UN Member (=1)	0.6667	0.4776	39	0.8730	0.3338	189
Distance by air (km)	2965.00	1899.1	39	4424.00	2652.59	189
Landlocked (=1)	0.1026	0.3074	39	0.1958	0.3978	189
Area (sq. km)	83395	365478	35	721188	1955140	185
Island (=1)	0.6667	0.4776	39	0.2751	0.4478	189
Fraction of population within 100km of coast	0.7204	0.4031	8	0.4159	0.3584	142
Parliamentary System (=1)	0.6111	0.5016	18	0.3052	0.4620	154
English as an Official Language (=1)	0.6857	0.4710	35	0.2663	0.4432	184
Ethnolinguistic Fractionalization	0.2082	0.2231	24	0.3562	0.3110	131
Latitude (abs. value)	0.2765	0.1732	31	0.2809	0.1919	176
British legal origin	0.7179	0.4559	39	0.3011	0.4600	186
French legal origin	0.2308	0.4268	39	0.4624	0.4999	186
German legal origin	0.0513	0.2235	39	0.0269	0.1622	186
Scand. legal origin	0.0000	0.0000	39	0.0269	0.1622	186
Socialist legal origin	0.0000	0.0000	39	0.1828	0.3875	186
Govt. Expenditures (% of GDP)	26.77	8.28	9	27.80	11.08	83
Telephone Lines (millions)	0.6163	1.2497	27	6.99	29.02	166
Subsoil Assets (US$ per capita)	100.14	275.19	14	2737.22	6976.83	105

Note: Tax havens are defined as in Table 1, Column 3 (i.e. the Hines-Rice definition). The variables in the table are defined as in the text and the Data Appendix. "N" is the number of observations.

Table 3a: Summary Statistics (Small Countries and Territories; population < 1 million)

	Mean: Havens (N)	Mean: Nonhavens (N)	Diff. in Means (s.e.)
Governance Index	0.7974 (25)	0.2097 (31)	0.5876 (0.1519)***
GDP per capita (PPP; in thousands of US$)	18.46 (31)	11.34 (43)	7.12 (3.1474)**
Population (thousands)	181.62 (31)	271.34 (44)	-89.72 (56.20)
UN Member (=1)	0.6129 (31)	0.5227 (44)	0.0902 (0.1171)
Distance by air (km)	2921.77 (31)	5486.30 (44)	-2564.52 (570.84)***
Landlocked (=1)	0.0968 (31)	0.0455 (44)	0.0513 (0.0626)
Parliamentary System (=1)	0.7273 (11)	0.3571 (14)	0.3701 (0.1936)*
English as an Official Language (=1)	0.7407 (27)	0.4000 (40)	0.3407 (0.1164)***
Ethnolinguistic Fractionalization	0.1814 (16)	0.3673 (18)	-0.1859 (0.0956)*
Governance Index if Subsoil Assets=0	0.6417 (7)	-0.0620 (4)	0.7037 (0.2541)*

Note: This table reports the results of t-tests of the equality of means of selected variables for tax havens and nonhavens (allowing for unequal variances). Tax havens are defined as in Table 1, Column 3 (i.e. the Hines-Rice definition). The variables in the table are defined as in the text and the Data Appendix. In the first two columns, the number of observations is in parantheses; in the final column, the standard error is in parantheses.

Table 3b: Additional Summary Statistics

	Mean	St. dev.	N
Statutory Corporate Tax Rate in 2002 (%)	28.93	9.32	148
Tax Rate faced by US Firms in 1999 (%)	21.34	11.57	60
Log of Assets Owned by US Firms in 1999 (US$)	9.79	1.56	60
Governance Index in 2000 (for countries with FDI by US Firms)	0.7050	0.8779	60
Log of GDP in 1999 (US$; for countries with FDI by US Firms)	4.69	1.69	60
Log of Population in 1999 (for countries with FDI by US Firms)	16.52	1.90	60

Note: This table reports summary statistics for the variables used in the regressions reported in Table 8, and for the corporate tax rate variable used in Table 7. The statutory corporate tax rate data are from the Worldwide Tax Database maintained by the Office of Tax Policy Research at the University of Michigan. The data on assets of US firms are from the Bureau of Economic Analysis (BEA). GDP and population data are from the Penn World Tables, as described in the Data Appendix.

