

## DO STRONG FENCES MAKE STRONG NEIGHBORS?

Mihir A. Desai and Dhammika Dharmapala

*Many features of U.S. tax policy towards multinational firms — including the governing principle of capital export neutrality, the byzantine system of expense allocation, and anti-inversion legislation — reflect the intuition that building “strong fences” around the United States advances American interests. This paper examines the interaction of a strong fences policy with the increasingly important global markets for corporate residence, corporate control and corporate equities. These markets provide opportunities for entrepreneurs, managers, and investors to circumvent a strong fences policy. The paper provides simple descriptive evidence of the growing importance of these markets and considers the implications for U.S. tax policy.*

*Keywords: international taxation, initial public offerings, mergers and acquisitions, foreign direct investment, foreign portfolio investment*

*JEL Classification: H25*

### I. INTRODUCTION

The byzantine complexities of tax policy toward American multinational firms reflect a simple and alluring intuition: American interests are best served by creating strong fences around American borders. This “strong fences” intuition is embodied in various dimensions of current policy. Investment abroad, as conceptualized under the governing tax policy norm of capital export neutrality (CEN), represents a diversion of investment that would have otherwise happened at home. Consequently, activity beyond the fence is viewed with suspicion. Unsurprisingly, political rhetoric and popular opinion toward multinational firms increasingly view their overseas activities as running counter to American interests. The complex expense allocation rules employed by the United States reflect the intuition that activity undertaken at home that serves activities beyond the fence should be penalized with a lack of deductibility at home — or should be thrown over the fence. Finally, recent anti-inversion legislation involves building ever higher and stronger fences to ensure that firms cannot escape by expatriating.

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The power of the strong fences intuition seems to be growing. Recent administration proposals envision disallowing deductions until profits are repatriated, and more generally view the overseas activities of multinational firms as a major revenue source.<sup>1</sup> A strong fences intuition suggests that a premium should be placed on ensuring that tax revenue is kept at home and that American firm activity abroad is only undertaken when facing a tax burden commensurate with the tax burden faced at home. Surprisingly, just as this intuition is gathering force in the United States, an opposing tendency is accelerating in the rest of the world. As the United Kingdom and Japan have abandoned worldwide tax regimes, they have embraced an “open doors” intuition whereby activity abroad is not viewed with suspicion, is not viewed as diversionary, and is not coupled with detailed expense allocation rules. In short, an open doors intuition places a lower premium on revenue and does not prioritize the equivalence of tax burdens on domestic and foreign investment.

Resolving the clash between the “strong fences” and “open doors” paradigms requires, among other things, further empirical evidence on the consequences of the “strong fences” policy. Existing empirical work examines how established multinational firms respond to tax policy with changed investment, financing, and transfer pricing behavior, indicating strong behavioral responses of firms to taxes on all of these margins. What is less well understood is the degree to which strong fences policies have spillover benefits to other countries and their firms. In particular, the dynamic effects of current tax policy on future firms are often neglected by emphasizing the effects on existing multinational firms.

The growing importance of the global markets for corporate residence, for corporate control, and for corporate equities may provide mechanisms for investors, managers, and entrepreneurs to circumvent the strong fences around the United States. This paper presents simple descriptive evidence and reviews existing evidence in the scholarly literature on the interaction of the U.S. tax system and these three global markets.

In a global setting in which formal corporate residence is increasingly elective, new firms that anticipate generating significant amounts of non-U.S. income will have an incentive to incorporate their parent firm outside the United States. While there has been extensive anecdotal discussion of this phenomenon, there has previously been no empirical evidence. This paper takes a first step towards providing such evidence by calculating how many initial public offerings (IPOs) on U.S. stock markets are conducted by firms incorporated in tax haven countries. The ratio of haven-incorporated IPOs to U.S.-incorporated IPOs has increased from zero in the late 1980s to an average of nearly 0.1 in recent years (i.e., there is one haven-incorporated IPO for approximately every ten U.S.-incorporated IPOs). This ratio reached a peak of nearly 0.3 in 2008. This pattern is not true of IPOs in the stock markets of two major economies — France and Germany — that employ systems of territorial taxation. While further research is required

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<sup>1</sup> The President’s budget for FY2011 envisages collecting an extra \$122 billion over ten years from this provision and others relating to international tax policy; see Office of Management and Budget, Summary Tables, S-8, <http://www.whitehouse.gov/omb/budget/fy2011/assets/tables.pdf>.

to clarify the causes, magnitude, and efficiency consequences of this phenomenon, this preliminary evidence suggests that entrepreneurs are cognizant of future tax burdens and appear to adjust their incorporation decisions in advance of their public listing.

Managers of American firms can also circumvent a strong fences policy through acquisition by a foreign firm that is not subject to worldwide taxation by its home country. Using data on acquisitions of U.S. targets, this paper calculates the number of such acquisitions by acquirers based in tax havens and other countries with exemption systems. The fraction of acquisitions of U.S. targets by acquirers in this category has risen over time, and a small but growing number of these acquisitions are undertaken by firms based in tax havens. Moreover, these haven acquisitions have also grown over time in relation to overall foreign acquisitions, reaching around 10 percent in recent years. As with IPOs, this evidence is preliminary, but seems to provide some support to the idea that managers of foreign and domestic firms can use the global market for corporate control to adjust their global tax burdens regardless of the strong fences policy.

Finally, the global market for corporate equities provides a mechanism for institutional and individual investors to gain access to the diversification opportunities of foreign markets without investing in U.S.-domiciled multinational firms. In effect, investors can trade off two alternative vehicles for accessing diversification opportunities — a U.S.-based multinational with global operations and a portfolio of non-U.S. companies operating around the world. Desai and Dharmapala (2009) provide evidence that the pattern of U.S. foreign portfolio investment (FPI) around the world is consistent with U.S. investors adjusting their portfolios in response to the worldwide corporate tax system used by the United States: U.S. equity FPI tends to be larger, relative to FDI by U.S. firms, in countries with lower corporate tax rates, where U.S. firms face the largest residual U.S. tax. This result, which is robust to a series of checks and a variety of specifications, suggests that the global market for corporate equities provides a means for investors to circumvent the strong fences objectives of current U.S. policy.

