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# Repatriating Foreign Earnings to Meet Analysts' Forecasts

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## Repatriating Foreign Earnings to Meet Analysts' Forecasts

Andrew Duxbury, PhD

University of Connecticut, 2016

I investigate a strategy through which firms take real actions to reduce tax expense to meet analysts' forecasts. Specifically, I examine high foreign tax repatriations (HTRs) that decrease U.S. tax expense resulting in increased net income and cash flow. HTRs generate these benefits because the associated foreign tax credits (FTCs) exceed the U.S. tax on the repatriation. Using federal tax return information, I find evidence that firms make HTRs to meet or beat analysts' forecasts. I also find evidence that some firms with capacity to claim the FTCs that increase earnings and cash flow choose to defer HTRs, consistent with building cookie jar reserves. Lastly, I find that firms do not disclose HTRs even when required by SEC rules. This study contributes to the earnings management and tax avoidance literatures and to my knowledge is the first study to examine a specific tax planning strategy through which firms engage in earnings management.

Repatriating Foreign Earnings to Meet Analysts' Forecasts

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B.S., University of Rhode Island, 1986

M.S., Bryant University, 1991

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APPROVAL PAGE

Doctor of Philosophy Dissertation

Repatriating Foreign Earnings to Meet Analysts' Forecasts

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## 1. Introduction

Prior research provides evidence consistent with managers using income tax accruals to meet or beat analysts' forecasts (e.g., Krull 2004; Frank and Rego 2006; Dhaliwal, Gleason, and Mills 2004). Less examined are real tax planning strategies that reduce income tax expense to meet earnings targets. For example, Cook, Huston and Omer (2008) find that tax planning explains at least part of the tax rate reduction that Dhaliwal et al. (2004) attribute to accruals earnings management, but Cook et al. (2008) are unable to examine specific tax planning strategies. Blouin, Krull, and Robinson (2012) find evidence that public firms delay repatriations and the related tax expense when compared to private firms. I extend this literature by investigating a specific tax-planning action using high foreign tax repatriations (HTRs).

Typically when foreign earnings are repatriated, the U.S. parent pays U.S. tax on the repatriated amount. The parent's U.S. tax on the repatriated earnings is reduced, but not below zero, by a foreign tax credit (FTC) equal to the foreign taxes previously paid on the repatriated earnings. In the case of an HTR, however, the FTC exceeds the U.S. tax on the repatriated earnings, reducing U.S. tax on other foreign source taxable income.<sup>1</sup> Thus, if the U.S. parent has the capacity to use these FTCs currently, HTRs will reduce reported tax expense and cash tax payments.

Using federal tax return information,<sup>2</sup> I first investigate whether U.S. multinational corporations (MNCs) use HTRs to meet or beat analysts' forecasts. Second, I examine whether

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<sup>1</sup> Foreign source income can include income not subject to foreign tax and only subject to U.S. tax. That is, the income is earned directly by the U.S. entity. Thus, HTRs can reduce U.S. tax on certain U.S. income to zero at management's discretion. See Section 3.1 for additional discussion.

<sup>2</sup> This analysis using tax return data was a component of research conducted for the Internal Revenue Service's Office of Research under contract TIRNO-14-P-00194.

firms defer HTRs when they meet or beat analysts' forecasts and when reported income is farther away from analysts' forecasts. Thus, I examine whether firms forego current cash flows by delaying HTRs, creating a "cookie jar" reserve. Finally, I examine whether firms avoid disclosing HTRs in the income tax footnote to decrease detection risk.

In their review of accounting for income taxes, Graham, Raedy, and Shackelford (2012) note that evidence of earnings management through the tax accounts is scant. Nearly all studies they reference relate to accrual, not real, earnings management. They suggest that SOX and FIN 48 limit the ability to manage earnings through the tax accounts. If SOX and FIN 48 do in fact limit accrual earnings management, then managers will likely look for real actions they can take to reach earnings targets.<sup>3</sup> This research is a step in answering their call for research regarding what methods firms use to reduce tax expense.

While there have been several studies that examine earnings management through the income tax accounts, to my knowledge, this study is the first to examine a specific tax planning strategy that firms can employ to achieve an earnings target. More importantly, the unique data used in this study allows me to quantify the earnings increase that the firm chose not to recognize in the current period. Because making HTRs is discretionary, firms can make HTRs in the current period or alternatively defer HTRs to future periods when an earnings increase is needed, making HTRs a powerful earnings management technique.

Because the U.S. has the highest corporate tax rate of OECD member countries,<sup>4</sup> HTRs do not often occur naturally. Instead, the firm exploits differences in tax laws between the U.S.

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<sup>3</sup> Studies generally find that SOX and FIN 48 limit accruals earnings management. Cohen et. al (2008) finds that real earnings management increases and accruals earnings management decreases after SOX, while Gupta, Laux, and Lynch (2015) find that FIN 48 limited managers' ability to manage tax expense through tax reserves.

<sup>4</sup> Organisation for Economic Co-operation and Development (OECD) found at <http://stats.oecd.org/Index.aspx?QueryId=58204> on September 2, 2015.



and foreign country to create high foreign-tax income. These differences, combined with FTCs being calculated on a subsidiary by subsidiary basis, allow MNCs to convert relatively low-tax income into high-tax income. These strategies generally are referred to as FTC splitters.

Splitters are created in one of two ways. First, splitters create high foreign-tax income by separating foreign earnings from the related foreign taxes and accumulating them in different foreign subsidiaries. Foreign subsidiaries with low earnings and high taxes can make HTRs, while other subsidiaries retain high foreign earnings with low taxes. Alternatively, splitters can be achieved by creating an expense, such as amortization, that is only recognized by the foreign subsidiary for U.S. tax purposes. This expense reduces the taxable repatriation, but not foreign tax, and thus can create an HTR.

As an example, suppose a U.S. MNC owns a Canadian subsidiary, OldCo, which has a self-developed customer list worth \$900. In an exchange structured as a non-taxable reorganization for Canadian purposes and a sale for U.S. purposes, NewCo is formed with a contribution of \$900 cash. OldCo then transfers the customer list to NewCo in exchange for \$900. For Canadian purposes, NewCo's customer list basis remains zero; for U.S. purposes however, NewCo's basis is \$900 and is amortized over 15 years. Although OldCo recognizes a gain of \$900, the U.S. tax is deferred because those earnings are not repatriated to avoid U.S. repatriation tax. After a year of operation, NewCo reports \$100 of Canadian pretax income, pays \$30 of Canadian tax, and repatriates \$10, the U.S. after-tax income for the year (\$100-\$60 amortization<sup>5</sup> - \$30 tax). The HTR is grossed up for the Canadian tax, resulting in taxable income of \$40; the U.S. tax is \$14 ( $40 \times 35\%$ ), but the associated FTC includes all \$30 of the

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<sup>5</sup> U.S. tax rules require intangible assets to be amortized over 15 years (IRC Sec. 197). \$900 intangible asset divided by 15 years equals \$60 per year.

foreign tax paid by NewCo and will reduce U.S. tax assuming the U.S. MNC has other foreign taxable income, including U.S. income deemed to be foreign source. The \$10 repatriation results in a net U.S. tax decrease of \$16. This example is illustrated in Appendix A.

Simply making an HTR is not sufficient to claim the tax benefit. The firm must also be able to claim the additional FTCs resulting from the repatriation, which prior studies generally refer to as a non-binding FTC limitation position. In general, FTCs are allowed to offset the U.S. tax on foreign source income included in U.S. taxable income. Foreign source income for U.S. tax purposes is primarily comprised of royalty income from foreign parties, repatriations of foreign earnings, and profit on certain export sales and then reduced by expenses. Thus, having the capacity to claim FTCs is highly dependent on overall profitability. It is important to note that foreign source income includes both income earned abroad and subject to foreign tax (repatriated foreign earnings) and income earned directly by the U.S. company that that is deemed to be earned abroad (e.g. royalties and exports). Put another way, U.S. taxable income is split between domestic and foreign taxable income, and FTCs can be claimed up to the U.S. tax on the foreign taxable income. If the firm has sufficient amounts of foreign income, then HTRs can be used to reduce U.S. tax.

Firms could employ HTRs using one of two basic strategies. The first and most desirable option is to use the additional FTCs from an HTR to offset the U.S. tax on foreign source income earned directly by the U.S. parent. Using this option increases long-term earnings and cash flows because the FTCs offset U.S. tax on income already subject to U.S. tax such as royalty income reducing the net U.S. tax due. Second, firms could cross-credit over different years. That is, instead of employing a traditional cross-crediting strategy where firms mix high and low-tax repatriations annually, firms could cross-credit over different years because FTCs can be carried

back and forward. For example, a firm could make an HTR in year 1 when the additional FTCs had to be carried forward and then make a tax increasing repatriation in year 2 to create foreign source income to use the FTC carryforward. Doing this could enable the firm to record a tax reduction in year 1 and a tax increase in year 2 even if the repatriations had no earnings impact over the two year period.

Several studies proxy for whether a firm can claim additional FTCs based on whether the firm's reported foreign tax rate is lower than the U.S. statutory rate. Howard (2015) examines recent years and finds approximately 90% of all firms have a foreign tax rate lower than the U.S. rate. Using survey data, Graham et al. (2010) report that approximately 50% of all firms report having the ability to claim additional FTCs, a significant difference from than the 90% identified using the foreign tax rate. This study uses federal tax return information to accurately determine whether and to what extent a firm is in a binding or non-binding FTC position both before and after repatriations.

HTRs have several advantages over accruals-based earnings management. First, HTRs increase U.S. cash flow not only by the repatriated funds, but also by the reduced U.S. income tax. Second, HTRs are not accruals that auditors can question. In other words, they provide a more certain earnings increase than accruals.<sup>6</sup> Third, HTRs are discretionary and scalable, allowing managers to choose the earnings increase for the current year, leaving the amount not repatriated in the current year available for future years. Lastly, HTRs are difficult for investors and other stakeholders to detect, not only due to the complexity of tax expense but also because firms can avoid clearly disclosing the reason for the tax expense reduction.

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<sup>6</sup> If the FTCs exceed the U.S. tax on foreign income, FTC carryforwards result and in order to claim an income statement benefit, the firm would need to support that a valuation allowance is not needed. FTCs may also be carried back one year.

Because repatriations are discretionary and generally not required to be disclosed, investors are unlikely to be aware of a firm's repatriations and their tax consequences. The impact of an HTR on reported earnings can be small and difficult to detect, or the impact can be large and result in substantial reductions of U.S. tax.<sup>7</sup>

In 2010, the Education, Jobs and Medicaid Assistance Act (EJMA) was enacted and contained provisions intended to curb perceived abuses involving FTCs including HTRs by creating additional restrictions. These restrictions, effective for years beginning in 2011 immediately affected the more aggressive splitters while some of the less aggressive methods for HTRs can still be used. Several of these less aggressive methods can no longer be initiated after 2010, but if initiated prior to 2011 the resulting benefit may still be realized after 2010.<sup>8</sup> Firms may be more strategic in their use of HTRs after the law change because HTRs can only be generated by a more limited set of methods.

Managers may employ different strategies depending on the projected future prospects of the business. If managers believe they can no longer create HTRs in the future, they will be more judicious in making them. For example, if managers are concerned about using the resulting FTCs, due to lower foreign source income (thus lower profitability), they will be less likely to make HTRs if the resulting FTCs cannot be currently used. On the other hand, if managers are confident about the future prospects of the business, they are more likely to use HTRs to manage earnings. To understand the effect of the law change, I examine HTRs in both the pre-2011 and post-2010 periods.

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<sup>7</sup> In its 2008 Form 10-K tax footnote, Caterpillar disclosed that repatriations of non-U.S. earnings resulted in a \$409 million tax benefit due to FTCs in excess of the tax on the repatriation.

<sup>8</sup> If a firm initiated a transaction similar to the example used in this paper, the resulting amortization creating the HTR would continue through 2025, however this transaction is no longer effective for creating HTRs after 2011.

I find that firms that would otherwise miss analysts' forecasts make HTRs to meet those forecasts. When examining deferred HTRs, I find that firms that meet or beat analysts' forecasts deferred HTRs, consistent with saving them for a future period. In further analysis, I find that firms defer HTRs even when they likely could use the FTC in the current period. I find that, in the period before the law change, firms that miss analysts' forecasts defer HTRs even when they could use the FTC. After the law change, when firms meet or beat analysts' forecasts they defer HTRs when they could use the FTC.

Consistent with the "big bath" theory, firms deferred HTRs when they fell short of analysts' forecasts in the period before the law change. After the law change, managers likely viewed HTRs as more finite, choosing to save HTRs for years earnings might miss analysts' forecasts, even if they could claim the resulting FTCs. These results provide direct evidence of firms building cookie jar reserves when above and below earnings targets.

