

## **Trade-offs in the Repatriation of Foreign Earnings**

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### **Abstract**

We examine repatriations of foreign earnings that have been designated as indefinitely reinvested. U.S. firms can repatriate foreign earnings without an immediate tax cost when there is a domestic loss, which frees the earnings to be used domestically. But using the domestic loss to offset repatriation taxes reduces financial accounting income, and removes a real option to tax deferral. We show that firms are more likely to repatriate indefinitely reinvested foreign earnings in domestic loss years, but they are less likely to repatriate when financial reporting incentives are strong. We also show that the factors that affect repatriation have changed relative to studies that examined repatriations prior to and during the repatriation tax holiday of 2004-2005.

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## 1. Introduction

Over the past 10 years, the aggregate balance of unremitted foreign earnings of U.S. multinational firms has exploded. Estimates suggest that the balance is well over \$2 trillion, and our data show that the balance is growing by more than \$200 billion each year. Many commentators have argued that the U.S. tax on foreign earnings required under U.S. international tax rules is the primary driver of the growth in “trapped” foreign earnings. Evidence suggests these tax rules lead firms to engage in behaviors that are inefficient and possibly detrimental to economic growth. For example, in April, 2013, Apple Inc. needed over \$100 billion in the U.S. to pay dividends to its shareholders (Burne and Cherney 2013). Although Apple had sufficient internal capital for the payouts, it opted to raise the capital in the external bond market because the internal capital was in foreign jurisdictions and subject to a large tax cost if repatriated. More systematic evidence suggests that trapped foreign earnings are invested sub-optimally (Edwards, Kravet, and Wilson 2016; Hanlon, Lester, and Verdi 2015). Indeed, the evidence of inefficient corporate behavior has led many to call for corporate tax reform to address the problem of trapped foreign earnings, with proposals that range from exempting foreign earnings from U.S. tax to one-time tax holidays on the repatriation of foreign earnings.

Despite the attention on the growing balance of unremitted foreign earnings and heavy focus on its negative consequences, almost no attention has been devoted to repatriations of foreign earnings outside the one-time repatriation tax holiday that was part of the American Jobs Creation Act of 2004. Our data suggest that repatriation outside the tax holiday is relatively common, and the amounts repatriated are quite large: just over 20% of our firm-year observations have repatriations of foreign earnings, representing a total value of over \$100

billion.<sup>1</sup> In this study, we ask why firms repatriate outside tax holidays, including an evaluation of the costs and benefits of the decision from both an economic perspective and a financial reporting perspective.

One possible explanation for non-holiday repatriations is that firms choose to repatriate foreign earnings during domestic loss years. When a U.S. multinational earns foreign profits, it creates a latent U.S. tax liability that will be paid when the profits are repatriated as a dividend. The amount of the U.S. tax liability depends on the firm's U.S. tax situation in the year of repatriation because the repatriated profits are added to the firm's taxable income in that year. If the firm is profitable in the U.S., it will owe tax on the repatriated foreign earnings at its marginal U.S. tax rate and will receive a credit for the foreign taxes paid on the foreign earnings. If the U.S. multinational has a domestic loss, it has the opportunity to repatriate foreign earnings without incurring an immediate tax cost because the domestic loss can be used to offset the incremental income from the dividend paid by the foreign subsidiary to the U.S. multinational parent.

Despite the immediate cash tax savings, there are additional cash and financial reporting consequences that are relevant to the repatriation choice during a domestic loss year. First, the firm is choosing between using the loss to lower domestic taxes owed on foreign earnings (if it

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<sup>1</sup> In our study we examine IRFE (the accounting number), as opposed to unremitted foreign earnings (the tax number), because the balance of IRFE is more commonly disclosed in publicly available financial reports. IRFE represents the subset of unremitted foreign earnings that have been designated as indefinitely reinvested for financial reporting purposes. The Indefinite Reversal Exception in U.S. Generally Accepted Accounting Principles (GAAP) defers the recognition of tax expense on such earnings until they are repatriated to the U.S. parent as a dividend. Some firms and researchers refer to these earnings as Permanently Reinvested Earnings (PRE). We refer to them as IRFE throughout the paper because this label is more descriptive of the intent of the accounting standard (APB 23) that governs their treatment. Unremitted foreign earnings, in contrast, are those earnings which have not been repatriated, regardless of whether the firm has recognized a financial statement liability associated with the future tax that will be paid when they are repatriated.

repatriates) and using the loss to lower taxes owed on future domestic income (no repatriation).<sup>2</sup> Under reasonable assumptions, there is a benefit to repatriating in the year of a loss, but the benefit is a function of the cost of capital, expectations about the timing of future domestic profits, the timing of future repatriations, and future tax rates.<sup>3</sup>

Second, the repatriation decision directly affects the availability of foreign earnings for use in internal capital markets. A firm with domestic profits can only use its foreign profits for domestic needs if it repatriates them and pays the residual U.S. tax. A U.S. multinational with a domestic loss, however, has the opportunity to use its full foreign profits for domestic needs because the loss will eliminate the residual U.S. tax.

Third, the repatriation decision affects financial accounting income reported to shareholders. When a firm incurs a loss that it cannot immediately use to offset past taxable earnings, it records a deferred tax asset, which increases reported income. However, if the firm repatriates in a domestic loss year, it uses the domestic loss to offset taxes due on repatriated foreign income, and no deferred tax asset is recorded. If no deferred tax asset is generated, nothing will be recorded on the financial statements, and financial accounting income will be lower than if the firm not repatriated earnings. Therefore, by using the domestic loss instead of carrying it forward, the firm forgoes the opportunity to record higher income on its financial statements.

Fourth, repatriation removes the real option associated with deferral. Because there is a possibility that future U.S. tax rates on repatriated foreign earnings will decrease, firms can derive benefit by deferring the decision to repatriate. The precise value of waiting to make the

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<sup>2</sup> This assumes that the firm is not able to carry the loss back and that the firm will have domestic profit in the future.

<sup>3</sup> See Appendix A for algebra associated with the costs and benefits of repatriation.

repatriation decision is impossible to observe, but is likely to be increasing in the uncertainty associated with future tax rate changes and future profitability.

The firm, therefore, faces tradeoffs in its repatriation decision when it has a domestic loss. While the firm can remove the tax constraints on accessing foreign capital without any immediate cash tax payment, to do so, the firm must reduce its financial reporting earnings and give up the real option of waiting to repatriate. We empirically study these tradeoffs in this paper.

Using a sample of U.S. multinationals reporting indefinitely reinvested foreign earnings (IRFE) from 2008 to 2015, we find that firms repatriate more foreign earnings when they have domestic losses. We also find that firms repatriate less foreign earnings when they have stronger financial reporting incentives. Thus, our results suggest that firms trade off access to foreign earnings and financial reporting benefits when deciding whether and how much to repatriate.

Our study makes multiple contributions to the literature. First, determining whether firms sacrifice cash tax savings and access to internal capital for financial reporting benefit is important because it helps policy makers, practitioners, and researchers understand the frictions and inefficiencies created by the interplay of tax laws and financial accounting rules. To the extent that financial reporting consequences prevent or delay repatriations, they represent a real cost that is borne by the firm and the U.S. economy, particularly when it is possible that “trapped” foreign earnings are invested sub-optimally (Edwards, Kravet, and Wilson 2016; Hanlon, Lester, and Verdi 2015).

Second, prior literature has shown that firms trade off cash tax savings and financial reporting consequences in the choice of inventory method (see Jenkins and Pincus (1998) for a

review), LIFO liquidations (Dhaliwal, Frankel, and Trezevant 1994), and stock-based compensation (Matsunaga, Shevlin, and Shores 1992). Erickson, Hanlon, and Maydew (2004) document that, in the extreme, firms are even willing to pay tax on fraudulent earnings. A separate stream of research examines the repatriation choices of firms and finds both cash tax costs and financial reporting effects deter repatriations (Blouin, Krull, and Robinson 2012). Our study extends this literature by examining the complex tradeoffs firms face when repatriating foreign earnings.

Third, to our knowledge, ours is this first examination of the repatriation choices of U.S. multinationals since the one-time tax “holiday” of the 2004 American Jobs Creation Act (AJCA). To the extent that the AJCA changed expectations about future tax holidays and/or reforms (Brennan 2010), empirical findings from before and during the AJCA may no longer be valid. To this end, we document that repatriations are strongly associated with domestic losses, whereas studies executed using data from the AJCA period do not find a statistical association with losses.

Finally, we examine the tax planning and financial reporting behavior of firms with losses, a population understudied in the literature because it is often excluded from empirical studies.

## **2. Background**

### *2.1 Basic taxation and financial reporting of foreign earnings of U.S. multinationals*

The United States uses a worldwide (or credit) tax system. This means that the U.S. imposes tax on all earnings of U.S. corporations, regardless of the location of those earnings, but grants credit for taxes paid to foreign governments. The payment of taxes owed to the U.S.

occurs when firms repatriate the earnings from the host country to the U.S. in the form of a dividend. Because firms can defer the dividend payment from the foreign affiliate to the U.S., they can defer the payment of the U.S. tax on foreign earnings. Hence, the tax system is best characterized as a worldwide system with deferral.

