

Is U.S. Multinational Intra-Firm Dividend Policy Influenced by Reporting Incentives?

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ABSTRACT

This study finds evidence that public-company reporting by U.S. multinational firms (MNCs) creates disincentives to repatriate foreign earnings. MNCs operate under U.S. international tax laws and financial reporting rules and face two potential consequences when they repatriate foreign earnings: a cash outflow for repatriation taxes and a reduction in reported accounting earnings. Using a confidential dataset of financial and operating characteristics of the foreign affiliates of MNCs combined with public company data over a six year period, we find evidence that reporting incentives have a negative effect on the amount of foreign earnings repatriated by MNCs. This is the first empirical study of repatriation amounts to show that financial reporting is an important factor in repatriation decisions of multinational firms.

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1. Introduction

The U.S. tax system plays a role in the ability of U.S. multinational corporations (MNCs) to compete in the global marketplace. Various opponents of tax policy in the U.S. argue that the international tax system has a negative effect on the competitiveness of U.S. firms and creates incentives for multinational firms to park foreign affiliate profits overseas. In a June 2007 speech, Treasury Assistant Secretary for Tax Policy, Eric Solomon, calls our current tax system “a blend of full inclusion and territorial systems”, whereby MNCs can defer U.S. tax on earnings of foreign affiliates until the earnings are distributed (“repatriated”) to the U.S. parent. According to Brumbaugh (2003), MNCs held an estimated \$639 billion of undistributed earnings abroad as of 2002. As a result, policy makers and regulators have an interest in better understanding the role of the U.S. tax system in cultivating these large pools of undistributed foreign earnings.

Adding to this interest, the corporate response to the American Jobs Creation Act of 2004 (“AJCA”), which temporarily reduced the tax rate on certain eligible repatriations of foreign earnings, was unexpectedly high. Desai, Foley, and Hines (2001) document that a one percent decrease in repatriation taxes is associated with a one percent increase in repatriations. Given that the AJCA temporarily reduced the maximum tax rate on repatriations from 35 percent to 5.25 percent, Altshuler and Grubert (2006) note that the tax rate reduction alone cannot explain the observed six fold increase in repatriations in response to the legislation. The authors conjecture that prior literature underestimates the efficiency losses caused by the U.S. system of taxing foreign earnings. The documented pool of large amounts of undistributed earnings coupled with the overwhelming corporate response to the AJCA provides the impetus for our analysis.

In this study, we bring a financial reporting perspective into an international tax context to examine the role of a non-tax factor, reporting incentives, in the repatriation decisions of multinational firms. Specifically, we investigate whether reporting incentives created by capital markets explain cross-sectional variation in repatriation behavior. Our objective is to provide a multidisciplinary approach to studying repatriation decisions that will help researchers and policy makers better estimate the efficiency losses created by U.S. tax laws and financial reporting rules.

Tax law prescribes the amount and timing of MNCs' cash payments for any U.S. tax due upon repatriation ("repatriation tax"). A MNC pays a repatriation tax on foreign earnings when the foreign subsidiary remits the earnings as a dividend to the U.S. parent. The amount of tax due is the dividend grossed-up for foreign taxes paid times the U.S. statutory tax rate minus the foreign tax credit. Generally, the foreign tax credit equals the amount of foreign taxes paid on the foreign earnings up to the amount of the U.S. tax liability. Thus, if the foreign tax rate is greater than the U.S. tax rate, the MNC owes no incremental U.S. tax on repatriated earnings. Further, if a MNC repatriates earnings from more than one country, it can use credits generated in high tax countries to offset U.S. taxes on repatriations from low tax countries. Therefore, the residual or incremental U.S. tax liability due upon repatriation can be thought of as the difference between the U.S. tax rate and the average foreign tax rate paid on repatriated foreign earnings.

Financial reporting rules prescribe the amount and timing of MNCs' expense recognition of repatriation taxes in accounting earnings. The general rule under Statement of Financial Accounting Standard 109 (SFAS 109), *Accounting for Income Taxes*, is to recognize an expense for the repatriation tax liability on foreign earnings in the same accounting period the earnings are generated. Because MNCs do not pay the repatriation tax until they repatriate the earnings to

the U.S., this accounting treatment often requires them to estimate and recognize the repatriation tax expense in the financial statements long before they pay the taxes. Due to the potentially permanent nature of foreign investment, Accounting Principles Board Opinion No. 23 (APB 23), *Accounting for Income Taxes – Special Areas*, and SFAS 109 allow MNCs to defer recognizing the repatriation tax expense until repatriation if they designate the earnings as indefinitely reinvested abroad (hereafter referred to as “permanently reinvested earnings” or “PRE”). However, when the MNC eventually repatriates the earnings, it must recognize the tax expense with no corresponding income recognition because it recognized that income in a prior accounting period.

While firms generally have incentives to delay cash payments for taxes and existing research finds that repatriations are negatively related to the repatriation tax rate (e.g., Hines and Hubbard, 1990; Altshuler and Newlon, 1993; Grubert, 1998; Desai et al., 2001; Altshuler and Grubert, 2003; Foley et al., 2007), many firms that face capital market pressure also have incentives to delay financial statement recognition of a tax expense. Consistent with this incentive, Krull (2004) finds that firms increase PRE to meet analyst forecasts. Further, Graham et al. (2009) find that executives at U.S. multinational corporations rate the importance of deferring the financial accounting expense for repatriation taxes as high as deferring the cash outflow for repatriation taxes. However, this survey evidence does not examine amounts repatriated from foreign subsidiaries and does not control for other economic determinants of repatriations. Thus, our multivariate analysis complements Graham et al. (2009) by testing whether amounts repatriated from foreign subsidiaries are lower for firms with relatively strong incentives to delay financial statement recognition of a tax expense (hereafter referred to as ‘reporting incentives’).

To investigate the effect of reporting incentives on repatriations of foreign earnings we test whether firms are more sensitive to the repatriation tax rate as the reporting consequences of repatriations increase in magnitude. The reporting consequences of repatriation include recognizing the related tax expense in financial statement net income (an earnings effect) and the capital market response to that expense (a capital market effect). We measure the capital market effect using public versus private firm ownership because empirical financial reporting literature suggests that private firms are relatively less sensitive to capital market pressures (e.g., Cloyd et al., 1996; Penno and Simon, 1986; Wolfson, 1993). Therefore, public firms face greater reporting incentives to defer repatriation than private firms. We measure the earnings effect using the amount of PRE disclosed in the financial statement footnotes because, among public firms, those that have higher PRE have deferred more repatriation tax expense increasing reporting incentives to defer repatriation.

Our sample includes 479 public and 98 private U.S.-based multinational firms from 1999 through 2004. After controlling for tax planning activity, investment opportunities, size, financing constraints, and country specific factors, we find that public firms are more sensitive to the repatriation tax rate than private firms, and that public firms with high amounts of foreign earnings designated as permanently reinvested under APB 23 are more sensitive to the repatriation tax rate than other public firms. Based on these results, we estimate that reporting incentives decrease annual repatriations by about \$1.5 billion.

We triangulate our main results using three additional analyses. First, we examine repatriation behavior by fiscal quarter and find that reporting incentives increase firms' sensitivity to the repatriation tax rate during the fourth quarter. Second, we extend Foley et al. (2007) to show that the effect of repatriation taxes on the accumulation of foreign cash in public

companies is exacerbated by reporting incentives. Third, we test for an effect of reporting incentives on repatriation decisions in our public firm sample using alternate proxies of tax expense deferral and capital market pressure. Each of these analyses supports our main finding that reporting incentives play a role in the repatriation decisions of multinational firms.

This study makes two contributions to the literature. First, this study informs the broader policy debate over reforms to our international tax system by aiding our understanding of how a non-tax factor, reporting incentives, affects repatriation behavior. The notion that reporting incentives can play a role in repatriation decisions has been recognized for a number of years. For example, Scholes et al. (2000) note that the financial reporting for U.S taxes on repatriations under APB 23 is a cost that accompanies the decision to reinvest versus repatriate. However, the issue received little attention in the academic literature until the AJCA generated new interest in the topic. In concurrent work, Shackelford et al. (2009) theoretically model the effect of taxes and financial reporting rules on real decisions of firms and note that APB 23 is an example of an area where such forces have potential importance. In another concurrent study, Graham et al. (2009) provide survey evidence that executives rate the cash outflow and the financial statement expense for repatriation taxes as equally important in the repatriation decision. Our study adds to this literature by finding evidence that reporting incentives are an important factor in the decision to repatriate foreign subsidiary earnings and by empirically estimating the amount of repatriations deterred by these incentives.

Second, this paper informs standard setters considering the merits of allowing expense deferral under APB 23. The repeal of APB 23 was considered as part of the IASB and FASB short-term convergence project on income taxes. The Global Oversight Committee of the Financial Executives Institute claims that the adoption of a non U.S. accounting standard for

undistributed earnings would have been “a disaster for U.S. companies” because U.S. tax and accounting structures are fundamentally different from European structures. The group successfully lobbied the European Roundtable to have the issue of APB 23 rescission removed from the convergence project.¹ Since we find that cash balances abroad are higher for firms relatively more sensitive to the reporting consequences of repatriation, our results suggest that APB 23 impedes capital mobility thereby hurting the efficiency of MNC capital allocation. In addition, while IFRS is meant to increase consistency in global financial reporting, APB 23 creates a setting where U.S. MNCs have an unrecognized deferred tax liability associated with foreign earnings, but firms based in countries with territorial systems do not. Our study suggests that APB 23 not only decreases consistency in financial reporting across countries, but also creates incentives for U.S. MNCs to leave earnings abroad.

Section 2 provides a background and develops our hypotheses. Section 3 describes our data. Section 4 describes our empirical specification. Section 5 discusses our main results and Section 6 provides results from additional analyses. Section 7 concludes.

2. Background and Hypotheses

Of interest in our study is how tax laws and financial reporting rules interact to influence repatriation decisions. Therefore, to motivate our hypotheses, we first describe the tax and financial reporting rules that govern the repatriation of foreign earnings.

2.1. Repatriation and tax law

In the following discussion, we assume that a U.S.-based MNC and its foreign affiliate generate positive earnings and face an additional tax liability upon repatriation of the foreign

¹ See [http://www.thefreelibrary.com/Technical+committee+profile:+Global+Oversight+Committee+\(GOC\).-a0130779987](http://www.thefreelibrary.com/Technical+committee+profile:+Global+Oversight+Committee+(GOC).-a0130779987)

earnings to the U.S., i.e. the foreign affiliate faces a foreign tax rate lower than the U.S. rate. The taxation of repatriation, discussed here, and its interaction with financial reporting, discussed in the next section, are outlined in Figure 1.

From a tax perspective, the MNC has two choices with differing effects on the current period cash outflow for taxes on foreign earnings. It can reinvest the earnings abroad or repatriate them to the United States. When the MNC reinvests the foreign earnings abroad (as in year 1 of Scenarios II and III in Figure 1) the total current period taxes paid on foreign earnings consists only of foreign taxes; the repatriation tax paid is zero. Thus, payment of the repatriation tax is deferred to a future period. Alternatively, when the MNC repatriates foreign earnings (as in Scenario I and year 2 of Scenarios II, and III), the total current period taxes paid on foreign earnings consists of both foreign taxes and U.S. repatriation taxes. Note that *tax law - not financial reporting rules - determines when the repatriation tax is paid.*

Existing work on repatriation decisions in the economics and finance literatures concludes that taxes are a significant determinant of repatriation. Hartman (1985) shows theoretically, that when after-tax returns and tax rates are constant, the repatriation tax rate does not affect the repatriation decision because all foreign earnings will eventually be taxed at the U.S. tax rate. However, subsequent empirical evidence suggests that repatriations are decreasing in the repatriation tax rate (e.g., Hines and Hubbard, 1990; Altshuler and Newlon, 1993; Grubert, 1998; Desai et al., 2001; Altshuler and Grubert, 2003; Foley et al., 2007). Altshuler et al. (1995) reconcile theoretical work with the empirical evidence by distinguishing between permanent and transitory changes in tax rates. The authors find that dividend repatriations are negatively related to the transitory tax price of repatriation but are not related to the permanent tax price of repatriation.

