Taxes and Financial Assets: Valuing Permanently Reinvested Foreign Earnings

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Abstract: *We investigate the value of permanently reinvested earnings (PRE) of foreign subsidiaries of U.S. multinationals. We focus particularly on how firm value is affected by reinvesting PRE in financial rather than operating assets, where the reinvestment in financial assets is to avoid the U.S. repatriation tax. Consistent with prior studies, we find that the value of PRE is lower for those firms that disclose a positive U.S. tax associated with repatriation of PRE. Consistent with our hypothesis, we find that this lower value is concentrated in the subset of firms with high amounts of excess cash, our proxy for tax-related reinvestment in financial assets.*

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INTRODUCTION

We investigate how tax rules interact with foreign investments to affect the value of U.S. multinational corporations' "permanently reinvested earnings" (PRE). Prior studies in economics and accounting examine the direct effect of potential U.S. taxes on the value of PRE. We extend this research by investigating whether firm value is affected in a manner consistent with economic theory when PRE is invested in financial rather than operating assets, where the investment in financial assets is to avoid the U.S. repatriation tax.

For U.S. parent companies, PRE are retained earnings of foreign subsidiaries for which no U.S. income tax expense has been recognized in the parents' consolidated financial statements. Under U.S. GAAP (APB Opinion 23 as amended by SFAS 109), no deferred tax expense is required to be recorded on the earnings of foreign subsidiaries when the parent company establishes that the earnings will be permanently reinvested outside the U.S.[1] However, additional U.S. tax could become due in future years if the assets represented by PRE are repatriated to the U.S. parent or are invested in U.S. property[2]. At the time of the repatriation or investment in U.S. property, the U.S. will tax the foreign earnings as a dividend and will allow a foreign tax credit for any foreign taxes previously paid on the earnings.

To the extent that investors expect PRE to be repatriated in the future and an additional U.S. tax to be paid on those earnings, investors should reduce their estimate of the firm's value

[1] Note that not all retained earnings of foreign subsidiaries are designated as PRE. Retained earnings that do not meet the "indefinite reversal criteria" of APB 23 must have deferred U.S. tax provided in the consolidated financial statements.

[2] U.S. property is any property located in the United States, or stock in a domestic corporation.

by the estimated future tax.[3] Empirical evidence in Collins, Hand, and Shackelford (2001) (CHS) is consistent with investors discounting PRE for the unrecorded U.S. tax that is disclosed in the financial statement notes. CHS interpret their results as evidence that investors incorporate the disclosed tax amount in their valuation of PRE, despite the fact that the tax is not recorded in the financial statements.[4]

When foreign subsidiaries reinvesting earnings reach a mature phase and run out of positive net present value investment opportunities, they may begin reinvesting foreign earnings in financial assets, rather than operating assets, to avoid repatriating the accumulated earnings and incurring an immediate U.S. tax.[5] Thus, the U.S. tax rules may work to encourage foreign subsidiaries to accumulate financial assets such as cash outside the U.S. as a way of avoiding current taxes.[6] Foley, Hartzell, Titman, and Twite (2007) investigate whether the deferral of U.S. tax on PRE contributes to firms accumulating excess cash. After controlling for non-tax reasons for holding cash, they find that excess cash holdings of multinational firms are positively associated with their proxy for the amount of additional U.S. tax that would be required if foreign earnings were repatriated. They interpret their findings as evidence that the potential U.S. tax on repatriation induces U.S. multinational firms to accumulate excess cash.

Using sample firms and a time frame similar to CHS, we obtain the amount of PRE and the disclosed amount of additional U.S. tax that would be due upon repatriation from the income

[3] The amount of this reduction in firm value can be thought of as the present value of the future tax. Hartman (1985) demonstrates that since both the reinvested earnings and the associated tax will grow in the future, the length of time until repatriation should not affect the present value of the tax on PRE.

[4] Bauman and Shaw (2006) find similar results using a more recent sample. Dhaliwal and Krull (2006) show that the market values foreign earnings more highly when firms have a larger percentage of PRE relative to total assets; however they do not find that the market impounds the unrecorded tax liability on PRE. PRE have also been studied in connection with earnings management (Krull, 2004). The impact of the American Jobs Creation Act of 2004 on PRE has been studied by Blouin and Krull (2008) and Albring, Dzuranin, and Mills (2005).

[5] This decision is investigated in Weichenrieder (1996), Altshuler and Grubert (2003), Scholes et al. (2005), and De Waegenaere and Sansing (2008) among others.

[6] As used in this paper, and consistent with U.S. GAAP, the term "cash" also includes short-term marketable securities.

tax footnotes to the 1994, 1995, and 1996 financial statements.[7] We also estimate the cash model from Foley et al. (2007) to obtain a measure of excess cash for each of our sample firms. We assume that only firms that report a positive repatriation tax are accumulating excess foreign cash to avoid U.S. tax. We further assume that, for the subset of sample firms that (1) report a positive amount of repatriation tax, and (2) hold high levels of excess cash, the excess cash is located outside the U.S. CHS have previously demonstrated that, for firms reporting a positive U.S. repatriation tax, the value of PRE is lower than for firms reporting no tax. Our hypotheses extend this research, predicting that, for firms reporting a positive repatriation tax, the value of PRE will be lowest for those firms holding large amounts of excess cash, our proxy for financial assets.

Our empirical results are consistent with our hypotheses. We find that, similar to CHS, the value of PRE is lower for those sample firms that report a positive tax on repatriation relative to the other sample firms. However, when we separate the sample firms using our measure of excess cash, we find that this lower valuation result is confined to those sample firms that both (1) report a positive repatriation tax, and (2) have high levels of excess cash. Our results suggest that the result in CHS may not be entirely due to the disclosure of the tax amount, but may also be related to excess foreign cash holdings by firms attempting to avoid the U.S. repatriation tax. Our results are consistent with the notion that investing PRE in financial assets is associated with a reduction in firm value beyond the hypothetical U.S. repatriation tax. In other words, U.S. repatriation taxes can have both a direct and indirect effect on the value of foreign subsidiaries. The indirect effect comes from reinvestment in financial assets that are not available to the U.S.

[7] The sample firms and years are chosen to allow us to more closely compare our results with those of CHS, who focus on these same firms for 1993. The first year for which 10-K data are available on the SEC Edgar database is 1994, so we begin with that year. We stop with 1996 because, the further we extend the sample period beyond 1994, the more CHS firms drop out of our sample, preventing a direct comparison of results between the two studies.

parent and may not be invested in U.S. property without triggering an additional U.S. tax. These tax-related constraints reduce the benefit of holding foreign cash relative to holding an equivalent amount of unconstrained cash.

Our results make an important contribution to our understanding of how taxes affect firm value by providing empirical evidence that the value of PRE is associated with the nature of the assets in which the foreign subsidiary invests. Foley et al. (2007) provide evidence that the potential U.S. tax on repatriation induces U.S. multinational firms to accumulate excess cash. Since U.S. tax law provides an incentive for foreign subsidiaries to defer repatriation of cash, managers must trade off the negative impact of U.S. repatriation taxes on firm value with the limited benefits that come from reinvesting foreign earnings in financial assets and the fact that these assets are not available directly for use by the U.S. parent. Our results also provide an alternative explanation for the results in CHS. CHS attribute the lower value of PRE for firms reporting positive repatriation taxes to the information contained in the tax disclosure. Our results suggest that at least part of that effect may be related to investments in foreign financial assets.

Altshuler and Grubert (2003) argue that foreign financial assets can act as "negative leverage" and allow the U.S. parent to borrow more domestically. To the extent this borrowing is costless, Altshuler and Grubert suggest that the U.S. repatriation tax can be successfully avoided. Our results suggest that such alternatives to actual repatriation may be costly, which is consistent with evidence that U.S. multinationals were willing to incur a small but economically meaningful U.S. tax to make large cash repatriations during the tax holiday established by the American Jobs Creation Act of 2004.[8]

[8] In our sample, the firms that appear to be accumulating large amounts of financial assets to avoid the U.S. repatriation tax do not have significantly more leverage than other sample firms.