The operation of these global markets for corporate residence, control and equities suggests that strong fences may, in fact, make for strong neighbors. Of course, the descriptive evidence on IPOs and acquisitions is highly preliminary and at most only suggestive of tax motivations. Nonetheless, a small but growing body of scholarly literature (e.g., Desai and Dharmapala, 2009; Huizinga and Voget, 2009) is establishing that these global markets are responsive to tax considerations. Even so, the effects on other countries are hardly dispositive for the virtues of a strong fences policy generally. It is possible that other advantages to the United States of worldwide taxation outweigh the costs associated with rendering U.S. residence less attractive to firms. The central point of this paper, however, is that the operations of these markets have not been emphasized in existing theoretical and empirical work on the effects of the worldwide tax system. These preliminary findings highlight the importance of further research on the interaction between tax systems and these markets, and suggest that any realistic assessment of current U.S. policy towards multinational firms must consider the margins of incorporation, corporate control, and portfolio investment.

The paper proceeds as follows. Section II reports new evidence on the residence of firms conducting IPOs in the U.S. stock market. Section III reports new evidence on the residence of firms acquiring U.S. targets, and discusses relevant literature on cross-border mergers and acquisitions. Section IV introduces the role of portfolio investment and reviews evidence that the U.S. tax system disadvantages U.S. multinational firms as vehicles for foreign investment. Section V concludes.

## II. EVIDENCE ON IPOs

Consider a new enterprise that is established by founders who are physically resident in the United States. These founders are optimistic that their business will grow and generate income from around the world. Traditionally, the enterprise would automatically incorporate in one of the U.S. states, and so be subject to U.S. taxation of its non-U.S. income. Today, however, it has available the option of incorporating abroad. Thus, for a firm being started today, corporate residence within the United States is a matter of choice. Shaviro (2009, p. 10) notes that “Anecdotally, in my experience, leading tax lawyers consistently report that well-advised clients with international business plans, in particular involving valuable intellectual property that can be used in markets around the world, tend not even seriously to consider U.S. incorporation these days, given the lack of any need to bear its relative tax onerousness.” A decade earlier, the tax director of Intel testified before the Senate Finance Committee that “... if Intel were to be founded today, I would strongly advise that the parent company be incorporate [sic] outside the United States” (Committee on Finance, 1999, p. 11).<sup>2</sup> Desai (2009) provides a number of anecdotal examples of firms choosing their legal domicile opportunistically and separately from their homes for managerial talent and for financing.

Despite the importance of this phenomenon for tax policy, empirical evidence has been scant. A full empirical assessment would require worldwide data on incorporations, and an empirical strategy that credibly identifies the relevant counterfactual — i.e., incorporations that would have occurred in the United States, but occurred in other countries for tax reasons. While complete identification represents a significant challenge, it is possible to take a first step in this direction by examining data on IPOs in the U.S. stock market. The set of relevant firms in this context consists of those that wish to access the U.S. capital markets, but that choose to incorporate elsewhere. Incorporating in any foreign country with an exemption system will generate the benefits associated with avoiding home country taxation of foreign income. However, it is difficult to distinguish such listings from those of substantively foreign firms, which list on the U.S. stock market for a variety of reasons unrelated to taxes.<sup>3</sup> Thus, the tax motivation

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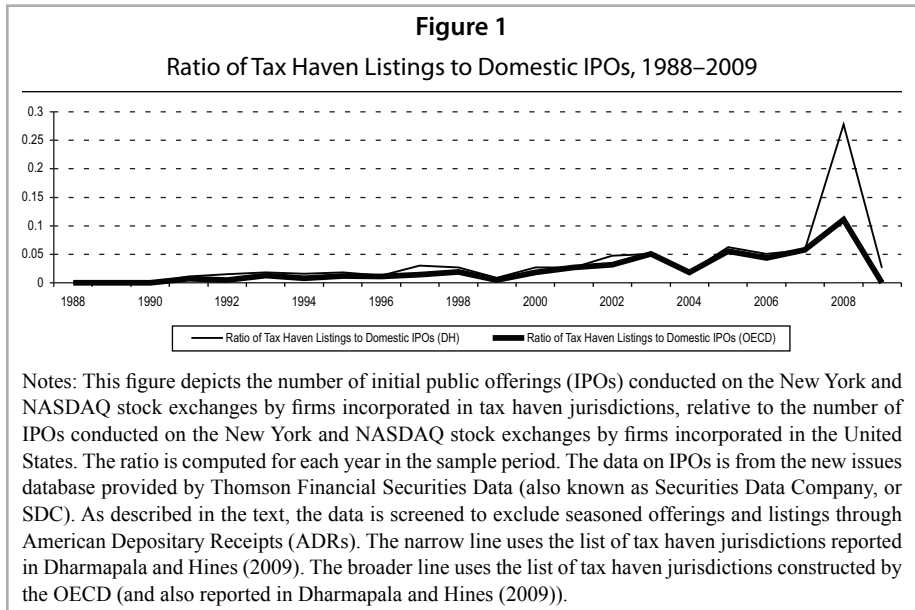
<sup>2</sup> This statement, followed by the suggestion that Intel would have chosen the Cayman Islands, engendered Senator Daniel Patrick Moynihan’s memorable rejoinder “Do you think that the Marines are still down there if you need them? ... Supposing you had trouble in the Cayman Islands, where would you turn, to their fleet?” (Committee on Finance, 1999, p. 17).

<sup>3</sup> These reasons may, for instance, include raising capital and bonding or signaling by becoming subject to U.S. securities law and corporate governance provisions.

is most clearly visible when restricting attention to IPOs by firms incorporated in a foreign tax haven jurisdiction.