Desai et al. (2007) find that non-tax factors, such as domestic financing needs and agency problems inside firms, also shape MNC repatriation policy. Altshuler and Grubert (2003) study several investment-repatriation strategies and find that firms can achieve the equivalent of repatriation (i.e., getting cash to the parent) without incurring the repatriation tax, with the caveat that these strategies are not costless. A factor not considered by existing estimates of the effect of taxes on repatriations is the related financial reporting consequences of repatriation.

2.2. *Repatriation and financial reporting rules*

Rules that govern accounting for U.S. income taxes on foreign subsidiary earnings - APB 23 and SFAS 109 - provide a U.S. MNC two choices with differing effects on the MNC's financial accounting earnings. When the MNC intends to repatriate foreign earnings in the foreseeable future, it recognizes or accrues the expected repatriation tax as an expense in the period when it generates the related foreign earnings. Alternatively, when the MNC has a sufficiently long reinvestment-horizon on foreign earnings, it can designate the earnings as permanently reinvested under APB 23 and defer recognizing the repatriation tax as an expense in the financial statements until those earnings are repatriated. Note that *financial reporting rules – not tax laws - determine when the repatriation tax is recognized as an expense in the financial statements.*

Many MNCs use the PRE designation extensively. To illustrate, Bear Sterns and Company (2005) find that the S&P 500 report \$420 billion of PRE at the end of 2002, and Zion, Varshney, and Cornett (2010) find that these firms report nearly \$1 trillion of PRE at the end of 2008. In addition, Krull (2004) finds that MNCs increase amounts designated as PRE to maximize reported after-tax earnings and meet earnings benchmarks. The finding that firms use PRE designations to opportunistically increase earnings suggests that some firms seek to defer financial statement recognition of the tax expense on future repatriations. However, Krull (2004)

does not study the effect of PRE designations on repatriation decisions. We address that question by studying how the interaction of financial reporting rules and tax laws affect repatriations.

2.3. Interaction between tax and financial reporting

A key tax consequence of the decision to reinvest foreign earnings is deferral of the cash payment for repatriation taxes, and a key financial reporting consequence of the use of the PRE designation is deferral of the expense recognition for repatriation taxes. Thus, accounting expense deferral can be thought of as an additional benefit to deferring repatriation because after-tax earnings increase when firms designate foreign subsidiary earnings as PRE. This benefit is apparent in Figure 1 by observing that under Scenario III (relative to II) firms report higher after tax earnings in year 1.

Once a firm designates foreign earnings as PRE, recognition of the repatriation tax expense in a subsequent accounting period will have a more material negative effect on earnings relative to current recognition because the repatriation tax expense is recognized in a later period than the corresponding foreign income. Thus, accounting expense recognition is an additional consequence of repatriation because after-tax financial accounting earnings decrease when firms repatriate earnings that were previously designated as permanently reinvested. This consequence is apparent in Figure 1 because firms that designate earnings as PRE in year 1 (Scenario III) report lower after-tax earnings in year 2 than firms that did not designate earnings as PRE (Scenario II).

2.4. Hypotheses

As we discuss in Section 2.1, existing research finds evidence that repatriation taxes decrease repatriations. To examine whether reporting incentives also decrease repatriations, we must empirically disentangle the cash outflow for repatriation taxes from the financial statement

expense for repatriation taxes because the two effects are of the same dollar magnitude and often occur together. To disentangle the cash outflow from the financial statement expense, we identify factors across which reporting incentives vary while holding the cash flow effect constant.

To identify measures of reporting incentives, we separate the construct into two effects: a capital market effect and an earnings effect. Specifically, the financial statement expense for repatriation taxes creates reporting consequences because the expense reduces earnings (an earnings effect) and because capital market participants use earnings to evaluate firm value (a capital market effect). We use two measures that correspond to these two components of reporting incentives.

Our first measure, public versus private firm ownership, corresponds to the capital market component of reporting incentives. This measure exhibits the two conditions needed to disentangle the cash outflow for repatriation taxes from the financial statement expense: 1) both public and private firms are subject to the same tax laws, and 2) reporting incentives vary between public and private firms due to differences in the constituents to which the two sets of firms report.

While firm ownership meets the first condition that public and private firms are subject to the same tax laws, public and private firms may not attribute the same value to tax savings. Existing studies find evidence that private firms are more aggressive tax planners than public firms (e.g., Beatty and Harris, 1999; and Mikhail, 1999). In addition, Hanlon et al. (2007) link private ownership to greater proposed income tax deficiencies with the IRS than public ownership. In contrast to these studies, Graham et al. (2009) report univariate tests of survey results suggesting that public firms rank cash tax deferral as more important in the reinvest versus repatriate

decision than private firms. Because existing research suggests public and private firms have different tendencies to tax plan, we control for the extent of foreign tax planning in our empirical tests as well as other factors that affect repatriations such as size, growth, leverage, cost of capital, and country level factors.

The second condition requires that public firm managers face different reporting incentives than private firm managers. The managers of public firms have private information, report to current and potential investors, and are evaluated on their performance based on the information they provide. Therefore, public firm managers typically have a strong focus on reported earnings because of its effect on both firm value and manager compensation (e.g., Cloyd et al., 1996; Penno and Simon, 1986). In contrast, private firms have high levels of insider ownership, encounter less information asymmetry between managers and investors, and therefore private firm managers have relatively less incentive to focus on reported earnings (Beatty and Harris (1999)).²

Numerous studies empirically test this conjecture. Using survey evidence, Penno and Simon (1986) find that public firms are more likely to use income increasing accounting methods and Cloyd et al. (1996) find that public firms are less likely to use financial accounting methods that conform to income decreasing tax choices. Using broad samples of U.S. firms, Badertscher et al. (2009) show that private (public) firms engage in more conforming (non-conforming) tax planning, and Givoly et al. (2009) find evidence that earnings management is more pronounced in public firms. Beatty and Harris (1999) and Beatty et al. (2002) find similar results using

² Consistent with this notion, survey evidence shows that private firms use significantly less equity in their compensation contracts than public firms (See PricewaterhouseCoopers 2007 Trendsetter Barometer report “Private companies can compete with public companies for executive talent”). Further, the FEI Survey reports that public firm manager compensation uses after-tax performance metrics 78% more often than pre-tax performance metrics, whereas private firm manager compensation uses after-tax performance metrics only 23% more often than pre-tax performance metrics.

samples of bank holding companies. In contrast, Burgstahler et al. (2006) use samples of firms based in the European Union and find that private firms exhibit higher levels of earnings management than public firms.

Though some mixed evidence exists, the weight of evidence suggests that public firms place a stronger focus on earnings than private firms. As a result, we expect that public firms repatriate less than private firms when repatriations decrease earnings. Specifically, we expect that public firms repatriate less relative to private firms as the financial statement expense for repatriation taxes increases. Both the cash outflow for repatriation taxes and the financial statement expense for repatriation taxes depend on the repatriation tax rate. Therefore, after controlling for other determinants of repatriations, if public firms are more sensitive to the repatriation tax rate than private firms, then we can attribute this incremental sensitivity to reporting incentives. This leads to our first hypothesis:

H1: *Ceteris paribus*, public firms are more sensitive to the repatriation tax rate than private firms.

Our second measure of reporting incentives, the amount of PRE disclosed in the financial statement footnotes, corresponds to the earnings component of reporting incentives. Like firm ownership, this measure disentangles the cash outflow for repatriation taxes from the financial statement expense because tax laws are the same regardless of the firm's level of PRE, but reporting incentives vary with the level of PRE. Specifically, holding the repatriation tax rate constant, as PRE increases the unrecognized financial statement expense for repatriation taxes increases. Therefore, firms with high amounts of PRE recognize a greater financial statement tax expense upon repatriation than firms with low amounts of PRE. Furthermore, firms that have designated all of their undistributed foreign earnings as PRE cannot avoid tax expense

recognition in their financial statements by repatriating non-PRE foreign retained earnings while firms with low or no PRE can.

Thus, we expect that firms repatriate less as the unrecognized expense for repatriation taxes on PRE increases. As in the test of H1, both the cash outflow for repatriation taxes and the financial statement expense for repatriation taxes depend on the repatriation tax rate. If, after controlling for other determinants of repatriations, firms with high amounts of PRE are more sensitive to the repatriation tax rate than firms with low amounts of PRE, we can attribute this incremental sensitivity to reporting incentives. This test focuses on public firms because we can only observe PRE disclosures from SEC filings of public firms. Hence, we test the following hypothesis:

H2: *Ceteris paribus*, public firms with high amounts of permanently reinvested earnings under APB 23 are more sensitive to the repatriation tax rate than other public firms.

3. Data

Examining whether reporting incentives affect the repatriation behavior of MNCs necessitates measuring repatriation activity, repatriation taxes, and reporting incentives. To construct these measures, we combine firm-level data from two sources. First, we obtain information on repatriations and repatriation taxes for MNCs from the results of two surveys conducted by the Bureau of Economic Analysis (BEA).³ These surveys provide data on the

³ These surveys require respondents to file detailed financial and operating items for each foreign affiliate and provide information on the value of transactions between U.S. parents and their foreign affiliates. The International Investment and Trade in Services Survey Act governs the collection of the data and the Act ensures that “use of an individual company’s data for tax, investigative, or regulatory purposes is prohibited.” Willful noncompliance with the Act can result in penalties of up to \$10,000 or a prison term of one year. As a result of these assurances and penalties, BEA believes that coverage is close to complete and levels of accuracy are high. See <http://www.bea.gov/surveys/diadvr.htm> for online versions of each survey. The quarterly survey is Form BE-577, the annual survey is form BE-11, and the benchmark survey is form BE-10. The BEA defines U.S. direct investment abroad as direct or indirect ownership or control by a single U.S. legal entity of at least ten percent of the voting securities of an incorporated foreign business enterprise or the equivalent interest in an unincorporated foreign business enterprise. Mataloni (2003) provides a detailed description of the BEA data.

financial and operating characteristics of U.S. MNCs operating abroad. A U.S. MNC is the combination of a single U.S. entity, called the U.S. parent, and at least one foreign business enterprise, called a foreign affiliate. The BEA requires U.S. MNCs to complete survey forms that cover both domestic and foreign operations. The information captured by each survey varies by year, affiliate size, and the U.S. parent's percentage ownership in the affiliate. Second, we obtain information on reporting incentives by determining public versus private ownership status for each firm in our sample and hand collecting PRE data from the public firms' SEC filings.⁴

The first BEA survey, the *Quarterly Balance of Payments Survey of U.S. Direct Investment Abroad*, captures direct transactions between the domestic and foreign operations of U.S. MNCs and limited information on foreign affiliates. From this survey, we collect quarterly net income and the dollar amount of annual and quarterly dividends that foreign affiliates pay directly to the U.S. parent. The second survey, the *Annual (Benchmark) Survey of U.S. Direct Investment Abroad*, captures more extensive financial and operating data for both directly and indirectly owned affiliates of U.S. MNCs.⁵

To construct our sample, we create a balanced panel of U.S. parents appearing in the BEA data for six consecutive years from 1999 through 2004. Our panel of U.S. parents includes all U.S. MNCs with at least one affiliate reporting in each of those six years.⁶ Because we examine

⁴ We identify public companies in the BEA data by matching with Compustat on company name and verifying private ownership using the Lexis Nexus Corporate Affiliations database.