This paper proceeds as follows. The second section provides some background to the taxation of PRE, discusses prior empirical and analytical results, and develops our hypotheses. The third section presents our research design and discusses our sample selection process. The fourth section presents the results of our empirical tests, and the fifth section concludes.

BACKGROUND AND HYPOTHESES

U.S. tax treatment of PRE

The U.S. generally does not tax the earnings of foreign corporations unless the earnings are from a U.S. business. Thus, for U.S. parent corporations the foreign earnings of foreign subsidiaries are not immediately subject to U.S. tax. The foreign earnings remain untaxed by the U.S. until the subsidiary repatriates the earnings in the form of a dividend to the parent, or until the earnings are invested in U.S. property.[9] Upon repatriation, the U.S. taxes the dividend at the statutory U.S. corporate tax rate.[10] The U.S. allows a foreign tax credit for the foreign income taxes that have been paid on the earnings represented by the dividend.[11] This means that the additional U.S. tax due on the repatriated foreign earnings reflects the difference between the U.S. corporate tax rate and the foreign tax rate (we refer to this additional amount as the "repatriation tax"). Foreign earnings that are never repatriated will never become subject to U.S. tax. Also, to the extent that the foreign tax rate exceeds the U.S. tax rate, the foreign tax credit will completely offset the U.S. tax so that no additional U.S. tax will be due on repatriation.

[9] To prevent firms from circumventing these provisions, a loan to the U.S. parent is considered an investment in U.S. property..

[10] The dividend received is first "grossed up" to reflect the foreign tax already paid. For example, if a foreign subsidiary earns $100, pays $20 in foreign tax, and repatriates $80 to the U.S. parent, the U.S. taxes $100 = $80/(1-20%).

[11] Dividends from foreign subsidiaries generally do *not* qualify for the dividends received deduction.

The above rule is designed to shield foreign earnings from U.S. tax as long as the earnings remain invested in foreign assets. However, to prevent tax avoidance, there are several exceptions to this general tax treatment. An exception in the Subpart F rules of the Internal Revenue Code, applies to earnings from financial assets, such as interest or dividends, earned by a foreign subsidiary of a U.S. parent corporation. Under this exception the U.S. taxes currently the foreign earnings from financial assets. A foreign subsidiary that has run out of real investment opportunities and that reinvests earnings from operating assets in financial assets will therefore have to pay U.S. tax on the earnings from the financial assets as they are earned, with a foreign tax credit for any foreign tax paid on the same earnings.

An alternative to foreign reinvestment is to repatriate foreign earnings to the parent, pay the additional U.S. tax on the repatriation, and reinvest the after-U.S.-tax foreign earnings in the U.S.[12] Hartman (1985) finds the somewhat counterintuitive result that the length of the deferral of U.S. tax has no effect on this reinvestment decision. Under Hartman's model, the earnings should be reinvested in the location that provides the greatest expected after-local-tax rate of return, even if this means paying a U.S. repatriation tax immediately.

Hartman's result holds if the foreign earnings are reinvested in operating assets. However, an alternative is to reinvest foreign earnings in foreign financial assets, and the impact of this alternative is investigated by Weichenrieder (1996) and Altshuler and Grubert (2003). Under certain assumptions, reinvesting in foreign financial assets can effectively eliminate the U.S. repatriation tax as a binding constraint. For example, Altshuler and Grubert (2003) argue that firms may be able to treat foreign financial assets as "negative leverage," allowing them to increase their domestic borrowing.

[12] This assumes that the foreign tax rate is less than the U.S. tax rate. To the extent that the foreign rate is greater than the U.S. rate, the availability of a foreign tax credit will likely eliminate any additional U.S. tax on the repatriation.

If the foreign earnings from operating assets are reinvested in financial assets, then the length of the deferral of the U.S. repatriation tax *does* impact the reinvestment decision, providing a disincentive to repatriate the earnings (see e.g., Scholes et al., 2005). Thus, foreign subsidiaries that lack opportunities to reinvest earnings in operating assets have an incentive to defer the U.S. repatriation tax, which may lead to excessive accumulations of financial assets, such as cash and marketable securities. Foley et al. (2007) find that cash balances of U.S. multinationals are influenced by the estimated tax burden due on repatriation of foreign earnings. They find that companies with greater expected tax liabilities upon repatriation of foreign earnings have higher cash holdings, and that this cash is located in foreign countries.[13]

To summarize, Hartman's results suggest that (in the absence of tax holidays or expected tax holidays, such as the American Jobs Creation Act of 2004) U.S. repatriation taxes should not affect the amount of PRE that is reinvested in foreign *operating* assets. However, for mature firms without positive NPV investment opportunities, the U.S. repatriation tax may affect the amount of PRE invested in foreign *financial* assets. The tax rules discussed in this section apply to all earnings of foreign subsidiaries, whether or not designated by managers as PRE. The financial reporting rules discussed in the research design section apply only to foreign retained earnings that are designated by managers as being permanently reinvested outside the U.S., which is the focus of our study.

Valuation of PRE

We investigate a setting in which a U.S. multinational firm invests in foreign operating assets through a wholly-owned foreign subsidiary. As discussed above, if the subsidiary's

[13] Another scenario where Hartman's result does not hold is when there is a "tax holiday." De Waegenaere and Sansing (2008) investigate the effect of expected tax holidays on the foreign reinvestment decision.

foreign tax rate is lower than the U.S. rate, the earnings from the operating assets will be taxed at the lower foreign rate until such time as the earnings are repatriated to the parent as a dividend. Each year the foreign subsidiary can reinvest its after-foreign-tax operating earnings in additional foreign operating assets to effectively avoid the repatriation tax, until (assuming decreasing marginal returns from investment) the marginal after-foreign-tax return from additional investment equals the investment's cost of capital.

Once the firm has reached this stage we assume there are no additional positive NPV investment opportunities, either in the foreign country or in the U.S. At this point the firm's manager must decide what to do with future after-foreign-tax earnings from the foreign operating assets. Two alternative courses of action are available, and have been explored in prior studies (e.g., Weichenrieder, 1996; Altshuler and Grubert, 2003; and De Waegenaere and Sansing, 2008).[14] First, the earnings from the operating assets can be repatriated to the U.S. parent each year as a taxable dividend. If the foreign tax rate is less than the U.S. tax rate, repatriation tax will be payable on the earnings, whereas if the foreign tax rate is equal to or greater than the U.S. rate, the foreign tax credit will completely offset any repatriation tax.

A second course of action, which avoids the U.S. repatriation tax on foreign operating earnings, is to reinvest the after-foreign-tax operating earnings in foreign financial assets. Although investment income (such as interest) from the financial assets will be subject to U.S. tax each year under Subpart F, any additional U.S. tax on the underlying operating earnings represented by the financial assets is deferred indefinitely. For example, assume the foreign subsidiary earns $100 in operating earnings and pays foreign tax of $20. Repatriating the $80 after-foreign-tax earnings will generate a U.S. repatriation tax of $15 (assuming a 35% U.S. tax

[14] A third alternative, delaying repatriation until a U.S. "tax holiday" is declared, is investigated by De Waegenaere and Sansing (2008) but is not addressed in this study.

rate), leaving $65 after-tax. However, if the $80 is invested in foreign financial assets that earn interest at 10%, each year the $8 of interest (i.e., $80 × 10%) will be taxed by the U.S. as Subpart F income, but the $15 repatriation tax on the foreign operating earnings reinvested in the financial assets is avoided indefinitely.

Since foreign earnings on financial assets will be taxed at the U.S. rate, the discount rate used to evaluate the U.S. parent's investments in financial assets should be the after-U.S.-tax risk-free rate. Assuming the risk-free rate is constant across countries, reinvestment dominates repatriation as long as the foreign tax rate is less than the U.S. tax rate. This is the optimal decision despite the fact that the future earnings from the foreign financial assets will be immediately subject to tax at the higher U.S. tax rate rather than the lower foreign rate (see e.g., Altshuler and Grubert, 2003).