Accounting rules in the U.S. generally require tax liabilities to be recorded when they are incurred, not when the obligation is satisfied. Thus, firms are required to record deferred tax liabilities for taxes they expect to pay to the U.S. when they repatriate earnings, even if they do not plan to repatriate for many years in the future. However, firms can avoid recording deferred tax liabilities for the U.S. tax on foreign earnings by designating those earnings as indefinitely reinvested (IRFE). Because no deferred tax liability is recorded in the year the earnings are generated, when firms choose to remit IFRE, they must record a tax expense in addition to actually paying the tax liability to the government. In contrast, when firms choose to remit earnings that are not designated as indefinitely reinvested (i.e., a deferred tax liability was accrued when the earnings were recorded), then there is no new tax expense recorded in the year of repatriation. Thus, under normal circumstances, remitting IFRE results in both a tax cost and a financial accounting expense whereas remitting foreign earnings that are not indefinitely reinvested only results in a tax cost.<sup>4</sup>

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<sup>4</sup> The combination of tax and accounting rules we describe above creates three distinct, often conflated balances, as illustrated in Figure 2. First, unremitted foreign earnings constitute the total balance of foreign earnings that have not been paid by foreign subsidiaries to the U.S. parent. Second, the fraction of unremitted foreign earnings that the firm designates as indefinitely reinvested is called indefinitely reinvested earnings. Finally, many firms report the foreign cash balance in their financial reports. It is important to note that unremitted foreign earnings and IFRE might be part of the foreign cash balance, but foreign cash can also arise from other sources.

## 2.2 Net operating losses

Under U.S. tax law, when a corporation has a domestic net operating loss (*NOL*) in year  $t$ , it can carry that loss back to year  $t - 1$  or  $t - 2$  to recover taxes paid in those years, or it can carry the loss forward up to 20 years to shelter future income from U.S. tax. In order to carry the loss back, the firm must have reported taxable income and paid tax in either or both of the two previous years. If that condition is met, the firm will receive a refund in year  $t + 1$  equal to  $NOL * MTR$  (the firm's marginal tax rate).<sup>5</sup> If the firm is either unable to carry the *NOL* back or chooses not to do so, it will carry the *NOL* forward to be claimed (i.e., reduce taxable income) in any of the subsequent 20 years and save tax equal to  $NOL * MTR$ .

In nominal dollars, the benefits of carrying a year  $t$  loss back and forward are  $NOL * \tau_{t-k}$ ,  $k \in [1, 2]$ , and  $NOL * \tau_{t+n}$ ,  $n \in [1, 20]$ , respectively. When we consider the time value of money and compare values in year  $t + 1$ , the values are:

*Carryback Benefit* $_{t+1} = NOL * \tau_{t-k}$ , and

*Carryforward Benefit* $_{t+1} = NOL * \tau_{t+n} / (1 + r)^{n-1}$ , where  $r$  is the firm's after-tax discount rate, assumed to be constant across years. If tax rates are constant (i.e.,  $\tau_{t-k} = \tau_{t+n}$ ,  $\forall k, n$ ) and  $r$  is positive, then *Carryback Benefit* $_{t+1} > \text{Carryforward Benefit}_{t+1}$ . Whether the loss is carried back or forward, the cash tax implications of the loss in year  $t$  are a reduction in the taxes paid in a year other than  $t$ . If the loss is carried back, the firm will receive a refund of taxes previously paid. If the loss is carried forward, the firm will pay less tax on its taxable income in the future year in which the loss is used.

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<sup>5</sup> In reality, the amount of refund received when a net operating loss is carried back could be affected by various credits that were claimed when the return was originally filed.

Accounting for NOLs is again relatively straightforward. If the loss is carried back, the firm will record a current tax benefit (a negative tax expense). If the loss is carried forward, the firm will record a deferred tax benefit (a negative tax expense). Thus, an NOL will increase after-tax reported net income by approximately the magnitude of the loss multiplied by the statutory tax rate.

### *2.3 Repatriation of IFRE when the firm has a domestic loss*

In the absence of a domestic loss, repatriation of IFRE triggers a U.S. cash tax bill and increases the firm's reported tax expense. In contrast, if the firm has a domestic loss, the firm can offset the repatriated income with the domestic loss and not pay any tax on the repatriated earnings. However, because the firm will not have a domestic loss to carry forward (because it will be used to offset the repatriated income), it will not record the tax benefit normally associated with domestic losses. Thus, the firm chooses between repatriating without incurring a cash tax bill but forgoing the financial statement benefit and not repatriating, recording the financial statement benefit, but forgoing the opportunity to use the foreign earnings for domestic purposes.

### *2.4 Foreign tax credits*

When the firm originally earned the foreign income that is now being repatriated, it paid foreign tax on that income. This foreign tax generates a foreign tax credit (FTC) for U.S. tax purposes. If the earnings are repatriated and offset by a domestic loss (i.e., no U.S. tax is owing on the repatriated income), the FTC will be carried forward to be used against future U.S. tax liabilities on foreign earnings. As such, the firm is also choosing between having an FTC carryforward (if it repatriates) and having an NOL carryforward (if it does not repatriate).

Because the carryforward periods for the two are different (NOLs can be carried forward for 20 years while FTCs expire after 10 years), firms would have a marginal preference for NOLs over FTCs.

### **3. Prior literature and hypothesis development**

Prior theoretical and empirical work in Accounting and Economics has sought to understand the effect of repatriation taxes on the investment decisions of multinational firms. The two main channels through which firms' decisions are affected are the cash taxes to be paid and the financial reporting consequences (i.e., what is reported on the firm's financial statements). We look first at the studies examining the cash tax effects.

#### *3.1 Cash taxes and the repatriation choice*

Hartman (1985) models the choice of a mature subsidiary of a multinational firm earning foreign profits and shows that the residual home-country tax due on repatriation should be irrelevant to the choice between repatriating the foreign earnings as a dividend and reinvesting them in the foreign jurisdiction. The model assumes that the home-country tax rate is constant over time and supports the conclusion that it is the relative pretax rates of return in domestic and foreign jurisdictions, and not the repatriation tax, that drives the choice to repatriate or not.<sup>6</sup>

Subsequent theoretical studies (e.g., Altshuler, Newlon, and Randolph (1995), Sansing (1996), and de Waegenaere and Sansing (2008)) extend Hartman (1985) and determine conditions under which repatriation taxes may affect firms' choices. Foley et al. (2007), Bryant-

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<sup>6</sup> Hartman (1985) acknowledges that, "the results hold unless the home country tax could somehow be avoided eventually, which would tend to cause the firm to invest more abroad. This situation could arise if the firm anticipated a tax-favored liquidation of foreign operations at some future time or if a future elimination (or reduction) of the home country tax were expected."

Kutcher, Eiler, and Guenther (2008), and Blouin, Krull, and Robinson (2012), among others, show empirically that the repatriation behavior of U.S. multinationals is affected by cash tax effects. Desai, Foley, and Hines (2001) estimate that repatriation taxes reduce aggregate dividend repatriations by 12.8%. Further support is provided by Graham, Hanlon, and Shevlin (2011), who survey tax executives and find that repatriation taxes have a first-order effect on repatriation choices.

### *3.2 Financial reporting and the repatriation choice*

The tax executives surveyed by Graham, Hanlon, and Shevlin (2011) also revealed that the financial reporting consequences are as important as the cash tax consequences in choosing when and how to repatriate foreign earnings. Blouin, Krull, and Robinson (2012) find empirical evidence consistent with this in the sample period 1999-2004; they estimate that financial reporting incentives reduce repatriations by 17 – 20% annually, compared to what they would be if only cash tax consequences were considered.

### *3.3 The American Jobs Creation Act of 2004*

In 2004, U.S. lawmakers provided a natural experiment in which these theories could be empirically tested when, as part of the American Jobs Creation Act (AJCA), a temporary dividends received deduction was allowed that effectively reduced the tax rate on qualifying dividends to 5.25%.<sup>7</sup> The deduction could be claimed in either 2004 or 2005 and could be applied to “extraordinary” dividends only, to a maximum of \$500 million or the amount of IRFE disclosed on the firm’s most recent financial statements, whichever was greater.<sup>8</sup> Several studies use the setting to examine the determinants of the decision to repatriate qualifying dividends and

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<sup>7</sup> The Act allowed a repatriating firm to claim an 85% dividends received deduction (DRD). For \$1 of repatriated income, \$0.15 would be included in taxable income. At a 35% federal statutory tax rate,  $35\% * \$0.15 = \$0.525$ .

<sup>8</sup> A dividend qualified as extraordinary if it exceeded the average dividend over the five previous years. See Redmiles (2008) for further details.

find that less financially constrained firms (Albring, Mills, and Newberry 2011), firms with lower investment opportunities and higher free cash flows (Blouin and Krull 2009), and firms with strong financial reporting incentives (Morrow and Ricketts 2013) were more likely to repatriate during the holiday.<sup>9</sup>

The AJCA provides a setting for examining repatriation behavior under unique circumstances: the holiday was temporary, and many firms were unable to take advantage of it because the amounts repatriated were restricted based on numbers that were not easily manipulated. As such, it is unclear whether the empirical findings from the setting generalize to non-holiday conditions.