Table 4: Determinants of Tax Haven Status – Probit Estimates

	(1) All Countries and Territories	(2) UN Members	(3) Non-African Countries and Territories	(4) Countries and Territories with GDP per capita ≥ $1000	(5) Small Countries and Territories	(6) Common Support
Dependent Variable: Indicator for Tax Haven Status (= 1 for Tax Havens)						
Governance Index	0.814 (0.284)***	0.924 (0.344)***	0.824 (0.366)**	0.796 (0.290)***	1.039 (0.504)**	0.899 (0.313)***
GDP per capita	0.008 (0.015)	0.009 (0.017)	0.004 (0.020)	0.006 (0.015)	-0.001 (0.017)	0.002 (0.016)
Population	-0.0002 (0.00005)***	-0.0002 (0.00006)***	-0.0002 (0.00006)***	-0.0002 (0.00005)***	-0.001 (0.001)	-0.0002 (0.00006)***
UN member (=1)	0.348 (0.491)		0.356 (0.453)	0.363 (0.495)	0.707 (0.506)	0.270 (0.510)
Landlocked (=1)	0.173 (0.399)	0.327 (0.444)	0.319 (0.467)	0.147 (0.405)	0.100 (0.804)	0.362 (0.478)
Distance by air	-0.0002 (0.0001)**	-0.0004 (0.0001)***	-0.0002 (0.0001)*	-0.0002 (0.0001)**	-0.00005 (0.0001)	-0.0002 (0.0001)
Regional Dummies?	Y	Y	Y	Y	Y	Y
Observations	208	190	163	191	56	99
Maximized Log Pseudo Likelihood	-48.99	-35.96	-46.76	-48.23	-28.76	-47.96
Pseudo R^2	0.4514	0.5139	0.4207	0.4413	0.2529	0.2301

Note: This table reports estimated coefficients from probit models, in which the dependent variable equals one for tax havens, and zero otherwise. The sample of countries used in the regression reported in column five consists of countries with populations below one million in 2004. The sample of countries used in the regression reported in column six consists of countries with characteristics other than governance that make them reasonable candidates to become tax havens. The governance index is the mean of 5 governance measures constructed by Kaufmann *et al.* (2005), taking values roughly in the (-2.5, 2.5) interval, with a zero mean and unit variance in the whole sample, higher values corresponding to better governance. GDP per capita is measured in thousands of U.S.$, in purchasing power parity terms, for 2004. Population is thousands of residents in 2004. UN member is a dummy variable equal to one for UN members and zero otherwise. Landlocked is a dummy variable taking the value one for landlocked countries and zero otherwise. Distance by air is the distance (in km) from a country's capital city to the nearest of New York, Rotterdam, or Tokyo. The regression includes regional dummy variables for Europe and Central Asia, Asia/Pacific, the Americas, and the Middle East and Africa. Robust standard errors are in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%

Table 5: Governance Characteristics of Tax Havens and Nonhavens: Matching Estimation

(1) Propensity Score Block	(2) Minimum Propensity Score	(3) Mean Propensity Score: Havens (N)	(4) Mean Propensity Score: Nonhavens (N)	(5) Difference in Mean Propensity Scores (s.e.)	(6) Balancing Property Satisfied for All Covariates?	(7) Difference in Governance Index (s.e.)
1	0.0486	0.1188 (6)	0.1118 (46)	0.0070 (0.0287)	Y	
2	0.25	0.3827 (13)	0.3678 (19)	0.0149 (.0257)	Y	
3	0.5	0.6469 (19)	0.6293 (11)	0.0176 (0.0411)	Y	
Overall						0.2982 (0.1800)*

Note: This table reports the results of a propensity-score matching procedure, as described in the text. In Columns 3 and 4, the number of countries in each block, by tax haven status, is reported in parentheses. Column 5 reports the results of t-tests of the equality of mean propensity scores for havens and nonhavens within each block, with standard errors in parantheses. Column 7 reports the matching estimate of the difference in the governance index between havens and nonhavens. The standard error in Column 7 is bootstrapped, using 500 replications; * significant at 10%; ** significant at 5%; *** significant at 1%