This analysis uses a comprehensive dataset of IPOs on the New York Stock Exchange and NASDAQ over the period 1988–2009. This dataset represents an updated version of that used in Loughran and Ritter (2004).<sup>4</sup> Its starting point is the new issues database provided by Thomson Financial Securities Data (also known as Securities Data Company, or SDC). Loughran and Ritter (2004) add to this a large number of IPOs that are not reported in the SDC data, using prospectuses, the Securities and Exchange Commission's Electronic Data Gathering and Retrieval (EDGAR) system, and other sources. The data are also corrected for misclassifications in the SDC database, notably by omitting U.S. listings of foreign firms that are already listed abroad. Similarly, foreign firms that cross-list in the United States through American Depositary Receipts (ADRs) are excluded, as ADRs are typically used by firms that are already listed elsewhere.<sup>5</sup> The IPO dataset reports the date of the offering, along with a number of other variables. Crucially for this exercise, the firms' country of incorporation is reported.

As argued above, the most relevant comparison for the purposes of this paper is between IPOs by firms incorporated in tax haven jurisdictions and IPOs by firms incorporated in the United States. Figure 1 reports the ratio of the former to the latter, computed



<sup>4</sup> This dataset is described more fully at: <http://bear.warrington.ufl.edu/ritter/ipodata.htm>. Jay Ritter kindly shared the modifications and corrections to the SDC data.

<sup>5</sup> In addition, the IPO data excludes banks, closed-end funds, real estate investment trusts, and IPOs with an offer price below \$5.

annually for each year over the period 1988–2009. IPOs are defined as listings by firms newly going public. As described above, the data are screened to exclude seasoned equity offerings and foreign companies that list in the United States through ADRs.<sup>6</sup> Tax havens are defined using two alternative measures, one reported in Dharmapala and Hines (2009), referred to in Figure 1 as the DH measure, and the other constructed by the OECD (and also obtained from Dharmapala and Hines (2009)).<sup>7</sup> Under either measure, this ratio was zero in the late 1980s (i.e., there were no IPOs of firms incorporated in foreign havens). Over this period, however, the ratio has grown substantially. In the most recent years (2005–2009), the average ratio using the DH definition of havens is close to 0.1 (i.e. there is one haven-incorporated IPO for approximately every ten U.S.-incorporated IPOs). This ratio reached a peak of nearly 0.3 in 2008. The numbers are smaller for the OECD measure (which defines tax havens more restrictively); however, the general trend over this period is very similar.<sup>8</sup>

While the tax motivations of haven-incorporated IPOs are perhaps clearer than those of other foreign-incorporated IPOs, there may still be nontax motivations for incorporating in havens. The trend towards increased incorporation in havens among firms listing on the U.S. stock exchange could scarcely be attributed to tax motivations if a similar pattern were true of other countries, in particular those implementing territorial systems of taxation. The SDC dataset's information on new listings in non-U.S. markets helps to address this question. IPOs on the French and German stock exchanges are of particular interest, given the large size of these markets and the fact that the tax systems of both France and Germany exempt most active foreign-source business income. Using the OECD definition of havens, there have been no haven-incorporated IPOs on the French or German markets since 1993. Using the DH definition, the number of haven-incorporated IPOs is also zero in most years over this period, and the average ratio of haven-incorporated IPOs to domestically-incorporated IPOs is much smaller than for the United States.<sup>9</sup> Moreover, there is no indication of an upward trend in haven incorporations among firms listing in France or Germany. Thus, while further

<sup>6</sup> The average number of domestic IPOs in the sample is 70, but there is considerable variation, with the number peaking at 646 in 1996.

<sup>7</sup> The main difference between the two definitions is that OECD member states and certain other relatively large countries and territories are omitted from the OECD list. However, the basic patterns are similar for both measures.

<sup>8</sup> It is of course possible that at least some of these haven-incorporated firms are not “substantively” American. A significant number of foreign firms based in Europe, Canada, Israel, and increasingly China conduct IPOs on the U.S. stock market. An IPO by a firm incorporated in the Cayman Islands may thus not necessarily be “substantively” American, but may be substantively Canadian or Chinese. Addressing this possibility requires further analysis of the location of the real economic activities of these haven-incorporated firms, a task left for future research.

<sup>9</sup> The average ratio over 2005–2009 is 0.007 for France and 0.008 for Germany (compared to 0.1 for the United States). This corresponds to one haven-incorporated IPO for approximately every 152 French-incorporated IPOs in France, and one haven-incorporated IPO for approximately every 130 German-incorporated IPOs in Germany (compared to one haven-incorporated IPO for approximately every ten U.S.-incorporated IPOs in the United States).

research is required to clarify the causes, magnitude and efficiency consequences of this phenomenon, it does not appear that the pattern for the United States shown in Figure 1 is simply a reflection of a wider trend towards haven incorporation across all major stock markets.

### III. EVIDENCE ON MERGERS AND ACQUISITIONS

Managers of existing companies that face strong fences, including anti-inversion legislation, can circumvent the U.S. tax system by being acquired by a foreign firm that is not subject to worldwide taxation. A notable example is provided by the merger in 1998 of the German carmaker Daimler and the U.S. automaker Chrysler. This gave rise to a combined enterprise known as DaimlerChrysler, with the parent firm located in Germany (which has an exemption system for foreign income). The tax director of the combined entity noted, "The merger of Chrysler Corporation and Daimler Benz A.G. was a marriage of two global manufacturing companies, one with its core manufacturing operations in North America and the other headquartered in Europe, with operations around the world. However, the U.S. tax system puts global companies at a decisive disadvantage."<sup>10</sup>

How widespread are these effects? Huizinga and Voget (2009) provide systematic evidence of this phenomenon. Using a global dataset of cross-border mergers and acquisitions over the period 1985–2004, they show that the resulting organizational structures are shaped by tax incentives. In particular, parent firms tend to choose residence in countries with lower tax burdens, typically those with lower rates and exemption regimes. In their sample, 53 percent of cross-border mergers and acquisitions involving U.S. firms result in the parent firm being based in the United States. They estimate that if the United States were to unilaterally abolish its worldwide tax system and adopt exemption, the percentage of cross-border mergers and acquisitions involving U.S. firms that would result in a U.S. parent would rise to 58 percent.<sup>11</sup>

This evidence, while important, relates to the choice of the parent firm's residence, conditional on the occurrence of a merger or acquisition. Another relevant question is whether the fraction of cross-border acquisitions that may be motivated by tax considerations is increasing over time. A complete answer to this question would require identifying tax-motivated acquisitions and separating out changes in this measure from wider trends associated with increased global economic integration. It is possible, however, to provide some preliminary evidence using the SDC data on mergers and acquisitions. The SDC data can be used to construct a comprehensive dataset of U.S.