Finally firms that make HTRs disclose them less frequently compared to firms making tax increasing repatriations. This result is consistent with firms attempting to conceal their earnings management activity.

This study contributes to several streams of literature. First, the study contributes to the earnings management literature in general, and specifically to the real earnings management literature, by showing how income taxes can be used to achieve managerial objectives by using a previously unexamined type of real earnings management. Using tax expense to manage earnings has been analyzed in a number of settings, but nearly all of these examine accruals-based earnings management. These findings provide one possible explanation for the results found in Dhaliwal et al. (2004). In particular, this is the first study to my knowledge that directly documents firms maintaining cookie jar reserves.

Second, I contribute to the tax avoidance literature by illustrating a particular tax planning strategy. In general, the tax avoidance literature assumes that managers avoid repatriations to avoid recording additional U.S. tax. In this study, I show that firms strategically repatriate foreign earnings to lower their tax expense. By doing so, I extend Frank, Lynch, and Rego (2009) who find that financially aggressive firms are also tax aggressive by illustrating a tax technique that enables a firm to accomplish both earnings management and lower its tax rate.

Third, having access to federal tax return data allows me not only to identify HTRs, but also to determine the income tax benefit not claimed – that is high-taxed earnings not repatriated but kept in reserve for a future year. To my knowledge, no previous study has been able to document the earnings (tax benefits) saved for a future period. I am also able to separately examine whether firms do not disclose HTRs to determine if firms attempt to conceal their use of this technique.

## **2. Earnings Management Background**

### **2.1 *General Earnings Management***

It is well established that firms manage earnings using multiple accounts to meet an earnings objective that they would otherwise miss (see Healy and Whalen (1999) for a review). Firms have a menu of opportunities to achieve their earnings goals. Some of these methods involve adjusting accruals while others require the manipulation of real activities. Like any activity, earnings management has costs and benefits; thus not all methods of earnings management are equally desirable, resulting in a pecking order of earnings management techniques based on the firms' profile and risk tolerance.

Accrual earnings management has been studied extensively and generally affects the timing of when or where an item of income is reported. Accruals earnings management may be costly, however, as auditors can question and possibly disallow accruals earnings management.

Real earnings management increased after the Sarbanes-Oxley Act (Cohen, Dey, and Lys 2008), perhaps in response to the increased costs of accrual earnings management. Managers admit to engaging in real earnings management (Graham, Harvey, and Rajgopal 2005) even if real earnings management can affect future profitability (Cohen and Zarowin 2010). There are, however, some real earnings management activities that should not affect future profitability, but only the timing of an item of income or loss. This study examines a real action that affects the timing of income similar to the asset sales examined in Bartov (1993) where managerial discretion is used to determine when and how much income is recognized. This type of discretion is valuable to managers (Shackelford, Slemrod, and Sallee 2011).

## **2.2     *Tax Expense Earnings Management***

Reported income tax expense is a complex calculation that incorporates the results of operations, tax accruals, tax audit results, and tax planning initiatives. Thus, income tax expense meets the requirement in Schipper's (1989) commentary that the earnings manipulation be difficult to detect. Absent adjusting accruals, however, managers have limited opportunities to lower tax expense during the year. A new tax planning strategy could be implemented, but if professional services are used, the related expense has the unwanted effect of reducing operating income, an important compensation metric for some managers.<sup>9</sup> One way to reduce tax expense without decreasing pretax income is to make an HTR.

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<sup>9</sup> While this planning may increase after tax profit (Mills, Erickson and Maydew 1998), Phillips (2003) and Gaertner (2014) document many executives do not have any of their compensation based on an after-tax measure.

The U.S. tax consequences of foreign earnings generally must be accrued as the income is earned. If the manager deems that the earnings are permanently reinvested earnings (PRE), the firm is not required to accrue the U.S. deferred tax on those earnings.<sup>10</sup> If the earnings are not designated as PRE, then the estimated U.S. tax expense is recorded in the current year. However, a firm generally cannot recognize the tax benefit of an HTR in a period prior to making the actual repatriation.<sup>11</sup> Therefore, the manager has the discretion to record the tax consequence of an HTR in the amount and time period desired by scaling and timing the repatriation.

Krull (2004) examines whether firms exploit discretion in recording U.S. tax expense on foreign earnings. She finds that firms use the PRE designation to meet or beat analysts' forecasts. Consistent with these findings, Blouin et al. (2012) find that public company reporting motivates firms to delay repatriations.

In addition to these studies, several tax accruals have been examined. Schrand and Wong (2003) examine the valuation allowance for deferred tax assets using a sample of commercial banks. They find that after a valuation allowance is established, the balance is adjusted to bring unadjusted earnings closer to mean analysts' forecast. This finding contrasts with previous studies (e.g., Miller and Skinner (1998)) that find changes in the valuation allowance have little or no association with earnings targets. Frank and Rego (2006) attempt to reconcile these findings by examining heterogeneous firms over a longer window and find that managers use the valuation allowance account to meet or beat analysts' forecasts.

Several papers investigate using the tax reserve to meet earnings targets. Cazier, Rego, Tian, and Wilson (2015) find that firms that just meet analysts' forecasts have significantly more

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<sup>10</sup> Graham, Hanlon and Shevlin (2011) report that the majority of their survey respondents designate all of their foreign earnings as PRE.

<sup>11</sup> ASC 740-30-25-9 and PwC (2013) state in general that a deferred tax asset for FTCs should only be recognized when realized, e.g. when the repatriation has occurred.



occurrences of decreases in the tax reserve after FIN 48 than firms that just missed the target. Gupta, Laux, and Lynch (2015) find that firms use the tax contingency reserve to manage earnings up to analysts' forecasts before, but not after FIN 48 became effective suggesting that the new standard and disclosure requirement mitigated its use.

In addition to these studies, Dhaliwal et al. (2004) examine tax expense in general and find evidence that firms decrease their effective tax rate to meet the consensus analysts' forecast. Their argument is that tax expense represents a last chance to manage earnings, and thus, any one of the above accruals could be adjusted to meet the target, although they cannot rule out fourth quarter tax planning (such as an HTR) as the reason for the decrease. Cook, Huston and Omer (2008) find evidence consistent with tax planning explaining at least part of the effective tax rate decrease found in Dhaliwal et al. (2004).

Use of tax strategies that increase reported profits is well documented. Robinson (2010) documents that firms are willing to incur costs to enable higher reported pretax income. Robinson, Sikes and Weaver (2010) find that firms that evaluate their tax departments as profit centers have higher tax savings opportunities and lower effective tax rates, suggesting that tax departments implement tax savings strategies. Examining a particular strategy known as "Check the Box," Altshuler and Grubert (2005) estimate U.S. MNCs reduced their annual foreign tax expense by \$7 billion in 2002, while Dunbar and Duxbury (2015) estimate the annual savings to be \$21 billion for the approximately 1,500 firms in their sample.

### **3. U.S. Taxation of Non-U.S. Earnings and Hypothesis Development**

The U.S. employs a worldwide tax system and taxes U.S. corporations on all income no matter where earned. When income is earned outside the U.S. by a non-U.S. subsidiary, the U.S.

tax consequences related to those earnings are generally deferred until repatriation.<sup>12</sup> Thus, when a non-U.S. subsidiary generates profits, foreign tax is paid currently, but the manager has discretion in timing the repatriation of those earnings and when to incur the related U.S. tax consequences.

To mitigate double tax, the U.S. allows a FTC to reduce the U.S. tax on foreign earnings. When a subsidiary repatriates earnings, a portion of the foreign taxes paid by that subsidiary can be claimed by the U.S. parent as a FTC. This FTC is calculated by multiplying the subsidiary's accumulated foreign income taxes by a fraction, where the numerator is the gross repatriation and the denominator is accumulated earnings determined under U.S. tax rules.<sup>13</sup> This FTC is added to the repatriation and U.S. tax is assessed on the total amount. Thus, the U.S. taxes the pretax earnings giving rise to the repatriation.

When the repatriating subsidiary pays foreign tax at a rate lower than 35%, the combined foreign and U.S. tax on the repatriations is intended to equal the U.S. statutory tax rate of 35%.<sup>14</sup> For example, if foreign tax was imposed at a rate of 20%, the U.S. should impose an additional tax of 15% (35% tax on the gross repatriation less an FTC for 20%) for a total tax rate on those pretax earnings of 35%. The system however, has several imperfections and tax managers can use these imperfections to achieve their objectives.

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<sup>12</sup> U.S. anti-avoidance rules known as Subpart F eliminate deferral on some types of foreign earnings, a discussion of which is beyond the scope of this paper.

<sup>13</sup> IRC Sec. 902 requires both earnings (known as earnings and profits (E&P)) and foreign income taxes to be accumulated and tracked after 1986 for both passive and non-passive income. the cumulative E&P and tax amounts are referred to as pools. Pooling allows for profit years to net with loss years over time and was enacted to curb perceived abuses.

<sup>14</sup> If the foreign tax rate is greater than 35%, the intention is not to reduce the U.S. tax rate below zero, but "cross-crediting", the mixing of high and low taxed earnings to achieve no net tax, is allowed by design although with some restrictions. Note that, because some income earned directly by the U.S. entity is deemed to be foreign source by the U.S., a foreign tax rate of greater than 35% can be used to offset the U.S. tax that would otherwise be payable on U.S. income, deemed to be foreign source.

There are two primary imperfections that the tax manager can exploit. First, the system only operates as described above when the tax base (taxable income) for the foreign subsidiary determined under foreign and U.S. tax rules are equal. In practice, the tax bases are rarely equal because there is no uniform method around the world to compute taxable income. An example of unequal tax bases arises when a U.S. MNC purchases the stock of a foreign subsidiary. U.S. tax rules generally allow the basis of the assets acquired to be recorded at fair market value often resulting in a large amount allocated to goodwill or similar intangible, even though no such adjustment is generally allowed by the foreign jurisdiction. These intangibles can then be amortized over 15 years in the U.S. with the resulting deductions causing earnings for U.S. tax purposes to be lower than taxable foreign earnings. Therefore, the denominator in the above fraction can be artificially low resulting in artificially high FTCs on the repatriation.

The second imperfection deals with how firms can use hybrid entities or instruments to allocate earnings and taxes between foreign subsidiaries in a related party transaction. These transactions generally include either sophisticated financing arrangements or consolidated tax filings.<sup>15</sup> In 2010, the EJMA was enacted and restricted the use of these types of transactions for years after 2010. HTRs, however, are still prevalent in years after 2010, highlighting that these sophisticated transactions are not the only way HTRs are created.

HTRs are relatively common. The IRS Statistics of Income (NEED YEAR) aggregated data from 2010 shows that 7 out of 36 industries repatriated foreign earnings where, on average, the FTCs exceeded the U.S. tax on the repatriation.<sup>16</sup> Thus, the use of HTRs appears to be a relatively common way to reduce worldwide income tax. While prior research has shown that

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<sup>15</sup> Treasury Regulation 1.909-2-T discusses these types of arrangements. A discussion of these arrangements is beyond the scope of this paper.

<sup>16</sup> Found at: <https://www.irs.gov/uac/SOI-Tax-Stats-Corporate-Foreign-Tax-Credit-Statistics> tables 1.1 and 1.2

firms repatriate earnings from subsidiaries when the tax cost is low (e.g., Altshuler and Newlon 1993), the repatriations analyzed here actually decrease tax.

Because repatriations are discretionary and scalable, managers have the ability to make HTRs to meet current earnings targets yet scale them when earnings targets have been met to maintain unrepatriated high-tax earnings as a potential source of future earnings should they need them. Repatriating all high-tax foreign earnings likely has three drawbacks for managers. First, a very large reduction to tax expense will likely draw attention and therefore be easier for both investors and the IRS to detect.<sup>17</sup> This reduction could cause stock price performance to be muted (Gleason and Mills 2008) and could raise unwanted attention from the media. Second, the manager loses flexibility in managing future earnings. Last, if the firm does not have the ability to claim the resulting FTCs immediately, the FTCs are carried forward ten years and expire thereafter wasting a potentially valuable asset.

Tax planning is a complex and dynamic activity that involves multiple strategies that often have trade-offs. The most commonly studied form of tax planning is likely income shifting (e.g., Hines and Rice 1994; Klassen and Laplante 2012). Current tax rules generally allow U.S. MNCs to shift foreign income from high-tax to low-tax jurisdictions with few operational frictions; however, shifting income from the U.S. to low-tax foreign jurisdictions has two main trade-offs. First, the resulting foreign profits are “locked-out” of the U.S. due to residual U.S. profit on repatriations (Foley, Hartzell, Titman and Twite 2007; Dyreng and Markle 2013). The second trade-off is the negative effect on claiming FTCs. This trade-off is less obvious but likely exists because the type of income most likely to be shifted out of the U.S. is income deemed to

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<sup>17</sup> The IRS has unsuccessfully litigated certain splitters.

be foreign source income.<sup>18</sup> Examples of the types of income shifted are provided in the next section.