Table 6: Determinants of Tax Haven Status – Instrumental Variable Probit Estimates

	(1) Using Legal Origins as Instruments	(2) Using Legal Origins and Latitude as Instruments	(3) Using Legal Origins as Instruments
Dependent Variable: Indicator for Tax Haven Status (= 1 for Tax Havens)			
Governance Index	1.956 (0.285)***	1.998 (0.329)***	1.926 (0.437)***
GDP per capita	-0.078 (0.042)	0.041 (0.047)	0.054 (0.069)
Population	-0.00007 (0.0001)	-0.0001 (0.0001)	-0.0003 (0.0001)***
UN Member (=1)	0.473 (0.305)	-0.382 (0.192)**	
Landlocked (=1)	0.327 (0.294)	-0.257 (0.386)	-0.106 (0.649)
Distance by Air	-0.0001 (0.0001)	-0.0002 (0.0002)	-0.0006 (0.0002)***
Govt. Expenditure (% of GDP)			-0.153 (0.042)**
Telephone Lines (scaled by area)			0.001 (0.0002)**
Regional Dummies?	Y	Y	Y
Observations	205	197	90
Maximized Log Pseudo Likelihood	-206.914	-187.254	-53.871

Note: This table reports estimated coefficients from the second stage of instrumental variable probit models, in which the dependent variable equals one for tax havens, and zero otherwise. The instruments in Columns 1 and 3 are indicator variables for each of 5 origins (British, French, German, Scandinavian, and Socialist) of a country's commercial law. The instruments in Column 2 include both legal origins and a country's latitude. The governance index is the mean of 5 governance measures constructed by Kaufmann *et al.* (2005), taking values roughly in the (-2.5, 2.5) interval, with a zero mean and unit variance in the whole sample, higher values corresponding to better governance. GDP per capita is measured in thousands

of U.S.$, in purchasing power parity terms, for 2004. Population is thousands of residents in 2004. UN member is a dummy variable equal to one for UN members and zero otherwise. Landlocked is a dummy variable taking the value one for landlocked countries and zero otherwise. Distance by air is the distance (in km) from a country's capital city to the nearest of New York, Rotterdam, or Tokyo. Govt. expenditure is the ratio of government expenditures to GDP in 2004, expressed as a percentage. Telephone lines is the number of telephone lines per square km. The regression includes regional dummy variables for Europe and Central Asia, Asia/Pacific, the Americas, and the Middle East and Africa. Note that all countries in Column 3 are UN members, so the UN member variable is dropped. Robust standard errors are in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 7: Determinants of Statutory Corporate Tax Rates – Tobit and Instrumental Variable Tobit Estimates

	(1) Tobit Model	(2) Tobit Model	(3) Tobit Model	(4) IV Tobit Model
	Dependent Variable: Top Statutory Corporate Tax Rate (as %)			
Governance Index	-2.998	-5.889		-23.130
	(1.428)**	(2.519)**		(9.778)**
Voice and Accountability			2.768	
			(1.744)	
Political Stability			-0.349	
			(1.722)	
Government Effectiveness			-6.642	
			(2.752)**	
Rule of Law			-1.039	
			(5.062)	
Control of Corruption			2.111	
			(2.941)	
GDP per capita	0.147	0.432	0.217	1.650
	(0.128)	(0.198)**	(0.122)*	(0.676)**
Population	0.000002	-0.00000003	0.000004	0.000003
	(0.000003)	(0.000003)	(0.000002)	(0.000003)
Landlocked (=1)	-3.184	-7.686	-2.036	-8.947
	(1.656)*	(2.886)***	(1.674)	(3.380)***
Distance by Air	-0.0003	-0.00004	-0.0003	0.001
	(0.0004)	(0.0004)	(0.0004)	(0.001)
Fraction of Pop. within 100km of Coast		-5.658		-0.738
		(2.420)**		(4.386)
Government Expenditure (%)		0.387		0.446
		(0.128)***		(0.147)***
Parliamentary System (=1)		3.073		10.851
		(2.180)		(5.903)*
Subsoil Assets		-0.0000008		-0.00021
		(0.00007)		(0.00014)
Regional Dummies?	Y	Y	Y	Y
Observations	135	60	134	60
Maximized Log Pseudo Likelihood	-470.977	-183.252	-464.613	-193.856