⁵ The BEA collects survey responses on a fiscal year basis, which it defines as the financial reporting year end. Additionally, the survey instructions require that U.S. MNCs report financial and operating data using U.S. Generally Accepted Accounting Principles.

⁶ This restriction limits our sample size. In addition, to reduce the reporting burden for MNCs, the BEA only requires an affiliate to fill out the survey in a given year if it meets the size threshold for that year. The affiliate size threshold is \$7 million in 1999, \$30 million in 2000-2003, and \$10 million in 2004. The BEA uses reported data to estimate universe totals when surveys cover only larger affiliates or when only certain affiliates provide information on particular survey forms. However, we use only reported data in our analyses which further limits our sample size to firms with at least one affiliate that meets the size threshold in each year.

the effect of reporting incentives on repatriation decisions for the consolidated firm, we aggregate affiliate-level data to the parent level and eliminate intercompany transactions.

Table 1, Panel A describes our BEA sample and the results of matching our sample of U.S. parents to Compustat firms. A total of 4,840 U.S. parents (57,164 affiliates) appear at least once in the BEA data from 1999 to 2004. Due to the size thresholds for reporting each year, only 805 parents (33,196 affiliates) have at least one affiliate reporting in every year during our sample period. We further restrict the sample by eliminating ADRs and foreign incorporated parents that are not likely to be constrained by either U.S. tax law or U.S. financial reporting rules when paying dividends to U.S. entities. We also eliminate banks and utilities because they are likely to have more opportunities to avoid repatriation taxes by redeploying capital around the world, and they face different incentives than other firms because they are regulated. In addition, we are unable to compute many of our regression variables for these firms because the BEA collects substantially less data for bank entities than for other entities because these entities report to other government agencies. Finally, we eliminate pass-through entities (e.g., partnerships, LLCs and REITS) since they are typically not subject to corporate income taxes. Our final sample consists of 577 U.S. parent firms (25,459 affiliates); 479 parents (23,669 affiliates) are public and 98 parents (1,790 affiliates) are private.

Table 1, Panel B provides a comparison of our BEA sample to a sample of Compustat firms with evidence (in Compustat) of foreign activity. A total of 10,858 U.S. incorporated firms appear at least once in Compustat from 1999 through 2004. When we restrict the Compustat sample to firms that report total assets for six consecutive years and foreign pre-tax income for at least one year, we are left with 1,537 firms. Of those 1,537 firms, 1,058 do not appear in the BEA data because the size of their foreign operations fell under the BEA reporting thresholds for

all or some sample years.⁷ Interestingly, 76 firms appear in the BEA data that could not be identified as having foreign activity from Compustat alone. Table 1 Panel C suggests that broad industry representation is present in our sample, with a heavy emphasis on textiles, manufacturing, and retail. Public and private firms locate their activities in similar jurisdictions as evidenced in Table 1, Panels D and E.

4. Research Design

Our hypotheses predict that firms are more sensitive to the repatriation tax rate in the presence of reporting incentives. We test H1 and H2 by empirically estimating annual repatriations as a function of repatriation taxes, a proxy for reporting incentives, an interaction term, and economic incentives to repatriate as follows:

$$\begin{aligned} \text{Repatriations} = & \beta_0 + \beta_1 \text{RepTR} + \beta_2 \text{Reporting Incentives} \\ & + \beta_3 \text{Reporting Incentives} \times \text{RepTR} \\ & + \sum \beta_k \text{Controls}_k + \sum \beta_t \text{Year}_t + \sum \beta_j \text{Industry}_j + \varepsilon \end{aligned} \quad (1)$$

Where:

Repatriations = Annual repatriations scaled by worldwide assets

RepTR = An estimate of the rate of tax the firm would owe to the U.S. if it repatriated all unremitted foreign earnings, computed as the U.S. statutory rate (35 percent) minus *Affiliate Creditable Tax Rate*.⁸

Reporting Incentives = An indicator variable equal to one for firms that face relatively high reporting incentives, and zero otherwise. We use two proxies for reporting incentives. *Public*, equals one for public firms, zero

⁷ We compare the size of the 1,058 firms without BEA data to the firms in our sample and find that the median foreign income for this group of firms is only \$1.5 million whereas the median for the firms in our sample is \$56.3 million.

⁸ We calculate *Affiliate Creditable Tax Rate* by aggregating affiliate-level foreign taxes and pre-tax income as of the date the affiliate is first included in the BEA Surveys or 1982, whichever comes first. We then subtract repatriations to estimate foreign taxes and undistributed pre-tax foreign earnings in each year. The affiliate tax rate is foreign taxes divided by undistributed pre-tax foreign earnings. This measure improves upon existing estimates of the incremental taxes due upon repatriation that use an average or median of the affiliates' current period foreign tax rates because it is estimated in a manner similar to the U.S. foreign tax credit computation under Section 902 of the Internal Revenue Code.

otherwise. *HighPre* equals 1 for public firms with PRE that equals or exceeds total assets in low tax affiliates (i.e., affiliates with *Affiliate Creditable Tax Rate* equal to 30 percent or less) in at least one benchmark year (i.e. in 1999 or 2004), and zero otherwise.⁹

See Figure 2 for definitions of all other variables.

We estimate Equation (1) using a Tobit procedure because our dependent variable is left-censored at zero.¹⁰ *RepTR* measures the rate of tax on repatriations. Consistent with existing literature, we expect a negative coefficient on *RepTR*. Consistent with H1 and H2, our focus is on the interaction between *RepTR* and *Reporting Incentives*, which tests whether firm sensitivity to the repatriation tax rate varies with reporting incentives. Because public firms face greater capital market pressures than private firms, H1 predicts that public firms are more sensitive to the repatriation tax rate than private firms. Therefore, all else equal, we expect a negative coefficient on *Public* \times *RepTR*. Because public firms with high amounts of PRE recognize a greater financial reporting expense at the time of repatriation, H2 predicts that public firms with significant amounts of PRE are more sensitive to the repatriation tax rate than other public firms.¹¹ Thus, we expect a negative coefficient on *HighPre* \times *RepTR*.

In addition to our variables of interest, we include controls for other factors that influence repatriation decisions. First, we include controls for investment opportunities abroad and in the

⁹ We obtain PRE from SEC 10-K filings. We use benchmark years to define *HighPre* because PRE is disclosed at the firm level, affiliate assets are determined at the affiliate level, and more affiliates report in benchmark years due to BEA size thresholds. We scale PRE by assets in low tax affiliates because we want to estimate the extent to which the firm must recognize a tax expense on repatriations. Thus, we assume that all PRE is in low tax affiliates. To the extent that firms have PRE in high tax affiliates we overestimate the unrecognized tax expense. Our results are not sensitive to scaling PRE by total assets or other definitions of this variable as discussed in Section 5.3.

¹⁰ The BEA data only allow us to observe annual capital contributions from U.S. parents to foreign affiliates in 1999 and 2004 while we observe distributions from foreign affiliates to U.S. parents for all years in our sample. Using data for distributions but not contributions creates a concern that our data is left-censored at zero because non-repatriating affiliates receive capital contributions (i.e., negative distributions).

¹¹ Although we can accurately measure the cash outflow for repatriation taxes, we are limited in our measurement of the financial statement consequences because the financial statements provide information about the firm's level of PRE but not the location of PRE. We also cannot determine whether firms repatriate foreign retained earnings designated as PRE or non-PRE foreign retained earnings. Hence, all else equal, we surmise that firms with relatively more PRE have a greater unrecognized repatriation tax expense and less ability to repatriate without recognizing a tax expense on the financial statements.

U.S. (*Foreign ROA* and *U.S. ROA*, respectively). Hartman (1985) argues that firms will repatriate when the after-tax return on foreign investment declines below the after-tax return on domestic investment. This theoretical result suggests that repatriations are negatively related to foreign investment opportunities and positively related to domestic investment opportunities. However, firms with more profitable foreign operations have more funds available to repatriate. Thus, we make no prediction for the coefficient on *Foreign ROA* and expect a positive coefficient on *U.S. ROA*.

We include controls for firms' tax planning activities, *Indirect Ownership* and *Holding Company*, that measure the extent to which the firm uses a tiered ownership structure to facilitate repatriation tax avoidance (e.g., Altshuler and Grubert, 2003; Desai, Foley, and Hines, 2003). In tests of H1, these variables control for the extent to which private firms are more or less tax aggressive than public firms. In tests of H2, these variables control for the possibility that high PRE firms designate earnings as permanently reinvested because they have tax planning strategies in place that facilitate long-term tax deferral. While PRE is purely a financial reporting designation, i.e. firms can invest in tax planning activities and not designate the earnings as PRE, *HighPre* can be correlated with tax incentives. If firms reinvest earnings overseas as a result of tax planning strategies, they will repatriate less. Therefore, we expect negative coefficients on the tax planning variables.

Equation (1) also includes controls for size of foreign operations, agency costs, financing constraints, and costs of financing. To control for the size of foreign operations, we include *Size*, the log of foreign sales. We expect a positive coefficient on this variable because firms with larger foreign operations have more funds available to repatriate. We include *U.S. Leverage* and *Foreign Leverage* to control for firms' debt service needs and capital structure. Firms may be

more reluctant to repatriate if they have high foreign debt service suggesting a negative association between *Foreign Leverage* and repatriations. We do not make a sign prediction on *U.S. Leverage* because there are two opposing forces regarding its relation to repatriations. First, *U.S. Leverage* will be positively associated with repatriations if firms distribute funds to service domestic debt. Alternatively, *U.S. Leverage* will be negatively associated with repatriations if firms have borrowed domestically against the undistributed foreign earnings.

We include *U.S. Interest* to control for the domestic cost of borrowing. We anticipate that firms with a higher cost of borrowing in the U.S. have higher dividend repatriations. We include *Foreign Interest* to control for the foreign cost of borrowing. We expect that firms with a higher cost of borrowing abroad have lower dividend repatriations. *%Foreign Assets* controls for the size of foreign operations relative to the worldwide entity. As discussed in Altshuler and Grubert (2003), firms with greater overseas activity have more opportunities for tax planning. Thus, we expect a positive coefficient on *%Foreign Assets*. We include *U.S. Loss* to control for differing tax incentives for firms with domestic losses. Power and Silverstein (2007) find that firms are less likely to repatriate earnings when the domestic parent has a loss because repatriations convert domestic net operating losses (NOLs) with a 20-year carry forward period into foreign tax credits (FTCs) with only a five-year carry forward period.¹²

Finally, we include four measures to control for country-level factors that affect repatriations. We first determine each country-level measure at the affiliate level, and then we calculate the parent-level score as the average of the affiliate scores. *Mandatory Dividend* equals one if the

¹² The American Jobs Creation Act (AJCA) of 2004 extended the carry forward period available for FTCs from five years to ten years. Any excess FTCs that are available to be carried forward to tax years ending after October 22, 2004 are available for the extended carry forward period. The five-year carry forward period was in effect for most of our sample period. Additionally, the ten-year period is still substantially less than the 20-year carry forward period available for NOLs.

country requires dividends to be paid to shareholders, and zero otherwise (La Porta et al. (1998)). *Corruption* is an index taking values from one through ten, with ten representing the lowest level of corruption (La Porta et al., 1998). Corruption may increase the cost of doing business such that more capital must remain in the country; alternatively corruption may increase repatriations to reduce the probability of expropriation or theft. *Infrastructure* is an index taking values of one through ten, with ten representing the best infrastructure (La Porta et al., 1999). All else equal, the less developed a country's infrastructure, the more capital the company likely needs to invest in its operations. Finally, *Capital Control* is equal to one if the country restricts a firm's ability to take funds out of the country, and zero otherwise (International Monetary Fund, 2006).