In our empirical tests we consider two types of firms: (1) a firm for which, because of a high foreign tax rate relative to the U.S. tax rate, immediate repatriation of foreign operating earnings is the optimal decision (called the "repatriating firm"), and (2) a firm where, because of a low foreign tax rate relative to the U.S. tax rate, reinvestment in foreign financial assets is the optimal decision (called the "reinvesting firm"). Both types of firms (repatriating and reinvesting) have foreign subsidiaries that own foreign operating assets generating after-foreign-tax operating earnings. In addition, the foreign subsidiary of the reinvesting firm owns foreign financial assets generating foreign interest income subject to immediate U.S. tax.[15] Furthermore, the repatriating firm may, for non-tax reasons, also have investments in foreign financial assets. We assume that these assets serve a non-tax purpose and are not kept to avoid U.S. tax on repatriation.

[15] Since the earnings of foreign financial assets are subject to immediate U.S. tax, they may be repatriated each year without any additional U.S. tax. Therefore, the increase in foreign financial assets each year is only due to additional reinvestment of foreign operating earnings.

Consider the relative values of foreign financial assets for these two types of firms. Finance theory argues that there are benefits to a public corporation from holding cash, and recent empirical work has found evidence consistent with these benefits (Opler, Pinkowitz, Stulz, and Williamson, 1999; Almeida, Campello, and Weisbach, 2004; Faulkender and Wang, 2006; Pinkowitz and Williamson, 2007). On average $1 book value of cash is valued at $1, but the value of cash varies cross-sectionally based on such factors as the amount of cash held, leverage, access to securities markets, and the presence of growth options.

Finance theory also argues that there are costs associated with holding too much cash (particularly agency costs), and that shareholders would prefer that excess cash be distributed rather than retained (Faulkender and Wang, 2006). Therefore, managers must trade off the benefits and costs of holding cash in arriving at the optimal level of financial assets.

We argue that foreign cash held by the reinvesting firm to avoid U.S. taxes does not provide the same benefits as cash held by repatriating firms because the cash is not available for investments in the U.S. or for use by the U.S. parent without triggering an additional U.S. tax. For example, cash held by a foreign subsidiary to avoid U.S. tax can only be used to make acquisitions without incurring a tax cost if the acquisitions are outside of the U.S. Similarly, if the U.S. parent needs cash domestically, the existence of cash in foreign subsidiaries does not allow the U.S. parent to avoid the transaction costs associated with new borrowing. Since the foreign cash must remain outside of the U.S. to achieve tax deferral, and cannot be invested in U.S. assets, we argue that the foreign cash is “constrained” relative to cash held by the U.S. parent, or cash held by a repatriating foreign subsidiary, and that the constrained foreign cash does not provide the same benefits as unconstrained cash. Because foreign cash held by a reinvesting firm will generate at least the same level of agency costs as cash held in the U.S., but

does not provide the same benefits, we argue that foreign cash held by a reinvesting firm to avoid U.S. repatriation tax has a lower value than cash held by a repatriating firm.[16]

We expect that the value of foreign operating assets for both types of firms is greater than the value of financial assets, since the operating assets represent positive NPV investments at the time they were acquired. Although the *marginal return* on the last $1 reinvested in operating assets is assumed to be equal to the assets' discount rate, the *average return* on the operating assets is greater than the discount rate. The exact value of these assets will depend on the pre-tax return, the foreign tax rate, and the discount rate, all of which will differ across countries. Therefore, while we predict the value of foreign operating assets is greater than financial assets, we cannot predict which firms (repatriating or reinvesting) will have a higher value for foreign operating assets. We summarize our prediction of the values of the foreign subsidiaries' assets in panel A of Table 1, where we arbitrarily assign a value of "1" to the value of foreign financial assets held by the repatriating firm.

[Insert Table 1 here]

The above discussion of the values of the foreign subsidiaries' assets can be expressed as a function of its operating and financial assets: $V = \beta_1 OA + \beta_2 FA$. This equation assumes that we can separately identify foreign operating and financial assets. Because of data limitations we are only able to identify PRE, which consists of both operating and financial assets. In our empirical tests, our regression will look like $V = \gamma(OA + FA)$, and our estimated coefficient will reflect a weighted average of the two coefficients β_1 and β_2. Therefore, to the extent a sample firm has a

[16] Consistent with this argument, of our sample firms that appear to accumulate large amounts of cash to avoid the repatriation tax, only 7% appear to be financially constrained using the measure of constraint from Almeida, Campello, and Weisbach (2004), compared with 40% of the firms holding large amounts of cash for apparently non-tax reasons. Being financially constrained means that it is costly for firms to access the capital markets. Therefore, financially constrained firms receive a larger benefit from holding cash. Thus, for a large percentage of our sample firms that accumulate cash to avoid the repatriation tax (93%), they receive little or no benefit from accumulating the cash.

relatively high proportion of foreign financial assets, the estimated regression coefficient will be similar to the predicted coefficient for financial assets, whereas if the sample firm has a relatively high proportion of foreign operating assets, the estimated regression coefficient will be similar to the predicted coefficients for operating assets.

Hypotheses

Based on the discussion above and summarized in Table 1, we are able to make two predictions about the effect of financial assets on the value of PRE.

H1: Permanently reinvested earnings related to financial assets are valued less than those related to operating assets.

Hypothesis 1 makes a comparison between the values of PRE consisting of financial assets and operating assets, and predicts that financial assets will, in general, be valued less than operating assets. The idea that financial assets are valued less than operating assets at the firm level has been demonstrated in prior research. However, our hypothesis relates to the value of PRE rather than the value of the firm as a whole. As discussed above, we are only able to measure financial and operating assets at the firm level. Therefore, in operationalizing our hypothesis we are extending prior findings at the firm level to predict that the value of PRE will be lower for those firms that, at the firm level, have a relatively high level of financial assets.

H2: Permanently reinvested earnings related to financial assets are valued less for firms that would incur a repatriation tax (i.e., "reinvesting" firms) relative to firms that could repatriate with no additional U.S. tax (i.e., "repatriating" firms).

Hypothesis 2 focuses on how U.S. repatriation taxes affect the value of foreign financial assets. As discussed previously, cash held by a foreign subsidiary to avoid U.S. taxes provides a smaller benefit than cash available to be used in the U.S., while generating the same agency costs as unconstrained cash. We operationalize this hypothesis by comparing the value of PRE for

repatriating and reinvesting firms where both groups of firms have relatively high levels of financial assets at the firm level.

An example of a reinvesting firm from our sample is Coca-Cola Company. Coca-Cola reports $542 million of permanently reinvested earnings with taxes of approximately $190 million due if those earnings were repatriated at December 31, 1996. In addition Coca-Cola is classified as a high excess cash firm. We expect that the PRE of Coca-Cola is a combination of operating and financial assets and that Coca-Cola is accumulating financial assets to avoid the additional taxes due upon repatriation of PRE.

An example of a repatriating firm from our sample is Navistar. In its 1996 10-K, Navistar reports $30 million of permanently reinvested earnings with no additional tax due upon repatriation. In addition, Navistar is classified as a high excess cash firm. We expect the PRE of Navistar to be a combination of operating and financial assets; however we assume the financial assets are held for non-tax reasons.[17] We argue that the financial assets represented by the PRE of Coca-Cola are constrained due to the repatriation tax, while any financial assets represented by the PRE of Navistar are unconstrained. Since both firms are classified as having high excess cash, hypothesis 2 predicts that Coca-Cola's PRE is valued lower than Navistar's PRE.

While we expect the value of foreign cash held by reinvesting firms to be lower than cash held by repatriating firms, we are only able to measure the amount of PRE held by each type of firm, and the amount of total cash at the consolidated firm level. An alternative reason for expecting the result predicted by hypothesis 2 is that, for the repatriating firms in our sample that have large amounts of excess cash, the cash may not be held by foreign subsidiaries, and may therefore not be part of PRE. In other words, it may be the case that our sample repatriating firms

[17] Navistar did not repatriate any foreign earnings under the tax holiday provided by the American Jobs Creation Act of 2004, whereas Coca-Cola repatriated $6.1 billion.

that hold large amounts of excess cash actually have PRE that consists primarily of operating assets with little or no financial assets. This would also result in the PRE of reinvesting firms being valued less than the PRE of repatriating firms when both types of firms have large amounts of excess cash.