### ***3.1 Foreign Tax Credit Limitation***

Calculating the annual FTC is a two-step process. First, U.S. tax is calculated on the foreign portion of current year taxable income.<sup>19</sup> This number is then compared to the current year foreign taxes incurred by the U.S. MNC. Foreign taxes incurred by the U.S. MNC include both foreign taxes paid directly by the U.S. MNC and the FTCs recognized due to repatriations.<sup>20</sup> Foreign taxes for this purpose do not include taxes paid on unrepatriated subsidiary earnings.

To the extent U.S. tax on foreign income exceeds foreign income taxes, all foreign income taxes are allowed as a credit in the current year. Foreign taxes that exceed the U.S. tax on foreign income may be carried back 1 year and forward 10 years.<sup>21</sup> The FTC is intended to mitigate double tax, however, without some restriction, the FTCs could offset all U.S. tax. Therefore, FTCs are limited to the U.S. tax imposed on foreign source income. However, some income that is earned directly by the U.S. firm is deemed to be foreign source. Appendix B contains a more detailed description of the FTC calculation.

As noted above, the definition of foreign income differs from the financial accounting definition and includes U.S. profit on export sales of inventory where title passes outside the U.S. (Kemsley 1998), royalties resulting from the use of intangibles outside the U.S. and repatriations of foreign earnings.<sup>22</sup> Because firms vary significantly in the types of foreign

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<sup>18</sup> Caterpillar shifted a large portion of its profits from exported purchased spare parts from the U.S. to Switzerland (United States Senate Permanent Subcommittee on Investigations Committee on Homeland Security and Governmental Affairs found at: <https://www.hsgac.senate.gov/report-caterpillars-offshore-tax-strategy-April-1-2014>) last accessed June 23, 2016. This likely made it more difficult to claim FTCs because a portion of the profits on those sales when made by the U.S. entity were considered foreign source.

<sup>19</sup> IRC Sec. 904(a). Foreign income is further divided into general (active) and passive income. IRC Sec. 904(d).

<sup>20</sup> IRC Sec. 901(a).

<sup>21</sup> IRC Sec. 904(c).

<sup>22</sup> There are several other types of foreign source income. See IRC Sec. 861 & 862 and related regulations.

income they earn, they also vary in their ability to claim FTCs. Graham, Hanlon, and Shevlin (2010) find that approximately 50% of their survey respondents reported having excess FTCs. However, these managers likely based their responses on the firm's position after considering discretionary repatriations and may not be a good measure of the percent of firms that can utilize HTRs.

When planning for repatriations, the tax manager forecasts whether the firm has capacity to claim additional FTCs before making discretionary repatriations. Several tax strategies that reduce the ETR likely cost the firm the ability to claim FTCs and thus the ability to utilize HTRs. Firms such as Apple and Microsoft were able to shift the ownership of certain rights to non-U.S. intangible assets outside the U.S., allowing them to record the associated royalty income in a low tax jurisdiction.<sup>23</sup> However, older manufacturers likely have more difficulty availing themselves of the strategy described above. Caterpillar demonstrated a different technique to reduce its ETR when they rerouted a large amount of their spare parts business profits through a Swiss subsidiary, effectively shifting the resulting profit out of the U.S.<sup>24</sup> Before being shifted to Switzerland, the profit on these sales likely created additional FTC capacity under the foreign title passage sale rules. Firms that engaged in strategies similar to these likely cannot use HTRs as a tax planning strategy because they lack sufficient capacity to claim the related FTCs.

### **3.2      *Repatriation Planning***

The decision to repatriate foreign earnings and from which subsidiary to repatriate is strategic. The two main issues managers evaluate when considering repatriations are domestic cash needs and the repatriation tax consequences. After the U.S. cash needs are determined (if

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<sup>23</sup> The same result is effectively achieved if those earnings are repatriated to the U.S. However, that repatriation fully offsets the lower tax benefit obtained from locating the intangibles outside the U.S. in the first place.

<sup>24</sup> U.S. Permanent Subcommittee on Investigations April 1, 2014 which can be found at: <http://www.hsgac.senate.gov/subcommittees/investigations/hearings/caterpillars-offshore-tax-strategy>.

any), tax managers can choose the optimal repatriation or mix of repatriations to be made given their pre-repatriation FTC position.<sup>25</sup> Foreign cash needs should not impact the decision to make or defer HTRs because cash can be provided by either sister foreign entities, or by the U.S. parent.<sup>26</sup>

Regardless of the need for domestic cash, if the firm expects to be able to claim additional FTCs,<sup>27</sup> HTRs should be made because income tax expense and cash taxes can be reduced in the current year and thus increase the value of the firm. Splitter strategies that create HTRs include foreign reorganizations, purchase of foreign subsidiaries, use of “hybrid” instruments and entities,<sup>28</sup> and techniques involving foreign consolidated tax groups. See Appendix A for an example of a foreign reorganization. Splitters aggregate either foreign earnings or taxes into different foreign subsidiaries. This process does not change the total amount of foreign earnings or taxes generated by a firm’s foreign subsidiaries but merely redistributes foreign earnings into some subsidiaries and foreign taxes into other subsidiaries. The strategy is to have some subsidiaries that can make HTRs and the other subsidiaries retain high earnings and low taxes outside the U.S.

If a firm decides to repatriate because cash is needed in the U.S., repatriations from subsidiaries with the lowest additional U.S. tax cost typically will be made, a well-documented strategy (e.g., Altshuler and Newlon 1993). Firms with significant domestic cash needs are less likely to be able to reduce U.S. tax expense through repatriations, but may mix high and low-tax

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<sup>25</sup> If U.S. cash is needed, blending high and low-tax repatriations may be appropriate because the need for U.S. cash may overwhelm the benefit of reporting a lower tax rate. This strategy, known as cross-crediting, should be avoided if the firm is trying to achieve the lowest tax rate possible.

<sup>26</sup> The U.S. parent can provide as either a contribution to capital or a loan, while cash provided by a sister would be a loan.

<sup>27</sup> I use the word “expects” because repatriations must be made before the tax year ends; thus, a manager can only estimate the firm’s FTC position.

<sup>28</sup> Hybrid refers to an entity or financing instrument that is treated a certain way in one jurisdiction and another way in a different jurisdiction, e.g., debt in home country and equity in other country.

income to minimize the related tax cost. If the firm does not have significant domestic cash needs, HTRs can be pursued if the firm has or expects to have sufficient ability to use its FTC.

Over the years, the effectiveness of these strategies has been gradually reduced. The last attempt to eliminate splitter transactions was part of the EJMA and became effective after 2010. To examine the effect of this law change, I analyze pre-2011 and post-2010 sample periods.

### **3.3      *Hypotheses***

Managers have incentives to achieve earnings objectives as well as the discretion to time income increasing repatriations. The following is my first hypotheses stated in alternative form:

**H1:** Firms that meet or beat analysts' forecasts make more HTRs than firms that do not meet or beat analysts' forecasts.

HTRs can be used to increase not only current year income, but may also be saved to increase income in future years. Therefore, if managers believe that stock price performance is muted when consensus analysts' forecast has already been exceeded, they will only repatriate enough high-taxed earnings as needed to meet or just beat consensus analysts' forecast. This strategy allows them to defer HTRs and the related increase to earnings for a future period. My second hypothesis stated in alternative form is:

**H2:** Firms that meet or beat mean analysts' forecasts defer HTRs more than firms that do not meet or beat analysts' forecasts.



To be effective, earnings management should be difficult to detect. Specifically, if a manager wants to make the earnings management difficult to detect, the manager will not separately disclose the HTR.<sup>29</sup> My third hypothesis as stated in alternative form:

**H3:** Firms that make HTRs are less likely to disclose the effect when compared to firms making tax increasing repatriations.

## 4. Research Design and Sample Selection

### 4.1 *Research Design*

A critique in prior research is that suspected earnings management activities such as discretionary accruals could also be capturing firm performance. To address this issue, Ayers, Jiang and Yeung (2006) develop a unique methodology. They categorize firms into bins based on the difference between actual and forecasted EPS (the difference is called unexpected earnings (UE)) and test whether the suspected earnings management activity is more or less prevalent when earnings management incentives are high by comparing them to adjacent profit levels (bins). If the suspected earnings management activity behavior is correlated with performance, then a statistical difference around the actual earnings benchmark (UE=0), analysts' forecast will provide additional evidence of earnings management as long as it is not observed along other points of the unexpected earnings spectrum. Thus, by isolating companies into bins, they can more effectively control for performance.

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<sup>29</sup> Rule 4-08(h) of Securities Exchange Commission Regulation S-X requires disclosure of items that are more than 5% of the amount computed by multiplying pretax income by the statutory tax rate. U.S. MNCs are currently subject to a 35% statutory tax rate, thus any item that increases or decreases the tax rate by 1.75% or more is required to be separately disclosed. However, even if the tax effect of the repatriation exceeds the above threshold, the decrease to earnings could potentially be netted with other related items and not separately disclosed. See Donohoe, McGill and Outslay (2012) for further details.

I test H1 by following the methodology from Ayers et al. (2006) and separating firm-years into bins based on the difference between the I/B/E/S mean unadjusted earnings per share (EPS) forecast and I/B/E/S actual EPS. For example, the bin where actual earnings are equal to the mean analysts' forecast is compared to the bin where actual earnings are one penny less than the mean analysts' forecast. However, because the size of my sample is small, I do not examine one cent intervals, but instead examine two and five cent intervals where the sample contains only firm-years where actual compared to forecast is within ten cents per share. I estimate the following probit model:

$$EM_{it} = \alpha_{it} + \beta_1 HTRTX_{it} + \beta_2 FTC\_LIM_{it} + \beta_3 LEV_{it} + \beta_4 DIVYLD_{it} + \varepsilon_{it} \quad [1]$$

I define the required variables as follows (see Exhibit 1 for all variable definitions):  $EM_{it}$  is defined similar to the definition in used in Ayers et al. (2006) where  $EM = 1$  if  $X \leq E_{it} < (X + 0.05\{.02\})$  and 0 if  $(X - 0.05\{.02\}) \leq E_{it} < X$ , where  $E_{it}$  is defined as firm  $i$ 's EPS in year  $t$  and  $X$  is the profit target.  $X$  equals 0 for the *actual* profit benchmark.  $HTRTX_{it}$  equals U.S. tax savings on HTRs [(repatriation plus the associated FTC) \* 35% minus the associated FTC] scaled by fully diluted common shares (Compustat item *CSHFD*).<sup>30</sup> Because HTRs under the above formula will be negative, I multiply the result by -1 so that positive coefficients suggest that firms use HTRs to meet the earnings target. I include all repatriations made during the year and only classify the repatriation as an HTR if the net of all repatriations for that year result in a reduction to tax under the above formula. Repatriations and the associated FTC are reported to

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<sup>30</sup> I scale  $HTRTX_{it}$  and  $HTRTX\_DEF_{it}$  by diluted common shares following Gupta, Laux and Lynch (2015).

the IRS on Form 1118 Schedule A – Other Dividends. If the repatriations result in additional U.S. tax, then  $HTRTX = 0$ .

$FTC\_LIM_{it}$  is the amount of additional FTCs that could be claimed (carried forward), before considering repatriations.  $FTC\_LIM_{it}$  includes both the current year and prior year capacity to claim FTCs because excess FTCs can be carried back one year.  $FTC\_LIM_{it}$  is scaled by  $CSHFD$ . I expect firms with positive  $FTC\_LIM_{it}$  to make more HTRs.

$LEV_{it}$  is debt divided by total assets  $((DLTT+DLC-TXNDB)/AT)$  at the end of year  $t$ . Firms with more leverage are more likely to need cash from their foreign subsidiaries to service the debt and therefore make more repatriations.  $DIVYLD_{it}$  equals year  $t$  dividends paid divided by market value of equity at the end of year  $t$ . Firms paying more dividends are likely to need cash from their foreign subsidiaries. While I expect positive coefficients on both  $LEV_{it}$  and  $DIVYLD_{it}$ , I do not make a formal prediction.

Next, I examine whether managers refrain from making larger HTRs if and when the mean analysts' forecast has been met.

$$HTRTX\_DEF_{it} = \alpha_{it} + \beta_1 MEET_{it} + \beta_2 TR\_LIM_{it} + \beta_3 LEV_{it} + \beta_4 DIVYLD_{it} + \beta_k Controls + \varepsilon_{it} \quad [2]$$

All of the variables are as previously defined except for  $HTRTX\_DEF_{it}$ ,  $MEET_{it}$  and  $TR\_LIM_{it}$ . The dependent variable  $HTRTX\_DEF_{it}$  is the tax savings (scaled by  $CSHFD$ ) attributable to HTRs not made. In other words, it is the amount by which the FTCs exceed the U.S. tax on repatriations not made, but would have decreased U.S. tax if made.  $HTRTX\_DEF_{it}$  is determined by analyzing each individual repatriation during the year that is an HTR and summing the tax savings that was not realized because not all of the earnings were repatriated.