#### *3.4 Domestic losses and repatriation*

Our research question is whether firms trade off cash tax savings for financial reporting benefits when choosing between repatriating and reinvesting foreign earnings when there is a domestic loss. Graham, Hanlon, and Shevlin (2010) survey tax executives about their repatriation behavior under the AJCA and find that the frequency and size of loss carryforwards are greater for repatriating firms than for non-repatriating firms (i.e., firms with domestic losses had not repatriated foreign income that would have been sheltered from U.S. tax prior to the AJCA). The authors speculate that this is explained by the fact that repatriating when there is a domestic loss results in the exchange of a loss carryforward with a 20-year life for a foreign tax credit carryforward with a 5-year life. They support this assertion with a response to a follow-up question to one executive, but are unable to test the assertion in their full sample.

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<sup>9</sup> A related stream of research examines the uses of the funds repatriated under the AJCA. Blouin and Krull (2009) and Dharmapala, Foley, and Forbes (2011) find that the funds were largely returned to shareholders through increased share repurchases (i.e., in violation of the conditions of the Act), while Faulkender and Petersen (2012) and Brennan (2014) conclude that repatriated funds were largely used for approved purposes.

Two studies set outside the AJCA have addressed the question indirectly by including a domestic loss variable as a control in tests of the determinants of repatriations. Altshuler and Newlon (1991), using a sample of U.S. multinationals in 1986, find the “puzzling” result that foreign subsidiaries were less likely to repatriate when the parent had a domestic loss. Consistent with Graham, Hanlon, and Shevlin (2010), the authors speculate, but do not directly test, that this is explained by a preference for loss carryforwards over foreign tax credit carryovers.<sup>10</sup> However, Altshuler and Newlon (1991) find no explanation for their “particularly puzzling” finding that low-tax CFCs (for whom tax savings would be higher and FTCs would be lower) paid out less than high-tax CFCs when the parent had losses.

Following Altshuler and Newlon (1991), Blouin, Krull, and Robinson (2012) include an indicator variable for firm-years with domestic losses in their empirical tests of the determinants of repatriations in their sample of U.S. multinationals from 1999 to 2004 (before the AJCA). The estimate of the coefficient is positive (i.e., opposite what would be predicted based on the findings of Graham, Hanlon, and Shevlin (2010) and Altshuler and Newlon (1991)) and statistically significant in the subsample of public firms classified as having low capital market incentives to manage earnings. In all other tabulated results, the coefficient estimate is statistically insignificant, indicating that domestic losses have no incremental effect on repatriations.

To our knowledge, the only paper to directly study the effect of losses on repatriation is Power and Silverstein (2007). Using a balanced panel of tax return data of U.S. multinationals from 1998 to 2002, they find that, on average, firms are less likely to repatriate in loss years, and

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<sup>10</sup> In their sample period, the carryforward periods were 15 and 5 years for losses and foreign tax credits, respectively.

that loss year repatriations are smaller in amount than profit year repatriations. Like Altshuler and Newlon (1991), Power and Silverstein (2007) speculate that this signals a preference for loss carryforwards over foreign tax credit carryforwards, and speculate further that the preference is driven by the fact that NOLs can be used against both domestic and foreign income, while foreign tax credits can only be used to offset taxes payable on foreign income.

### *3.5 Hypotheses*

The findings in the extant literature largely support the prediction that having a domestic loss should reduce the likelihood of repatriation of foreign earnings because U.S. multinationals prefer loss carryforwards to foreign tax credit carryforwards. However, the differences between the two were substantially reduced by provisions in the 2004 AJCA which changed the treatment of FTCs. For tax years beginning after December 31, 2006, U.S. corporations are able to recharacterize domestic income as foreign income for the purpose of calculating the tax otherwise payable to be offset by the FTC. This change, codified as S. 904(g) of the Internal Revenue Code, removes the largest difference between the value of NOL and FTC carryforwards to which prior research had attributed the tendency of firms not to repatriate in domestic loss years. In addition, the AJCA doubled the carryforward period for FTCs to ten years (S. 904(c)), increasing the relative value of FTCs.<sup>11</sup>

Given the reduction in the wedge between the values of NOLs and FTCs, it is an empirical question whether the effect of a domestic loss on a firm's repatriation behavior is different in our sample period. Because legislative changes removed factors which decreased the relative value of NOLs, we state our first hypothesis in the alternative:

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<sup>11</sup> The AJCA also reduced the number of "baskets" for FTCs and removed a limit on the amount of Alternative Minimum Tax that could be offset by FTCs. Both changes are generally regarded as making FTCs more valuable.

**Hypothesis 1:** *A U.S. multinational corporation is more likely to repatriate foreign earnings when it has a domestic loss.*

Our second hypothesis derives from the findings in the extant literature that financial reporting incentives materially affect repatriation choices (Graham, Hanlon, and Shevlin 2011). Blouin, Krull, and Robinson (2012) show that financial reporting incentives increase the negative effect on repatriations of cash tax consequences. Consistent with this result, Morrow and Ricketts (2013) find that, in the unique setting of the AJCA tax holiday, financial reporting incentives explained repatriations better than cash tax consequences. In both of these studies, the cash tax and financial reporting effects are predicted to have the same negative effect on repatriations. As such, a comparison of the two effects supports inferences about the relative importance of the effects, but does not support inferences about trade-offs between the two. In contrast, we predict opposite signs for the two effects and state our second hypothesis:

**Hypothesis 2:** *A U.S. multinational corporation trades off financial reporting incentives and cash tax savings when choosing whether to repatriate foreign earnings under a domestic loss.*

#### 4. Research design and data

To test our hypotheses, we estimate variations of the following empirical model:

$$REPATRIATE_{it} = \beta_0 + \beta_1 USLOSS_{it} + \beta_2 LOG ANALYSTS_{it} + \sum_c \beta_c C_{it} + \varepsilon_{it}, \quad (1)$$

where the variables of interest are defined as follows:

$REPATRIATE_{it}$  is an indicator variable = 1 if firm  $i$  reports a reduction in indefinitely reinvested foreign earnings (IRFE) in year  $t$ , 0 otherwise;

$USLOSS_{it}$  is an indicator variable = 1 if firm  $i$  reports a U.S. loss in year  $t$ , 0 otherwise

$LOG\ ANALYSTS_{it}$  is the natural log of [1 + the number of analysts following firm  $i$  in year  $t$ ] ( $\ln\{1+NUMEST\}$ ).

$REPATRIATE$  captures the repatriation of IRFE with error because it is possible for a reduction in IRFE to result from a reclassification of foreign earnings as no longer indefinitely reinvested (for GAAP purposes) without an actual repatriation (for tax purposes). However, Graham, Hanlon, and Shevlin (2011) find that IRFE represents 76% (100%) of unremitted foreign earnings for the mean (median) firm in their study, indicating that the difference between the IRFE and unremitted foreign earnings is not large for the average firm. In addition, we are particularly interested in the repatriation of earnings that have been designated as indefinitely reinvested because firms must record a financial statement expense in the period those earnings are repatriated, whereas repatriating unremitted earnings that are not indefinitely reinvested does not require an income tax expense to be recorded.

Although the construct underlying our tests is based on taxable income, we define  $USLOSS$  using financial accounting data because U.S. taxable income is not publicly available. An advantage of doing so is that financial accounting income is not affected by repatriations, while U.S. taxable income would be. Finally, we use  $LOG\ ANALYSTS$  as a proxy for financial reporting incentives. While we presume that economic earnings are important to all firms, the importance of what firms report publicly varies in the cross section for a variety of reasons, including the number and sophistication of financial statement users. Thus we use the number of analysts that follow the firm as a proxy for financial reporting incentives (Cheng and Warfield 2005).

The vector of controls contains the following variables:

$PRETAX\ FOREIGN\ INCOME$  is pretax foreign income scaled by beginning assets in year  $t$  (PIFO/AT)

<i>CAPITAL EXPENDITURES</i>	is capital expenditures scaled by beginning assets in year $t$ ( $CAPX/AT$ )
<i>LONG TERM DEBT</i>	is long-term debt scaled by beginning assets in year $t$ ( $\{DLTT+DLC\}/AT$ )
<i>PROPERTY PLANT &amp; EQUIP</i>	is net property, plant, and equipment scaled by beginning assets in year $t$ ( $PPENT/AT$ )
<i>ADVERTISING EXPENSE</i>	is advertising expense scaled by beginning assets in year $t$ ( $XAD/AT$ )
<i>R&amp;D EXPENSE</i>	is research and development expense scaled by beginning assets in year $t$ ( $XRD/AT$ )
<i>CHANGE IN NOL CARRYFORWARD</i>	is the change in the tax loss carry-forward from year $t-1$ to year $t$ scaled by beginning assets in year $t$ ( $\Delta TLCF/AT$ )
<i>NOL CARRYFORWARD at BEG OF YEAR</i>	is an indicator variable = 1 if firm $i$ reports a tax loss carry-forward at the beginning of year $t$ , 0 otherwise.