5. Results

5.1. Descriptive statistics

Table 2 provides descriptive statistics for our BEA sample of 577 firms from 1999 through 2004. From this balanced panel we eliminate 285 firm-years for which we do not have all required regression variables for our multivariate analyses resulting in 3,177 firm-years. As we conduct our analysis using the affiliated group (i.e., the domestic U.S. parent plus reporting foreign affiliates), we report all statistics at the firm level, unless otherwise noted. We show statistics separately for private firms, low PRE public firms (*HighPre* = 0), and high PRE public firms (*HighPre* = 1). We winsorize all continuous measures at the top and bottom one percent and bound all tax rate measures to fall between zero and 100 percent. Finally, due to confidentiality restrictions, medians (Median5) represent the mean of the five middle observations.

Panel A reports descriptive statistics for our regression variables. *Repatriations* is significantly greater for high PRE firms than for both low PRE firms and private firms. This univariate statistic is interesting for two reasons. First, we expect public firms to repatriate less than private firms because private firms are likely to have more limited access to capital than public firms. Second, high PRE firms should be those with the greatest investment opportunities abroad, consistent with the longer investment horizon required to designate earnings as permanently reinvested.

Private firms have a lower *RepTR* (10.26 percent) than low PRE firms (11.48 percent), but a similar *RepTR* to high PRE firms (10.64 percent). However, private firms have lower *Indirect Ownership* and *Holding Company* than both low PRE and high PRE firms suggesting private firms engage in less aggressive tax planning. Although statistically different, the mean of our proxy for domestic investment opportunities (*U.S. ROA*) is of comparable economic magnitude across public and private firms consistent with the similar industry representation between private and public samples documented in Table 1, Panel C. Foreign investment opportunities (*Foreign ROA*) is significantly lower for low PRE firms (5.07 percent) than high PRE firms (6.51 percent) consistent with PRE signaling reinvestment into profitable overseas activities. Measures of domestic and foreign debt suggest similar levels of *Foreign Leverage* across private, low PRE, and high PRE firms, (47.49, 49.12, and 47.21 percent, respectively), but private firms have lower *U.S. Leverage* than low PRE and high PRE firms (46.07 versus 59.40, and 68.19, respectively).

Panel B reports descriptive statistics for tax rate measures used in existing research. Consistent with our estimate of the repatriation tax rate, *RepTR*, the private sample appears to face higher income tax burdens abroad. *DFH Tax Rate*, the median of all affiliate tax rates for all

U.S. affiliates operating in a country-year as described in Desai et al. (2001), is 27.50 percent for private firms but only 25.83 percent and 25.98 percent for low PRE and high PRE firms, respectively. The fact that public firms have lower current income taxes is consistent with Graham et al.'s (2009) survey evidence that the benefit of tax expense deferral is of primary importance in investment location decisions of public companies. Consistent with private firms facing higher income tax burdens and lower expected repatriation tax burdens, our measure of the *Affiliate Creditable Tax Rate* is higher for private firms than for both sub-samples of public firms. Finally, the current period foreign income taxes paid over foreign pre-tax income (*Current FTR*) is highest for high PRE firms (28.05 percent). A lower current tax rate but higher creditable tax rate suggests that a non-trivial proportion of undistributed earnings were generated before our sample period when foreign tax rates were relatively higher.

Panel C reports general descriptive statistics for the BEA data. Public firms are much larger than private firms in terms of number of affiliates and total sales. Private firms have 9.08 affiliates on average, whereas low PRE (high PRE) public firms have 22.08 (29.23) affiliates on average. Mean *U.S. (Foreign) Sales* are \$1.88 billion (\$775 million) for private firms and \$6.02 billion (\$3.01 billion) for low PRE public firms. High PRE public firms' mean *U.S. (Foreign) Sales* of \$5.81 billion (\$3.74 billion) are similar to the low PRE public sample. We control for these differences in our regression analysis by including *Size* and *%Foreign Assets* in the empirical model.

Table 2 Panel C shows that approximately 19 percent (506 observations) of our public sample has *HighPRE* equal to one.¹³ The mean ratio of PRE to assets in low tax affiliates is

¹³ Recall that *HighPre* equals 1 for public firms with PRE that equals or exceeds total assets in low tax affiliates (i.e., affiliates with *Affiliate Creditable Tax Rate* equal to 30 percent or less) in at least one benchmark year (i.e. in 1999 or 2004), and zero otherwise. There are 333 firm-years (12.5 percent of our public sample) where PRE is greater than or equal to assets in low tax affiliates.

20.60 percent for low PRE firms. Because a nontrivial proportion of foreign operations are in low tax countries, this result suggests that some public firms have significant unrecorded tax liabilities in their financial statements.

5.2. *Public versus private analysis*

In Table 3, we report the results of estimating Equation (1) for our sample of 577 public and private firms with necessary data from 1999 through 2004. Table 3 Column (1) reports the results of estimating Equation (1) without a measure of *Reporting Incentives* and Column (1a) reports the marginal effects. Consistent with existing literature, the coefficient on *RepTR* is negative and significant. Table 3 Column (2) provides parameter estimates from Equation (1) using *Public* as a proxy for *Reporting Incentives*. The coefficient on *RepTR* becomes insignificant when we add *Public* and *Public* \times *RepTR* suggesting that repatriation taxes do not significantly affect repatriations of private firms. The coefficient on *Public* is not significantly different from zero suggesting that, holding the repatriation tax rate constant, public companies are no less likely to repatriate, on average, than private companies. Consistent with H1, the interaction between *Public* and *RepTR* is negative and significant (-0.0403; $p < .10$) suggesting that public firms are more sensitive to the repatriation tax rate than private firms.¹⁴

Column 2(a) reports the marginal effects of each variable on the unconditional expected value of *Repatriations*, which we use to interpret the coefficient estimates. We calculate the marginal effect of *Public* \times *RepTR* using Ai and Norton (2003) and McDonald and Moffitt (1980).¹⁵ The marginal effect of *Public* \times *RepTR* on the unconditional expected value of

¹⁴ We recognize that there are differences in the availability of capital for public versus private firms. However, it is not clear why this association would explain the interaction effect of ownership type and the repatriation tax rate. An alternative story is that private companies are less sensitive to the repatriation tax rate because their cost of capital (borrowing) is higher. We control for this possibility by including *U.S. Interest* and *Foreign Interest* in the empirical model.

¹⁵ See the Appendix for a detailed discussion of this calculation.

Repatriations is -0.0153. This estimate suggests that the change in *Repatriations* when *RepTR* changes from zero to the sample mean of 0.1115 is 1.53 percent of assets less for a public firm than for a private firm. Mean worldwide assets (*U.S. Assets + Foreign Assets*) for our full sample is \$8.34 billion. Therefore, the average public firm repatriates \$14.2 million ($-0.0153 \times 0.1115 \times \$8,344 = \$14.2$) less per year than the average private firm. For our 479 public firms, this figure amounts to \$6.8 billion in repatriations per year.

The coefficient on *Foreign ROA* is positive and significant suggesting that firms with more profitable foreign affiliates repatriate more. *Size*, *Lag Repatriations*, *U.S. Leverage*, *Foreign Interest*, *%Foreign Assets*, and *Mandatory Dividend* are significant in the expected direction. The positive coefficient on *U.S. Leverage* suggests that firms repatriate foreign earnings to service domestic debt while the negative coefficient on *Foreign Interest* suggests that firms with a higher cost of borrowing abroad repatriate less. We interpret the positive coefficient on *%Foreign Assets* as suggesting that firms with a large multinational presence have a greater ability to mitigate repatriation taxes, leading to greater repatriations.

5.3. Public only analysis

In Table 3 Column (3), we report the results of estimating Equation (1) for our sample of 479 public firms. *HighPre* and *HighPre* \times *RepTR* test for the effect of reporting incentives on repatriations. Consistent with H2, the coefficient on *HighPre* \times *RepTR* is negative and significant (-0.0414; $p < .01$).¹⁶ This result suggests that public firms with large amounts of unrecorded deferred tax liabilities on foreign earnings are more sensitive to the repatriation tax rate than

¹⁶ The results in Tables 3 are robust to various specifications. Results are similar when we define *HighPre* as equal to one if the firm's ratio of PRE to total assets in low tax countries is greater than or equal to 95 percent or 80 percent in a benchmark year (1999 or 2004), when we define *HighPre* as equal one if the ratio of PRE to retained earnings in low tax subsidiaries is greater than or equal to one, 95 percent, or 80 percent in a benchmark year, and when we define *HighPre* as equal to one if PRE divided by either total assets or total retained earnings is greater than or equal to the 90th percentile in a benchmark year (we use the 90th percentile for these scalars because very few firms have PRE greater than or equal to total assets or retained earnings). Results are also robust to scaling *Repatriations* by total sales or total retained earnings.

other public firms. In Column (3a) we report the marginal effects. The marginal effect of $HighPre \times RepTR$ on the unconditional expected value of *Repatriations* is -0.0160. Mean worldwide assets for our public sample is \$9.62 billion. Thus, the change in *Repatriations* when *RepTR* changes from zero to the sample mean of 0.1133 is 1.6 percent of sales or \$17.4 million ($-0.0160 \times 0.1133 \times \$9,616 = \$17.4$) less for a high PRE public firm than for a low PRE public firm. This figure amounts to approximately \$1.5 billion per year for our 506 high PRE observations ($(\$17.4 \times 506) / 6$).

In summary, we interpret our results as follows. First, public companies are more likely to value the ability to defer recognition of tax expense on undistributed foreign earnings. Therefore, public firms' repatriations are more sensitive to the repatriation tax rate than private firms. Second, public companies with high amounts of PRE are particularly sensitive to the repatriation tax rate because they are likely to have significant unrecorded tax liabilities and little or no flexibility to repatriate non-PRE foreign retained earnings. This lack of flexibility further deters repatriation of foreign earnings for public firms that face a high repatriation tax rate.¹⁷

6. Supplemental Analyses

6.1. Quarterly repatriation

To further associate our results with reporting incentives, we examine the timing of repatriations for public and private firms throughout the year. If public firms' repatriation decisions are associated with the need to manage investor perceptions of firm performance in addition to the need for cash, then it is possible that public firms' repatriation patterns throughout the year differ from private firms. As the fiscal year progresses, firms have more information

¹⁷ This lack of flexibility could also be interpreted as a lack of ability to repatriate if high PRE firms are heavily invested in operating assets abroad. We formally rule out this explanation in Section 6.2 by showing that high PRE firms hold more cash abroad.

about actual annual earnings. Therefore, we expect that public firms are more likely to make repatriation decisions in the fourth quarter so they can weigh the need for cash with the need to meet earnings goals. However, the direction of the effect of the repatriation tax rate on these decisions is unclear. Public firms may be less sensitive to the repatriation tax rate in the fourth quarter when earnings uncertainty is reduced. Conversely, they may be more sensitive to the repatriation tax rate in later quarters as they adjust repatriations to meet reporting goals.