$MEET_{it}$  is a variable equal to actual EPS less analysts' forecasts of EPS when the firm has met or exceeded analysts' forecasts including any HTR, zero otherwise.  $TR\_LIM_{it}$  is the additional FTCs that could be claimed (carried forward) after considering discretionary repatriations. I substitute  $TR\_LIM_{it}$  for  $FTC\_LIM_{it}$  in model 2 because the decision to make additional HTRs should be made after considering repatriations already made.  $TR\_LIM_{it}$  is the excess limitation reported on the firm's Form 1118. I expect a positive coefficient on  $MEET_{it}$  indicating that the firm retained HTRs when analysts' forecasts were met and a negative coefficient on  $TR\_LIM_{it}$  because firms should not make additional HTRs when they do not have the capacity to claim additional FTCs.

Next, I examine whether firms disclose HTRs and if the disclosure is different when the HTR enables the firm to meet analysts' forecasts. I create an indicator variable equal to 1 when the firm discloses a U.S. tax on a repatriation ( $DISCLOSE$ ). I classify a repatriation as disclosed if the description in the tax rate reconciliation includes the words repatriation, dividend, foreign tax credit or U.S tax on foreign income (see Appendix C). To test whether firms disclose HTRs when they meet analysts' forecasts, I follow the method used in Ayers, Schwab and Utke (2015) and estimate the following logistic model:

$$DISCLOSE_{it} = \alpha_{it} + \beta_1 HTRTX_{it} + \beta_2 EP_{it} + \beta_3 LEV_{it} + \beta_4 PROA_{it} + \beta_5 Inst_{it} + \beta_6 LnSales_{it} + \beta_7 Foreign\%_{it} + \beta_8 HHI_{it} + \beta_9 Nanalyst_{it} + \beta_{10} Segments_{it} + \beta_{11} AbsDiscAccr_{it} + \varepsilon_{it} \quad [3]$$

A negative coefficient on  $HTRTX_{it}$  is interpreted to mean that firms are less likely to disclose when they make larger HTRs. To further explore whether firms disclose HTRs, I then substitute the indicator variables,  $HTRTX\_IND_{it}$  and  $NEEDED\_IND_{it}$  for  $HTRTX_{it}$ .  $HTRTX\_IND_{it}$

equals one if the firm made an HTR for the year in question, zero otherwise.  $NEEDED\_IND_{it}$  equals one when without the HTR, the firm would have fallen short of the mean analysts' forecast. A negative coefficient on  $NEEDED\_IND_{it}$  is interpreted to mean firms are less likely to disclose HTRs when they would have otherwise missed analysts' forecast. All variables are defined in Exhibit 1.

## **4.2 Sample Selection**

I use federal tax return data from 2005-2013 for 424 firms, 138 of which are, or have been in the Compliance Assurance Process (CAP) at any point, while the remaining 286 firms (non-CAP) firms were matched by the IRS. The non-CAP sample was drawn to analyze the compliance attributes of CAP firms by comparing them to comparable firms. The non-CAP firms were selected through a stratified random sample using three firm attributes: income before tax, total assets, and the debt to equity ratio. These variables were chosen to represent the determinants of rate of return to match these firms within 2 percentage points at the 95% confidence level.

First, the CAP firms were stratified into high, medium and low categories for the three attributes above. Therefore, these firms were placed into 27 unique categories. To select non-CAP matching firms, the pool of firms were required to be in the IRS LB&I program (large taxpayers) and have greater than \$300 million of assets. These firms were then allocated to one of these 27 categories and then randomly selected out of each category where the number of firms selected was determined by the variance of the non-CAP firms included in that category.<sup>31</sup>

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<sup>31</sup> If the variance was high, additional firms were selected from that category.

The 424 sample firms combine for 3,318 total firm-year observations before eliminating any firms not having the required variables. Table 1 provides the determination of the final sample.

See Table 1

All federal tax return data used in this study is contained in Form 1118 – Foreign Tax Credit – Corporations. Form 1118 includes the information necessary for the calculation of the FTC limitation and also contains details on each repatriation made including the amount repatriated, the related FTC as well as the total amount that could have been repatriated along with the related foreign taxes available to be credited. Therefore, if a firm repatriates only a portion of its available high-tax earnings, I can calculate the deferred high-tax earnings as the tax effect of the unrepatriated earnings. If a firm had a potential HTR in a different foreign subsidiary but did not repatriate earnings from this subsidiary, the high-tax earnings are not detectable because Form 1118 does not require disclosure unless there is a repatriation.<sup>32</sup>

A repatriation is classified as an HTR if the FTC exceeds the U.S. tax on the repatriation. If an individual repatriation is an HTR but not all of that subsidiary's earnings were repatriated the tax effect of the unrepatriated earnings is recorded as an *HTRTX\_DEF*.

## **5. Results and Descriptive Statistics**

### **5.1 Descriptive Statistics**

The initial sample includes 34,285 total repatriations, 4,197 of which are HTRs, or just over 12% of all repatriations. Many of these are quite large with 93 individual repatriations resulting in a tax reduction of more than \$100 million. Many firms that made HTRs in one year,

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<sup>32</sup> Firms are not required to disclose their accumulated foreign taxes eligible for credit anywhere except for the Form 1118. Form 5471 - Information Return of U.S. Persons With Respect To Certain Foreign Corporations – requires firms to identify accumulated earnings, but not accumulated foreign taxes.

however, also repatriated low tax earnings that same year where the combined effect resulted in net additional U.S. tax for that year. While these firms could make an HTR at the end of the year to meet earnings targets I do not consider these firm as making HTRs and only include firms if the net of all their repatriations results in a decrease of U.S. tax for that year. After this netting process, there are a total of 244 HTR firm-years out of 978 (or 25% of firm-years) of which 24 result in a tax reduction of more than \$100 million, many of them made after 2010, when the EJMA went into effect.

To make the descriptive statistics more meaningful, I report several variables in millions of dollars and as indicator variables in addition to per share amounts. Descriptive statistics in the table not previously defined are *REPAT\_TAX\_\$M* , which equals the tax due (reduction) attributable to repatriations made during the year and *RESTRICT*, which equals 1 if the firm reports either FTC carryforwards or has other restrictions on claiming FTCs such as a foreign loss for the year in question, and 0 otherwise. *NUM\_REMIT* equals the number of foreign entities making repatriations during the year. *GROSS\_REMIT\_\$M* equals the total dollars received by the U.S. parent as repatriations from foreign subsidiaries for the relevant year. All variables are defined in Exhibit 1.

Table 2 contains four panels with the first, Panel A, providing descriptive statistics between firms that made HTRs in at least one year during the sample period (HTR firms) and firms that did not make HTRs for the entire sample period. Nearly all variables are statistically different between the two samples. HTR firms made an HTR in 43% of the firm-years. Surprisingly, on average, HTR firms reduced U.S. tax by \$1.37 million compared to an increase in tax of more than \$25 million for non-HTR firms. This difference indicates that HTR firms have significantly different repatriation strategies than non-HTR firms. However, the difference

between the *HTRTX\_\$M* and the *REPAT\_TAX\_\$M* suggests that HTR firms make large income increasing repatriations in years they do not make HTRs. This suggests that HTR firms are using a form of cross-crediting. That is, HTR firms make HTRs in years when the FTCs cannot be used, but make tax increasing repatriations in other years to use the FTCs not able to be credited in the HTR year. This type of strategy affects reported earnings for different periods.

As expected, firms making HTRs have substantially more capacity to claim FTCs before considering HTRs (134M vs. -10M). Surprisingly, only 54% of HTR firm-years can currently claim any additional FTCs before making HTRs. These results suggest that nearly half of the firms making HTRs may have to carry the resulting FTCs to a future period to realize a reduction to cash taxes; thus, the firm must currently recognize the resulting deferred tax asset to obtain the desired earnings increase. Making an HTR when the resulting FTCs cannot be credited is not sound tax planning because once an HTR is made; the firm only has ten years to claim the FTCs whereas the FTCs from deferred HTRs have no such time limit. This suggests that firms may make HTRs for non-tax reasons.

Importantly, HTR firms meet analysts' forecasts more frequently, providing preliminary evidence that firms use HTRs to meet analysts' forecast (75% vs. 64%). Surprisingly, approximately 40% of both firms making HTRs and those that did not had some restriction (beyond current year FTC limitation) on claiming current year FTCs (e.g., an FTC carryforward). Firms making HTRs also have significantly higher foreign tax rates, are larger, have a higher number of repatriations, have significantly higher repatriations, and are more profitable than firms not making HTRs.

Approximately 43% of HTR firms in each period make net HTRs with a mean value of approximately \$16.3 million, meaning that HTR firms in this sample reduced their U.S. tax



liability by approximately \$9.4 billion over the sample period.<sup>33</sup> In untabulated results, there was a spike in the amount of *HTRTX\_\$M* in 2010, the last year before the restriction applied consistent with firms repatriating earnings from most aggressive strategies before being disallowed under the new rules.<sup>34</sup>

Table 2, Panel B, reports only HTR firms for the period before the law change (pre-2011) and after the law change (post-2010). *REPAT\_TAX*, the tax change resulting from all repatriations, is significantly lower in the post period while the average HTR is higher in the post period, but it is not statistically significant between the periods. This suggests that firms are retaining more low-taxed earnings outside the U.S. The percent of firms making HTRs (*HTRTX\_IND*) is not significantly different between periods, suggesting that the tax law change did not significantly curtail firms' ability to use HTRs. Firm-years in the post-period have higher leverage and are more restricted in using FTCs.

The average HTR firm paid significantly higher tax on repatriations in the pre-2011 period where they paid \$5.84 million of U.S. tax on repatriations while in the post-2010 period they reduced U.S. tax by \$14.79 million, providing further evidence that the law change did not dissuade firms from making HTRs. Firms had significantly more restrictions (*RESTRICT*) on claiming FTCs in the post-period.

In Table 2, Panel C, I again use only HTR firms and compare years in which there was an HTR to those without an HTR. The most striking difference between the two groups is *REPAT\_TAX*. HTR firm-years decreased tax by over \$37 million while in non-HTR years U.S. tax increased by over \$26 million. This result suggests that significant tax increasing

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<sup>33</sup> This is calculated from Table 2 Panel A as follows:  $(16.26 \times 564) = \$9,171$  million tax reduction. Thus, the average for firms in the total sample is  $\$9,171 / 978 \text{ firms} = \$9.38$  million tax reduction.

<sup>34</sup> Conclusions in the paper hold when excluding 2010.

repatriations were needed in non-HTR years because of U.S. cash needs, the need for additional FTC limitation, or both. This result, combined with the lack of FTC limitation, further suggests many firms use HTRs opportunistically when the related tax reduction is needed to achieve earnings targets. In other words, instead of realizing a consistent small reduction to U.S. tax achieved through cross-crediting, firms reaped large tax reductions in some years and large tax increases in other years. The apparent benefit to this strategy is that these firms can time HTRs to meet analysts' forecasts when they are needed.

Firm-years with an HTR defer significantly more HTRs than non-HTR firm-years. On average, years with HTRs have nearly \$80 million dollars (178.02-100.92) more of FTC limit before repatriations than years without HTRs. Unexpectedly, before considering repatriations, firm-years with HTRs had less capacity to claim additional FTCs, only being able to claim FTCs 50% of the time compared to 58% for firm-years without HTR, significant at the 5% level.

Table 2, Panel D, reports HTR firm-years before and after the law change and shows that not only is there not a reduction of HTRs after the law change, but an increase of more than \$14 million (median significant at the 5% level).

See Table 2

Table 3 reports correlations for the full sample. *FORPCT5* is positively correlated with *HTRTX* consistent with firms implementing HTR strategies when foreign operations are more important. Contrary to initial expectations, there is not a significant correlation between *FTC\_LIM* and *HTRTX* suggesting firms make HTRs even when they cannot claim the resulting FTCs.

See Table 3

## 5.2 *Empirical Results*

Table 4 reports results from testing H1 using equation (1) in two panels following the methodology from Ayers et al (2006) for the full sample. Panel A reports results using five cent bins for UE whereas Panel B reports the results for two cent bins. Results in Panel A (five cent bin) are consistent with H1; the coefficient on *HTRTX* in the UE bin from 0 - .04 cents compared to the UE bin (.01) – (.05) is the only bin that is positive and significant, although only at the 10% significance level (one-tailed). This suggests that without HTRs, the firms making larger HTRs are more likely to meet analysts' expectations. Results from Panel B (two cent bin) however, do not support H1 as UE in two bins report *HTRTX* at significant levels, but not at the expected profit benchmark possibly due to the relatively small sample size.