The control variables included in the model capture time-varying firm characteristics that may affect the repatriation decision. We include *PRETAX FOREIGN INCOME* for two reasons. First, if a firm has foreign earnings, it is likely to designate at least some of those earnings as indefinitely reinvested. Thus, when *PRETAX FOREIGN INCOME* is positive, firms are less likely to report a decrease in indefinitely reinvested earnings. Second, *PRETAX FOREIGN INCOME* acts as a proxy for the scope of foreign operations, which may be correlated with the repatriation decision. We control for the firm's need to access internal cash to finance capital investment by including *CAPITAL EXPENDITURES* and *PROPERTY PLANT & EQUIP*. We control for the firm's need for access to foreign earnings to meet creditor's demands by including *LONG TERM DEBT*. We include *ADVERTISING EXPENSE* to control for the firm's sensitivity to public opinion, which may affect repatriation behavior. We include *R&D EXPENSE* as a proxy for a firm's intangibility; more intangible firms may be able to shift income more easily for tax purpose, which could affect the need to repatriate foreign earnings. We include

*NOL CARRYFORWARD at BEG OF YEAR* because firms with net operating losses at the beginning of the year may have different repatriation incentives and opportunities.

#### *4.1 Empirical identification of a trade-off*

The empirical identification of a book-tax trade-off has been a topic of debate in the literature. Shackelford and Shevlin (2001) argue that an interaction of the tax variable and the non-tax variable is necessary to support inferences about a trade-off between the two. In contrast, Maydew (2001) suggests that the existence of interaction effects is not a necessary condition for identifying trade-offs as the existence of a trade-off depends on whether nature requires the firm to sacrifice tax benefit in order to have financial reporting benefit, or vice versa.

To attempt to settle the debate, Burks, Randolph, and Seida (2015) use empirical simulations to identify precisely what is captured by the interaction term and whether it is necessary to identify a trade-off. The authors conclude that Maydew (2001) is correct: an interaction term is not necessary to identify a tradeoff. The interaction term is necessary if one wishes to determine whether the tradeoff varies systematically across firms. Following Burks, Randolph, and Seida (2015), we test our hypothesis that firms trade off cash tax savings and financial reporting benefit using Equation (1), i.e., excluding an interaction term.

#### *4.2 Data*

In Table 1, we report the selection criteria used to generate our sample. We begin by selecting all U.S.-incorporated, non-utilities, non-financial firms in the Audit Analytics database with at least two consecutive years of non-missing Indefinitely Reinvested Foreign Earnings (IRFE). After merging with Compustat, we drop observations with missing values of pretax domestic earnings (PIDOM), pretax foreign earnings (PIFO), net property plant and equipment

(PPENT), or lagged total assets (AT). We also drop observations prior to 2008 as data coverage is very sparse in Audit Analytics prior to 2007.<sup>12</sup>

Table 2, Panel A reports descriptive statistics for our sample. 23% of firm-years have a reduction in IRFE (*REPATRIATE* = 1) and 30% of firm-years have a domestic loss (*US LOSS* = 1), indicating that there is sufficient variation in both our independent and dependent variables. The mean of *LOG ANALYSTS* is 1.571, which translates to about 3.8 analysts. About 25% of the sample is not followed by any analysts. The univariate statistics for the remaining control variables are generally in line with prior research

Table 2, Panel B reports the Spearman (below the diagonal) and Pearson correlations between the variables used in our tests. The correlation between *REPATRIATE* and *US LOSS* is positive and significant, while the correlations between *REPATRIATE* and our financial reporting incentive variables (*LOG ANALYSTS*) are negative and significant. These correlations suggest that firms are more likely to repatriate funds during domestic loss years and less likely to repatriate when they face financial reporting pressures. However, multivariate regression is necessary to disentangle their effects and confirm that other factors do not drive the correlations.

## 5. Results

### 5.1 Tests of hypotheses

Hypothesis 1 predicts that having a domestic loss increases the likelihood of repatriation. We begin our analysis by plotting the change in IFRE for firms with and without US losses in Figure 4. The plot shows that domestic loss firms are more likely to have negative changes in

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<sup>12</sup> Because we require the first difference of IFRE, the first available year is 2008. The last year is 2015 because that was the last year of data available when we initiated the study.

IRFE than other firms, consistent with our hypothesis. Results of estimating Equation (1) on our sample are reported in Table 3. Model 1 reports the results of regressing *REPATRIATE* on *US LOSS* with no control variables. The estimate of the coefficient on *US LOSS* is 0.135 ( $p < 0.01$ ), indicating that, consistent with our hypothesis, the average firm is 13.5% more likely to repatriate in a year with a domestic loss .

Model 2 reports results with *LOG ANALYSTS* as the sole explanatory variable. Consistent with prior research showing that financial reporting incentives reduce repatriations, the estimate of the coefficient on *LOG ANALYSTS* is negative and significant. A one standard deviation change in *LOG ANALYSTS* reduces the probability of repatriation by about 3%.

To test Hypothesis 2, that firms trade cash tax savings for financial reporting benefits, we include both variables in the model. The estimate of the coefficient on *US LOSS* remains positive and significant, and the estimate of the coefficient on *LOG ANALYSTS* remains negative and significant, consistent with our hypothesis. The economic magnitudes remain roughly the same in the third model as compared to the first two models.

In Model 4 we add the control variables to the model. The coefficient on *US LOSS* remains positive and significant (0.122 ,  $p < 0.01$ ) and the coefficient on *LOG ANALYSTS* remains negative and significant (-0.018,  $p < 0.01$ ). Following Burks, Randolph, and Seida (2015), we interpret the fact that both coefficients remain significant as evidence that firms trade off the two effects in deciding whether to repatriate.

Among the control variables, *PRETAX FOREIGN INCOME*, *R&D EXPENSE*, and *CHANGE IN NOL CARRYFORWARD* are all negatively associated with repatriations and statistically significant ( $p < 0.01$ ). Intuitively, these coefficients make sense. Greater foreign

income relative to assets will increase IRFE as long as some portion of foreign earnings is indefinitely reinvested, *ceteris paribus*. Thus, an increase in this variable implies a lower chance of detecting a negative change. Similarly, as *R&D EXPENSE* is a proxy for intangibility of assets, we expect that firms with greater concentrations of intangible assets to facilitate shifting income out of the U.S. leave more earnings abroad.

In Model 5 we add industry fixed effects to control for any systematic differences in repatriation behavior across industries. The coefficients on our variables of interest (0.117 for *US LOSS*, -0.015 for *LOG ANALYSTS*) remain statistically significant ( $p < 0.01$ ) and of the hypothesized sign.

## **6. Additional tests**

The primary tests reported in Table 3 are estimated using a linear probability model. Because the dependent variable is dichotomous, we repeat the analysis using a logistic model to ensure that our results are not sensitive to econometric choices. Results are presented in Table 4 are consistent with those in Table 3. The variables of interest, *USLOSS* and *LOG ANALYSTS*, are strongly positive and negative, respectively, supporting the inference that both are important determinants of the decision to repatriate foreign earnings.

In Table 5, we return to a linear probability model and augment the interaction of tax and financial incentives, *USLOSS \* LOG ANALYSTS*. If the tradeoff between financial accounting incentives and tax incentives becomes more binding as the two variables move in opposition to one another, we expect to find a negative coefficient on the interaction. In the last model, when all controls are included in the model, we find marginal significance on the interaction term *USLOSS \* LOG ANALYSTS*. This suggests that financial reporting incentives are marginally

more salient when firms have a U.S. loss. An alternative interpretation is that when financial reporting incentives are stronger, the effect of tax incentives on the propensity to repatriate is less salient. That is, the tradeoff is marginally more binding in the subsample of firms with stronger financial statement incentives.

In unreported results, we replace industry fixed effects with firm fixed effects. The magnitude of the coefficient on *USLOSS* decreases to 0.065, but the effect is still statistically significant at the 1% level of confidence. The coefficient on *LOG ANALYSTS* is -0.012, but statistically insignificant. This is not unexpected given that analyst coverage is a relatively static firm characteristic. Indeed, the underlying construct, financial reporting pressure, is also likewise to be a relatively static characteristic. Hence, we interpret these findings as consistent with our earlier results.

## **7. Conclusion**

The aggregate balance of indefinitely reinvested foreign earnings grew substantially from 2008 to 2015. Despite this growth, over \$100 billion was repatriated by our sample firms during this same period as firms sought to use the internal capital generated by foreign earnings for domestic purposes. Controlling for factors expected either to determine repatriations or to confound our measurement of them, we find that firms with U.S. losses are approximately 40 percent more likely to repatriate foreign earnings, and that firms trade off the access to foreign capital gained by repatriating in the year of a U.S. loss with the financial statement incentive not to repatriate. Our results show that firms strategically time their repatriations to take advantage of favorable tax situations, but are more reluctant to do so when they face strong financial reporting burdens.

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## Appendix A – Cash Tax Benefit of Repatriation

This appendix calculates the cash tax effects of repatriating and not repatriating in the year of a domestic loss.

We assume:

1. The firm requires  $\$X$  in the U.S. in year 0.
2. The firm has a U.S. loss of  $\$L$  in year 0 and is unable to carry the loss back.
3. The firm has  $\$F$  of indefinitely reinvested foreign earnings in year 0.
4. The firm earns  $\$D$  in domestic U.S. income in year  $k$ .
5. The foreign tax rate is 0% for all years.
6. The domestic tax rate,  $\tau > 0$ , is constant across years.
7. Earnings invested and earn an equivalent pretax rate return,  $R > 0$ .
8. All foreign earnings are repatriated in year  $n$ , where  $n \geq k$ .
9. Domestic earnings or repatriated foreign earnings are invested in the U.S. and returns are taxed annually.