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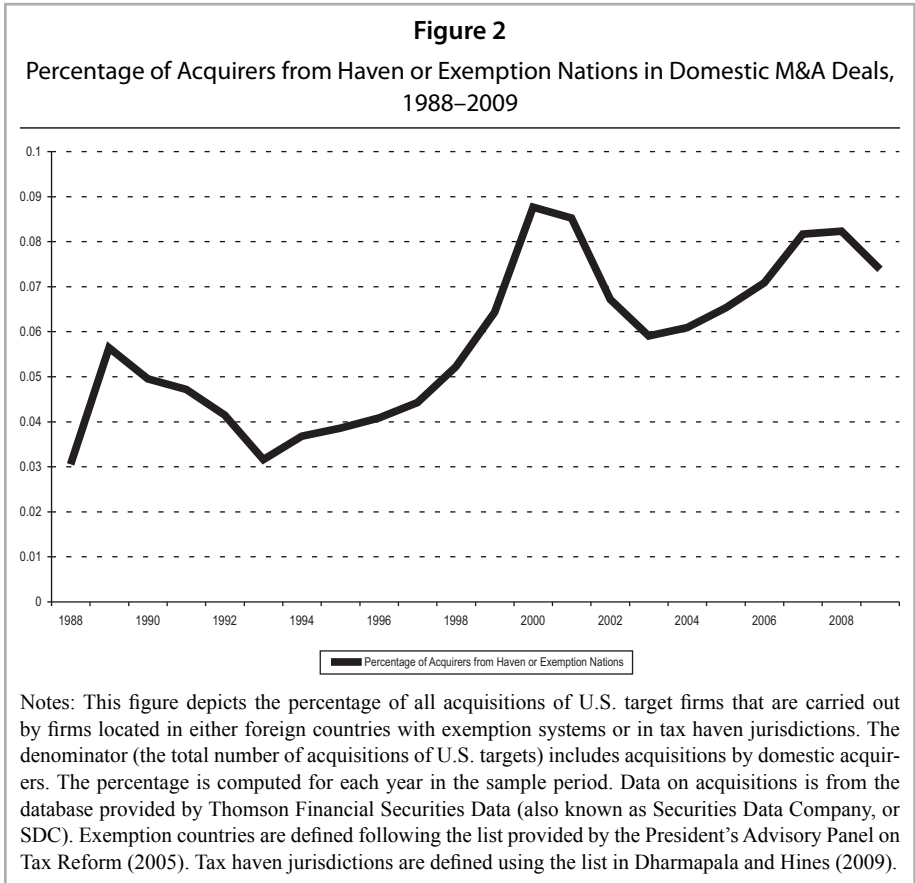
<sup>10</sup> Testimony of John Loffredo, Vice President and Chief Tax Counsel for DaimlerChrysler Corporation, before the Committee on Ways and Means, U.S. House of Representatives, June 30, 1999 (Committee on Ways and Means, 1999).

<sup>11</sup> In addition, Voget (2010) analyzes global data on headquarters relocations by multinationals over the 1997–2007 period, and finds that the residual tax on foreign income levied by countries such as the United States is a significant factor inducing multinationals to change headquarters locations.

target firms (both those acquired by other domestic U.S. firms, and those acquired by foreign firms) over the period 1988–2009 (corresponding to the period covered by the earlier analysis of IPOs).

Figure 2 reports acquisitions of U.S. targets by foreign firms based in exemption countries or tax havens, relative to the total number of acquisitions of U.S. targets, computed annually for each year over the period 1988–2009. Exemption countries are defined using the classification of foreign countries’ tax systems provided by the President’s Advisory Panel on Federal Tax Reform (2005). This percentage has clearly increased over time, rising from about 3 percent in the late 1980s to about 7 percent currently. Moreover, the fraction of all foreign acquisitions of U.S. targets that are undertaken by exemption country firms has also increased (from a little over 30 percent in the late 1980s to over 50 percent today).

As with the analysis of IPOs, tax motivations are most clearly evident when considering acquisitions of U.S. targets by firms based in foreign tax haven jurisdictions (even

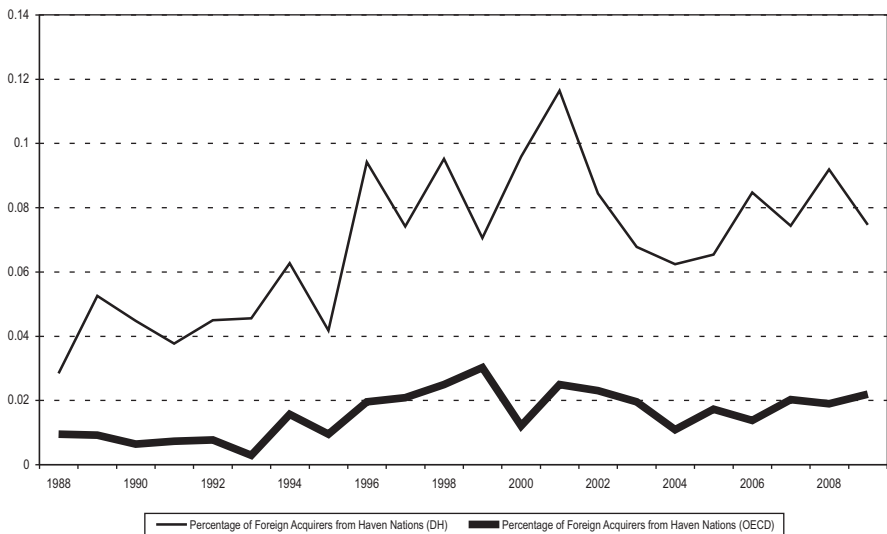




though many of the same tax benefits are available through acquisition by firms from nonhaven exemption countries). The fraction of U.S. targets acquired by haven-based foreign firms has increased dramatically since the late 1980s. The number of acquisitions involved is small, however, amounting to only a little over 1 percent of all acquisitions of U.S. targets in recent years (using the DH definition of tax havens). It is noteworthy that the fraction of haven acquirers relative to other foreign acquirers has also grown substantially. Figure 3 reports acquisitions of U.S. targets by foreign firms based in tax havens, relative to the total number of acquisitions of U.S. targets by foreign firms, computed annually for each year over the period 1988–2009. Using the DH definition of tax havens, this percentage rose from about three percent in 1988 to nearly 12 percent in 2001, before falling slightly to around 8 percent today.