See Table 4

Next, using only HTR firms, I examine whether firms defer making HTRs when they meet/beat or miss analysts' forecasts and if the amount by which they beat or miss the forecast is an important factor. I also examine whether the law change affected the use of HTRs. Table 5, Panel A, reports the results from estimating equation 2. As expected, *MEET* is positive and significant at the 5% level (one-tailed) suggesting that the more earnings exceed the forecast, the more HTRs firms defer. When *MISS* is substituted for *MEET*, *MISS* is not significant. As

expected, *TR\_LIM*, the capacity to claim additional FTCs related to an HTR is negative and significant at the 5% level (one-tailed) suggesting that firms defer HTRs when they cannot claim the additional FTCs. This result is consistent with tax planning.

Table 5, Panel B, reports the results for the period before the law change (2005-2010). Again, *MEET* is positive and significant at the 5% level and *MISS* is now negative and significant at the 5% level as well, indicating that the more they miss by, the less they defer. This is consistent with firms maximizing HTRs in an attempt to meet current year analysts' forecasts and increasing current cash flows, yet falling short. Consistent with Panel A, *TR\_LIM* remains negative and significant. Table 5, Panel C, includes the period before the law change, but adds an interaction term between *MEET/MISS* and *TR\_LIM* to Panel B. *MEET* and *MISS* are replaced by indicator variables for ease of interpretation. The negative coefficient on the interaction term using the *MEET\_IND* variable indicates that when the firm meets or beats analysts' forecasts, the greater the *TR\_LIM*, the less HTRs are deferred, consistent with good tax planning. The interaction term using the *MISS\_IND* variable is positive and significant indicating when the firm misses the forecast and, the greater the *TR\_LIM*, the larger amounts of HTRs are deferred even though the resulting FTCs could be used. This result is consistent with the cookie-jar reserve where firms retain HTRs for a future period when the firm can use the HTR to meet the forecast. I obtain similar results using continuous variables for *MEET* and *MISS*.

Table 5, Panels D and E are similar to Table 5, Panels B and C but instead examine the period after the law change (2011-2013). In Panel D, *MEET* is not significant, but *MISS* is positive and significant at the 5% level suggesting the more the firm misses analysts' forecasts, the greater the HTR they defer. This sign is the opposite of the pre-law-change period sign and

suggests that when firms believe they will miss the forecast, they are more likely to defer the HTRs to a future period, presumably to meet a future forecast.

Similar to Panel C, Panel E adds the interaction term between the *MEET/MISS* indicator variables and *TR\_LIM*. and the signs of the interaction terms are opposite the signs in the period before the law change. The interaction with the *MEET* variable is positive and significant at the 1% level and the *MISS* interaction is negative and significant at the 1% level. This result suggests that after the law change, when firms meet or beat analysts' forecasts, the greater the *TR\_LIM*, the more HTRs they defer. When firms miss analysts' forecasts and they have more *TR\_LIM*, they defer fewer HTRs. Together, these results suggest that the limitations on HTRs created by the law change in 2010 may have caused firms to reassess their strategy in using HTRs. I obtain similar results using continuous variables for *MEET* and *MISS*.

See Table 5

Table 6 reports the determinants of disclosing HTRs in the income tax footnote using only firms that were either required to disclose the U.S. tax on repatriations or did disclose the tax. Firms are required to disclose HTRs if they change the tax due by at least 1.75%. The first columns use the continuous *HTRTX* variable, the middle columns use the *HTRTX\_IND* variable and the final columns use an indicator variable *NEEDED\_IND* equal to one when without the HTR, the firm would have missed analysts' forecasts, zero otherwise. All of the coefficients are negative and significant indicating that firms that make HTRs are less likely to disclose them.

See Table 6

## 6. Conclusion

Prior research has found that firms use tax accruals to meet analysts' expectations, but has generally not addressed whether firms take real actions to reduce income tax expense to meet analysts' expectations. In addition, prior research has not examined if firms defer tax decreasing activities, presumably to use in a later period when the income increase could enable them to meet analysts' forecasts. Lastly, prior research has not examined whether firms avoid disclosing the use of specific tax strategies. Because I use federal tax return data, I am able to test all three of these questions.

First, I examine whether firms make discretionary HTRs to meet analysts' forecasts. I find some evidence consistent with firms using this income increasing technique to meet these forecasts. Unexpectedly, about half of the firms making HTRs do not have the ability to use the resulting FTCs suggesting that at least some of these firms rely on accrual earnings management to meet the forecast. Because making HTRs when the FTCs cannot be currently used is not good tax planning, it appears that these firms use HTRs as a last resort to meet analysts' forecasts. Importantly, because the use of HTRs has not diminished after the law change, it does not appear that legislation taken to curtail the use of HTRs has achieved its intended result.

Second, I find evidence that firms defer HTRs when they meet analysts' forecast, but only in the period before the law change. After the law change, firms that meet forecasts do not defer HTRs. Surprisingly, the ability to claim the related additional FTCs does not appear to be systematically related to the decision to defer HTRs. I also find evidence that firms defer HTRs when they have more FTC limitation both when they miss analysts' forecasts prior to the law change and when they meet analysts' forecasts in the period after the law change, providing

evidence of “cookie jar” reserves. Lastly, I find that firms do not disclose HTRs in the tax rate reconciliation schedule even though required to do so.

This study contributes to the earnings management literature and the real earnings management literature specifically by showing a real action that managers can take to increase reported earnings up until the last day of the fiscal period. This study also contributes to the tax avoidance literature by showing a specific type of tax avoidance that firms use to increase earnings and meet analysts’ forecasts.

**Exhibit 1**  
**Variable Definitions**

<b>Dependent Variables</b>	
EM	Indicator variable equal to one if the firm met or beat the earnings target, zero otherwise.
HTRTX_DEF	The potential tax savings related to repatriations not made during the year scaled by fully diluted common shares (CSHFD).
DISCLOSE	Indicator variable equal to one if the firm disclosed an HTR in the income tax footnote, zero otherwise.
<b>Independent and Descriptive Variables</b>	
REPAT_TAX_\$M	Tax effect of all repatriations made by firm-year, in millions.
HTRTX_IND	Indicator variable equal to one if the firm made HTR that year, zero otherwise.
HTRTX_\$M	The tax savings related to net repatriations made during the year, in millions.
HTRTX	Tax effect of repatriations made during the year if the FTC exceeded U.S. tax on repatriations scaled by fully diluted common shares (CSHFD).
HTRTX_DEF_IND	Indicator variable equal to one if the firm deferred HTRs of more than one penny of EPS that year, zero otherwise.
HTRTX_DEF_\$M	The potential tax savings related to repatriations not made during the year, in millions.
FTC_LIM_IND	Indicator variable equal to 1 when the firm reported additional capacity to claim additional FTCs as reported to the IRS on Form 1118 (less tax effect of “other dividends” including gross-up), zero otherwise.
FTC_LIM_\$M	Foreign tax credit limitation (including carry back capacity) before discretionary repatriations (foreign tax credit limitation reported to the IRS less tax effect of “other dividends” including gross-up), in millions.
FTC_LIM	Foreign tax credit limitation (including carry back capacity) before discretionary repatriations (foreign tax credit limitation reported to the IRS less tax effect of “other dividends” including gross-up), scaled by CSHFD.
TR_LIM	Foreign tax credit limitation per Form 1118 after repatriations scaled by CSHFD.
RESTRICT	Indicator variable equal to 1 when the firm has either FTC carryforwards or has foreign losses that will reduce the future ability to claim FTCs, zero otherwise.
MEET_IND	Indicator variable equal to 1 when mean EPS analysts’ forecast (before the end of the accounting period) from the I/B/E/S unadjusted files) is less than actual I/B/E/S EPS, 0 otherwise.

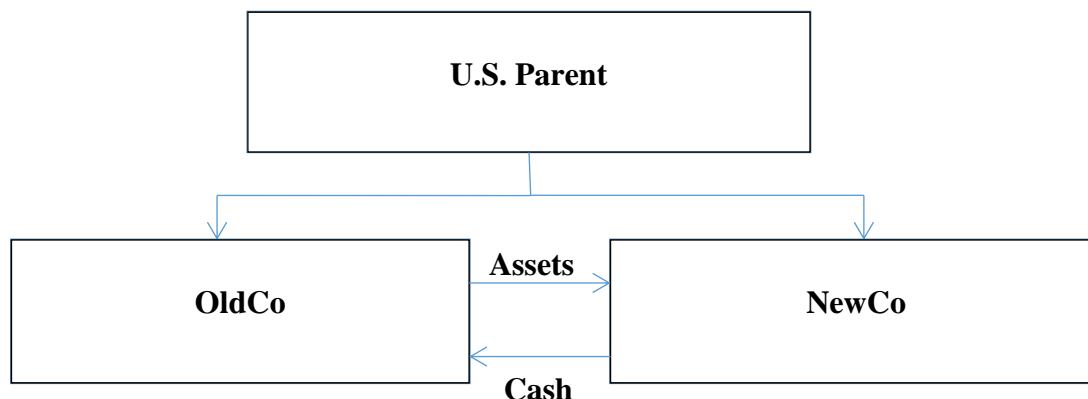


MEET	Actual EPS less mean analysts' EPS forecast (before the end of the accounting period) per I/B/E/S unadjusted files if not negative up to .10, zero otherwise.
MISS_IND	Indicator variable equal to 1 when mean EPS analysts' forecast per I/B/E/S (before the end of the accounting period) is more than actual I/B/E/S EPS per the unadjusted files, 0 otherwise.
MISS	Actual EPS (before the end of the accounting period) less mean analysts' EPS forecast per I/B/E/S unadjusted files if negative, not less than -.10, zero otherwise.
NUM_REMIT	The number of repatriations by different foreign subsidiaries.
GROSS_REMIT_\$M	Repatriated foreign earnings (not including gross-up), in millions.
NEEDED_IND	Indicator variable equal to 1 when, without the HTR, the firm would have missed analysts' forecasts, zero otherwise.
LEV	The ratio of firm debt (DLTT+DLC-TXNDB) to total assets (AT) at the end of the year.
DIVYLD	Dividends Paid in year $t$ /Market Value of Equity ( $DV / (CSHO*PRCC\_F)$ ).
DTR5	The average domestic tax rate (sum of current domestic tax (TXFED) / domestic pretax income (PIDOM)) over the previous 5 years, minimum 3 years values required.
FTR5	The average foreign tax rate (sum of current foreign tax (TXFO) / foreign pretax income (PIFO)) over the previous 5 years, minimum 3 years values required.
FORPCT5	Percent of foreign pretax income (PIFO) divided by pretax income (PI).
RND	R&D (XRD) reported in Compustat scaled by Sales (SALE).
EP	The ratio of firm $i$ 's EPS to share price (EPSFX/PRCC_F) at the end of year $t$ .
PROA	The ratio of firm $i$ 's pretax income (PI) total assets (AT) at the end of year $t$ .
Nanalyst	The number of analysts issuing forecasts for firm $i$ in year $t$ (I/B/E/S NUMEST).
Inst	The ratio of the number of shares owned by institutional investors (Thomson Reuters 13F database (SHARES/1,000,000) divided by total shares outstanding (Thomson Reuters 13F database (SHROUT1) at the end of year $t$ .
LnSales	The natural log of firm $i$ 's sales (SALE) in year $t$ .
Foreign%	The ratio of firm $i$ 's foreign pretax income (PIFO) total pretax income (PI) in year $t$ .
HHI	The decile ranking of the Herfindahl index in year $t$ for firm $i$ 's industry. The Herfindahl index is calculated as the sum of the squares of the market shares of all firms listed on Compustat within a particular two-digit SIC in year $t$ . A firm's market share equals the ratio of its sales (SALE) in

	year $t$ to the sum of sales for all firms in its two-digit SIC code in year $t$ .
Segments	The number of geographic segments reported by firm $i$ in year $t$ (GEOSEG).
AbsDiscAccr	The absolute value of performance-matched discretionary accruals for firm $i$ in year $t$ , computed following Kothari, Leone, and Wasley (2005, 174, Equation 7), where total accruals are calculated based on the statement of cash flows ( $IB - (OANCF - XIDOC)$ ), as suggested in Hribar and Collins (2002).

## Appendix A Creating an HTR

U.S. parent owns an appreciated foreign subsidiary, OldCo, which has a self-developed customer list worth \$900. In an exchange structured as a non-taxable reorganization for Canadian purposes and a sale for U.S. purposes, NewCo is formed with a contribution of \$900 cash. OldCo then transfers the customer list to NewCo in exchange for the \$900 cash.