The future value in period  $n$  if the firm repatriates in year 0:

$$(F - (F - L)\tau)(1 + R(1 - \tau))^n + D(1 - \tau)(1 + R(1 - \tau))^{n-k} \quad (1)$$

where the first term is the future value of  $\$F$  and the second term is the future value of  $\$D$ .

The future value in period  $n$  if the firm does not repatriate in year 0, borrows  $\$X$ , carries loss forward and uses it in year  $k$ :

$$(F(1 + R)^n(1 - \tau) + (D - (D - L)\tau)(1 + R(1 - \tau))^{n-k} - (X(1 + R(1 - \tau))^k - X) \quad (2)$$

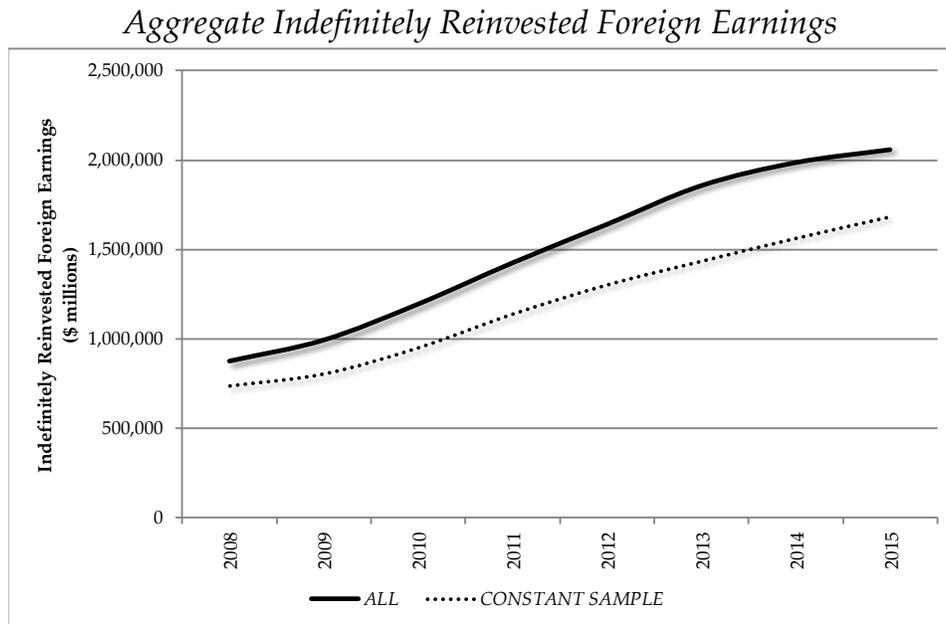
where the first term is the future value of  $\$F$ , the second term is the future value of  $\$D$ , and the third term is the future value of  $\$X$  borrowed in year 0.

Subtracting Eq. (2) from Eq. (1) gives the net benefit of repatriating in year 0 relative to repatriating in year  $n$ . The net benefit is increasing in  $k$  and decreasing in  $n$ .

For example, setting  $F$ ,  $D$ ,  $L$ , and  $X$  equal to 1,  $R = 0.10$ ,  $\tau = 0.35$ ,  $n = 1$ , and  $k = 1$  gives a net benefit of  $\$0.065$ . Changing  $n = 2$  reduces the benefit to  $\$0.039$ .

### Figure 1 – Aggregate IRFE over time

This figure depicts the trend in aggregate reported indefinitely reinvested foreign earnings (Audit Analytics IRFE) in our sample. The trend line for 'ALL' denotes the sum of IRFE for all firms in our sample for each year, while 'CONSTANT SAMPLE' is the sum for only those firms which appear in our sample each of the eight years.



**Figure 2 – Tax and U.S. GAAP treatments of foreign income**

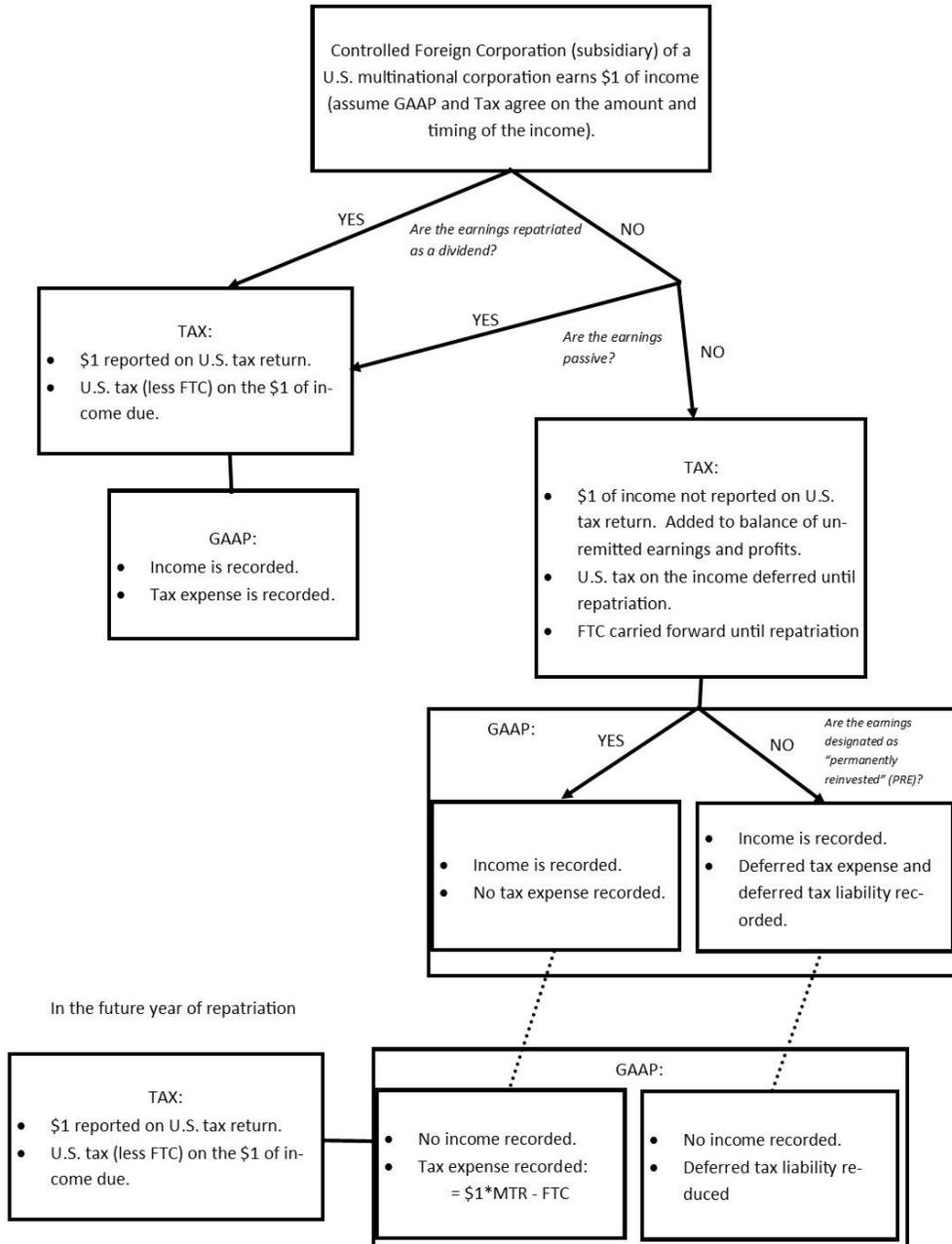
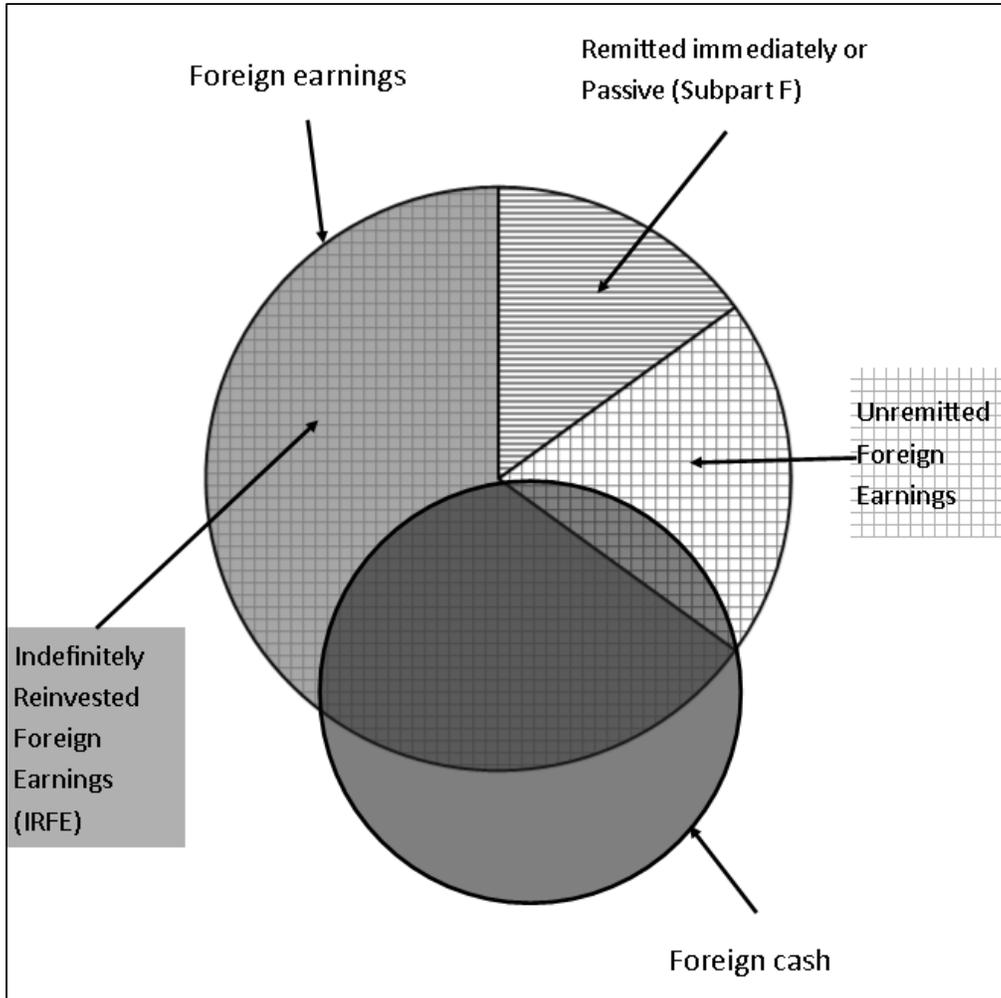