It is important to note that the lower valuation predicted by hypothesis 2 is *not* due directly to the additional U.S. tax that would be due on planned repatriation, since we do not anticipate that the financial assets will ever become subject to U.S. tax.[18] In addition, in our empirical tests we control for the tax on hypothetical repatriation reported by the firm. The lower valuation is a result of reinvesting firms investing in financial assets that do not provide the same benefit as U.S. financial assets. Absent repatriation taxes, managers could choose to use these financial assets in a manner that would increase firm value.

To operationalize these hypotheses requires several assumptions, and we restate them here for clarity. First, we assume that firms with high amounts of excess cash also have excess investments in other financial assets. Second, we assume that firms that report a positive repatriation tax are accumulating excess foreign financial assets to avoid U.S. tax. That is, these firms are the reinvesting firms, while those firms that do not disclose the amount of additional tax upon repatriation of PRE represent firms that repatriate all foreign operating earnings. Third, we assume that, for the subset of sample firms that (1) report a positive amount of repatriation tax, and (2) hold high levels of excess cash, the excess cash and other financial assets are located in subsidiaries outside the U.S. These assumptions are consistent with the empirical findings reported by Foley et al. (2007), who show that firms with high repatriation tax burdens hold

[18] However, the decrease in value due to holding financial assets should not exceed the amount of repatriation tax avoided by the firm. Otherwise the firm would be better of paying the repatriation tax. In other words, the additional U.S. tax on repatriation related to financial assets acts as an upper bound on the reduction in firm value due to holding excess foreign cash.

significant amounts of excess cash abroad. Fourth, we assume that if repatriating firms hold excess cash, it is not being held to avoid U.S. tax, and is available to be used by the U.S. parent without any tax constraints.

RESEARCH DESIGN AND SAMPLE SELECTION

Research design

To test our hypotheses we use a valuation model that allows us to estimate how PRE are related to firm value. We adopt the valuation model used by CHS, which is a variant of the Feltham and Ohlson (1995) model:

[1] $$MVE = \beta_0 + \beta_1 DNI + \beta_2 FNI + \beta_3 Net\ BVE + \beta_4 PRE + \beta_5 PRETAX + \varepsilon$$

where *MVE* = market value of equity (data199*data25)[19];

DNI = net income from domestic operations (data272 – (data63 + data173 + data269 + data271));

FNI = net income from foreign operations (data273 – (data64 + data270));

Net BVE = book value of equity (data60) minus *PRE*;

PRE = permanently reinvested earnings, obtained from an examination of the financial statement footnote disclosures for our sample firms; and

PRETAX = dollar amount of tax due on hypothetical repatriation of permanently reinvested earnings, obtained from an examination of the financial statement footnote disclosures for our sample firms.

All variables have a time- and firm-specific subscript that is not shown in equation [1]. We control for differences across years in the sample by including an indicator variable for each year. We deflate all variables by the number of shares outstanding (data25).[20] We measure all variables as of the fiscal year-end. In untabulated analyses, we measure market value of equity at

[19] The data numbers refer to Compustat data items.
[20] We also use book value of equity as a deflator and find results that are similar to those presented in the tables.

the end of the first quarter of the subsequent year to allow financial information to be disseminated. The direction of the coefficients for these results are the same as those reported in the tables and the significance levels are at least as high those reported in the tables.

To test our hypotheses we must (1) determine whether a firm reinvests or repatriates its foreign operating earnings and (2) estimate proxies for those permanently reinvested earnings invested in operating and financial assets, as firms do not disclose these components in their financial statements. That is, we must identify to which of the four groups identified in Table 1 our firms belong. We use the tax disclosure on PRE repatriation to proxy for whether a firm reinvests or repatriates its foreign operating earnings. We use a measure of excess cash developed in prior studies as our proxy for high amounts of financial assets. We discuss each of these proxies below.

Firms reporting PRE are required by SFAS 109 to disclose both the amount of earnings designated as permanently reinvested as well as an estimate of the tax liability that would be incurred if those earnings were repatriated. There are three different categories of disclosures made by firms with respect to the repatriation taxes related to PRE (see CHS): (1) the unrecorded amount of tax that managers estimate would be due if the PRE were repatriated; (2) a statement that, because of foreign tax credits, no additional tax would be due upon the repatriation of PRE; and (3) a statement that the determination of the U.S. tax that would be due on repatriation of PRE is “not practicable.” However, some firms simply ignore the requirement to report the amount of hypothetical tax and say nothing, presumably because the tax would not be material, and this creates a fourth category.

Since we are using the tax disclosure on PRE repatriation, we begin our analysis by replicating CHS. We separate our sample firms into groups, based on the type of management

disclosure about the tax associated with PRE. To investigate how the type of disclosure affects the value of PRE, we add indicator variables to equation [1] and interact those indicator variables with PRE:

[2] $$MVE = \beta_0 + \beta_1 DNI + \beta_2 FNI + \beta_3 Net\ BVE + \beta_4 PRE + \beta_5 PRETAX +$$
$$\beta_6 TAX_{NP} + \beta_7 TAX_{NP}*PRE + \beta_8 TAX_P + \beta_9 TAX_P*PRE + \varepsilon$$

where TAX_{NP} = 1 if the firm reports that the tax associated with the repatriation of PRE is not practicable to estimate, and 0 otherwise; and

TAX_P = 1 if the firm reports a positive tax amount associated with the repatriation of PRE, and 0 otherwise.

The coefficient on PRE (β_4) provides the value of PRE for those firms that either state that the tax on PRE repatriation would be zero, or provide no disclosure on the repatriation tax.[21] Based on the results of CHS, we expect the coefficient on PRE to be greater than zero, and the coefficient on TAX_P*PRE (β_9) to be less than zero.

We assume those firms that disclose a positive tax amount on the repatriation of PRE (TAX_P) are firms that reinvest all foreign operating earnings into financial assets, while those firms that disclose no additional tax from the repatriation of PRE are firms that repatriate all foreign operating earnings.[22] It is not clear whether the firms that disclose the repatriation tax is not practicable to estimate would repatriate or reinvest foreign operating earnings. Therefore, we analyze this group (TAX_{NP}) separately and make no predictions about the value of their PRE.

Firms are required to disclose the amount of PRE, but are not required to disaggregate it into its operating and financial asset components. Ideally, we would measure the financial assets at the foreign subsidiary level; however, due to data limitations, we proxy for high levels of

[21] We assume that those firms that provide no disclosure do so because the tax would not be material, and combine them with the firms reporting zero tax. To allow comparability with the CHS results, we also show these firms separately in Table 4.

[22] While firms may also reinvest in foreign operating assets, we assume that our sample firms have reached the optimal investment in operating assets and are therefore "mature" firms that lack positive NPV investments.

financial assets by using a measure of excess cash. Firms can hold cash for a variety of reasons, (Opler et al., 1999). To control for these other reasons, we use the residuals from the model in Foley et al. (2007) as our measure of excess cash. In the Appendix, we explain the details of the model and its estimation.

An assumption we make is that firms with high amounts of excess cash will also have excess investments in financial assets. This assumption is likely to hold on average, since cash is the most common financial asset. We are only able to estimate excess cash on a firm-wide basis. Implicit in our analysis is the assumption that a high amount of excess cash at the firm-level implies a high amount of excess cash at the subsidiary-level. This assumption is consistent with the findings reported by Foley et al. (2007), who show that firms with high repatriation tax burdens hold significant amounts of excess cash abroad. For purposes of testing our hypotheses, we expect that those firms with high amounts of excess cash (i.e., more investments in financial assets) and that report a positive tax from PRE repatriation are more likely to be holding foreign financial assets in response to repatriation taxes.