Table 4 provides univariate statistics for quarterly repatriation activity of private and public firms. The *Repatriation Indicator* is the percentage of parent firms that repatriate earnings from at least one subsidiary during the quarter. This percentage is lower for public firms in three of four quarters, suggesting that public companies repatriate less often than private companies. This finding could also stem from the fact that public parents have more than double the number of affiliates than private parents (see *Affiliates* in Table 2), but when we scale repatriation activity by assets the comparisons are similar. In Panel B, the mean ratio of fourth quarter repatriations divided by annual repatriations is 10.51 percent for private firms, 13.13 percent for low PRE public firms and 18.91 percent for high PRE public firms. This result suggests that public firms are more willing to repatriate later in the fiscal year. However, these univariate tests do not control for quarterly profitability or the repatriation tax rate.

Table 5 presents multivariate results of estimating the following empirical model that investigates the effect of reporting incentives on quarterly repatriation activity:

$$\begin{aligned}
 Q4RepPct = & \beta_0 + \beta_1 RepTR + \beta_2 Reporting\ Incentives \\
 & + \beta_3 Reporting\ Incentives \times RepTR \\
 & + \beta_4 QROA + \beta_5 Size + \sum \beta_t Year_t + \sum \beta_j Industry + \varepsilon
 \end{aligned} \tag{2}$$

Q4RepPct equals repatriations during the fourth quarter divided by total repatriations during the year. *QROA* is fourth quarter foreign net income scaled by foreign assets. We expect that the

effect of repatriation taxes on fourth quarter repatriations is different for firms with relatively high reporting incentives. Therefore, we expect significant coefficients on the interaction of *RepTR* with our proxies for reporting incentives - *Public* and *HighPre*.

In Column (1) we investigate whether the timing of public firm repatriations differs relative to private firms. In Column (1a) we report marginal effects. We find that the coefficient on *Public* \times *RepTR* is negative and significant (-1.1042; $p < .10$). This result suggests that public firms repatriate less in the fourth quarter relative to private firms as the repatriation tax rate increases. We interpret this result as evidence that as public companies near the close of their fiscal year and have a better assessment of annual earnings, they look for ways to increase reported earnings. By avoiding repatriations from low tax countries public firms can avoid recognition of tax expense.

In Columns (2) and (2a) of Table 5, we present the results of estimating Equation (2) and the marginal effects using *HighPre* as a proxy for reporting incentives. The coefficient on *HighPre* \times *RepTR* is negative consistent with the result in Column (1), but it is insignificant. This result suggests that high PRE firms do not significantly alter the timing of repatriations relative to other public firms. We cannot offer an institutional explanation for the lack of significance on the interaction term in Column (2). However, Equation 2 tests for differences in the timing rather than the level of repatriation decisions across firms, and we may simply lack the power in our small sample to detect those differences. Overall, our quarterly analysis provides additional evidence that public firms consider the repatriation tax rate when timing their repatriations.

6.2. Foreign cash holdings

Next, we evaluate the association between unrecorded deferred tax liabilities and foreign cash holdings for the public firms in our sample. Although we conjecture that reporting

incentives lead to predictable differences between repatriations of high PRE and low PRE firms, our results could still be attributable to varying investment opportunities. A public firm that designates earnings as PRE is declaring its intention to reinvest foreign earnings abroad indefinitely, and may, as a result of investment opportunities, be more sensitive to the repatriation tax rate. To control for this possibility, we include measures of foreign and domestic after-tax return on assets in our main empirical tests. To further rule out the possibility that our results are confounded by differences in investment opportunities, we follow Foley et al. (2007), to investigate the effect of tax expense deferral on foreign cash holdings.

Generally, we expect that firms will repatriate when investment opportunities in the U.S. dominate those abroad and reinvest when foreign investment opportunities dominate those in the U.S. (Hartman, 1985). Foley et al. (2007) find that repatriation taxes help explain the build-up of cash abroad and, more specifically, in affiliates located in low tax jurisdictions. If a MNC designates foreign earnings as PRE because of investment opportunities, then *HighPre* will have either a negative or insignificant effect on the association between the repatriation tax rate and foreign cash holdings because new investment is not reflected in the cash account. However, to the extent that public companies designate foreign earnings as PRE because of the earnings effect of repatriations, we expect that these consequences will result in more cash held abroad, i.e. they will exacerbate the positive relation between the repatriation tax rate and foreign cash holdings.

To investigate this conjecture we estimate the following empirical model using ordinary least squares (OLS) estimation:¹⁸

$$\text{LN}(\text{Cash}/\text{Net Assets}) = \beta_0 + \beta_1\text{RepTR} + \beta_2\text{HighPre} + \beta_3\text{HighPre} \times \text{RepTR}$$

¹⁸ We use OLS to be consistent with Foley et al. (2007) and because it is not feasible that cash balances are negative, making tobit inappropriate.

$$+\sum\beta_k\text{Controls}_k + \sum\beta_t\text{Year}_t + \sum\beta_j\text{Industry}_j + \varepsilon \quad (3)$$

$\text{LN}(\text{Cash}/\text{Net Assets})$ is the natural log of foreign cash holdings divided by non-cash worldwide assets consistent with Foley et al. (2007). We report the results of estimating Equation (3) for our sample of public firms in Table 6. We expect and find that the coefficient on *HighPre* \times *RepTR* is positive and significant. This result is consistent with the view that undistributed foreign earnings are trapped abroad for firms with stronger reporting incentives and helps rule out the possibility that the results in Table 3 stem from higher investment opportunities abroad for high PRE firms.

6.3. *Alternate proxies for reporting incentives*

In our main tests, we use *HighPre* as a proxy for the earnings effect component of *Reporting Incentives*. *HighPre* is a direct measure of the ability to repatriate foreign earnings without recognizing a tax expense in the financial statements and Krull (2004) highlights that PRE designations are used to manage earnings. However, to the extent that PRE designations proxy for a firm's investment opportunity set or tax planning activity, our main test of H2 is confounded. For instance, although PRE is only a financial reporting concept, an alternative explanation for our results is that PRE is higher for firms that have earnings in low tax jurisdictions and are merely trying to avoid the cash outflow for repatriation taxes. If this is the case, then *HighPre* not only measures the earnings effect of repatriations, but also captures some of the cash flow effect. We include two measures of firms' foreign tax planning activities, *Indirect Ownership* and *Holding Company*, to control for this possibility. However, to further rule out this explanation we develop an alternate proxy for *Reporting Incentives* that relies on the effect of repatriations on the firm's effective tax rate and include this measure in our regression as a separate measure from the repatriation tax rate. Specifically, if a firm repatriates current

earnings and prior earnings previously designated as PRE it recognizes a higher tax expense as a result of the repatriation than if it repatriates current earnings and prior earnings not previously designated as PRE. Further, if the firm repatriates current earnings and prior earnings previously designated as PRE, it experiences a large increase in its effective tax rate because it is recognizing U.S. tax expense on current period foreign earnings and on foreign earnings recognized in an earlier accounting period. Thus, as an alternate measure of the earnings effect of repatriation taxes, we calculate *ETRhit* as the tax expense recognized in the financial statements if all PRE were repatriated divided by earnings before taxes.¹⁹ This variable measures the decrease in the effective tax rate the firm would experience if it repatriated all foreign earnings designated as PRE.

We report results using *ETRhit* in Table 7 Column 1. *ETRhit* has the advantage that it measures the financial statement expense for repatriation taxes relative to pre-tax earnings and that it is a separate measure from the repatriation tax rate, eliminating the need for the interaction with *RepTR*. Therefore, the coefficient on *ETRhit* measures the earnings effect of repatriations after controlling for the repatriation tax rate. Consistent with the results in Table 3, we find that repatriations are negatively related to both the repatriation tax rate and the earnings effect of repatriating.

Additionally, we identify three other measures of capital market pressure from the accounting literature, as alternatives to *Public*, and interact them with our measure of the repatriation tax rate, *RepTR*. Traditional proxies for reporting incentives that rely on incentives to manage earnings around capital raising events are problematic in our setting because

¹⁹ Since we do not know where the PRE is located we must estimate the tax expense the firm would recognize if it repatriated all of its PRE. Specifically, *ETRhit* is defined as the estimated incremental tax due upon repatriation ($PRE * 0.35$ less $((PRE/UFE \text{ in low tax affiliates}) * \text{accumulated taxes paid in low-tax affiliates})$) over pre-tax book income (Compustat PI). Mean (Median) *ETRhit* is 33.11% (4.23%) with a standard deviation of 34.05%.

repatriations themselves are a financing decision. Instead, we employ proxies that measure the extent to which firm managers are more likely to believe that the financial statement expense for repatriations will negatively affect the firm's stock price, controlling for the level of PRE.

Our first proxy, *HighERC*, is an indicator variable equal to one if the firm's long-window earnings response coefficient (ERC) is in the highest quartile and zero otherwise.²⁰ ERCs represent the strength of the price earnings association, and in our setting broadly capture the extent to which the manager is more likely to believe that tax expense recognition will negatively affect stock price. Our second proxy, *BeatAF*, is the proportion of quarters on I/B/E/S that the firm beat analysts' EPS forecasts as of the end of the year.²¹ Prior studies find that firms enjoy a stock market premium that increases in their tendency to meet analyst expectations, creating situations where managers act as if sustaining these patterns will prevent negative capital market effects (e.g., Degeorge et al. (1999), Abarbanell and Lehavy (2003)). Tax expense recognition upon repatriation of foreign earnings can cause a firm to miss an analyst forecast (though we cannot measure this directly) making *BeatAF* a reasonable proxy for reporting incentives in our setting. We expect negative coefficients on $HighERC \times RepTR$ and $BeatAF \times RepTR$.

Our third proxy, *Dedicated Institutions*, is the proportion of the firm's stock held by long-term institutional investors from Bushee (1998).²² Bushee (1998) classifies institutional investors into groups based on the extent to which they likely influence myopic behavior by firm managers. Dedicated investors alleviate pressures for myopic behavior (e.g., reducing R&D to meet earnings goals) because their large, long-term holdings create incentives to monitor managers and rely on information other than earnings to assess performance. As ownership by

²⁰ To obtain ERC, we estimate firm-specific time-series price-earnings regressions by regressing 16 month, size-adjusted, buy and hold returns on the change in annual earnings per share, excluding extraordinary items and discontinued operations, divided by the price at the beginning of the year.

²¹ Mean (median5) *Beat AF* is 63.6% (62.9%) with a standard deviation of 16.6%.

²² Mean (median5) *Dedicated Institutions* is 4.5% (0%) with a standard deviation of 7.4%.

dedicated investors increases, we expect managers to be less focused on current earnings and therefore less sensitive to reporting incentives to defer repatriation. Thus, we expect a positive coefficient on *Dedicated Institutions* \times *RepTR*.

We report results using *HighERC*, *BeatAF*, and *Dedicated Institutions* in Table 7 Columns 2, 3, and 4, respectively. All variables from Equation (1) are included in the analyses, though we report only the variables of interest. As predicted, the coefficients on *HighERC* \times *RepTR* and *BeatAF* \times *RepTR* are both negative and significant, and the coefficient on *Dedicated Institutions* \times *RepTR* is positive and significant. Overall, these results provide additional evidence suggesting that reporting incentives affect repatriations and that our results are robust to alternate measures of reporting incentives.