Note: Columns 1-3 report estimated coefficients from Tobit models in which the dependent variable is a country's top statutory corporate tax rate. Column 4 reports estimated coefficients from the second stage of instrumental variable Tobit model, in which the instruments are indicator variables for each of 5 origins (British, French, German, Scandinavian, and Socialist) of a country's commercial law. The governance index is the mean of 5 governance measures constructed by Kaufmann *et al.* (2005), taking values roughly in the (-2.5, 2.5) interval, with a zero mean and unit variance in the whole sample, higher values corresponding to better governance. The regression reported in column 3 separately includes each of the five governance measures. GDP per capita is measured in thousands of U.S.$, in purchasing power parity terms, for 2004. Population is thousands of residents in 2004. Landlocked is a dummy variable taking

the value one for landlocked countries and zero otherwise. Distance by air is the distance (in km) from a country's capital city to the nearest of New York, Rotterdam, or Tokyo. Fraction of Pop. within 100km of coast is the fraction of a country's total land area within 100km of an ocean coast. Govt. expenditure is the ratio of government expenditures to GDP in 2004, expressed as a percentage. Parliamentary System is a dummy variable taking the value one for countries with parliamentary governments, and zero otherwise. Subsoil Assets is the per capita value (U.S.$) of a country's stock of mineral assets in 2000. The regression includes regional dummy variables for Europe and Central Asia, Asia/Pacific, the Americas, the Middle East and North Africa, and Africa. The sample in all columns includes UN members only. Robust standard errors are in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 8: Governance and the Tax Elasticity of Investment by US Firms

	(1)	(2)
	Well-Governed Countries	Less Well-Governed Countries
	Dependent Variable: Log of Assets Owned by US Firms in 1999	
Constant	16.4437	9.5360
	(4.9307)***	(2.3080)***
Tax Rate faced by US Firms in 1999	-0.0712	-0.0162
	(0.0214)***	(0.0163)
Log of GDP in 1999	1.4014	0.6014
	(0.2735)***	(0.2110)***
Log of Population in 1999	-0.7224	-0.1608
	(0.3900)*	(0.1626)
R-squared	0.6221	0.3463
Number of Observations	30	30