To test our hypotheses we classify our firms into six groups based on the tax disclosure on PRE and the level of excess cash, which we refer to as the tax/cash groups. We modify equation [2] to investigate how the tax/cash grouping affects the value of PRE.[23]

$$[3] \quad MVE = \gamma_0 + \gamma_1 DNI + \gamma_2 FNI + \gamma_3 Net\ BVE + \gamma_4 PRE + \gamma_5 PRETAX + \gamma_6 TAX_{0,N}EC_H + \gamma_7 TAX_{NP}EC_L + \gamma_8 TAX_{NP}EC_H + \gamma_9 TAX_P EC_L + \gamma_{10} TAX_P EC_H + \gamma_{11} TAX_{0,N}EC_H{*}PRE + \gamma_{12} TAX_{NP}EC_L{*}PRE + \gamma_{13} TAX_{NP}EC_H{*}PRE + \gamma_{14} TAX_P EC_L{*}PRE + \gamma_{15} TAX_P EC_H{*}PRE + \varepsilon$$

[23] Theoretically, we expect the coefficient on net financial assets at the firm level to be smaller than the coefficient on net operating assets. In an untabulated sensitivity test, we obtain similar results as those presented in the tables if we include net financial assets and net operating assets, rather than book value of equity. The consistency of the results provides further assurance that our results are not simply capturing a valuation difference between operating and financial assets at the firm level.

where $TAX_{0,N}EC_H$ = 1 if the firm: (i) reports no additional tax from PRE repatriation, or does not disclose a tax associated with PRE, and (ii) has *high excess cash*; and 0 otherwise;

$TAX_{NP}EC_L$ = 1 if the firm: (i) reports that it is not practicable to estimate the tax from PRE repatriation, and (ii) has *low excess cash*[24]; and 0 otherwise;

$TAX_{NP}EC_H$ = 1 if the firm: (i) reports that it is not practicable to estimate the tax from PRE repatriation, and (ii) has *high excess cash*; and 0 otherwise;

TAX_PEC_L = 1 if the firm: (i) reports a positive tax from PRE repatriation, and (ii) has *low excess cash*; and 0 otherwise; and

TAX_PEC_H = 1 if the firm: (i) reports a positive tax from PRE repatriation, and (ii) has *high excess cash*; and 0 otherwise.

The coefficient on *PRE* (γ_4) represents the sixth tax/cash group that serves as the base case: those firms (1) that report no additional tax from PRE repatriation or do not disclose a tax associated with PRE; and (2) that have low excess cash.

We categorize observations as having high amounts of excess cash based on the residual from our excess cash model (discussed in the Appendix). A firm is considered to have high excess cash (EC_H) if the residual from the model in a given year and industry falls in the upper quintile of the excess cash residuals for all Compustat firms. Because our upper quintile cut-off as a definition of excess cash is arbitrary, we also use other measures of excess cash to test the sensitivity of our results to the choice of cut-off. Results using the upper quartile and upper third of the sample are similar to those using the upper quintile, but in general as the size of the high excess cash sample is expanded, the t-statistics in our tests of significance become lower.

Our first hypothesis is that permanently reinvested financial assets are valued less than permanently reinvested operating assets. Therefore, we expect:

$TAX_{0,N}EC_H$*PRE (γ_{11}) < 0;

[24] For ease of discussion, we use the phrase "low excess cash" to identify those firms that are not classified as "high excess cash." This group includes firms that have normal amounts of cash or are considered cash-strapped.

$TAX_{NP}EC_L$*PRE (γ_{12}) > $TAX_{NP}EC_H$*PRE (γ_{13}); and

TAX_PEC_L*PRE (γ_{14}) > TAX_PEC_H*PRE (γ_{15}).

Our second hypothesis is that financial assets for those firms reporting positive tax associated with PRE will be valued less than financial assets for those firms reporting zero or no tax associated with PRE. Therefore, we expect:

TAX_PEC_H*PRE (γ_{15}) < $TAX_{0,N}EC_H$*PRE (γ_{11}).

We summarize our predictions for the different groups in panel B of Table 1.

Sample

We identify our sample based on the 337 firms listed in the appendix of CHS. CHS analyze a sample of firms that disclose permanently reinvested earnings during fiscal year 1993. We use the same sample firms to allow a direct comparison of our results with the CHS results. Seven observations are eliminated because we are unable to locate them in the Compustat database, leaving us with 330 firms. We collect data on these firms over the 1994 to 1996 time period (990 firm-year observations), the closest period to the CHS sample period for which SEC EDGAR data are available. While this is not the most current time period available, there have been no changes in the accounting rules that cause us to expect a difference in the valuation of PRE from our earlier time period to a more current time period. However, many important non-accounting changes have occurred since 1996, such as foreign tax rates and transaction costs, making it impossible for us to conclude that our results would hold in a current sample. Our sample is reduced by 151 firm-year observations that lack sufficient data to estimate the excess cash model and by 45 additional observations that do not report PRE or do not have sufficient

data on Compustat. We restrict our sample to include firms that report positive PRE and positive book value of equity. This results in a final sample of 751 firm-year observations.

Table 2 provides detailed summary statistics for our sample. To mitigate the influence of outliers, we winsorize all continuous variables at 1 and 99 percent. Columns 1 to 3 provide summary statistics for the full sample. Columns 4 to 7 provide means for those firms that disclose a positive tax on PRE repatriation, state that there is no additional tax on PRE repatriation, state that it is not practicable to estimate the tax on PRE repatriation, or disclose no information regarding the tax on PRE repatriation, respectively. Since we begin with the CHS sample of firms, our sample has similar characteristics to theirs.

The average price is $32.64 for the sample, which is consistent with prior research. Across the different tax disclosures on PRE, the average price is similar with the positive tax disclosure having the largest price of $39.10. Domestic net income per share is consistently larger, on average, than foreign net income both for the full sample and across the different tax disclosures on PRE. The amount of book value of equity net of PRE per share and the amount of PRE per share does not vary much across the different tax disclosure regimes.

[Insert Table 2 here]

Table 3 provides descriptive statistics for our six tax/cash groups. The means and medians for most regression variables are similar across groups. We include leverage and size, measured using either total assets or sales, as additional descriptive variables. Leverage is similar across the six groups. The no additional tax on PRE and low excess cash group is smaller than the other five groups based on both assets and sales; however it is not always statistically significantly smaller than the other five groups.

We also provide descriptive statistics of the residual from the cash model (*XSCash*) and cash as a percentage of total assets (*CashRatio*) by tax/cash group. For firms classified as high excess cash, we find no difference in the residuals from the cash model across the tax groups. Furthermore, the positive tax and high excess cash group has a smaller *CashRatio* (0.21) than the zero tax and high excess cash group (0.25). However, a higher percentage of firms that disclose a positive tax on PRE are classified as high excess cash (29%) compared to those firms that disclose no tax on PRE (16%). This is consistent with results in Foley et al. (2007), who find that excess cash holdings of multinational firms are positively associated with repatriation taxes.

One variable to note is foreign net income (*FNI*). For the positive tax and high excess cash group (TAX_PEC_H), foreign net income is significantly larger than the other five groups. Furthermore, for this group foreign net income is similar in magnitude to domestic net income, while in the other five groups foreign net income is much smaller than domestic net income.[25] This finding—that the group we identify as having large amounts of foreign cash for tax reasons (TAX_PEC_H) also has large foreign net income—gives us confidence that our measure of excess cash is a good proxy for high levels of foreign cash, since Foley et al. (2007) find that foreign cash holdings are positively related to foreign net income (see table 5 in Foley et al. (2007)).

[Insert Table 3 here]

[25] While the positive tax and high excess cash group appears to be more profitable than the other groups, when we examine the return on foreign assets for the subset of firms with available data in Compustat's geographic segment file, we find that there is no significant difference in the return on foreign assets across our groups.

RESULTS

The first column of Table 4 reports the results from estimating equation [1].[26] Consistent with prior research, we find that the coefficients on domestic and foreign net income and net book value of equity are significantly positive. The coefficient on PRE is significantly positive and is significantly larger than the coefficient on net book value of equity. This result is consistent with the findings in CHS and prior research on the higher valuation of foreign earnings (e.g., Bodnar and Weintrop, 1997). This result suggests that high levels of PRE may indicate high future foreign earnings or that PRE are invested in operating assets which will generate future operating earnings.