7. Conclusion

U.S. international tax policy plays a role in the ability of U.S. multinationals (MNCs) to compete in the global marketplace and various opponents of current tax policy argue that it creates incentives for U.S. firms to park foreign subsidiary profits in low tax countries, thereby reducing domestic investment. These incentives arise because MNCs incur a tax liability upon repatriation of foreign subsidiary earnings generally equal to the difference between the U.S. tax rate and the average foreign tax rate paid on the repatriated earnings. A factor that has received little attention in the empirical literature on repatriation behavior is that reporting incentives can also affect repatriation decisions.

Financial reporting rules generally allow firms to delay recognizing the repatriation tax expense in the period in which the earnings are generated by designating them as permanently reinvested earnings (PRE) under APB 23. Instead, the firm recognizes the expense in the period that it repatriates those earnings or it no longer considers them permanently reinvested. Firms

that face strong reporting incentives from capital markets have an incentive to delay repatriation to avoid recognizing the tax expense in the financial statements. In this paper, we find that reporting incentives affect repatriation behavior. Specifically, we find that public firms that face capital market pressures are more sensitive to the repatriation tax rate than private firms. Further, we find that public firms that have high amounts of PRE that would recognize a potentially high income tax expense upon repatriation are more sensitive to the repatriation tax rate than other public firms.

Our findings are relevant for both tax policy makers and accounting standard setters because they suggest that the current financial reporting rules for U.S. taxes on foreign subsidiary earnings affects repatriation. Our findings also raise the possibility that reporting incentives help explain the unexpectedly large surge in repatriations under the AJCA because the financial statement tax expense, along with the cash outflow for taxes, was temporarily reduced. We leave this question for future research.

Appendix

Many studies use logits, probits, and/or tobits to test their hypotheses. Because these are all nonlinear models, interpreting the coefficient estimates requires calculating their marginal effects. Statistical software easily calculates these marginal effects. However, Ai and Norton (2003) show that traditional statistical software incorrectly estimates the marginal effects of interaction terms in these models. They develop detailed equations of the correct calculation of the marginal effect of interaction terms in logit and probit models, and make the Stata program for these estimates available online. Although they note that tobits have the same problem as logits and probits, they do not formally develop equations or programs for these estimates. Our review of the literature suggests that many studies either do not attempt to properly estimate the marginal effects for interaction terms from tobits or apply Ai and Norton's method incorrectly to the tobit. In this Appendix, we provide our estimates of the marginal effects of the interaction terms as well as our Stata code.

To estimate the marginal effect of our interaction terms, we follow McDonald and Moffitt (1980) and their decomposition of the tobit coefficients into the effect conditional on being uncensored and the effect on the probability of being uncensored. McDonald and Moffitt show that the marginal effect of a non-interacted variable on the unconditional expected value (or the total marginal effect) is:

$$\text{TME} = \partial E y / \partial X_1 = F(z) \beta_1, \tag{A1}$$

where, y is the dependent variable, X_1 is the independent variable of interest, and $z = X\beta/\sigma$. Because we want to estimate the marginal effect of the interaction between X_1 and X_2 , where X_1 is a continuous variable and X_2 is a dichotomous variable, we want $\partial E y / \partial X_1 \partial X_2$. This estimate requires taking the difference between A1 evaluated with X_1 equal to the mean and X_2 equal to one and A1 evaluated with X_1 equal to the mean and X_2 equal to zero.²³ Therefore we define:

$$\begin{aligned} \text{xb1} &= \beta_0 + \beta_1 * \overline{X_1} + \beta_2 * 1 + \beta_3 * \overline{X_1} * 1, \text{ and} \\ \text{xb0} &= \beta_0 + \beta_1 * \overline{X_1} + \beta_2 * 0 + \beta_3 * \overline{X_1} * 0. \end{aligned}$$

The total marginal effect of the interaction term is:

$$\text{TME}_{\text{int}} = F(\text{xb1}/\sigma) * (\beta_1 + \beta_3) - F(\text{xb0}/\sigma) * (\beta_1)$$

McDonald and Moffitt decompose the total marginal effect into the marginal effect on the probability of being uncensored and the marginal effect conditional on being uncensored. They show that the marginal effect on the probability of being uncensored for a non-interacted variable is:

$$\text{PU} = \partial F(z) / \partial X_1 = f(z) \beta_1 / \sigma. \tag{A2}$$

²³ For simplicity, we show equations using only one continuous variable (e.g. the tax costs of repatriating) and one dichotomous variable (e.g. *Public*). We include all control variables in Equation (1) by setting them equal to their mean in the definitions of xb1 and xb0 .

We want to estimate the marginal effect of the interaction between X_1 and X_2 , i.e. $\partial F(z)/\partial X_1\partial X_2$. Therefore, the marginal effect of the interaction term on the probability of being uncensored is:

$$PU_{int} = f(xb1/\sigma) * (\beta_1 + \beta_3) / \sigma - f(xb0/\sigma) * (\beta_1) / \sigma.$$

They further show that the marginal effect conditional on being uncensored is:

$$CU = \partial Ey^* / \partial X_1 = [1 - zf(z)/F(z) - f(z)^2/F(z)^2]. \quad (A3)$$

We want to estimate the marginal effect conditional on being uncensored for an interaction term. Therefore, we estimate $\partial Ey^* / \partial X_1 \partial X_2$ which we calculate as:

$$CU_{int} = (\beta_1 + \beta_3) \left[1 - \frac{\left(\frac{xb1}{\sigma}\right) \times f(xb1/\sigma)}{F(xb1/\sigma)} - \frac{[f(xb1/\sigma)]^2}{[F(xb1/\sigma)]^2} \right] - \beta_1 \left[1 - \frac{\left(\frac{xb0}{\sigma}\right) \times f(xb0/\sigma)}{F(xb0/\sigma)} - \frac{[f(xb0/\sigma)]^2}{[F(xb0/\sigma)]^2} \right]$$

We use the nlcom command in Stata to estimate the three marginal effects defining *div* as scaled dividends from foreign affiliates, *reptr* as the repatriation tax rate, *public* as an indicator variable equal to one for public firms, and *pub_tr* as the interaction of *reptr* and *public*.²⁴ Our Stata code is as follows:

```
tobit div reptr public pub_tr, ll(0);
dtobit, brief;
sum reptr;
local meantr: di %5.2f r(mean);
gen xb1 = _b[reptr]*`meantr'+_b[public]*1+_b[pub_tr]*`meantr'*1+_b[_cons];
gen xb0 = _b[reptr]*`meantr'+_b[public]*0+_b[pub_tr]*`meantr'*0+_b[_cons];
gen z = ((xb1)/_b[_se]);
gen z0 = ((xb0)/_b[_se]);

/* Estimate the marginal effect on the unconditional expected value*/
nlcom normden(-((0-(xb1))/_b[_se]))*((_b[reptr]+_b[pub_tr]*1)/_b[_se])-normden(-((0-(xb0))/_b[_se]))*((_b[reptr]+_b[pub_tr]*0)/_b[_se]);
/*Estimate the marginal effect on the probability uncensored*/
nlcom normden(-((0-(xb1))/_b[_se]))*((_b[reptr]+_b[pub_tr]*1))-normden(-((0-(xb0))/_b[_se]))*((_b[reptr]+_b[pub_tr]*0));
/*Estimate the marginal effect on the conditional expected value*/
nlcom (_b[reptr]+_b[pub_tr]*1)*(1-((z*normden(z))/norm(z))-((normden(z)*normden(z))/(norm(z)*norm(z))))-
_b[reptr]*(1-((z0*normden(z0))/norm(z0))-((normden(z0)*normden(z0))/(norm(z0)*norm(z0))));
```

²⁴ We first use nlcom to replicate the three marginal effects produced by the dtobit command (i.e. the unconditional expected value, the probability uncensored, and the expected value conditional on being uncensored) for non-interacted variables. We then expand the nlcom statement to incorporate an interaction. This process allows us to verify that our nlcom statement correctly calculates the three marginal effects.

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FIGURE 1
Tax and Financial Reporting Effects of Repatriation

	I	II		III	
	Year 1 and Year 2 Repatriate current earnings	Year 1 Do not repatriate current earnings & do not designate as PRE	Year 2 Repatriate current and prior earnings and not previously designated as PRE	Year 1 Do not repatriate current earnings & designate as PRE	Year 2 Repatriate current and prior earnings and previously designated as PRE
Pre-tax earnings	\$3,000 (\$1,000 Foreign and \$2,000 Domestic)	\$3,000 (\$1,000 Foreign and \$2,000 Domestic)	\$3,000 (\$1,000 Foreign and \$2,000 Domestic)	\$3,000 (\$1,000 Foreign and \$2,000 Domestic)	\$3,000 (\$1,000 Foreign and \$2,000 Domestic)
Foreign Tax Expense	100	100	100	100	100
US Tax on US Earnings	700	700	700	700	700
Repatriation Tax Expense	250	250	250	0	500
After-tax earnings	1,950	1,950	1,950	2,200	1,700
Repatriation Tax paid	250	0	500	0	500
Effective Tax Rate	35%	35%	35%	26.67%	43.33%

This example assumes that the foreign subsidiary earns \$2,000 in the U.S. and \$1,000 in the foreign subsidiary each year. The U.S. tax rate is 35%, the foreign tax rate is 10%, and U.S. taxes on repatriations are 25%. Foreign Tax Expense (U.S. Tax on U.S. Earnings) refers to taxes paid to the foreign country on foreign earnings (U.S. on U.S. earnings) and the expense recognized on the financial statements. Repatriation Tax Expense refers to the expense recognized on the financial statements for U.S. taxes on foreign earnings. Repatriation Tax Paid equals the cash outflow for U.S. taxes on foreign earnings. Effective Tax Rate is the total tax expense recognized on the financial statements divided by pre-tax earnings on the financial statements.

FIGURE 2
Regression Variables

<u>Variable Name</u>	<u>Definition and Source (BEA unless otherwise noted)</u>
<u>Dependent Variables</u>	
Repatriations	Current year repatriations from foreign affiliates scaled by current year worldwide assets
<u>Variables of Interest</u>	
<u>Reporting Incentives</u>	
H1: Public	Equals 1 if publicly-traded equity, 0 otherwise
H2: HighPre	Equals 1 if the firm's ratio of permanently reinvested earnings divided by total assets in low tax affiliates ≥ 1 in a benchmark year (1999 or 2004), 0 otherwise
RepTR	An estimated of the rate of tax the firm would owe to the U.S. if it repatriated all unremitted foreign earnings, computed as the U.S. statutory rate (35 percent) minus <i>Affiliate Creditable Tax Rate</i> . We estimate unremitted foreign earnings as the cumulative amount of foreign earnings minus dividends paid from the year the affiliate first enters the BEA sample or 1982, whichever is later.
<u>Firm-Level Control Variables</u>	
Foreign ROA	Affiliate net income scaled by foreign assets
U.S. ROA	Domestic net income scaled by domestic assets
Size	Natural logarithm of world-wide sales
Lag Repatriations	Prior year repatriations scaled by prior year worldwide assets
Indirect Ownership	The proportion of total affiliates in the affiliated group that are indirectly owned.
Holding Company	The proportion of total affiliates in the affiliated group that are holding companies (e.g. NAICS code 5512).
U.S. Leverage	Ratio of domestic short-term and long-term debt to domestic assets
Foreign Leverage	Ratio of foreign short-term and long-term debt to foreign assets
U.S. Interest	Domestic interest paid divided by domestic short-term and long-term debt
Foreign Interest	Foreign interest paid divided by foreign short-term and long-term debt
%Foreign Assets	Ratio of foreign assets to worldwide assets
U.S. Loss	An indicator variable equal to 1 if the parent reports a current period domestic pre-tax loss, 0 otherwise

FIGURE 2 CONT'D

Regression Variables

Mandatory Dividend	Country-level indicator variable equal to 1 if the country requires that dividends are paid to shareholders, 0 otherwise - weighted by the number of affiliates in each type of country (La Porta et al. (1998)). Available at: http://www.economics.harvard.edu/faculty/shleifer/dataset)
Corruption	Country-level variable ranging from 1 to 10 indicating high and low corruption, respectively, weighted by the number of affiliates in each type of country (La Porta et al. (1999)). Available at: http://www.economics.harvard.edu/faculty/shleifer/dataset).
Infrastructure	Country-level variable ranging from 1 to 10 indicating low and high quality infrastructure, respectively, weighted by the number of affiliates in each type of country (La Porta et al. (1999)). Available at: http://www.economics.harvard.edu/faculty/shleifer/dataset)
Capital Control	Country-level indicator variable equal to 1 if the country restricts firms' ability to take funds out of the country, 0 otherwise, weighted by the number of affiliates in each type of country (IMF (2006)).