This evidence is of course highly preliminary, but seems to provide some support for the idea that tax-motivated foreign acquisitions may be increasing over time, in a manner that is not necessarily confounded by the growth in cross-border acquisitions

**Figure 3**  
Percentage of Foreign Acquirers from Haven Nations in Domestic M&A Deals,  
1988–2009

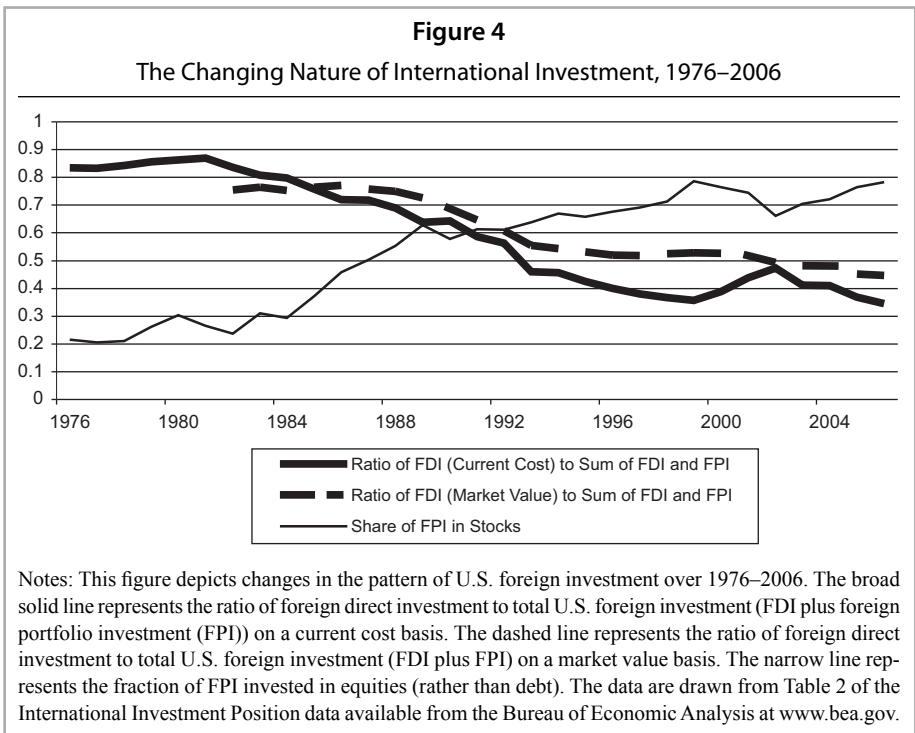


Notes: This figure depicts the percentage of all foreign acquisitions of U.S. target firms that are carried out by firms located in tax haven jurisdictions. The denominator (the total number of foreign acquisitions of U.S. targets) excludes acquisitions by domestic acquirers. The percentage is computed for each year in the sample period. Data on acquisitions is from the database provided by Thomson Financial Securities Data (also known as Securities Data Company, or SDC). The narrow line uses the list of tax haven jurisdictions reported in Dharmapala and Hines (2009). The broader line uses the list of tax haven jurisdictions constructed by the OECD (and also reported in Dharmapala and Hines (2009)).

per se over time, nor by nontax differences between foreign countries with exemption and worldwide systems. Investigating more fully the extent to which this is true is thus an important issue for further research.

#### IV. EVIDENCE ON PORTFOLIO INVESTMENT

The global markets for corporate equities provide the final mechanism by which the workings of strong fences policies can be obviated. As the equity home bias (the tendency of investors to overweight home country equities, often to a drastic extent, in their portfolios) has eroded in recent years, portfolio investors have become increasingly willing to purchase stock in foreign corporations, typically through a U.S. institution such as a mutual fund.<sup>12</sup> This dramatic shift in the form of foreign investment is illustrated in Figure 4, which shows the change in the relative importance of foreign direct investment (FDI) by U.S. firms and FPI by U.S. individuals over the period 1976–2006.



<sup>12</sup> Dharmapala (2009) presents descriptive evidence suggesting a decline in the equity home bias of U.S. investors. Graetz and Grinberg (2003) provide an extensive discussion of the growing importance of cross-border flows of portfolio investment, and its implications for tax policy.

At the beginning of this period, foreign investment almost exclusively took the form of FDI, whereas by the end of the period FDI constituted substantially less than half of foreign investment. Moreover, the form of FPI itself underwent a transformation over this period, from consisting mostly of debt holdings to consisting mostly of equity holdings.

### A. The Choice Between FDI and FPI

In the past, when FPI was limited due to capital controls and other barriers, investors could obtain exposure to the economies of foreign countries only through buying stock in domestic-based multinational firms that engaged in FDI overseas. U.S. investors' holdings of stock in U.S. multinational corporations (MNCs) are thought to provide a significant degree of international diversification (Errunza, Hogan and Hong, 1999). Today, however, investors have available an alternative and more straightforward means of global portfolio diversification through FPI.