Note: This table reports regressions in which the dependent variable is the log of assets owned locally by U.S. firms. Countries with available data are divided into two subsamples. "Well-governed" countries are defined as those with a governance index greater than the median in this sample (which is 0.705); "less well-governed" countries are those with a governance index less than the median in this sample. The data on assets owned by U.S. firms (in 1999) is from the Bureau of Economic Analysis. The tax rate faced by U.S. firms (following Hines and Rice (1994)) is defined as the minimum of the average effective tax rate for U.S. firms observed in the sample, and the country's statutory corporate tax rate. The governance index (from Kaufmann *et al.* (2005)) is for the year 2000 or the closest available year. GDP and population data are from the Penn World Tables. Robust standard errors are in parentheses. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.
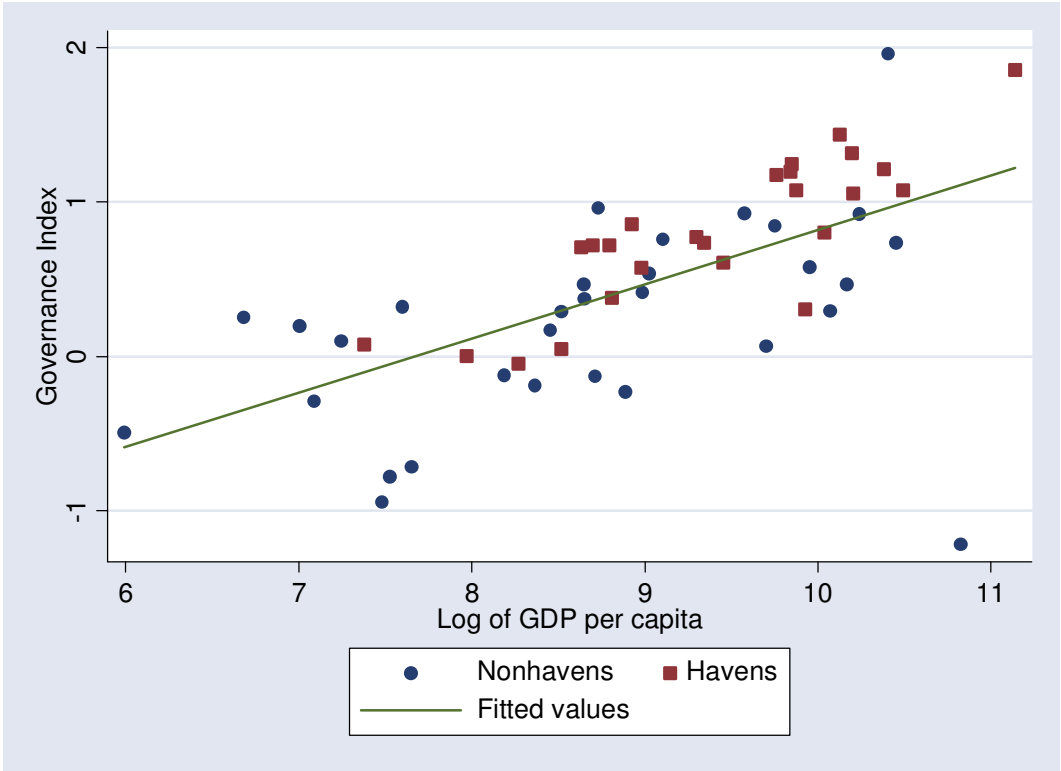
Fig. 1a: Governance and GDP: All Countries
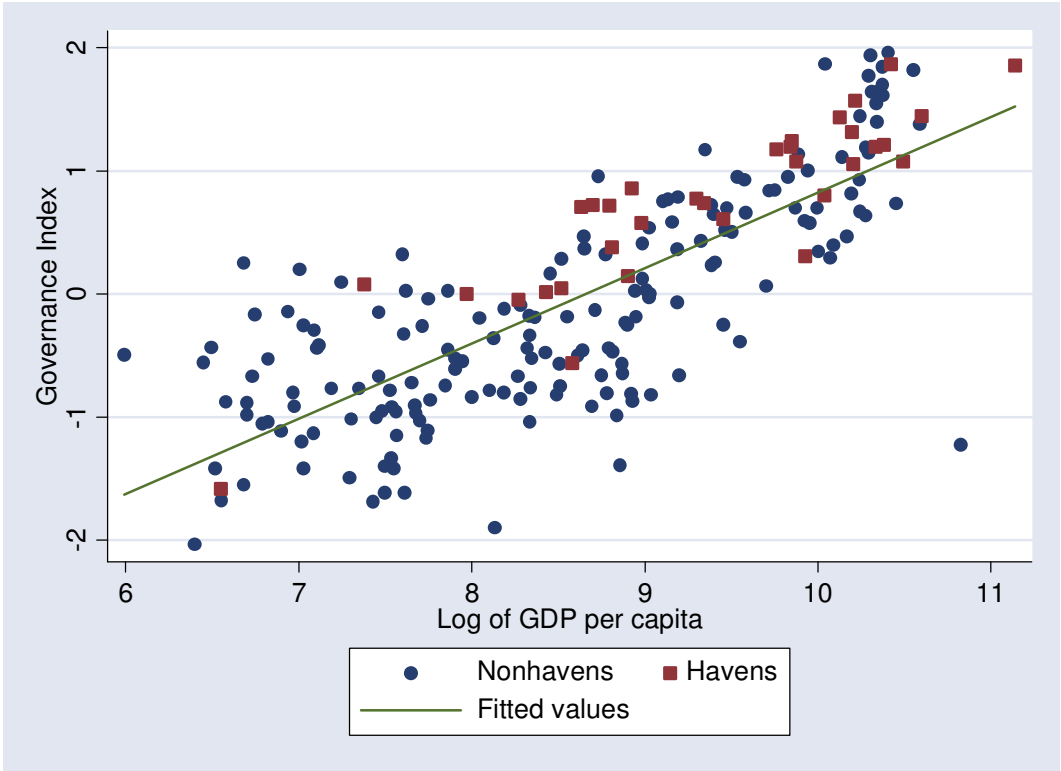