TABLE 1
Sample Composition

Panel A: Bureau of Economic Analysis		
	<i>Affiliates</i>	<i>Parents</i>
In BEA data between 1999 and 2004	57,164	4,840
Less parents without 6 consecutive years of data	(12,709)	(2,283)
Less parents without 6 consecutive years of affiliate reporting	(11,259)	(1,752)
Less ADRs	(519)	(22)
Less foreign incorporated parents	(1,399)	(48)
Less banks and insurance companies	(3,433)	(65)
Less pass-through entities	(409)	(10)
Less public entities not in Compustat for 6 consecutive years	(1,126)	(61)
Less firms missing BEA data	(147)	(8)
Less firms whose parents cannot be identified ^a	(704)	(14)
Total	25,459	577
Private Entities	1,790	98
Public Entities	23,669	479
Panel B: Compustat Sample		
		<i>Parents</i>
Domestically incorporated firms in Compustat between 1999		10,858
Less parents without 6 consecutive years of data		(5,436)
Less parents with no foreign activity during the sample period		(3,885)
Less firms not reporting in BEA		(1,058)
Plus firms in BEA with no foreign activity during the sample		76
Less ADRs		(22)
Less banks and insurance companies		(34)
Less firms with foreign incorporated parents		(16)
Less firms missing BEA data items		(4)
Total		479
Panel C: Industry Composition of Sample		
	<i>Private</i>	<i>Public</i>
1. Mining and construction	Combined	3.5%
2. Food	10.2%	4.4%
3. Textiles, printing and publishing	13.3%	12.1%
4. Chemicals	10.2%	8.4%
5. Pharmaceuticals	Combined	2.3%
6. Extractive industries	7.1%	5.0%
7. Durable manufacturing	22.5%	25.5%
8. Computers	5.1%	12.1%
9. Transportation	5.1%	5.4%
11. Retail	13.3%	16.5%
13. Insurance and real estate	Combined	Combined
14. Services	7.1%	3.8%
15. Other and Combined low reporting industries ^b	6.1%	1.0%

TABLE 1 CONT'D**Panel D: Country Composition By Region**

	<i>Private</i>		<i>Public</i>	
	<i>% of Affiliates</i>	<i>% of Assets</i>	<i>% of Affiliates</i>	<i>% of Assets</i>
North America	13.26%	11.29%	6.43%	8.89%
Central and South America	15.35%	20.85%	16.02%	14.13%
Europe	46.99%	56.00%	51.44%	59.79%
Africa	1.85%	0.40%	2.97%	1.42%
Middle East	1.33%	0.88%	1.43%	0.96%
Asia	21.22%	10.59%	21.71%	14.82%

Panel E: Top Countries

	<i>Private</i>		<i>Public</i>	
	<i>% of Affiliates</i>	<i>% of Assets</i>	<i>% of Affiliates</i>	<i>% of Assets</i>
1	UK	UK	UK	UK
2	Canada	Canada	Canada	Netherlands
3	Netherlands	UK Caribbean	Germany	Canada
4	Germany	Netherlands	Netherlands	Germany
5	Mexico	Germany	France	Bermuda
6	France	France	Mexico	Luxembourg
7	Japan	Bermuda	Japan	Japan
8	Australia	Switzerland	Australia	Ireland
9	Belgium	Australia	Italy	Switzerland
10	Singapore	Brazil	Spain	Belgium

^a Includes four mutual companies, four firms that changed status during the sample period (i.e., public to private, foreign ownership to domestic ownership, etc.) and six firms whose parents we could not identify as domestic or foreign owned.

^b Any industries with less than five observations are combined with the “Other” category

TABLE 2
Descriptive Statistics

	Private N = 522			Low PRE Public N = 2,149			High PRE Public N = 506		
Panel A: Regression Variables									
Variable	<u>Mean</u>	<u>Med5</u>	<u>Std. Dev.</u>	<u>Mean</u>	<u>Med5</u>	<u>Std. Dev.</u>	<u>Mean</u>	<u>Med5</u>	<u>Std. Dev.</u>
Repatriations (%)	0.90**	0	2.34	0.74***	0	2.09	1.25	0.03	2.59
RepTR (%)	10.26###	6.97	10.49	11.48*	10.14	10.32	10.64	10.11	9.55
Foreign ROA (%)	7.13###	4.71	10.01	5.07***	4.30	7.74	6.51	5.52	7.83
U.S. ROA (%)	5.75###	4.08	9.95	4.03***	4.46	9.90	6.72	6.40	9.54
Size	13.50***,###	13.66	1.40	14.74***	14.64	1.49	15.14	15.12	1.36
Indirect Ownership (%)	11.14***,###	0	18.50	19.35***	9.14	23.27	24.92	20.39	23.31
Holding Company (%)	1.91***,###	0	4.75	4.56***	0	7.08	6.86	6.00	6.94
U.S. Leverage (%)	46.07**,#	31.41	129.46	59.40	34.37	142.79	68.19	39.21	152.16
Foreign Leverage (%)	47.49	45.40	23.80	49.12*	47.52	20.50	47.21	46.34	18.76
U.S. Interest (%)	7.18	5.33	10.68	8.11*	5.55	12.16	7.05	5.38	8.42
Foreign Interest (%)	1.94***,#	1.91	1.55	2.00***	1.70	1.72	1.68	1.58	1.27
%Foreign Assets (%)	47.54***,#	31.83	49.86	66.40***	37.22	76.24	60.86	47.19	47.47
U.S. Loss (%)	19.16**	0	39.39	19.26	0	39.45	14.03	0	34.77
Mandatory Dividend (%)	1.04***,###	0	3.49	1.87***	0	4.15	1.69	0	2.33
Corruption	6.78	7.06	2.62	6.61	6.74	2.01	6.57	6.72	1.49
Infrastructure	5.66#	5.85	2.37	5.47	5.60	1.86	5.54	5.69	1.32
Capital Control (%)	4.71	0	11.77	5.24	0	10.67	5.62	3.27	8.73
Panel B: Tax Rate Estimates									
DFH Tax Rate (%)	27.50***,###	28.01	7.18	25.83	26.38	6.61	25.98	26.08	4.75
Current FTR (%)	24.60***	20.43	21.94	25.88**	22.65	23.10	28.05	25.88	20.71
Affiliate Creditable Tax Rate (%)	29.53##	27.90	18.61	27.66	24.84	18.22	27.94	24.85	16.29

TABLE 2 CONT'D

	Private N = 522			Low PRE Public N = 2,149			High PRE Public N = 506		
Variable	Mean	Med5	Std. Dev.	Mean	Med5	Std. Dev.	Mean	Med5	Std. Dev.
U.S. Sales	1,878.21 ^{***,###}	588.30	4,959.04	6,024.99	1,637.88	15,684.76	5,808.07	2,388.84	9,965
Foreign Sales	775.33 ^{***,###}	151.44	2,865.00	3,012.23	465.87	12,730.69	3,744.51	905.49	8,971
Affiliates	9.08 ^{***,###}	3	24.17	22.08 ^{***}	8	49.23	29.23	16.4	40.79
High Affiliates	2.15 ^{***,###}	1	4.51	5.46 ^{***}	2	10.82	8.16	4	11.26
PRE/Low Affiliate Assets (%)	N/A	N/A	N/A	20.60 ^{***}	0	29.28	64.13	77.69	38.25
Affiliate RepDum (%)	14.66 ^{***,##}	0	26.16	10.77 ^{***}	0	19.35	13.97	5.32	19.34
Parent RepDum (%)	37.93 ^{###}	0	48.57	43.14 ^{***}	0	49.54	56.13	1	49.67

This table reports firm attributes using data reported on the BEA Survey Form 10, Form 11, and Form 577 from 1999 to 2004. See Section 3 for BEA Survey details. Private firms are parent-affiliate groups with privately owned parents as described in the Lexis Nexis Corporate Affiliations database. Public firms are parent-affiliate groups with parents listed on a U.S. stock exchange. Low PRE public firms are those where the ratio of *PRE/Low Affiliate Assets* < 1 (i.e., *HighPre* = 0). High PRE public firms are those where the ratio of *PRE/Low Affiliate Assets* ≥ 1 (i.e., *HighPre* = 1). Med5 or Median5 represents the average of the five median observations. We report all statistics at the parent level. *DFH Tax Rate* is the median of all affiliate tax rates for all U.S. affiliates operating in a country-year as described in Desai, Foley and Hines (2001). *Current FTR* is current period foreign income taxes paid over foreign pre-tax income for all affiliates in a group. *Affiliate Creditable Tax Rate* estimates the U.S. parent's creditable taxes upon repatriation estimated as the average of the affiliates' creditable tax rates. The affiliate's creditable tax rate equals aggregate foreign taxes paid on undistributed foreign earnings from the year the affiliate first enters the BEA sample or 1982, whichever is later, to the current year divided by undistributed pre-tax foreign earnings aggregated over the same period. *U.S. (Foreign) Sales* are total domestic (foreign) sales (in millions). *Affiliates* is the total number of affiliates in a parent-affiliate group. *High Affiliates* is the total number of affiliates in a parent-affiliate group with *Affiliate Creditable Tax Rate* greater than or equal to 30%. *PRE/Low Affiliate Assets* is the ratio of permanently reinvested earnings reported in the 10-K to total assets in low tax affiliates. *Affiliate RepDum* is the proportion of affiliates in a group that pay a dividend to the U.S. parent. *Parent RepDum* is the proportion of parents that repatriate from at least one of their foreign affiliates. All other variables are defined in Figure 2. *, **, *** (#, ##, ###) represents significant differences between the high PRE (low PRE) public firms at the 10%, 5% and 1% two-tailed level, respectively.