To enhance comparability with the results of CHS, we group firm-years into four smaller subsamples based on the tax disclosure on PRE repatriation. The final four columns of Table 4 report the results of separate regressions of equation [1] for each subsample based on the type of tax disclosure provided. Since the value of *PRETAX* is zero for three of the four groups, we do not include it in these regressions. We note that the valuation implications of PRE under this specification are generally consistent with CHS. First, there is a positive and significant association between market value and *PRE* for the zero tax on PRE repatriation subsample, the not practicable to estimate the tax on PRE repatriation subsample, and the no tax information on PRE repatriation subsample (columns 3, 4, and 5, respectively). For the positive tax disclosure subsample (column 2), the coefficient on *PRE* is negative. This suggests that PRE for this subsample are discounted relative to other equity components.

[Insert Table 4 here]

[26] Because we have a small sample, we estimate a pooled model across our three sample years, adding year fixed effects.

In Table 5 we further divide the sample firms into their tax/cash groups based on both the disclosure of the repatriation tax (examined in Table 4) and the amount of excess cash the firm holds based on our excess cash model. Column 1 reports the results of estimating equation [2], separating out the effect on the value of PRE based on the tax disclosure associated with PRE repatriation. Similar to the results in Table 4, the coefficient on PRE for the positive tax group (TAX_P*PRE) is negative and significant.

Columns 2 and 3 of Table 5 provide results from estimating equation [3], separating out the effect on the value of PRE based on both the tax disclosure associated with PRE repatriation and the level of excess cash held by the firm. The two models are similar, except that column 3 contains an additional variable (log of shares outstanding) that controls for size differences. We include this variable because we found that, even after scaling the variables by shares outstanding, large firms (i.e., those with more shares outstanding) still had higher price per share than small firms (see Easton and Sommers, 2003). Our discussion of the results focuses on the model in column 3.

The coefficient (-1.49) on the interaction of PRE with the indicator variable for the positive tax on PRE repatriation and high excess cash group (TAX_PEC_H*PRE) is negative and significant. It is also significantly smaller than the coefficient (-0.28) on the interaction of PRE with the indicator variable for the positive tax on PRE repatriation and low excess cash group (TAX_PEC_L*PRE) (F-statistic = 3.37, p-value < 0.05). Furthermore, the coefficient (-2.40) on the interaction of PRE with the indicator variable for the not practicable to estimate the tax on PRE repatriation and high excess cash group ($TAX_{NP}EC_H$*PRE) is significantly smaller than the coefficient (-0.41) on the interaction of PRE with the indicator variable for the not practicable to estimate the tax on PRE repatriation and low excess cash group ($TAX_{NP}EC_L$*PRE) (F-statistic =

12.21, p-value < 0.001). These results are consistent with hypothesis 1, suggesting that PRE invested in operating assets are valued higher than PRE invested in financial assets. However, the coefficient (0.78) on the interaction of PRE with the indicator variable for the no tax on PRE repatriation and high excess cash group ($TAX_{0,N}EC_H$*PRE) is not significantly different from zero (t-statistic = 0.98, p-value = 0.33), which is inconsistent with hypothesis 1.

The coefficient (-1.49) on the interaction of PRE with the indicator variable for the positive tax on PRE repatriation and high excess cash group (TAX_PEC_H*PRE) is significantly smaller than the coefficient (0.78) on the interaction of PRE with the indicator variable for the no tax on PRE repatriation and high excess cash group ($TAX_{0,N}EC_H$*PRE) (F-statistic = 4.17, p-value < 0.05). This is consistent with hypothesis 2, suggesting that PRE invested in financial assets are valued less for those firms that appear to accumulate financial assets to avoid the U.S. tax on repatriation.[27]

[Insert Table 5 here]

The coefficients on the interaction terms in Table 5 measure how the coefficients on PRE for five of the six subsamples differ from the coefficient on PRE without an interaction term, the base case. The base case, with no interaction term, consists of those observations where the firm reports no additional tax from PRE repatriation, or does not disclose a tax associated with PRE, and has low excess cash. To show the actual coefficient on PRE for each subsample requires that the coefficient on the interaction term be added to the coefficient on PRE. Table 6, Panel A reports these coefficients for column 2 of Table 5 (without the control for size) and Panel B reports the coefficients for column 3 of Table 5 (including the control for size). Our discussion of the results focuses on Panel B, the results after controlling for size.

[27] We note that the coefficients on some of the indicator variables representing intercept differences (such as TAX_PEC_H) are larger than others. These intercept differences are not the subject of our hypotheses, and we have no explanation as to why they differ across the different tax/cash groups.

[Insert Table 6 here]

The valuation coefficient on PRE for the high excess cash firms who disclose a positive tax on PRE repatriation (0.14) is positive but not significantly different from zero (F-statistic = 0.03, p-value = 0.86). It is also significantly smaller than the coefficients for the two comparison groups. The coefficient on PRE for the high excess cash firms who disclose no tax information or zero tax is 2.41 (F-statistic = 4.17, p-value < 0.05), and the coefficient on PRE for the firms who disclose a positive tax on PRE repatriation but have low excess cash is 1.35 (F-statistic = 3.37, p-value < 0.05). These results suggest that the valuation difference is not merely driven by the existence of a large amount of financial assets. Rather, the fact that firms appear to hold the financial assets for tax reasons drives the difference in the valuation of PRE.

CONCLUSION

We investigate the value of permanently reinvested foreign earnings of U.S. multinationals, focusing particularly on how firm value is affected by reinvesting PRE in financial rather than operating assets, where the reinvestment in financial assets is to avoid the U.S. repatriation tax. Prior research has examined the direct effect that U.S. taxes have on the value of PRE. We extend this research by examining the interaction of U.S. tax rules with the underlying assets represented by PRE to determine how this affects the valuation implications of PRE.

Our empirical results are generally consistent with our hypotheses. We find that, consistent with CHS, the value of PRE for those sample firms reporting a positive tax on PRE repatriation is significantly lower than the other sample firms. However, when we separate the sample using our measure of excess cash, we find that this lower valuation result is confined to

those observations that both (1) report a positive repatriation tax, and (2) have high levels of excess cash. Our results suggest that the results in CHS may not be entirely due to the disclosure of the tax amount, but may also be related to excess cash holdings by firms attempting to avoid the U.S. repatriation tax.

These results make an important contribution to tax research by providing empirical evidence that the value of PRE depends on the nature of the assets in which the foreign subsidiary reinvests. Since U.S. tax law provides an incentive for foreign subsidiaries to defer repatriation of cash, managers must trade off the negative impact of U.S. repatriation taxes on firm value with the lower benefits that come from reinvesting foreign earnings in financial assets. Our results also provide an alternative explanation for the results demonstrated by CHS. CHS attribute the lower value of PRE for firms reporting positive repatriation taxes to the information contained in the tax disclosure. Our results suggest that the lower value of PRE are attributable not only to the impounding of the unrecorded tax, but also to a lower value for financial assets held by foreign subsidiaries attempting to avoid U.S. taxes.

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APPENDIX: MEASURING EXCESS CASH

This appendix outlines our method for estimating excess cash holdings. Prior literature has modeled the determinants of cash (e.g., Opler, Pinkowitz, Stulz, and Williamson, 1999; Foley et al., 2007). We employ a similar model to measure normal, or expected, cash. The difference between actual cash and expected cash is our measure of excess cash.

Under the assumption of perfect capital markets, there is no liquidity premium and cash holdings bear no opportunity cost. Market imperfections give rise to numerous reasons managers decide to hold cash. Keynes (1936) argues that cash holdings can reduce transaction costs of raising external funds where these costs arise from converting non-cash assets into cash. He also argues that cash holdings can serve as a precautionary measure by enabling managers to take advantage of investment opportunities in the presence of costly external financing.

Empirical evidence in Opler et al. (1999) provides support for both the precautionary and transaction costs motives. Foley et al. (2007) find that firms also hold cash for tax motivations based on the estimated tax burden upon repatriation of foreign earnings. We estimate a variation of the Foley et al. (2007) model for all firms in the Compustat universe over the same time period covering our sample.