Figure 2 is a flow chart detailing the differences between GAAP and tax treatment of foreign earnings based on the flow of cash and characteristics of the earnings stream (active vs. passive). The key difference is the choice allowed under GAAP when active earnings are not repatriated.

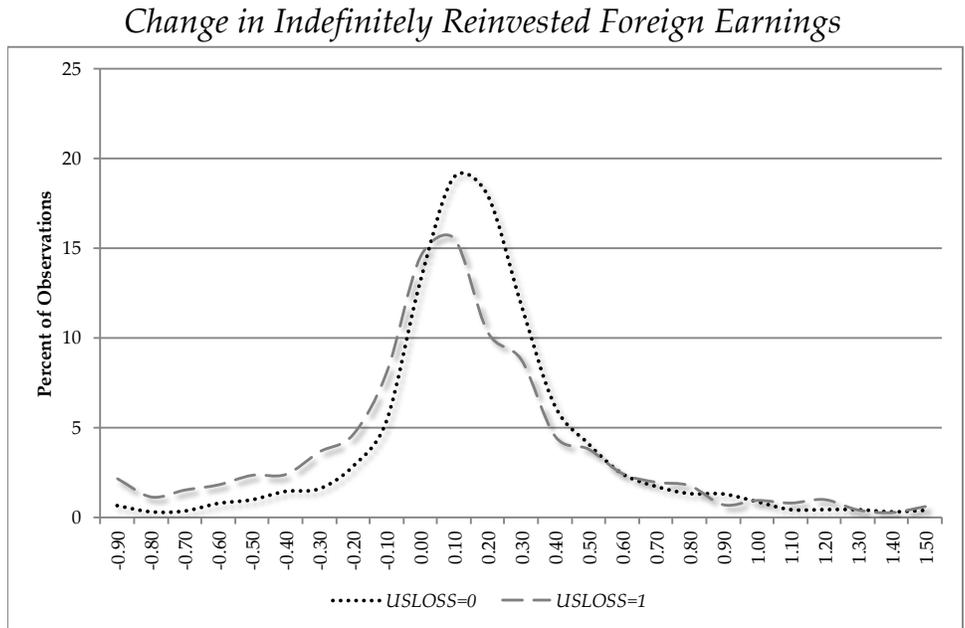
### Figure 3 – Foreign earnings of U.S. multinational corporations

This figure depicts the breakdown of the foreign earnings of a typical U.S. multinational corporation. Unremitted Foreign Earnings are the tax-basis foreign earnings that have not yet been reported as taxable income on the tax return of the U.S. parent. Indefinitely Reinvested Foreign Earnings (IRFE) are the unremitted foreign earnings that have been designated, for financial accounting (GAAP) purposes as indefinitely reinvested in foreign jurisdictions. IRFE have been recorded as income on the U.S. parent's financial statements, but no tax expense and corresponding liability related to the U.S. tax that will be payable on repatriation has been recorded. For simplicity, the diagram assumes no differences in the definitions of earnings under tax laws and accounting principles (i.e., book-tax conformity). The diagram is not intended to reflect relative differences in scale.



### Figure 4 – Distributions of change in IRFE

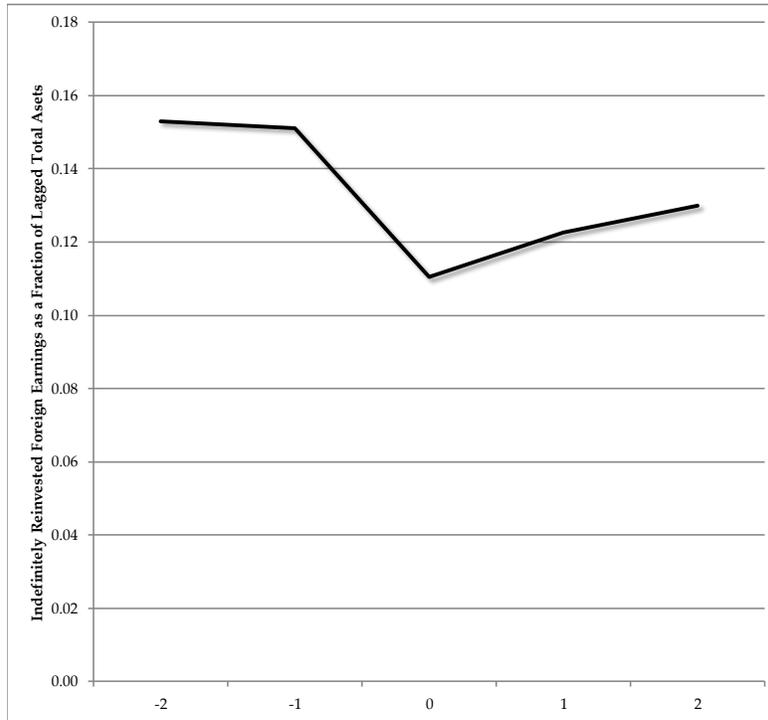
This figure compares the distributions of changes in IFRE for firm-years without a domestic loss to firm-years with a domestic loss. The percentage of firm-years with negative changes in IFRE is clearly greater for the domestic loss subsample than for the non-loss subsample.



### Figure 5 – Mean IRFE around repatriation

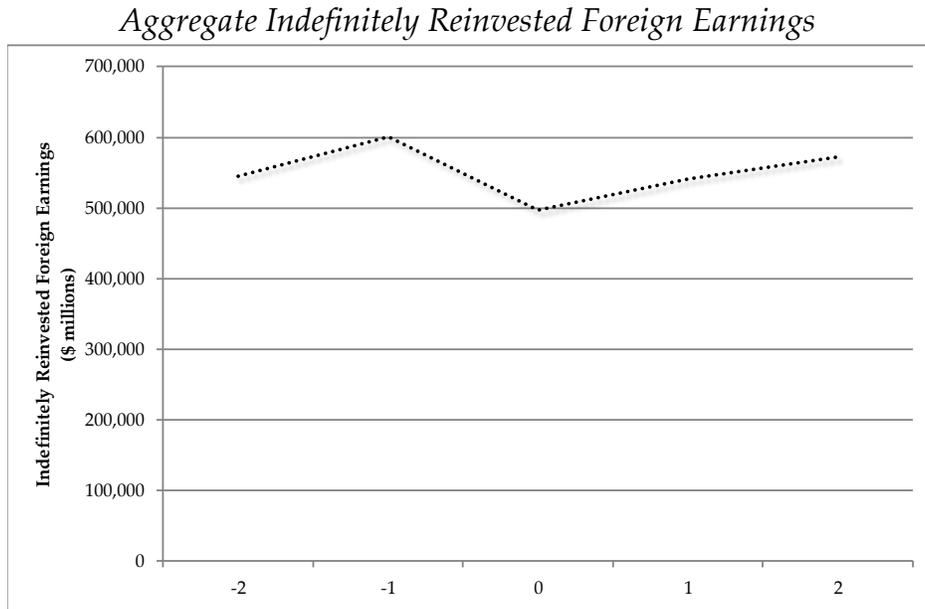
This figure shows the average changes in IRFE for firm-years around the event of repatriation, which we define as a negative change in IRFE. The trend for the two years before the event is fairly stable, and the event year is a sharp decrease by definition. Firms, on average, start increasing IRFE following the repatriation event.