Consider a U.S. investor who wishes to gain exposure to the economy of a foreign country  $F$ .<sup>13</sup> As U.S. MNCs operating in  $F$  face an extra layer of U.S. tax on income generated in  $F$ , they are disadvantaged as a vehicle for the U.S. investor to obtain this exposure, relative to local firms or third-country MNCs from exemption countries, which face only the local tax rate. Let  $r^F$  be the pretax rate of return (before both corporate and personal taxes) available in country  $F$ ,  $t_C^F$  be  $F$ 's corporate tax rate,  $t_W^F$  be  $F$ 's withholding tax rate on dividends paid to U.S. shareholders,  $t_C^{US}$  be the US corporate tax rate, and  $t_P^{US}$  be the U.S. personal tax rate on dividends. Suppose that (as is typically the case)  $t_C^F \leq t_C^{US}$  and  $t_W^F \leq t_P^{US}$ . In a world characterized by widespread capital mobility, it is reasonable to assume that local corporate taxes are capitalized into pretax rates of return, so that  $r^F(1 - t_C^F) = r^*$ , where  $r^*$  is the world rate of return after host country corporate taxes.

When the investor invests in a U.S. MNC that engages in FDI in country  $F$ , the subsidiary in country  $F$  earns a pretax return  $r^F$  that is subject to  $F$ 's corporate tax. Then, the after-tax profits are repatriated to the U.S. parent, which is subject to U.S. corporate tax on the repatriated income (but with a foreign tax credit allowed for taxes paid abroad). Finally, the U.S. multinational pays out the remaining income as dividends to the investor, who is subject to U.S. personal tax on this dividend income. Thus, the U.S. investor's after-tax return is:

$$(1) \quad \frac{r^*(1 - t_C^{US})(1 - t_P^{US})}{1 - t_C^F}$$

On the other hand, if the investor engages in equity FPI, she buys shares in a corporation domiciled in country  $F$ . This corporation earns a pretax return  $r^F$  that is subject to  $F$ 's corporate tax. The remaining income is paid out by the foreign corporation to its shareholders, including the U.S. investor. These dividends would typically be subject to a withholding tax by country  $F$ , generally at a lower rate than the U.S. personal tax

<sup>13</sup> This discussion follows Desai and Dharmapala (2009).

that applies to the investor's dividend income (with a foreign tax credit allowed by the United States for withholding taxes paid to  $F$ ). Thus, the U.S. investor's after-tax return would be  $r^*(1 - t_p^{US})$ , a clearly superior return whenever the U.S. corporate tax rate exceeds that in country  $F$ .

The discussion of IPOs in Section II above focused on the next generation of MNCs. In contrast, this analysis of investors' choice between FDI and FPI arising from the global integration of equity markets suggests that *existing* U.S. MNCs are disadvantaged as vehicles for portfolio investment. Of course, to the extent that deferral and other tax rules reduce the burden of U.S. tax on U.S. MNCs' foreign income, the extent of this disadvantage is mitigated. On the other hand, the enactment of current proposals to limit deferral would tend to magnify this disadvantage. As described below, the empirical evidence suggests that even under the current system, with its fairly extensive scope for deferral, this disadvantage is quantitatively significant.

Does substitution of FPI for FDI entail any efficiency loss? It is often argued that FDI is driven by differences in the value or productivity of assets based on the identity of the owner. That is, a factory located in country  $F$  may happen to be more or less productive when it is owned by a U.S. MNC, as opposed to being under domestic ownership or owned by a third-country MNC (Desai and Hines, 2003). In such a scenario, the tax distortion will give rise to cases where the U.S. MNC is the most efficient owner of a firm located in  $F$ , but where the U.S. MNC is unable to acquire the  $F$  firm because investors prefer to buy shares in the  $F$  firm rather than to provide capital to finance the U.S. MNC's acquisition of the  $F$  firm. This clearly leads to an inefficiency and hence to a reduction in global welfare. It can also adversely affect U.S. national welfare, as suggested by the following simple example.

Suppose that a domestic firm in country  $F$  can earn a pretax return of 5 percent, while if this firm were acquired by a U.S. MNC it could earn additional economic rents (arising for instance from the US MNC's intellectual property or other proprietary assets) giving rise to a return of 6 percent.<sup>14</sup> Assume that  $t_C^F = 20$  percent,  $t_W^F$  is zero,  $t_C^{US} = 35$  percent, and  $t_p^{US} = 25$  percent. Comparing Columns 1 and 2 of Table 1 shows that under a worldwide corporate tax system, the U.S. investor will choose to engage in FPI rather than FDI, even though U.S. national welfare (defined as the sum of U.S. tax revenue and the U.S. investor's after-tax return) would be higher if she were to invest in the U.S. MNC.

## B. Empirical Evidence

To analyze the magnitude and significance of this potential distortion, Desai and Dharmapala (2009) study the patterns of U.S. FDI and FPI across the world. Data on

<sup>14</sup> Note that it is an assumption here that FDI is more productive in this instance. Of course, this need not be the case in any given scenario. The claim here is merely that, even when FDI is more productive, it may not occur because of the U.S. worldwide tax system.

Table 1  
National Welfare and the Choice between FPI and FDI

	Income Generated by \$100 of Investment			
	Worldwide Corporate Tax		Territorial Corporate Tax	Personal Tax Offset
	FPI	FDI	FDI	FPI
Pretax return	5	6	6	5
Corporate tax paid to <i>F</i>	1	1.2	1.2	1
U.S. corporate tax revenue	0	0.9	0	0
U.S. personal tax revenue	1	0.975	1.2	1.75
Return to U.S. investor after U.S. personal tax	3	2.925	3.6	2.25
Return from the standpoint of U.S. national welfare	4	4.8	4.8	4