The transaction can generally be structured to be tax free in the local country and will avoid U.S. anti-abuse rules known as Subpart F. Because this transaction is treated as tax free in the local country, the tax basis of asset for local tax purposes does not change, it remains zero. For U.S. tax purposes, the basis of the asset is increased to the fair market value, \$900 because it is treated as a sale. Thus, the intangible asset acquired has a tax basis of \$900 and is amortized over 15 years reducing income subject to U.S. tax by \$60/year, but not reducing the income subject to foreign tax. That is, the amortization reduces the denominator of the FTC calculation resulting in a higher FTC upon repatriation.

After a year of operation, NewCo earns pretax profit of \$100 and pays income tax of \$30. For U.S. tax purposes, the subsidiary has \$10 of after tax profits because of the amortization expense (100-60-30). A repatriation of the \$10 after tax profit at the end of year 1 will result in the following U.S. tax:

Dividend	10	
Gross-up	<u>30</u>	
Taxable Dividend	40	Gross Repatriation - deemed pretax income for U.S. tax.
U.S. Tax Rate	<u>35%</u>	
U.S. Tax	14	
Less FTC	<u>30</u>	
Reduction to Tax	16	

By restructuring the Subsidiary A, foreign repatriations that would have had a tax cost, instead have a tax benefit.

## **Appendix B**

### **Foreign Tax Credit Limit**

As part of their annual U.S. Corporation Income Tax Return, U.S. MNCs calculate the maximum amount of FTC they can claim that year. This value is known as the FTC limitation “limit” and is the U.S. income tax on “foreign source income.” The limit is compared to foreign taxes paid or deemed paid that year by the parent corporation and a FTC is allowed for the lesser of the two amounts as a dollar for dollar reduction to their U. S. income tax liability, but not below zero. If MNCs cannot claim credits for all of the foreign taxes paid or deemed paid, they have an incentive to generate foreign source income so that they can claim these additional foreign taxes to reduce their U.S. tax liability.

As mentioned above, foreign source income is critical to claiming FTCs. Among the most important types of foreign source income are as follows:

- Interest income – paid by non-residents of the U.S.
- Dividend income – paid by non-U.S. corporations
- Royalty income – earned from intangibles used outside the U.S.
- Foreign Title Passage Sales – 50% of profit on U.S. self-manufactured exports.

The FTC calculation involves the analysis of multiple types of income and expense. However, firms have two primary ways to increase the amount of FTCs they can claim: (1) royalties and (2) profit on certain export sales. Royalty income received from intangibles used outside the U.S. is foreign source income. The other primary mechanism to generate foreign source income is passing title to exported inventory outside the U.S. If the U.S. firm sells manufactured (50%) or purchased (100%) inventory to be used outside the U.S., and passes title outside the U.S., the related net income at the above percent is classified as foreign source income and therefore generates additional FTC capacity (limit) that can be used to claim additional FTCs including those from HTRs.

## **Appendix C**

### **Income Tax Footnote Data**

I reviewed the income tax footnotes from 2005 – 2013 for all sample firms. Using the search function at [www.sec.gov/edgar/searchedgar/companysearch.html](http://www.sec.gov/edgar/searchedgar/companysearch.html), I searched for words similar to “U.S. tax on repatriation,” “foreign tax credit,” “foreign dividend,” or “U.S. tax on foreign income.” When I found a description similar to the above, I searched the remainder of the income tax footnote, including the components of the deferred tax assets and liabilities to determine whether the firm accrued U.S. tax on unremitted earnings or had a valuation allowance related to foreign tax credit carryforwards. If the firm had neither of these, I set *DISCLOSE* equal to one for that firm-year, zero otherwise. In addition, I excluded repatriations subject to the special one-time dividends received deduction temporarily allowed by the AJCA.

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**Table 1**  
**Sample Determination**

**Panel A: Sample Determination**

	<u>Firms</u>			<u>Firm Years</u>		
	<u>CAP</u>	<u>Non-CAP</u>	<u>Total</u>	<u>CAP</u>	<u>Non-CAP</u>	<u>Total</u>
Firms Made Available by IRS	138	286	424	1,183	2,135	3,318
Missing Tax Return Variables - Foreign Tax and FTC Limit	(29)	(104)	(133)	(446)	(1,056)	(1,502)
Subtotal	109	182	291	737	1,079	1,816
Firms Missing Compustat Variables (shares)	(25)	(62)	(87)	(170)	(318)	(488)
Firms Where Actual EPS Not Within +/- .1 of Forecast	(4)	(9)	(13)	(146)	(204)	(350)
Total	80	111	191	421	557	978

**Panel B: Sample By Year**

<u>Year</u>	<u>CAP Firms</u>		<u>Non-CAP Firms</u>		<u>Total Firms</u>	
	<u>Total</u>	<u>HTRs</u>	<u>Total</u>	<u>HTRs</u>	<u>Total</u>	<u>HTRs</u>
2005	25	4	41	9	66	13
2006	45	12	63	16	108	28
2007	44	13	69	14	113	27
2008	51	14	60	16	111	30
2009	46	11	61	16	107	27
2010	49	12	64	21	113	33
2011	54	12	64	11	118	23
2012	54	11	70	19	124	30
2013	53	15	65	18	118	33
Total	421	104	557	140	978	244

**Table 2**  
**Descriptive Statistics**

**Panel A: Firms that Made an HTR in at Least One Year vs. Firms that did not make an HTR**

<u>Variable</u>	<u>HTR FIRM (n=564)</u>		<u>NOT HTR FIRM (n=414)</u>		<u>Mean p-value</u>	<u>Med p-value</u>
	<u>Mean</u>	<u>50th Pctl</u>	<u>Mean</u>	<u>50th Pctl</u>		
REPAT_TAX_\$M	-1.37	0.00	25.23	0.11	<b>0.01</b>	<b>&lt;.0001</b>
HTRTX_IND	0.43	0.00	0.00	0.00	<b>0.00</b>	<b>&lt;.0001</b>
HTRTX_\$M	16.26	0.00	0.00	0.00	<b>0.00</b>	<b>&lt;.0001</b>
HTRTX (EPS)	0.02	0.00	0.00	0.00	<b>0.00</b>	<b>&lt;.0001</b>
HTRTX_DEF_\$M	28.80	0.14	10.75	0.00	<b>0.00</b>	<b>&lt;.0001</b>
HTRTX_DEF (EPS)	0.03	0.00	0.01	0.00	<b>0.00</b>	<b>&lt;.0001</b>
FTC_LIM_IND	0.54	1.00	0.48	0.00	<b>0.04</b>	<b>0.04</b>
FTC_LIM_\$M	134.27	5.25	-9.60	0.04	<b>0.00</b>	<b>&lt;.0001</b>
FTC_LIM (EPS)	0.08	0.03	-0.08	0.00	<b>0.01</b>	<b>&lt;.0001</b>
TR_LIM (EPS)	-0.01	0.01	-0.09	0.00	<b>0.13</b>	<b>0.00</b>
RESTRICT	0.38	0.00	0.42	0.00	0.25	0.25
MEET_IND	0.75	1.00	0.64	1.00	<b>0.00</b>	<b>0.00</b>
MEET (EPS)	0.025	0.01	0.020	0.01	<b>0.02</b>	0.13
MISS (EPS)	-0.008	0.00	-0.013	0.00	<b>0.00</b>	<b>0.00</b>
UNEXPECT_EARN	0.02	0.01	0.01	0.01	<b>0.00</b>	0.13
NUM_REMIT	37.19	17.00	29.18	9.50	<b>0.07</b>	<b>0.00</b>
GROSS_REMIT_\$M	1,145.96	92.43	571.05	81.30	<b>0.10</b>	0.66
LEV	0.19	0.17	0.18	0.17	0.41	0.70
DIVYLD	0.02	0.02	0.02	0.02	<b>0.02</b>	1.00
FTR	0.34	0.26	0.06	0.22	0.11	<b>0.00</b>
MVE	9.47	9.56	8.92	9.13	<b>0.00</b>	<b>0.00</b>
ROA	0.12	0.11	0.09	0.09	<b>0.00</b>	<b>&lt;.0001</b>
FOR_PCT	0.36	0.30	0.30	0.11	<b>0.01</b>	<b>&lt;.0001</b>

HTR Firm is a defined as a firm that made aggregate repatriations that reduced U.S. tax in at least one year during the sample period. 90 out of 191 (47%) firms are HTR Firms. P-values are all two-tailed. All variables are defined in Exhibit 1.

**Table 2 (Continued)**  
**Descriptive Statistics**

**Panel B: HTR Firms: Pre vs. Post Law Change**

<u>Variable</u>	<u>Pre-2011 (n=367)</u>		<u>Post-2010 (n=197)</u>		<u>Mean p value</u>	<u>Med p value</u>
	<u>Mean</u>	<u>50th Pctl</u>	<u>Mean</u>	<u>50th Pctl</u>		
REPAT_TAX_\$M	5.84	0.00	-14.79	0.00	<b>0.05</b>	0.69
HTRTX_IND	0.43	0.00	0.44	0.00	0.89	0.89
HTRTX_\$M	13.99	0.00	20.50	0.00	0.24	0.89
HTRTX (EPS)	0.02	0.00	0.03	0.00	0.19	0.89
HTRTX_DEF_\$M	28.11	0.08	30.09	0.29	0.83	0.43
HTRTX_DEF (EPS)	0.03	0.00	0.04	0.00	0.72	0.43
FTC_LIM_IND	0.55	1.00	0.54	1.00	0.83	0.83
FTC_LIM_\$M	125.64	5.03	150.35	6.19	0.68	0.66
FTC_LIM (EPS)	0.08	0.03	0.07	0.04	0.68	0.66
TR_LIM (EPS)	0.00	0.01	-0.03	0.01	0.19	0.93
RESTRICT	0.28	0.00	0.57	1.00	<b>0.00</b>	<b>&lt;.0001</b>
MEET_IND	0.77	1.00	0.72	1.00	0.18	0.17
MEET (EPS)	0.03	0.02	0.02	0.01	0.13	<b>0.06</b>
MISS (EPS)	-0.01	0.00	-0.01	0.00	0.34	0.17
UNEXPECT_EARN	0.02	0.02	0.01	0.01	0.12	<b>0.06</b>
NUM_REMIT	38.97	18.00	34.05	14.00	0.34	0.10
GROSS_REMIT_\$M	1,386.78	107.15	720.61	65.16	0.21	0.21
LEV	0.18	0.16	0.21	0.20	<b>0.03</b>	<b>0.01</b>
DIVYLD	0.02	0.01	0.02	0.02	0.10	<b>0.04</b>
FTR	0.37	0.26	0.28	0.26	0.36	0.83
MVE	9.39	9.47	9.61	9.66	<b>0.08</b>	0.13
ROA	0.12	0.12	0.11	0.11	0.07	0.19
FOR_PCT	0.35	0.29	0.37	0.31	0.34	0.66

Pre-2011 includes six years from 2005 – 2010 when HTRs were not significantly restricted. Post-2010 includes three years from 2011-2013 after legislation restricted the use of HTRs. HTR Firm is a defined as a firm that made aggregate repatriations that reduced U.S. tax in at least one year during the sample period. 90 out of 191 (47%) firms are HTR Firms. P-values are all two-tailed. All variables are defined in Exhibit 1.