Note: This figure plots the governance index for 2004 against the log of GDP per capita in 2004 (in PPP terms, expressed in US$) for all countries in the dataset. Tax haven countries are represented by squares, all other countries by dots.
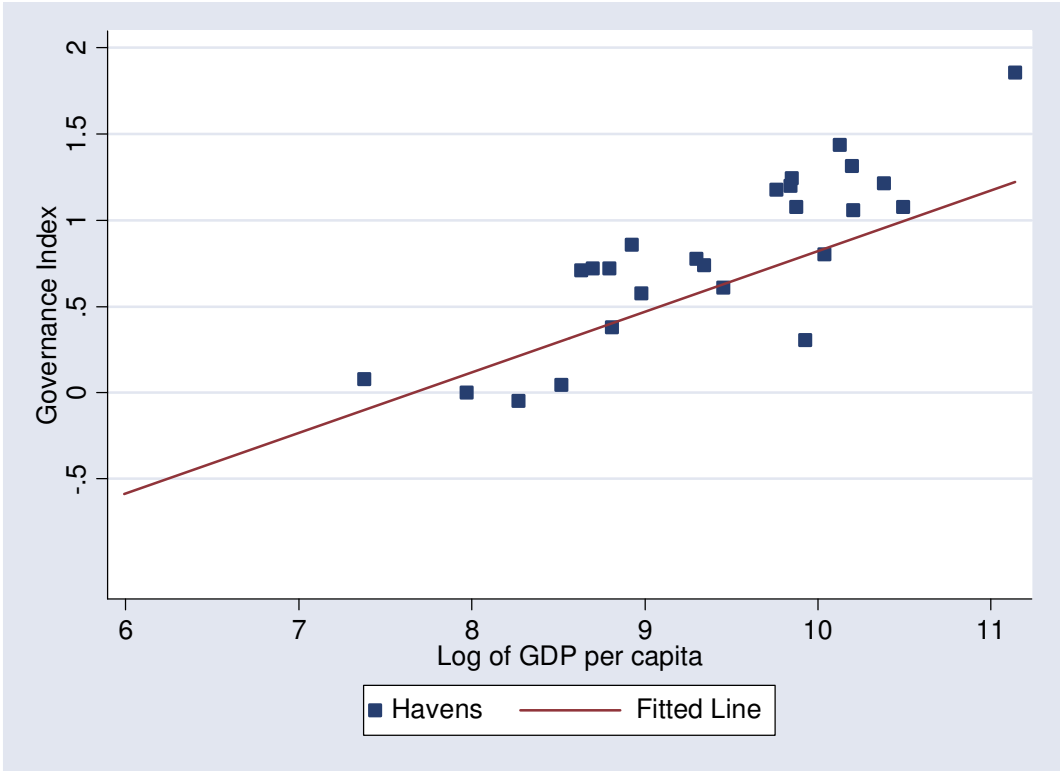
Fig. 1b: Governance and GDP: All Tax Havens
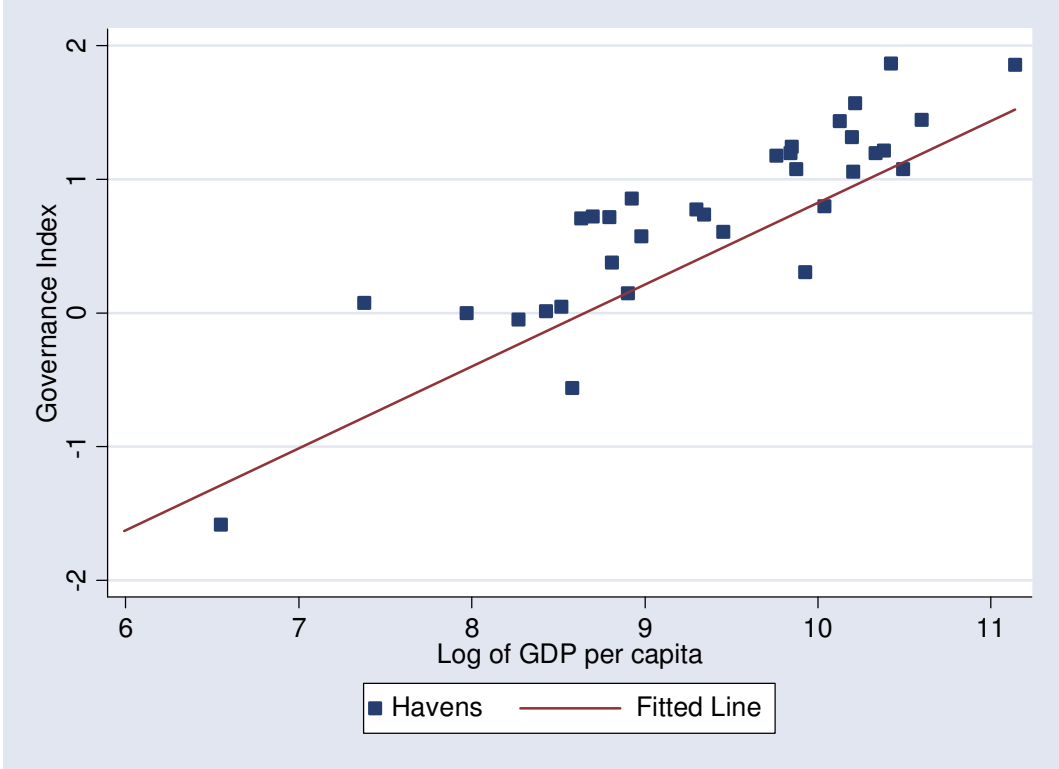
Note: This figure plots the governance index for 2004 against the log of GDP per capita in 2004 (in PPP terms, expressed in US$) for the tax haven countries (as defined in Column 3 of Table 1) in the dataset. The fitted line is calculated using all countries in the dataset, and is identical to that in Figure 1a.