*Mean Indefinitely Reinvested Foreign Earnings Scaled by Lagged Assets*



### Figure 6 – Aggregate IRFE around repatriation

This figure shows the aggregate changes in IRFE for firm-years around the event of repatriation, which we define as a negative change in IRFE. The aggregate trend is upward in the years surrounding the repatriation event, even in this subsample of firms that have chosen to repatriate. This demonstrates that, at the aggregate level, repatriations are transitory in nature, and that the firms in our sample have repatriated approximately \$100 billion dollars that had been previously designated IRFE.



### Table 1 – Sample selection

Our sample starts with firm-years from Audit Analytics from 2006-2015 with non-missing values of indefinitely reinvested foreign earnings (IFRE). We extract financial statement data from Compustat for these firms, dropping utility firms, financial firms, and non-U.S. firms. As our tests require domestic pretax income, foreign pretax income, property, plant, and equipment, and lagged assets, we drop all observations missing these items. Finally, 2006 has a small number of observations with IRFE, limiting our ability to assess changes in IRFE in 2007. We therefore restrict the sample to observations beginning in 2008.

<b>Criteria</b>	<b>N Firms</b>	<b>N Obs</b>
Observations from U.S. incorporated firms operating in industries other than utilities and financials with non-missing values of <i>IRFE</i> and <i>IRFE_lag1</i> .		7,499
Drop observations with missing values of <i>PIDOM</i> , <i>PIFO</i> , <i>PPENT</i> , and lagged <i>AT</i> .		7,006
Drop observations from years prior to 2008		6,978

## Table 2 – Sample description

The table reports descriptive statistics and correlations for our sample of firms. All continuous variables are winsorized at 1% and 99%. Panel A reports descriptive statistics. *REPATRIATION* is an indicator variable = 1 if firm *i* reports a reduction in the indefinitely reinvested foreign earnings (IRFE from Audit Analytics) in year *t*, 0 otherwise. *USLOSS* is an indicator variable = 1 if firm *i* reports a U.S. loss in year *t*, 0 otherwise, *LOG ANALYSTS* is the natural log of [1 + the number of analysts following firm *i* in year *t*] ( $\ln\{1+\text{NUMEST}\}$ ), *PRETAX FOREIGN INCOME* is pretax foreign income scaled by beginning assets in year *t* ( $\text{PIFO}/\text{AT}$ ), *CAPITAL EXPENDITURES* is capital expenditures scaled by beginning assets in year *t* ( $\text{CAPX}/\text{AT}$ ), *LONG TERM DEBT* is long-term debt scaled by beginning assets in year *t* ( $\{\text{DLTT}+\text{DLC}\}/\text{AT}$ ), *PROPERTY PLANT AND EQUIP* is net property, plant, and equipment scaled by beginning assets in year *t* ( $\text{PPENT}/\text{AT}$ ), *ADVERTISING EXPENSE* is advertising expense scaled by beginning assets in year *t* ( $\text{XAD}/\text{AT}$ ), *R&D EXPENSE* is research and development expense scaled by beginning assets in year *t* ( $\text{XRD}/\text{AT}$ ), *CHANGE IN NOL CARRYFORWARD* is the change in the tax loss carry-forward from year *t-1* to year *t* scaled by beginning assets in year *t* ( $\Delta\text{TLCF}/\text{AT}$ ), and *NOL CARRYFORWARD at BEG OF YEAR* is an indicator variable = 1 if firm *i* reports a tax loss carry-forward at the beginning of year *t*, 0 otherwise. IRFE is retrieved from Audit Analytics, NUMEST is retrieved from I/B/E/S, and the remainder of the variables are from Compustat.

### Panel A – Descriptive statistics

Variable	N	Mean	Std	P1	P25	P50	P75	P99
<i>REPATRIATION</i>	6,978	0.228	0.419	0.000	0.000	0.000	0.000	1.000
<i>US LOSS</i>	6,978	0.296	0.456	0.000	0.000	0.000	1.000	1.000
<i>LOG ANALYSTS</i>	6,978	1.571	1.170	0.000	0.000	1.792	2.565	3.526
<i>PRETAX FOREIGN INCOME</i>	6,978	0.034	0.051	- 0.105	0.005	0.024	0.056	0.224
<i>CAPITAL EXPENDITURES</i>	6,978	0.042	0.038	0.003	0.017	0.030	0.051	0.220
<i>LONG TERM DEBT</i>	6,978	0.225	0.205	0.000	0.046	0.195	0.332	0.972
<i>PROPERTY PLANT &amp; EQUIP</i>	6,978	0.208	0.180	0.015	0.082	0.152	0.271	0.867
<i>ADVERTISING EXPENSE</i>	6,978	0.012	0.030	0.000	0.000	0.000	0.008	0.184
<i>R&amp;D EXPENSE</i>	6,978	0.044	0.063	0.000	0.000	0.016	0.067	0.305
<i>CHANGE IN NOL CARRYFORWARD</i>	6,978	0.013	0.078	- 0.210	- 0.002	0.000	0.007	0.476
<i>NOL CARRYFORWARD at BEG OF YEAR</i>	6,978	0.639	0.480	0.000	0.000	1.000	1.000	1.000

**Table 2 – Sample description (continued)***Panel B – Correlations*

	1	2	3	4	5	6	7	8	9	10	11	12
1 REPATRIATION		0.15*	-0.04*	-0.08*	-0.23*	-0.04*	0.01	0.00	-0.02	-0.03*	0.01	-0.00
2 US LOSS	0.15*		0.02	-0.08*	-0.13*	-0.05*	0.02	-0.03*	-0.06*	0.20*	0.23*	0.02
3 FOLLOWED BY ANALYST	-0.04*	0.02		0.85*	-0.01	0.00	-0.09*	-0.08*	0.00	0.16*	0.02	0.07*
4 LOG ANALYSTS	-0.09*	-0.10*	0.79*		0.07*	0.05*	-0.03*	-0.04*	0.04*	0.15*	0.01	0.07*
5 PRETAX FOREIGN INCOME	-0.27*	-0.16*	-0.02	0.08*		0.11*	-0.05*	0.05*	0.10*	-0.00	-0.11*	-0.03*
6 CAPITAL EXPENDITURES	-0.05*	-0.09*	0.01	0.07*	0.12*		0.09*	0.72*	0.01	-0.11*	0.00	-0.04*
7 LONG TERM DEBT	0.01	-0.01	-0.11*	-0.02	-0.03*	0.09*		0.26*	0.04*	-0.25*	0.04*	0.04*
8 PROPERTY PLANT & EQUIP	0.01	-0.07*	-0.10*	-0.06*	0.05*	0.73*	0.27*		-0.08*	-0.29*	-0.02	-0.06*
9 ADVERTISING EXPENSE	-0.03*	-0.04*	0.00	0.05*	0.00	-0.03*	0.00	-0.12*		-0.06*	-0.01	-0.01
10 R&D EXPENSE	-0.04*	0.14*	0.09*	0.08*	0.08*	-0.13*	-0.27*	-0.30*	0.04*		0.17*	0.05*
11 CHANGE IN NOL CARRYFORWARD	0.01	0.20*	-0.00	-0.01	-0.11*	-0.01	0.03*	0.01	0.02	0.01		0.02
12 NOL CARRYFORWARD at BEG OF YEAR	-0.00	0.02	0.07*	0.07*	-0.01	-0.03*	0.05*	-0.07*	-0.01	0.05*	-0.02	

Table 3 – Determinants of repatriation

The table reports the results of our estimation of various linear probability models of the choice to repatriate. Models (1) and (2) are univariate regressions of our variables of interest, *USLOSS* and *LOG ANALYSTS*. Model (3) examines them jointly, and Model (4) adds control variables. Model (5) adds industry fixed effects.

*REPATRIATION*, the dependent variable in all models, is an indicator variable = 1 if firm *i* reports a reduction in the indefinitely reinvested foreign earnings (IRFE from Audit Analytics) in year *t*, 0 otherwise. *USLOSS* is an indicator variable = 1 if firm *i* reports a U.S. loss in year *t*, 0 otherwise, *LOG ANALYSTS* is the natural log of [1 + the number of analysts following firm *i* in year *t*] ( $\ln\{1+\text{NUMEST}\}$ ), *PRETAX FOREIGN INCOME* is pretax foreign income scaled by beginning assets in year *t* (*PIFO/AT*), *CAPITAL EXPENDITURES* is capital expenditures scaled by beginning assets in year *t* (*CAPX/AT*), *LONG TERM DEBT* is long-term debt scaled by beginning assets in year *t* ( $\{\text{DLTT}+\text{DLC}\}/\text{AT}$ ), *PROPERTY PLANT AND EQUIP* is net property, plant, and equipment scaled by beginning assets in year *t* (*PPENT/AT*), *ADVERTISING EXPENSE* is advertising expense scaled by beginning assets in year *t* (*XAD/AT*), *R&D EXPENSE* is research and development expense scaled by beginning assets in year *t* (*XRD/AT*), *CHANGE IN NOL CARRYFORWARD* is the change in the tax loss carry-forward from year *t-1* to year *t* scaled by beginning assets in year *t* ( $\Delta\text{TLCF}/\text{AT}$ ), and *NOL CARRYFORWARD at BEG OF YEAR* is an indicator variable = 1 if firm *i* reports a tax loss carry-forward at the beginning of year *t*, 0 otherwise. IRFE is retrieved from Audit Analytics, NUMEST is retrieved from I/B/E/S, and the remainder of the variables are from Compustat.