**Table 2 (Continued)**  
**Descriptive Statistics**

**Panel C: HTR Firms: Years with an HTR vs. Years without HTR**

<b>Variable</b>	<b>NO HTR (n=320)</b>		<b>MADE HTR (n=244)</b>		<b>Mean p value</b>	<b>Med p value</b>
	<b>Mean</b>	<b>50th Pctl</b>	<b>Mean</b>	<b>50th Pctl</b>		
REPAT_TAX_\$M	26.25	0.31	-37.59	-6.75	<b>0.00</b>	<b>&lt;.0001</b>
HTRTX_\$M	0.00	0.00	37.59	-6.75	<b>0.00</b>	<b>&lt;.0001</b>
HTRTX (EPS)	0.00	0.00	0.05	0.02	<b>0.00</b>	<b>&lt;.0001</b>
HTRTX_DEF_\$M	11.37	0.00	51.67	2.15	<b>0.00</b>	<b>&lt;.0001</b>
HTRTX_DEF (EPS)	0.02	0.00	0.05	0.01	<b>0.00</b>	<b>&lt;.0001</b>
FTC_LIM_IND	0.58	1.00	0.50	0.00	<b>0.04</b>	<b>0.04</b>
FTC_LIM_\$M	100.92	3.55	178.02	9.78	0.15	<b>0.04</b>
FTC_LIM (EPS)	0.06	0.02	0.10	0.04	0.32	<b>0.04</b>
TR_LIM (EPS)	0.01	0.01	-0.04	0.00	0.09	<b>0.03</b>
RESTRICT	0.37	0.00	0.40	0.00	0.39	<b>0.38</b>
MEET_IND	0.74	1.00	0.76	1.00	0.69	<b>0.69</b>
MEET (EPS)	0.02	0.01	0.03	0.01	0.27	<b>0.35</b>
MISS (EPS)	-0.009	0.00	-0.007	0.00	0.13	0.69
UNEXPECT_EARN	0.01	0.01	0.02	0.01	0.13	0.35
NUM_REMIT	29.76	13.00	45.93	24.00	0.00	0.00
GROSS_REMIT_\$M	1,156.17	43.06	1,133.97	170.47	0.97	<b>&lt;.0001</b>
LEV	0.20	0.17	0.18	0.17	0.39	0.87
DIVYLD	0.02	0.01	0.02	0.02	0.20	<b>0.02</b>
FTR	0.38	0.26	0.27	0.26	0.31	0.63
MVE	9.25	9.27	9.76	9.92	<b>0.00</b>	<b>0.00</b>
ROA	0.12	0.11	0.12	0.11	0.84	0.50
FOR_PCT	0.34	0.28	0.38	0.36	0.12	<b>0.06</b>

Panel above includes only firms that made aggregate repatriations that reduced net U.S. tax in at least one year during the sample period (HTR Firm). 90 out of 191 (47%) firms are HTR Firms. P-values are all two-tailed. All variables are defined in Exhibit 1.

**Table 2 (Continued)**  
**Descriptive Statistics**

**Panel D: HTR Firm-Years: Pre vs. Post Law Change**

<u>Variable</u>	<u>Pre-2011 (n=158)</u>		<u>Post-2010 (n=86)</u>		<u>Mean p value</u>	<u>Med p value</u>
	<u>Mean</u>	<u>50th Pctl</u>	<u>Mean</u>	<u>50th Pctl</u>		
HTRTX_\$M	32.49	5.36	46.96	9.86	0.23	<b>0.06</b>
HTRTX_DEF_\$M	53.28	2.06	48.71	2.51	0.81	0.59
FTC_LIM_\$M	150.31	10.14	228.92	5.94	0.46	0.59
MISS (EPS)	-0.006	0.00	-0.008	0.00	0.48	0.10
MEET (EPS)	0.03	0.02	0.02	0.01	<b>0.10</b>	0.11
HTRTX (EPS)	0.04	0.01	0.06	0.03	0.17	<b>0.03</b>
HTRTX_DEF (EPS)	0.05	0.01	0.05	0.01	0.86	0.42
FTC_LIM	0.10	0.04	0.10	0.04	0.99	0.79
TR_LIM	-0.02	0.00	-0.06	0.00	0.46	1.00
FTC_LIM_IND	0.49	0.00	0.50	0.50	0.93	0.92
MEET_IND	0.79	1.00	0.70	1.00	0.12	0.10
LEV	0.18	0.16	0.19	0.19	0.40	0.18
DIVYLD	0.02	0.02	0.02	0.02	0.52	1.00
RESTRICT	0.30	0.00	0.58	1.00	<b>0.00</b>	<b>&lt;.0001</b>
UNEXPECT_EARN	0.02	0.00	0.01	0.01	0.12	0.11
FTR	0.30	0.26	0.23	0.26	<b>0.10</b>	0.53
MVE	9.75	9.86	9.77	10.08	0.90	0.28
ROA	0.13	0.12	0.11	0.11	<b>0.03</b>	0.18
NUM_REMIT	47.75	27.00	42.60	20.00	0.55	0.34
GROSS_REMIT_\$M	1,390.05	159.82	688.09	179.35	0.38	0.68
FOR_PCT	0.38	0.36	0.38	0.35	0.96	1.00

Pre-2011 includes six years from 2005 – 2010 when HTRs were not significantly restricted. Post-2010 includes three years from 2011-2013 after legislation restricted the use of HTRs. HTR Firm is a defined as a firm that made aggregate repatriations that reduced U.S. tax in at least one year during the sample period. 90 firms are HTR Firms. P-values are all two-tailed. All variables are defined in Exhibit 1.

**Table 3**  
**Pearson Correlations**

	1	2	3	4	5	6	7	8	9	10	11	12	13
	HTRTX	MISS	MEET	HTR_DEF	FTC_LIM	LEV	DIVYLD	ROA	MVE	FTR5	DTR5	FORPCT5	RNDS
1 HTRTX	1	0.0155	0.0409	<b>0.3774</b>	-0.0310	-0.0368	-0.0169	0.0064	0.1062	-0.0165	0.0554	<b>0.1342</b>	-0.0251
	0	0.6286	0.2013	<b>&lt;.0001</b>	0.3335	0.2498	0.5970	0.8407	0.0009	0.6904	0.1894	<b>0.0007</b>	0.4324
2 MISS		1	<b>0.3825</b>	0.0002	<b>0.1189</b>	-0.0283	-0.0553	<b>0.1077</b>	<b>0.1389</b>	-0.0368	0.0470	-0.0005	0.0436
		0	<b>&lt;.0001</b>	0.9952	<b>0.0002</b>	0.3772	0.0842	<b>0.0007</b>	<b>&lt;.0001</b>	0.3739	0.2657	0.9894	0.1729
3 MEET			1	0.0430	0.0294	-0.0153	<b>-0.0747</b>	0.0267	-0.0379	-0.0233	-0.0162	-0.0594	-0.0011
			0	0.1795	0.3581	0.6330	<b>0.0195</b>	0.4039	0.2368	0.5735	0.7009	0.1335	0.9715
4 HTR_DEF				1	<b>-0.0583</b>	-0.0254	-0.0084	0.0263	<b>0.1655</b>	0.0053	0.0473	<b>0.2007</b>	-0.0348
				0	<b>0.0682</b>	0.4270	0.7925	0.4123	<b>&lt;.0001</b>	0.8990	0.2627	<b>&lt;.0001</b>	0.2770
5 FTC_LIM					1	<b>-0.1478</b>	<b>-0.0720</b>	<b>0.1315</b>	<b>0.0699</b>	0.0239	-0.0149	<b>-0.1712</b>	<b>0.0962</b>
					0	<b>&lt;.0001</b>	<b>0.0243</b>	<b>&lt;.0001</b>	<b>0.0289</b>	0.5636	0.7250	<b>&lt;.0001</b>	<b>0.0026</b>
6 LEV						1	<b>0.1242</b>	0.0439	-0.0232	0.0220	0.0361	<b>-0.0909</b>	<b>-0.1736</b>
						0	<b>&lt;.0001</b>	0.1706	0.4693	0.5943	0.3933	<b>0.0215</b>	<b>&lt;.0001</b>
7 DIVYLD							1	-0.0454	-0.0015	-0.0210	0.0342	-0.0466	<b>-0.1125</b>
							0	0.1556	0.9639	0.6113	0.4187	0.2391	<b>0.0004</b>
8 ROA								1	<b>0.3296</b>	0.0028	0.0327	<b>0.0655</b>	<b>-0.0778</b>
								0	<b>&lt;.0001</b>	0.9458	0.4388	<b>0.0978</b>	<b>0.0150</b>
9 MVE									1	<b>-0.09</b>	0.06	<b>0.18</b>	<b>0.09</b>
									0	<b>0.03</b>	0.13	<b>&lt;.0001</b>	<b>0.01</b>
10 FTR5										1	0.0376	-0.0662	<b>-0.0682</b>
										0	0.3804	0.1090	<b>0.0986</b>
11 DTR5											1	-0.0039	0.0021
											0	0.9266	0.9613
12 FORPCT5												1	<b>0.2248</b>
												0	<b>&lt;.0001</b>
13 RND													1
													0

Correlations above are for the full sample. P-values are all 2 tailed. All variables are defined in Exhibit 1.

**Table 4**  
**Estimates of HTRs on Meeting and Missing Analysts' Forecasts**  
**Dependent Variable = EM**

**Panel A: 5 Cent Bins**

<u>Just-Beat</u> <u>Sample</u>	<u>Just-Miss</u> <u>Sample</u>	<u>n</u>	<u>HTRTX</u>	<u>FTC LIM</u>	<u>LEV</u>	<u>DIVYLD</u>
UE = (.01)-(.05)	UE = (.06)-(.10)	217 / 59	-1.8743 0.1529	0.2747 0.1002	-0.4828 0.4813	-1.9664 0.4716
UE = .00-(.04)	UE = (.05)-(.09)	329/70	-1.1161 0.1966	0.0394 0.7993	0.0396 0.9421	-1.0196 0.6034
UE = .01-(.03)	UE = (.04)-(.08)	421/86	-0.3187 0.3956	-0.0601 0.6917	0.6112 0.2385	-1.0141 0.5310
UE = .02-(.02)	UE = (.03)-(.07)	496/113	0.1258 0.4561	-0.0874 0.4736	0.4816 0.2826	-1.4028 0.3594
UE = (.03)-(.01)	UE = (.02)-(.06)	520/151	1.5926 0.1378	-0.1358 0.2418	0.1795 0.6519	-1.4765 0.3139
<b>UE = .04-.00</b>	<b>UE = (.01)-(.05)</b>	<b>496/217</b>	<b>1.7199</b> <b>0.0972</b>	-0.1111 0.2935	0.2442 0.4802	-1.4881 0.3300
UE = .05-.01	UE = .00-(.04)	414/329	1.3326 0.1065	-0.0503 0.6079	-0.179 0.5760	-1.4421 0.3545
UE = .06-.02	UE = .01-(.03)	346/421	0.3658 0.3499	-0.0803 0.4045	-0.1783 0.5642	<b>-3.9056</b> <b>0.0699</b>
UE = .07-.03	UE = .02-(.02)	259/496	0.4422 0.3213	0.065 0.5469	-0.365 0.2672	<b>-5.271</b> <b>0.0616</b>
UE = .08-.04	UE = .03-(.01)	212/520	0.5342 0.2917	0.1809 0.1678	-0.2774 0.4127	<b>-8.4058</b> <b>0.0122</b>
UE = .09-.05	UE = .04-.00	179/496	0.5896 0.2762	0.0737 0.5237	0.0915 0.7699	-5.6006 0.1170
UE = .10-.06	UE = .05-.01	157/414	0.5556 0.3022	0.065 0.5654	0.153 0.6485	-4.5264 0.2232

P-values are listed below coefficients and reflect 1-tailed tests for HTRTX. The profit benchmark is bolded as well as all coefficients that are significant at the 10% level or lower. UE = unexpected earnings (actual less forecasted EPS). For the number of observations, the number to the left of the "/" is the n in the Just-Beat sample and the number to the right is the n for the Just-Missed sample.

**Table 4 (Continued)**  
**Estimates of HTRs on Meeting and Missing Analysts' Forecasts**  
**Dependent Variable = EM**

**Panel B: 2 Cent Bins**

<u>Just-Beat</u> <u>Sample</u>	<u>Just-Miss</u> <u>Sample</u>	<u>n</u>	<u>HTRTX</u>	<u>FTC LIM</u>	<u>LEV</u>	<u>DIVYLD</u>
UE= (.07)-(.08)	UE= (.09)-(.10)	21/24	6.0459	0.0767	-1.5755	9.9986
			0.3284	0.5697	0.3142	0.3286
UE= (.06)-(.07)	UE= (.08)-(.09)	25/26	6.9767	0.4605	-0.8388	3.3835
			0.1558	0.2110	0.5667	0.4262
UE= (.05)-(.06)	UE= (.07)-(.08)	33/21	0.6178	0.9252	-0.8799	1.5747
			0.4102	0.1101	0.5831	0.7030
UE= (.04)-(.05)	UE= (.06)-(.07)	51/25	-11.4451	0.2777	-0.2015	-4.9023
			0.1755	0.4234	0.8761	0.2771
UE= (.03)-(.04)	UE= (.05)-(.06)	69/33	-5.7195	-0.2116	0.3031	-1.869
			0.2977	0.3136	0.7826	0.5926
UE= (.02)-(.03)	UE= (.04)-(.05)	86/51	<b>13.5904</b>	-0.3161	0.7933	5.029
			0.0662	0.1362	0.3810	0.3137
UE= (.01)-(.02)	UE= (.03)-(.04)	129/69	<b>8.5911</b>	-0.0546	0.4098	-0.7968
			0.0350	0.7755	0.5755	0.8247
UE= .00-(.01)	UE= (.02)-(.03)	211/86	0.4165	0.0543	-0.1558	-1.3056
			0.4141	0.7735	0.7758	0.5363
<b>UE= .01-.00</b>	<b>UE= (.01)-(.02)</b>	<b>255/129</b>	0.5523	0.0327	0.275	-0.5382
			0.3473	0.8685	0.5753	0.7469
UE= .02-.01	UE= .00-(.01)	236/211	0.8782	-0.0473	-0.1189	0.0436
			0.2313	0.6921	0.7749	0.9790
UE= .03-.02	UE= .01-.00	185/255	-0.2595	-0.1911	-0.1246	-0.9737
			0.8143	0.1553	0.7693	0.5885
UE= .04-.03	UE= .02-.01	129/236	-0.4597	-0.00031	-0.1435	-3.2993
			0.7320	0.9981	0.7531	0.3482
UE= .05-.04	UE= .03-.02	105/185	0.6106	0.2126	-0.2557	-11.419
			0.3427	0.2604	0.6060	0.0440
UE= .06-.05	UE= .04-.03	105/129	1.2972	0.1035	0.0514	-4.5443
			0.2394	0.6415	0.9184	0.4066
UE= .07-.06	UE= .05-.04	81/105	0.4861	0.1106	-0.062	-0.9153
			0.4132	0.6233	0.9096	0.9075
UE= .08-.07	UE= .06-.05	51/105	-1.1399	0.246	0.0832	-1.6746
			0.6405	0.3231	0.9031	0.8236
UE= .09-.08	UE= .07-.06	49/81	-3.3193	-0.3264	21.5108	1.1288
			0.3961	0.1505	0.1431	0.0656
UE= .10-.09	UE= .08-.07	50/51	1.5979	-0.1869	2.2181	0.4854
			0.2893	0.3857	0.7947	0.4362

P-values are listed below coefficients and reflect 1-tailed tests for HTRTX. The profit benchmark is bolded as well as all coefficients that are significant at the 10% level or lower. UE = unexpected earnings (actual less forecasted EPS). For the number of observations, the number to the left of the “/” is the n in the Just-Beat sample and the number to the right is the n for the Just-Missed sample.