TABLE 3
Reporting Incentives and Annual Repatriations

Dependent Variable = Repatriations						
	(1)	(1a)	(2)	(2a)	(3)	(3a)
RepTR	-0.0325 ^{***} (0.0083)	-0.0120	-0.0000 (0.0227)	0.0000	-0.0312 ^{***} (0.0092)	-0.0114
Public			-0.0014 (0.0036)	-0.0005		
Public × RepTR			-0.0403 [*] (0.0240)	-0.0153		
HighPre					0.0058 ^{**} (0.0028)	0.0023
HighPre × RepTR					-0.0414 ^{***} (0.0181)	-0.0160
Foreign ROA	0.0753 ^{***} (0.0129)	0.0279	0.0725 ^{***} (0.0128)	0.0267	0.0834 ^{***} (0.0142)	0.0304
U.S. ROA	0.0135 (0.0121)	0.0050	0.0111 (0.0122)	0.0041	0.0119 (0.0133)	0.0044
Size	0.0049 ^{***} (0.0006)	0.0018	0.0052 ^{***} (0.0006)	0.0019	0.0059 ^{***} (0.0007)	0.0021
Lag Repatriations	0.6341 ^{***} (0.0613)	0.2349	0.6331 ^{***} (0.0609)	0.2335	0.6117 ^{***} (0.0654)	0.2229
Indirect Ownership	-0.0031 (0.0046)	-0.0012	-0.0028 (0.0046)	-0.0010	-0.0051 (0.0042)	-0.0019
Holding Company	0.0051 (0.0128)	0.0019	0.0081 (0.0129)	0.0030	0.0090 (0.0128)	0.0033
U.S. Leverage	0.0010 (0.0006)	0.0004	0.0010 [*] (0.0006)	0.0004	0.0017 ^{***} (0.0006)	0.0006
Foreign Leverage	-0.0005 (0.0037)	-0.0002	-0.0007 (0.0037)	-0.0002	0.0013 (0.0040)	0.0005

TABLE 3 CONT'D

	(1)	(1a)	(2)	(2a)	(3)	(3a)
U.S. Interest	0.0026 (0.0070)	-0.0010	0.0036 (0.0072)	0.0013	0.0043 (0.0071)	0.0016
Foreign Interest	-0.0903** (0.0397)	-0.0334	-0.0949** (0.0402)	-0.0350	-0.0814** (0.0418)	-0.0297
%Foreign Assets	0.0088*** (0.0015)	0.0033	0.0091*** (0.0014)	0.0033	0.0083*** (0.0014)	0.0030
U.S. Loss	0.0015 (0.0024)	0.0006	0.0011 (0.0024)	0.0004	0.0018 (0.0024)	0.0007
Mandatory Dividend	0.0456*** (0.0180)	0.0169	0.0491*** (0.0178)	0.0181	0.0459** (0.0197)	0.0167
Corruption	0.0051 (0.0118)	0.0019	0.0047 (0.0115)	0.0017	-0.0030 (0.0111)	-0.0011
Infrastructure	-0.0117 (0.0136)	-0.0044	-0.0111 (0.0131)	-0.0041	-0.0005 (0.0121)	-0.0002
Capital Control	-0.0009 (0.0093)	-0.0003	-0.0016 (0.0090)	-0.0006	0.0010 (0.0099)	0.0004
Intercept	-0.0798*** (0.0113)	-0.0296	-0.0845*** (0.0114)	-0.0312	-0.0979*** (0.0016)	-0.0356
Scale	0.0274*** (0.0016)		0.0274*** (0.0016)		0.0259*** (0.0016)	
Year Fixed Effects	Yes		Yes		Yes	
Industry Fixed Effects	Yes		Yes		Yes	
Log Likelihood	2,314.05		2,322.07		2,113.69	
N	3,177		2,655		2,655	

*, **, *** significant at the 10%, 5% and 1% two-tailed level, respectively. Robust standard errors are reported in parentheses. Columns (1), (2), and (3) report coefficients from the tobit estimation. Columns (1a), (2a), and (3a) report the marginal effect of each variable on the unconditional expected value of *Repatriations*. See the Appendix for more details on these calculations. See Figure 2 for variable definitions.

TABLE 4
Descriptive Statistics for Quarterly Repatriations

<i>Panel A: Univariate Analysis of Public versus Private Quarterly Repatriation Behavior</i>			
	Repatriation Indicator	Repatriations	QROA
<i>Private N=522</i>			
QTR1	6.18 ^{*,###}	0.35 ^{##}	1.75 ^{###}
QTR2	7.03 ^{**,###}	0.41 ^{**,##}	1.92 ^{###}
QTR3	5.16	0.25	1.90 ^{###}
QTR4	7.64 ^{###}	0.48 ^{##}	2.07 ^{###}
<i>Public/Low PRE N=2,149</i>			
QTR1	4.05	0.25	1.31 ^{***}
QTR2	4.37	0.27	1.43 ^{***}
QTR3	4.37 ^{**}	0.27	1.51 ^{***}
QTR4	4.87 ^{**}	0.37	1.41 ^{***}
<i>Public/High PRE N=506</i>			
QTR1	4.53	0.30	1.78
QTR2	4.64	0.25	1.95
QTR3	5.93	0.33	2.10
QTR4	6.24	0.47	2.10
<i>Panel B: Descriptive Statistics for Q4RepPct</i>			
	Mean	Median5	Std. Dev.
<i>Private Firms N=522</i>	10.51% ^{***,##}	0.00%	25.38%
<i>Public/Low PRE Firms N=2,149</i>	13.13% ^{***}	0.00%	26.93%
<i>Public/High PRE Firms N=506</i>	18.91%	0.00%	29.15%

This table reports descriptive data for quarterly repatriations using data reported on the Bureau of Economic Analysis Survey Form 577 from 1999 to 2004. See Section 3 for BEA Survey details. Private firms are parent-affiliate groups with privately owned parents as described in the Lexis Nexis Corporate Affiliations database. Public firms are parent-affiliate groups with parents listed on a U.S. stock exchange. Low PRE public firms are those where the ratio of *PRE/Low Affiliate Assets* < 1 (i.e., *HighPre* = 0). High PRE public firms are those where the ratio of *PRE/Low Affiliate Assets* ≥ 1 (i.e., *HighPre* = 1). Med5 or Median5 represents the average of the five median observations. We report all statistics at the parent level. *Repatriation Indicator* equals 1 if an affiliate repatriates foreign earnings during the quarter; zero otherwise. *QROA* is foreign quarterly net income scaled by foreign assets. *Q4RepPct* is defined as the ratio of repatriations in the fourth quarter to the sum of repatriations in all four quarters. See Figure 2 for definitions of all other variables. *, **, *** (#, ##, ###) represents significant differences between the high PRE (low PRE) public firms at the 10%, 5% and 1% two-tailed level, respectively.

TABLE 5
Reporting Incentives and the Timing of Repatriations Across Quarters

Dependent Variable = $Q4RepPct$				
	(1)	(1a)	(2)	(2a)
RepTR	0.8006 (0.5696)	0.2177	-0.2492 (0.2643)	-0.0675
Public	-0.0084 (0.0942)	-0.0023		
Public \times RepTR	-1.1042* (0.6163)	-0.3912		
HighPre			0.0842 (0.0755)	0.0241
HighPre \times RepTR			-0.2931 (0.5464)	-0.1048
QROA	0.8705** (0.4198)	0.2367	1.1221** (0.4387)	0.3038
Size	0.1947*** (0.0151)	0.0530	0.2163*** (0.0155)	0.0585
Intercept	-3.0678*** (0.2588)	-0.8343	-3.4867*** (0.2861)	-0.9439
Scale	0.6088*** (0.0214)		0.5814*** (0.0218)	
Year Fixed Effects	Yes		Yes	
Industry Fixed Effects	Yes		Yes	
Log Likelihood	-1,780.72		-1,459.51	
N	3,177		2,655	

*, **, *** significant at the 10%, 5% and 1% two-tailed level, respectively. Robust standard errors are reported in parentheses. The dependent variable, $Q4RepPct$, equals the ratio of repatriations in the fourth quarter to the sum of repatriations in all four quarters. $QROA$ is foreign quarterly net income scaled by foreign assets. See Figure 2 for definitions of all other variables. Columns (1) and (2) report coefficients from the Tobit estimation. Columns (1a) and (2a) report the marginal effect of each variable on the unconditional expected value of $Q4RepPct$. See the Appendix for more details on these calculations.

TABLE 6
Reporting Incentives and Foreign Cash Holdings

Dependent Variable = LN(Cash/Net Assets)	(1)	(2)
RepTR	-0.0655 (0.0695)	-0.5739 (0.7519)
HighPre	0.2143 (0.1447)	0.1849* (0.1323)
HighPre × RepTR	2.0581* (1.2558)	2.5717** (1.1810)
Foreign ROA	0.9738 (0.7001)	0.8158 (0.6099)
U.S. ROA	0.2296 (0.2296)	1.1130** (0.4779)
Size	-0.0720** (0.0374)	-0.0438 (0.0351)
Foreign Leverage		0.0676 (0.3596)
Foreign Investment		12.6904*** (1.9205)
U.S. Loss		0.3523*** (0.1094)
Mandatory Dividend		-0.8850 (1.6526)
Corruption		1.0484 (0.7305)
Infrastructure		-1.6615** (0.8244)
Capital Control		0.2548 (0.4634)
Intercept	-3.8206*** (0.6458)	-4.2266*** (0.6592)
Year Fixed Effects	YES	YES
Industry Fixed Effects	YES	YES
Adj. R-sq	12.32%	18.56%
N	2,655	2,655

*, **, *** significant at the 10%, 5% and 1% two-tailed level, respectively. Robust standard errors from OLS regressions are reported in parentheses. *LN(Cash/Net Assets)* is the natural log of foreign cash divided by non-cash worldwide assets. *Foreign Investment* is foreign capital expenditures plus foreign R&D divided by worldwide assets. See Figure 2 for definitions of all other variables.

TABLE 7
Alternate Proxies for Reporting Incentives

Dependent Variable = Repatriations				
	(1)	(2)	(3)	(4)
<i>Proxy</i>	ETRHit	HighERC	BeatAF	Dedicated Institutions
RepTR	-0.0387*** (0.0086)	-0.0277*** (0.0091)	0.0379 (0.0303)	-0.0460*** (0.0082)
<i>Proxy</i>	-0.0026** (0.0011)	0.0024 (0.0027)	0.0178** (0.0072)	-0.0088 (0.0143)
<i>Proxy</i> × RepTR		-0.0429*** (0.0168)	-0.1012** (0.0470)	0.1555** (0.0820)
PrePercent	0.0046** (0.0023)	0.0040* (0.0024)	0.0051** (0.0024)	0.0032* (0.0018)
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed	Yes	Yes	Yes	Yes
Log Likelihood	2,115.27	2,015.30	1,992.69	2,113.63
N	2,655	2,448	2,156	2,655

*, **, *** significant at the 10%, 5% and 1% two-tailed level, respectively. Robust standard errors from Tobit regressions are reported in parentheses. *PrePercent* is the ratio of PRE to cumulative unremitted foreign earnings. *ETRHit* is the estimated impact on the firm's ETR if all PRE was repatriated defined as the estimated incremental tax due upon repatriation (PRE*0.35 less ((PRE/UFE in low tax affiliates) times accumulated taxes paid in low-tax affiliates)) divided by pre-tax book income (Compustat PI). *HighERC* equals one if the firm's long-window earnings response coefficient is in the top quintile of ERCs; zero, otherwise. *BeatAF* is the proportion of quarters on I/B/E/S that the firm beat analysts' EPS forecasts as of the end of the year for firms who have at least five analyst forecasts. *Dedicated Institutions* is the proportion of the firm's stock held by long-term institutional investors as defined in Bushee (2001). All other control variables from Equation (1) are included. See Figure 2 for definitions of all other variables.