[A1] $$Ln(Cash/NetAssets) = \beta_1 DPI/NetAssets + \beta_2 FPI/NetAssets + \beta_3 Ln(NetAssets) + \beta_4 DividendPayment + \beta_5 BVE/MVE + \beta_6 OpInc\sigma + \beta_7 RD/NetAssets + \beta_8 CapEx/Assets + \beta_9 Mkt\ Leverage + \varepsilon$$

where *Cash* = Cash and short-term investments (data1);

NetAssets = Net Assets calculated as total assets less cash and short-term investments (data6-data1);

DPI = Pre-tax domestic net income (data272);

FPI = Pre-tax foreign net income (data273);

Ln(NetAssets) = Natural log of *NetAssets* (data6-data1);

DividendPayment = Indicator variable equal to one if the company paid a cash dividend in the current year (data127>0);

BVE/MVE = Ratio of the book value of equity (data60) to market value equity (data199*data25);

$OpInc\sigma$ = Two-digit industry standard deviation of operating income deflated by net assets (data13/(data6-data1)) from the 10-year period 1984-1993;

RD/NetAssets = R&D expenditures (data46); set to zero if data46 is missing;

CapEx/NetAssets = Capital expenditures (data128); and

MktLeverage = Ratio of long- (data9) and short-term debt (data34) to the sum of long- and short-term debt and the market value of equity (data199*data25).

All variables have a time- and firm-specific subscript which is not shown in equation (A1), except $OpInc\sigma$ which has an industry-specific subscript. Although Foley et al. (2007) include

year and industry fixed effects, we suppress the constant and include indicator variables for each year in the sample. Because the $OpInc\sigma$ variable is measured on an industry basis, any industry effects should be captured in this variable. Whereas Foley et al. (2007) require each firm-year in their sample to have assets in excess of $100 million, we require each firm-year to have net assets in excess of only $1 million because our sample includes smaller firms.

The results of this model, shown in Table 7A are generally consistent with those of Foley et al. (2007) with a few exceptions. The coefficient on capital expenditures to net assets is positive and significant in our model, but is negative and significant in Foley et al. (2007); however, Opler et al. (1999), using a similar model, find a significant positive coefficient on this variable. In addition, the coefficient on domestic pre-tax income to net assets is significantly negative in our estimation, but insignificant in Foley et al. (2007).

[Insert Table 7A here]

The residual from equation (A1) is a proxy for excess cash. We categorize observations as having significant amounts of excess cash based on whether the residual in a given year and industry (based on 2-digit SIC code) falls in the upper quintile of all Compustat firms. Out of our 751 observations, we find that approximately 19% of observations are in the uppermost quintile of excess cash in a given year.

TABLE 1
SUMMARY OF PREDICTIONS FOR THE
VALUES OF FOREIGN SUBSIDIARIES' ASSETS

Panel A: Theoretical Predictions

	Repatriating Firm		Reinvesting Firm
Operating Assets	> 1	?	> 1
	∨		∨
Financial Assets	= 1	>	< 1

Panel B: Empirical Implementation

	Repatriating Firm		Reinvesting Firm
Operating Assets	$TAX_{0,N}EC_L$	?	TAX_PEC_L
	∨		∨
Financial Assets	$TAX_{0,N}EC_H$	>	TAX_PEC_H

TABLE 2
DESCRIPTIVE STATISTICS FOR REGRESSION VARIABLES BY TAX DISCLOSURE

	Full Sample			Tax > 0	Tax = 0	Tax Not Practicable	No Tax Information
Variable[A]	Mean	Median	Std Dev	Mean	Mean	Mean	Mean
Price	32.64	29.13	20.19	39.10	32.02	33.69	27.19
DNI	1.19	1.07	1.57	1.48	1.09	1.35	0.87
FNI	0.64	0.43	0.87	0.80	0.56	0.69	0.52
Net BVE	10.62	8.83	7.23	11.82	10.45	11.45	8.82
PRE	2.91	2.02	2.91	3.11	2.45	3.48	2.34
PRETAX	0.11	0.00	0.35	0.60	0.00	0.00	0.00
Number of observations	751			140	143	267	201

[A] *Price* is the price per share (data199). *DNI* is the after-tax domestic net income and is calculated as (data272-(data63+data173+data269+data271)). *FNI* is after-tax foreign net income and is calculated as (data273-(data64+data270)). *Net BVE* is book value of common equity net of *PRE* (data60-*PRE*). *PRE* is the dollar amount of permanently reinvested earnings collected from the 10-K. *PRETAX* is the dollar amount of the estimated tax on the hypothetical repatriation of permanently reinvested earnings collected from the 10-K. All variables are deflated by shares outstanding (data25), except *price*, and are winsorized at 1% and 99%.

TABLE 3
DESCRIPTIVE STATISTICS BY TAX AND EXCESS CASH GROUPS

		Tax on PRE								
	Variable[A]	$TAX_{0,N}$			TAX_P			TAX_{NP}		
Cash Group		Mean	Median	Std Dev	Mean	Median	Std Dev	Mean	Median	Std Dev
			n = 289			n = 100			n = 223	
	Price	$29.77	$25.13	$18.99	$37.88†	$37.63	$22.46	$33.02	$29.38	$19.72
	DNI	0.97	1.00	1.28	1.51†	1.34	1.86	1.24†	1.21	1.54
	FNI	0.55	0.37	0.76	0.63*	0.41	0.88	0.63	0.46	0.79
	Net BVE	9.91*	8.81	5.90	11.91†	9.71	7.36	11.19†	9.21	8.05
Low Excess	*PRE*	2.51	1.89	2.47	2.90	1.83	2.92	3.27*,†	2.13	3.10
Cash (EC_L)	*PRETAX*				0.55	0.35	0.53			
	Leverage	0.53	0.55	0.17	0.52‡	0.55	0.19	0.61†	0.61	0.16
	Assets	2439	797	4671	8277†	1520	23503	4446*,†	1350	7407
	Sales	2448	809	4974	5243†	1674	10115	3674*,†	1578	6017
	XSCash	-0.37*	-0.20	1.02	-0.07*,†,‡	0.24	1.30	-0.57*,†	-0.33	1.14
	CashRatio	0.07*	0.04	0.07	0.10*,‡	0.05	0.10	0.05*,†	0.03	0.06
			n = 55			n = 40			n = 44	
	Price	$26.19	$22.13	$19.06	$42.15†	$40.44	$19.07	$37.07†	$35.88	$21.59
	DNI	0.90	0.73	1.36	1.38	0.92	1.87	1.89†	1.37	2.26
	FNI	0.48	0.19	0.78	1.22†	0.96	1.14	0.99†	0.62	1.33
	Net BVE	7.30	6.92	4.33	11.58†	8.99	8.35	12.75†	8.21	10.19
High Excess	*PRE*	1.77	0.82	2.13	3.63†	2.02	3.76	4.58†	3.49	3.48
Cash (EC_H)	*PRETAX*				0.71	0.33	0.79			
	Leverage	0.54	0.55	0.21	0.55	0.54	0.21	0.60	0.61	0.16
	Assets	3557	487	9899	19819†	2107	46066	11663†	3373	15440
	Sales	2462	471	5044	7449†	2242	2304	11276†	2436	15613
	XSCash	1.45	1.40	0.69	1.45	1.38	1.12	1.37	1.29	0.59
	CashRatio	0.25	0.26	0.13	0.21†,‡	0.19	0.14	0.15†	0.13	0.10

* significantly different from the corresponding EC_H group at $p < 0.05$

† significantly different from the corresponding $TAX_{0,N}$ group at $p < 0.05$
‡ significantly different from the corresponding TAX_{NP} group at $p < 0.05$

[A] EC_H (EC_L) is high (low) excess cash, where high excess cash firms have a residual from the cash model presented in the Appendix that is in the upper quintile. $TAX_{0,N}$ represents the firms that either disclose zero tax on PRE repatriation or disclose no information about the expected tax due on repatriation. TAX_P represents the firms that disclose a positive tax on PRE repatriation. TAX_{NP} represents the firms that disclose it is not practicable to estimate the tax on PRE repatriation. *Leverage* is total liabilities divided by total assets (data181/data6). *Assets* is total assets (data6). *Sales* is total sales (data12). *XSCash* is the residual from the regression model: $Ln(Cash/Assets) = \beta_1 DPI/NetAssets + \beta_2 FPI/NetAssets + \beta_3 Ln(NetAssets) + \beta_4 DividendPayment + \beta_5 BVE/MVE + \beta_6 OpInc\sigma + \beta_7 RD/NetAssets + \beta_8 CapEx/NetAssets + \beta_9 Mkt\ Leverage + \varepsilon$. All variables from the *XSCash* model are defined in Table 7A. *CashRatio* is the ratio of cash (data1) to total assets (data6). All other variables are defined in Table 2.