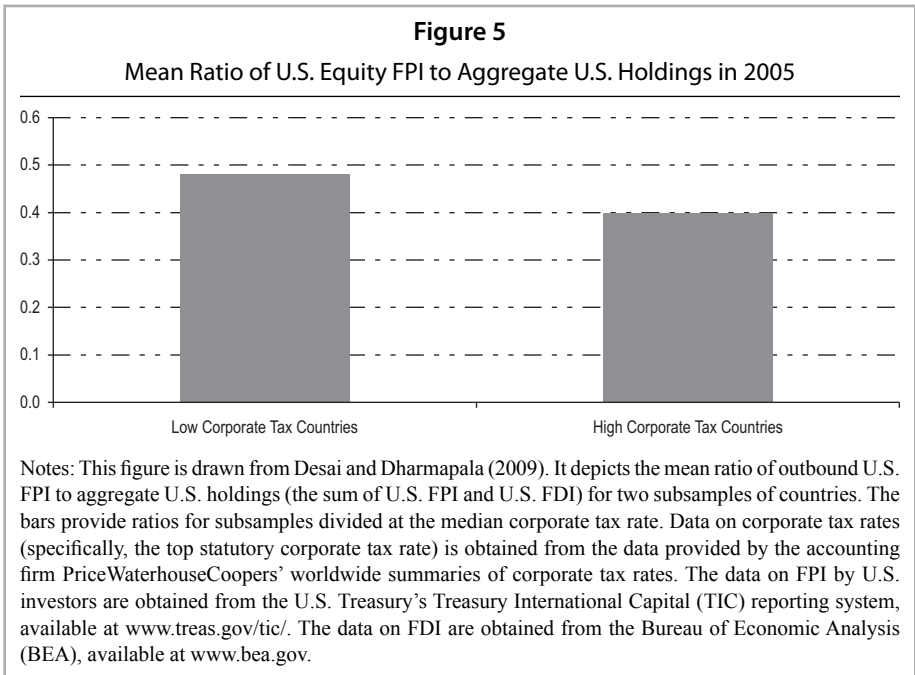
Notes: This table summarizes the numerical example used in Section IV of the text. It shows the dollar amounts of returns and tax revenues generated by \$100 of U.S. investment in a foreign country *F*. The corporate tax rate in the United States is assumed to be 35 percent and the corporate tax rate in *F* is assumed to be 20 percent. The personal tax rate imposed by the United States is 25 percent, and it is assumed that there is no withholding tax imposed by *F* on dividends paid to U.S. shareholders. As noted in the text, a return of 5 percent is assumed for a locally-owned firm in *F* and a return of 6 percent when the firm in *F* is owned by a U.S. multinational. U.S. national welfare is defined as the sum of tax revenues (both corporate and personal) collected by the U.S. government and the after-tax return of the U.S. investor. Column 1 shows the outcomes when the U.S. investor engages in FPI (investing \$100 in a locally-owned firm). Column 2 shows the outcomes when the U.S. investor invests in a U.S. multinational firm that operates in *F*, where the U.S. multinational firm is subject to worldwide U.S. taxation. Column 3 shows the outcomes when the U.S. investor invests in a U.S. multinational firm that operates in *F*, where the U.S. multinational firm is subject to territorial U.S. taxation (i.e. an exemption system). Column 4 shows the outcomes when the U.S. investor engages in FPI (investing \$100 in a locally-owned firm), and is subject to the additional personal tax described in the text (at a rate of 18.75 percent in addition to the regular 25 percent — i.e. a total personal tax rate of 43.75 percent).

FDI are obtained from the Bureau of Economic Analysis (BEA), while data on FPI by U.S. investors is from the Treasury International Capital (TIC) reporting system of the U.S. Department of the Treasury. Merging these data, they construct a measure of the fraction of U.S. equity investment (FDI plus equity FPI) in each country that takes the form of equity FPI. The reasoning above suggests that this fraction should be higher in countries with lower corporate tax rates. In these countries, the residual U.S. tax on income generated by U.S. MNCs is larger, and so U.S. MNCs are at a greater disadvantage as vehicles for investment, relative to the situation in higher-tax countries.

Figure 5 compares the ratio of U.S. equity FPI to aggregate U.S. equity investment for high and low tax countries (divided at the median corporate tax rate) for a sample of 45 countries for which data are available in 2005. As is evident, the ratio is indeed higher for lower-tax countries.

Desai and Dharmapala (2009) test this hypothesis more rigorously using a panel of 50 countries over the period 1994–2005 (although FPI data are only available for six of these years).<sup>15</sup> This analysis regresses the ratio of U.S. equity FPI to aggregate U.S. equity investment (the sum of U.S. equity FPI and U.S. FDI) on countries’ corporate tax rates, controlling for a variety of potentially relevant factors — including market capitalization, an index of legal protections for shareholders, financial depth, and international trade — along with country and year fixed effects and country-specific time trends. In this specification, the source of identification is provided by changes in a given country’s corporate tax rate over time. The basic result is that decreases in a country’s corporate tax rate are associated with statistically significant increases in the ratio of U.S. equity FPI relative to aggregate U.S. equity holdings, over and above the trend followed by this ratio over time.

The magnitude of the effect is also substantial — a 10 percent decrease in a foreign country’s corporate tax rate increases U.S. investors’ equity FPI holdings by approxi-



<sup>15</sup> This sample includes essentially all countries with significant stock market activity, which is of course a prerequisite for equity FPI.

mately 10 percent, controlling for effects on FDI and other relevant factors, and for country-specific trends in U.S. equity FPI. Moreover, this effect is absent for *debt* FPI, for which the tax incentive discussed above is less relevant. This result is also robust to an extensive series of checks. Overall, these empirical results imply that the U.S. international tax system substantially disadvantages U.S. MNCs as vehicles for U.S. investment.

This disadvantage would not exist under an exemption system.<sup>16</sup> Column 3 of Table 1 shows the outcomes in the example when the U.S. corporate tax is applied on a territorial basis. The return to the U.S. investor of investing in the U.S. MNC rises above the return from engaging in FPI, thus aligning her interests with the maximization of national welfare.