Fig. 2a: Governance and GDP: Small Countries (Population < 1 million)

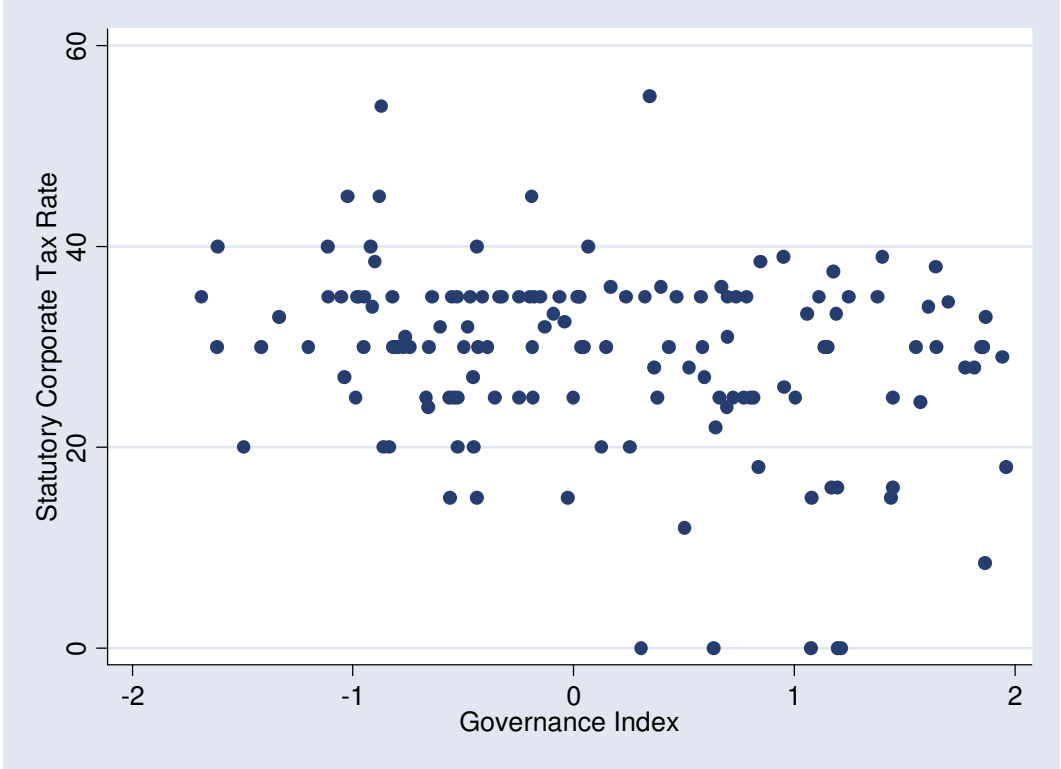

Note: This figure plots the governance index for 2004 against the log of GDP per capita in 2004 (in PPP terms, expressed in US$) for small countries (defined as those with populations less than 1 million). Tax haven countries are represented by squares, all other countries by dots.

**Fig. 2b: Governance and GDP: Small Tax Havens (Population < 1 million)**

Note: This figure plots the governance index for 2004 against the log of GDP per capita in 2004 (in PPP terms, expressed in US$) for the small tax haven countries (as defined in Column 3 of Table 1, with "small" being defined as having a population less than 1 million) in the dataset. The fitted line is calculated using all small countries in the dataset, and is identical to that in Figure 2a.

Fig. 3: Governance and Statutory Corporate Tax Rates

Note: This figure plots the top statutory corporate tax rate for each country (from the Worldwide Tax Database maintained by the Office of Tax Policy Research at the University of Michigan) against the governance index.

Fig. 4: Ratio of Total US FDI to GDP for Four Groups of Countries
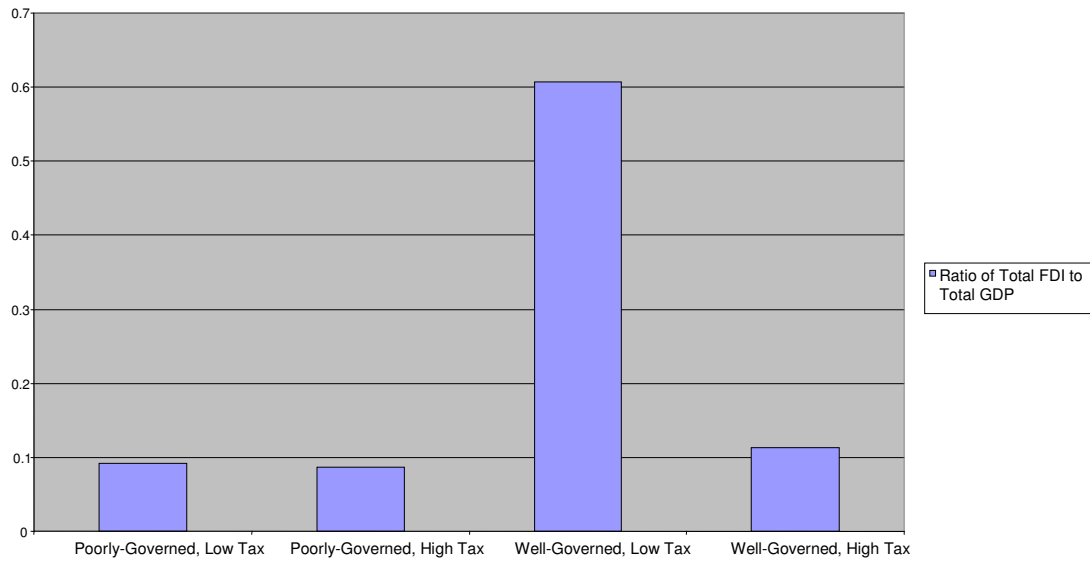
Note: The bars depict mean ratios of assets owned by US firms in 1999 to GDP for four groups of countries: those with below-median governance indices and below-median tax rates, those with below-median governance indices and above-median tax rates, those with above-median governance indices and below-median tax rates, and those with above-median governance indices and above-median tax rates. These medians are calculated for the 60 countries for which data on FDI by U.S. firms are available from the Bureau of Economic Analysis.