**Table 5**  
**Estimates of Deferring HTRs on Meeting and Missing Analysts' Forecasts**  
**Dependent Variable = HTRTX\_DEF**

**Panel A: Full Sample Period**

<u>Variable</u>	<u>Pred.</u>	<u>MEET</u>			<u>MISS</u>		
		<u>Coefficient</u>	<u>P</u> <u>Value</u>		<u>Coefficient</u>	<u>P</u> <u>Value</u>	
Intercept		-0.1505	<.0001	***	-0.1473	<.0001	
MEET	+	0.3155	0.0499	**			
MISS	-				0.0944	0.3490	
TR_LIM	-	-0.1041	0.0207	**	-0.1005	0.0216	**
LEV		-0.0333	0.0425	**	-0.0350	0.0451	**
DIVYLD		0.1322	0.4656		0.0744	0.6727	
EP		-0.0016	0.9047		0.0001	0.9940	
LnSales		0.0129	0.0011	***	0.0131	0.0009	***
Nanalyst		0.0000	0.9772		-0.0001	0.9007	
HHI		0.0037	0.0421	**	0.0040	0.0286	**
Segments		0.0023	0.0509	*	0.0024	0.0373	***
AbsDiscAccr		-0.0069	0.7173		-0.0023	0.9100	***
Foreign%		0.0616	<.0001	***	0.0589	<.0001	***
N		574			574		
Adjusted R <sup>2</sup>		0.170			0.164		

\*, \*\*, \*\*\* Indicate significance at the 10 percent, 5 percent and 1 percent levels respectively. Huber-White robust standard errors are clustered by firm and are used to control for heteroscedasticity and serial correlation. When predictions are made, p-values are one-tailed if sign is consistent with prediction. All other p-values are two-tailed. All variables are defined in Exhibit 1.

**Table 5 (Continued)**  
**Estimates of Deferring HTRs on Meeting and Missing Analysts' Forecasts**  
**Dependent Variable = HTRTX\_DEF**

**Panel B: Period before Law Change**

<u>Variable</u>	<u>Pred.</u>	<u>PRE</u>			<u>PRE</u>		
		<u>Coefficient</u>	<u>p Value</u>		<u>Coefficient</u>	<u>p Value</u>	
Intercept		-0.1520	0.0006	***	-0.1407	0.0008	***
MEET	+	0.5750	0.0125	**			
MISS	-				-0.4335	0.0164	**
TR_LIM	-	-0.0714	0.0658	*	-0.0706	0.0662	*
LEV		-0.0401	0.0701	*	-0.0452	0.0498	**
DIVYLD		0.2478	0.2192		0.2908	0.1234	
EP		-0.0057	0.7662		-0.0068	0.6536	
LnSales		0.0122	0.0076	***	0.0122	0.0078	***
Nanalyst		-0.0001	0.8564		-0.0002	0.7567	
HHI		0.0046	0.0561	*	0.0052	0.0396	**
Segments		0.0019	0.0441	**	0.0021	0.0286	**
AbsDiscAccr		-0.0153	0.4490		-0.0026	0.9086	
Foreign%		0.0765	0.0001	***	0.0692	0.0002	***
N		375			375		
Adj R-Sq		0.135			0.118		

\*, \*\*, \*\*\* Indicate significance at the 10 percent, 5 percent and 1 percent levels respectively. Huber-White robust standard errors are clustered by firm and are used to control for heteroscedasticity and serial correlation. When predictions are made, p-values are one-tailed. All variables are defined in Exhibit 1.

**Table 5 (Continued)**  
**Estimates of Deferring HTRs on Meeting and Missing Analysts' Forecasts**  
**Dependent Variable = HTRTX\_DEF**

**Panel C: PRE Period - Using MEET / MISS Indicator Variables with Interaction**

<u>Variable</u>	<u>Pred.</u>	<u>PRE</u>			<u>PRE</u>		
		<u>Coefficient</u>	<u>P Value</u>		<u>Coefficient</u>	<u>P Value</u>	
Intercept		-0.1556	0.0004	***	-0.1373	0.0007	***
MEET_IND	+	0.0183	0.0057	***			
MISS_IND	-				-0.0183	0.0113	***
TR_LIM	-	0.0195	0.0440	**	-0.1375	0.0221	**
MEET_IND_TR_LIM		-0.1571	0.0238	**			
MISS_IND_TR_LIM					0.1571	0.0238	**
LEV		-0.0367	0.1107		-0.0367	0.1107	
DIVYLD		0.3197	0.1206		0.3197	0.1206	
EP		-0.0036	0.8386		-0.0036	0.8386	
LnSales		0.0122	0.0059	***	0.0122	0.0059	***
Nanalyst		-0.0001	0.8501		-0.0001	0.8501	
HHI		0.0044	0.0655	*	0.0044	0.0655	*
Segments		0.0020	0.0334	**	0.0020	0.0334	**
AbsDiscAccr		-0.0052	0.8058		-0.0052	0.8058	
Foreign%		0.0729	0.0002	***	0.0729	0.0002	***
N		375			375		
Adj R-Sq		0.149			0.149		

\*, \*\*, \*\*\* Indicate significance at the 10 percent, 5 percent and 1 percent levels respectively. Huber-White robust standard errors are clustered by firm and are used to control for heteroscedasticity and serial correlation. When predictions are made, p-values are one-tailed. All variables are defined in Exhibit 1.

**Table 5 (Continued)**  
**Estimates of Deferring HTRs on Meeting and Missing Analysts' Forecasts**  
**Dependent Variable = HTRTX\_DEF**

**Panel D: Post Period - Using MEET / MISS Continuous Variables**

<u>Variable</u>	<u>Pred.</u>	<u>POST</u>			<u>POST</u>		
		<u>Coefficient</u>	<u>p Value</u>		<u>Coefficient</u>	<u>p Value</u>	
Intercept		-0.1060	0.0536	*	-0.1072	0.0406	**
MEET	+	-0.2595	0.1746				
MISS	-				1.1640	0.0143	**
TR_LIM	-	-0.1401	0.0404	**	-0.1317	0.0356	**
LEV		-0.0076	0.7874		-0.0123	0.6444	
DIVYLD		-0.4263	0.3403		-0.4658	0.3362	
EP		0.0341	0.2232		0.0591	0.0640	*
LnSales		0.0122	0.0856	*	0.0101	0.1303	
Nanalyst		0.0001	0.9000		0.0003	0.7662	
HHI		0.0022	0.3358		0.0025	0.2854	
Segments		0.0030	0.1721		0.0035	0.0983	*
AbsDiscAccr		-0.0286	0.5441		-0.0332	0.4619	
Foreign%		0.0403	0.0618	*	0.0357	0.0955	*
N		199			199		
Adj R-Sq		0.250			0.286		

\*, \*\*, \*\*\* Indicate significance at the 10 percent, 5 percent and 1 percent levels respectively. Huber-White robust standard errors are clustered by firm and are used to control for heteroscedasticity and serial correlation. When predictions are made, p-values are one-tailed. All variables are defined in Exhibit 1.

**Table 5 (Continued)**  
**Estimates of Deferring HTRs on Meeting and Missing Analysts' Forecasts**  
**Dependent Variable = HTRTX\_DEF**

**Panel E: Post Period - Using MEET / MISS Indicator Variables with Interaction**

<u>Variable</u>	<u>Pred.</u>	<u>POST</u>			<u>POST</u>		
		<u>Coefficient</u>	<u>p</u> <u>Value</u>		<u>Coefficient</u>	<u>p</u> <u>Value</u>	
Intercept		-0.1355	0.0075	***	-0.1616	0.0015	***
MEET_IND	+	-0.0261	0.0464	**			
MISS_IND	-				0.0261	0.0928	**
TR_LIM	-	-0.2578	0.0002	***	0.0027	0.4469	
MEET_IND_TR_LIM		0.2605	0.0003	***			
MISS_IND_TR_LIM					-0.2605	0.0005	***
LEV		-0.0231	0.2881		-0.0231	0.2881	
DIVYLD		-0.6227	0.1461		-0.6227	0.1461	
EP		0.0488	0.1900		0.0488	0.1900	
LnSales		0.0150	0.0140	**	0.0150	0.0140	**
Nanalyst		-0.0004	0.6836		-0.0004	0.6836	
HHI		0.0041	0.0393	**	0.0041	0.0393	**
Segments		0.0038	0.0833	*	0.0038	0.0833	*
AbsDiscAccr		-0.0130	0.7262		-0.0130	0.7262	
Foreign%		0.0463	0.0362	**	0.0463	0.0362	**
N		199			199		
Adj R-Sq		0.431			0.431		

\*, \*\*, \*\*\* Indicate significance at the 10 percent, 5 percent and 1 percent levels respectively. Results are consistent using Meet and Miss continuous variables. Huber-White robust standard errors are clustered by firm and are used to control for heteroscedasticity and serial correlation. When predictions are made, p-values are one-tailed. All variables are defined in Exhibit 1.

**Table 6**  
**Determinants of Disclosure**  
**Dependent Variable = DISCLOSE**

	<u>Pred.</u>	<u>Coefficient</u>	<u>p- Value</u>		<u>Coefficient</u>	<u>p- Value</u>	<u>Coefficient</u>	<u>p- Value</u>		
Intercept		-6.4225	0.2208		-6.2937	0.1634	-6.0332	0.1692		
HTRTX	-	<b>-5.9629</b>	<b>0.0637</b>	*						
HTRTX_IND	-				<b>-2.4847</b>	<b>0.0063</b>	***			
NEEDED_IND	-						<b>-2.4138</b>	<b>0.0086</b>	***	
EP		-3.5991	0.3865		-2.8424	0.5382	-2.7858	0.5331		
LEV		3.6695	0.1551		4.1694	0.1281	4.0187	0.1387		
PROA		14.8933	0.0075	***	13.2902	0.0129	**	13.7187	0.0107	**
Inst		5.9648	0.0305	**	6.3552	0.0276	**	6.2774	0.0271	**
LnSales		-0.0379	0.9266		-0.1085	0.8060		-0.1256	0.7758	
Foreign%		-2.8138	0.0023	***	-3.1310	0.0022	***	-3.2144	0.0020	***
HHI		0.0689	0.5430		0.0617	0.5886		0.0552	0.6267	
Nanalyst		0.0070	0.8954		0.0162	0.7711		0.0165	0.7674	
Segments		0.1811	0.0143	**	0.2219	0.0108	**	0.2196	0.0123	**
AbsDiscAccr		2.9189	0.7089		1.7834	0.8313		1.7277	0.8356	
<hr/>										
N			122			122			122	
% Correctly Predicted			0.842			0.862			0.862	
Area under the ROC curve			0.842			0.862			0.862	

\*, \*\*, \*\*\* Indicate significance at the 10 percent, 5 percent and 1 percent levels respectively. Huber-White robust standard errors are clustered by firm and are used to control for heteroscedasticity and serial correlation. When predictions are made, p-values are one-tailed. All variables are defined in Exhibit 1.