### C. Can Neutrality between FDI and FPI be Achieved within Strong Fences?

Is it possible to achieve tax neutrality between FDI and FPI within the constraints of a system in which corporate income is taxed on a worldwide basis? Investigating the feasibility of such a possibility can illuminate the degree to which such neutrality is compatible with worldwide taxation. As described more fully below, any such solution has to adjust personal taxes in order to compensate for differences across countries in corporate tax rates.<sup>17</sup>

To illustrate the difficulties involved, consider imposing an additional layer of personal taxation on shareholders to discourage them from engaging in FPI. Under certain assumptions, this additional tax, denoted  $t_A^{US}$ , can be set so as to achieve neutrality.<sup>18</sup> In particular, consider the scenario where the U.S. corporate rate exceeds the foreign corporate rate, and the shareholder's return from FDI is given by (1). Then, setting

$$(2) \quad t_A^{US} = \frac{t_C^{US} - t_C^F}{1 - t_C^F}$$

would equate the return from FPI to that from FDI.

This personal tax offset approach is illustrated in Column 4 of Table 1. The intuitive idea behind (2) is to compensate for the fact that country  $F$  levies corporate tax at a lower rate than does the United States. Thus, it collects only \$1 of revenue from the  $F$  firm in which the U.S. investor buys shares. If  $F$  were to impose the same rate as the United States (35 percent), it would collect an extra \$0.75 in revenue. The additional tax  $t_A^{US}$  is designed to make the U.S. investor pay this amount to the U.S. government

<sup>16</sup> Of course, the design of an exemption system involves many complexities, such as the choice of loss allocation rules (Hines, 2008), that are not addressed here.

<sup>17</sup> This point is related to the results of Devereux (2000), which highlight the difficulties of achieving tax neutrality for cross-border investment in a setting characterized by flows of both FDI and FPI.

<sup>18</sup> This approach has some resemblance to a proposal by Giovannini and Hines (1992) for corporate taxation in the European Union. However, this approach is unilateral rather than multilateral, and the context is somewhat different.

(which necessitates imposing an 18.75 percent tax on this individual, in addition to the standard 25 percent personal tax). Under this regime, the U.S. individual's benefit from the lower foreign corporate tax rate is eliminated, and her incentives to choose between FDI and FPI are aligned with the maximization of national welfare.

This approach would involve varying the shareholder-level tax based on the specific foreign source of the income — i.e. imposing different rates of tax on equity returns from different countries, based on the corporate tax rate prevailing in each foreign country.<sup>19</sup> It seems safe to conclude that such a system would be too administratively cumbersome to be implemented, especially as investors would display increased reluctance to report their foreign income to the IRS. Moreover, in a world characterized by growing portfolio flows across borders, U.S. MNCs are likely to seek to raise equity capital from non-U.S. as well as U.S. portfolio investors. Although (in theory) the United States could compensate for foreign countries' lower corporate tax rates by increasing personal taxes on U.S. investors, the United States obviously has no jurisdiction to impose a similar tax on foreign investors investing in foreign corporations. Thus, the disadvantage of U.S. MNCs as vehicles for investment would persist among non-U.S. individuals, and could only be remedied by the United States offering non-U.S. portfolio investors a politically unpalatable subsidy (for instance, in the form of a negative withholding tax) for investing in U.S. firms. Thus, the distortions arising from non-neutrality between FDI and FPI appear to be quantitatively significant, and it is infeasible to eliminate these distortions within a system of worldwide taxation.

## V. FROM STRONG FENCES TO OPEN DOORS

This paper has stressed the importance of considering the decisions of entrepreneurs, managers and investors in the global markets for corporate residence, corporate control and corporate equities in assessing the future of tax policy toward multinational firms. The evidence provided, while clearly preliminary, indicates a trend towards foreign incorporation by firms conducting IPOs in the U.S. stock market, towards foreign acquisition of U.S. target firms by exemption and haven domiciled companies, and increasing use of foreign portfolio investment by U.S. investors to circumvent U.S. worldwide taxation.

<sup>19</sup> It could perhaps be administered most conveniently — or least inconveniently — in conjunction with the foreign tax credit. When country F imposes a withholding tax on dividends paid to the U.S. shareholder, her after-tax return from FPI can be expressed as  $r^*(1 - t_p^{US}) - r^*t_w^F + c^{US}$  where  $c^{US}$  is the foreign tax credit (FTC) granted by the United States. It is possible to adjust  $c^{US}$  in order to achieve neutrality along the lines of (2). Specifically, consider

$$c^{US} = r^* \left[ t_w^F \frac{(t_c^{US} - t_c^F)}{(1 - t_c^F)} (1 - t_p^{US}) \right].$$

The first term in this expression is the standard FTC, while the second term represents an adjustment that depends on the difference in corporate tax rates between the United States and country F. When the U.S. corporate tax rate exceeds the foreign corporate tax rate, this adjustment is positive — i.e. it results in a lower FTC, and may indeed potentially result in a *negative* FTC.



The efficiency implications of a distortion towards FPI were discussed in Section IV, but the efficiency consequences of altered incorporation or merger decisions are less straightforward. Kane and Rock (2008) highlight the possibility that a firm choosing corporate residence for tax reasons in Bermuda rather than Delaware may face a suboptimal corporate law regime. On the other hand, many tax haven jurisdictions have legal traditions very similar to those of the United States, along with high-quality governance institutions (Dharmapala and Hines, 2009). However, the changed location of headquarters activity that might occur along with the changed incorporation decision or changed nationality of the acquirer might create significant inefficiencies. Such effects are largely unexplored today and remain a potentially critical efficiency consequence of tax regimes.

Notwithstanding the important caveats expressed above, the trends documented in this paper suggest that other countries may benefit from the strong fences policy employed by the United States. The consequences for other countries need not, of course, have implications for the desirability of these policies. This paper does not aim to present settled conclusions, but rather to highlight the importance of the rise of these global markets, and to emphasize that researchers and policymakers should consider their consequences for international tax policy. An appreciation of these global markets may well account for the movement of several large countries away from a strong fences policy toward an open doors policy.

## ACKNOWLEDGMENTS

We thank our discussant Joel Slemrod, Peter Merrill, and the participants at the National Tax Association's 40<sup>th</sup> Annual Spring Symposium, held on May 13–14 in Washington, DC, for helpful comments. We also thank Jay Ritter for kindly sharing the modifications and corrections to the IPO data used in Section 2. Nihar Shah provided outstanding research assistance. Any remaining errors are, of course, our own.

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