\*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% levels, respectively, using standard errors clustered at the firm level.

	(1)	(2)	(3)	(4)	(5)
<i>INTERCEPT</i>	0.188*** (27.91)	0.275*** (24.95)	0.230*** (20.66)	0.303*** (17.76)	0.174*** (7.04)
<i>USLOSS</i>	0.135*** (10.33)		0.130*** (9.97)	0.122*** (9.45)	0.117*** (8.98)
<i>LOG ANALYSTS</i>		-0.030*** (-5.77)	-0.026*** (-5.15)	-0.018*** (-3.75)	-0.015*** (-3.09)
<i>PRETAX FOREIGN INCOME</i>				-1.775*** (-16.31)	-1.833*** (-16.25)
<i>CAPITAL EXPENDITURES</i>				-0.313 (-1.56)	-0.332 (-1.64)
<i>LONG TERM DEBT</i>				-0.031 (-1.07)	-0.029 (-1.00)
<i>PROPERTY PLANT &amp; EQUIP</i>				0.066 (1.31)	0.023 (0.43)
<i>ADVERTISING EXPENSE</i>				0.127 (0.68)	0.121 (0.62)
<i>R&amp;D EXPENSE</i>				-0.270*** (-2.73)	-0.257** (-2.18)
<i>CHANGE IN NOL CARRYFORWARD</i>				-0.211*** (-2.79)	-0.206*** (-2.73)
<i>NOL CARRYFORWARD at BEG OF YEAR</i>				-0.004 (-0.31)	-0.003 (-0.29)
<i>INDUSTRY FIXED EFFECTS</i>	NO	NO	NO	NO	YES
N	6,978	6,978	6,978	6,978	6,978
ADJRSQ	0.022	0.007	0.027	0.074	0.080

Table 4 – Determinants of repatriation using LOGIT model.

The table reports the results of our estimation of various logit models of the choice to repatriate.

*REPATRIATION*, the dependent variable in all models, is an indicator variable = 1 if firm *i* reports a reduction in the indefinitely reinvested foreign earnings (IRFE from Audit Analytics) in year *t*, 0 otherwise. *USLOSS* is an indicator variable = 1 if firm *i* reports a U.S. loss in year *t*, 0 otherwise, *LOG ANALYSTS* is the natural log of [1 + the number of analysts following firm *i* in year *t*] (ln{1+NUMEST}), *PRETAX FOREIGN INCOME* is pretax foreign income scaled by beginning assets in year *t* (PIFO/AT), *CAPITAL EXPENDITURES* is capital expenditures scaled by beginning assets in year *t* (CAPX/AT), *LONG TERM DEBT* is long-term debt scaled by beginning assets in year *t* ((DLTT+DLC)/AT), *PROPERTY PLANT AND EQUIP* is net property, plant, and equipment scaled by beginning assets in year *t* (PPENT/AT), *ADVERTISING EXPENSE* is advertising expense scaled by beginning assets in year *t* (XAD/AT), *R&D EXPENSE* is research and development expense scaled by beginning assets in year *t* (XRD/AT), *CHANGE IN NOL CARRYFORWARD* is the change in the tax loss carry-forward from year *t-1* to year *t* scaled by beginning assets in year *t* ( $\Delta$ TLCF/AT), and *NOL CARRYFORWARD at BEG OF YEAR* is an indicator variable = 1 if firm *i* reports a tax loss carry-forward at the beginning of year *t*, 0 otherwise. IRFE is retrieved from Audit Analytics, NUMEST is retrieved from I/B/E/S, and the remainder of the variables are from Compustat.

\*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% levels, respectively, using standard errors clustered at the firm level.

<i>INTERCEPT</i>	-1.464*** (1,101.67)	-1.225*** (384.39)	-0.776*** (58.64)	-0.697*** (36.22)	
<i>USLOSS</i>		0.699*** (109.70)	0.638*** (82.06)	0.604*** (70.50)	
<i>LOG ANALYSTS</i>	-0.171*** (33.67)	-0.153*** (26.90)	-0.117*** (15.38)	-0.100*** (10.77)	
<i>PRETAX FOREIGN INCOME</i>			-13.083*** (179.64)	-13.471*** (180.19)	
<i>CAPITALEXPENDITURES</i>			-1.944 (2.53)	-2.070* (2.71)	
<i>LONG TERM DEBT</i>			-0.184 (1.07)	-0.180 (1.02)	
<i>PROPERTY PLANT &amp; EQUIP</i>			0.353 (1.51)	0.092 (0.08)	
<i>ADVERTISING EXPENSE</i>			0.505 (0.15)	0.466 (0.13)	
<i>R&amp;D EXPENSE</i>			-2.044*** (10.20)	-1.904** (6.02)	
<i>CHANGE IN NOL CARRYFORWARD</i>			-1.338*** (8.30)	-1.340*** (8.15)	
<i>NOL CARRYFORWARD at BEG OF YEAR</i>			0.002 (0.00)	-0.002 (0.00)	
<i>INDUSTRY FIXED EFFECTS</i>	NO	NO	NO	NO	YES
N	6,978	6,978	6,978	6,978	6,978
AREA Under ROC	0.580	0.560	0.609	0.694	0.704
PSUEDO RSQ	0.031	0.011	0.039	0.121	0.133

**Table 5 – Repatriations and the interactive effects of tax and financial reporting incentives.**

The table reports the results of our estimation of various linear probability models of the choice to repatriate. Models (1) and (2) are univariate regressions of our variables of interest, *USLOSS* and *LOG ANALYSTS*. Model (3) examines them jointly, and Model (4) adds control variables. Model (5) adds industry fixed effects.

*REPATRIATION*, the dependent variable in all models, is an indicator variable = 1 if firm *i* reports a reduction in the indefinitely reinvested foreign earnings (IRFE from Audit Analytics) in year *t*, 0 otherwise. *USLOSS* is an indicator variable = 1 if firm *i* reports a U.S. loss in year *t*, 0 otherwise, *LOG ANALYSTS* is the natural log of [1 + the number of analysts following firm *i* in year *t*] ( $\ln\{1+\text{NUMEST}\}$ ), *PRETAX FOREIGN INCOME* is pretax foreign income scaled by beginning assets in year *t* (*PIFO/AT*), *CAPITAL EXPENDITURES* is capital expenditures scaled by beginning assets in year *t* (*CAPX/AT*), *LONG TERM DEBT* is long-term debt scaled by beginning assets in year *t* ( $\{\text{DLTT}+\text{DLC}\}/\text{AT}$ ), *PROPERTY PLANT AND EQUIP* is net property, plant, and equipment scaled by beginning assets in year *t* (*PPENT/AT*), *ADVERTISING EXPENSE* is advertising expense scaled by beginning assets in year *t* (*XAD/AT*), *R&D EXPENSE* is research and development expense scaled by beginning assets in year *t* (*XRD/AT*), *CHANGE IN NOL CARRYFORWARD* is the change in the tax loss carry-forward from year *t-1* to year *t* scaled by beginning assets in year *t* ( $\Delta\text{TLCF}/\text{AT}$ ), and *NOL CARRYFORWARD at BEG OF YEAR* is an indicator variable = 1 if firm *i* reports a tax loss carry-forward at the beginning of year *t*, 0 otherwise. IRFE is retrieved from Audit Analytics, NUMEST is retrieved from I/B/E/S, and the remainder of the variables are from Compustat.

<i>INTERCEPT</i>	0.188*** (27.91)	0.275*** (24.95)	0.223*** (19.11)	0.295*** (16.86)	0.165*** (6.63)
<i>USLOSS</i>	0.135*** (10.33)		0.155*** (6.72)	0.146*** (6.68)	0.144*** (6.66)
<i>LOG ANALYSTS</i>		-0.030*** (-5.77)	-0.022*** (-4.07)	-0.014*** (-2.73)	-0.010** (-2.01)
<i>USLOSS*LOG ANALYSTS</i>				-0.016 (-1.46)	-0.019* (-1.72)
<i>PRETAX FOREIGN INCOME</i>				-1.778*** (-16.34)	-1.838*** (-16.30)
<i>CAPITAL EXPENDITURES</i>				-0.304 (-1.51)	-0.323 (-1.60)
<i>LONG TERM DEBT</i>				-0.032 (-1.10)	-0.030 (-1.03)
<i>PROPERTY PLANT &amp; EQUIP</i>				0.068 (1.36)	0.026 (0.48)
<i>ADVERTISING EXPENSE</i>				0.128 (0.68)	0.125 (0.64)
<i>R&amp;D EXPENSE</i>				-0.260*** (-2.61)	-0.245** (-2.07)
<i>CHANGE IN NOL CARRYFORWARD</i>				-0.207*** (-2.73)	-0.202*** (-2.67)
<i>NOL CARRYFORWARD at BEG OF YEAR</i>				-0.003 (-0.25)	-0.003 (-0.23)
<i>INDUSTRY FIXED EFFECTS</i>	NO	NO	NO	NO	YES
N	6,978	6,978	6,978	6,978	6,978
ADJRSQ	0.022	0.007	0.027	0.074	0.081