TABLE 4
VALUATION OF PERMANENTLY REINVESTED EARNINGS BY TAX DISCLOSURES

	Full Sample	Tax > 0	Tax = 0	Tax Not Practicable	No Tax Information
Intercept	18.26***	26.83***	17.81***	18.21***	9.46***
	(14.98)	(8.37)	(7.39)	(8.66)	(4.40)
DNI	5.49***	4.47***	6.33***	4.98***	6.75***
	(14.82)	(4.66)	(7.69)	(8.69)	(9.01)
FNI	8.58***	10.02***	10.62***	6.34***	8.39***
	(10.83)	(5.53)	(6.09)	(4.82)	(5.29)
Net BVE	0.32***	0.36	0.20	0.29**	0.72***
	(3.83)	(1.45)	(1.04)	(2.32)	(4.25)
PRE	0.62***	-1.28**	1.54***	1.09***	0.90*
	(2.66)	(2.22)	(2.69)	(3.12)	(1.84)
PRETAX	-2.18				
	(1.44)				
Year effects	Yes	Yes	Yes	Yes	Yes
Observations	751	140	143	267	201
Adjusted R^2	0.54	0.45	0.64	0.51	0.61

*, **, *** significant at p < 10%, 5%, 1%, respectively
All variables are defined in Table 2 and are deflated by shares outstanding. t-statistics are presented in parentheses. The dependent variable is market value of equity.

TABLE 5
VALUATION OF PERMANENTLY REINVESTED EARNINGS BY TAX AND EXCESS CASH GROUPS

	Equation [2]	Equation [3]	
Intercept	15.62***	16.01***	-1.58
	(11.20)	(10.93)	(0.91)
DNI	5.31***	5.54***	4.52***
	(14.39)	(15.11)	(13.83)
FNI	8.28***	8.41***	5.95***
	(10.58)	(10.71)	(8.45)
Net BVE	0.33***	0.30***	0.48***
	(4.00)	(3.70)	(6.66)
PRE	1.46***	1.32***	1.63***
	(4.26)	(3.69)	(5.23)
PRETAX	-6.22	-3.32	-6.53*
	(1.63)	(0.87)	(1.95)
TAX_{NP}	1.55		
	(0.97)		
TAX_{NP}*PRE	-0.76*		
	(1.90)		
TAX_{P}	10.87***		
	(5.63)		
TAX_{P}*PRE	-1.33*		
	(1.68)		
$TAX_{0,N}EC_{H}$		-2.08	-2.36
		(0.80)	(1.04)
$TAX_{NP}EC_{L}$		0.17	-0.59
		(0.10)	(0.39)
$TAX_{NP}EC_{H}$		5.84*	0.29
		(1.66)	(0.09)
$TAX_{P}EC_{L}$		6.58***	5.06**
		(2.93)	(2.58)
$TAX_{P}EC_{H}$		17.41***	10.01***
		(5.50)	(3.56)
$TAX_{0,N}EC_{H}$*PRE		0.98	0.78
		(1.08)	(0.98)
$TAX_{NP}EC_{L}$*PRE		-0.14	-0.41
		(0.32)	(1.08)
$TAX_{NP}EC_{H}$*PRE		-2.36***	-2.40***
		(3.55)	(4.14)
$TAX_{P}EC_{L}$*PRE		-0.55	-0.28
		(0.68)	(0.40)
$TAX_{P}EC_{H}$*PRE		-3.43***	-1.49*
		(3.52)	(1.73)
Ln(Shares)			4.93***
			(15.14)
Year effects	Yes	Yes	Yes
Observations	751	751	751
Adjusted R^2	0.55	0.57	0.67

*, **, *** significant at p < 10%, 5%, 1%, respectively
All variables except *Ln(Shares)* are defined in Tables 2 and 3 and are deflated by shares outstanding. t-statistics are presented in parentheses. The dependent variable is market value of equity.

TABLE 6
ESTIMATED COEFFICIENTS ON PERMANENTLY REINVESTED EARNINGS
BY TAX AND EXCESS CASH GROUPS

Panel A: Estimated Coefficients Excluding Ln(Shares)

	Tax on PRE			
Cash Group	$TAX_{0,N}$		TAX_P	TAX_{NP}
Low Excess Cash	1.32^{***}		0.77	1.18^{***}
			$V^{\dagger\dagger\dagger}$	$V^{\dagger\dagger\dagger}$
High Excess Cash	2.3^{***}	$>^{\dagger\dagger\dagger}$	-2.11^{**}	-1.04^{*}

$^{*, **, ***}$ significantly different from zero at $p < 0.10$, 0.05, and 0.01 respectively
$^{\dagger, \dagger\dagger, \dagger\dagger\dagger}$ significantly different from corresponding group at $p < 0.10$, 0.05, and 0.01 respectively

Panel B: Estimated Coefficients Including Ln(Shares)

	Tax on PRE			
Cash Group	$TAX_{0,N}$		TAX_P	TAX_{NP}
Low Excess Cash	1.63^{***}		1.35^{**}	1.22^{***}
			$V^{\dagger\dagger}$	$V^{\dagger\dagger\dagger}$
High Excess Cash	2.41^{***}	$>^{\dagger\dagger}$	0.14	-0.77

$^{*, **, ***}$ significantly different from zero at $p < 0.10$, 0.05, and 0.01 respectively
$^{\dagger, \dagger\dagger, \dagger\dagger\dagger}$ significantly different from corresponding group at $p < 0.10$, 0.05, and 0.01 respectively

TABLE 7A
ESTIMATION OF THE EXCESS CASH MODEL

	Sign (+ / -) Foley et al.	$\text{Ln}\left(\frac{\text{Cash}}{\text{NetAssets}}\right)$
DPI/NetAssets	n/s	-0.021**
		(2.06)
FPI/NetAssets	+	0.297**
		(2.44)
Ln(NetAssets)	-	-0.153***
		(12.93)
DividendPayment	-	-0.318***
		(6.43)
BVE/MVE	-	-0.081*
		(1.77)
OpIncσ	+	0.937***
		(7.60)
RD/NetAssets	+	0.854***
		(4.73)
CapEx/NetAssets	-	1.786***
		(6.33)
MktLeverage	-	-2.554***
		(23.96)
Year Effects		Yes
Observations		4732
Adjusted R^2		0.78

*, **, *** significantly different from zero at p < 0.10, 0.05, 0.01, respectively
t-statistics are presented in parentheses. The regression model is: $Ln(Cash/Assets) = \beta_1 DPI/NetAssets + \beta_2 FPI/NetAssets + \beta_3 Ln(NetAssets) + \beta_4 DividendPayment + \beta_5 BVE/MVE + \beta_6 OpInc\sigma + \beta_7 RD/NetAssets + \beta_8 CapEx/NetAssets + \beta_9 MktLeverage + \varepsilon$. *DPI/NetAssets* is pre-tax domestic net income (data272) divided by net assets (data6-data1) and *FPI/NetAssets* is pre-tax foreign net income (data273) divided by net assets. *Ln(NetAssets)* is the natural log of net assets (data6-data1). *DividendPayment* is an indicator variable equal to one if the company paid a dividend in a given year (data127>0). *BVE/MVE* is the ratio of book value of equity (data60) to market value of equity (data199*data25). *OpInc*σ is the industry standard deviation of operating income divided by net assets (data13/(data6-data1)) and is estimated over the Compustat universe from 1984-1993. *RD/NetAssets* and *CapEx/NetAssets* are research and development expenditures (data46) and capital expenditures (data128) divided by net assets, respectively. As in Foley et al. (2007) and Opler et al. (1999) observations with missing R&D are coded as zero. *MktLeverage* is the long- (data9) and short-term debt (data34) divided by the sum of long- and short-term debt and the market value of equity (data199*data25).