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Valuing Deferral
The Effect of Permanently Reinvested Foreign Earnings on Stock Prices

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and Douglas A. Shackelford

6.1 Introduction

In this paper we describe the international tax deferral benefits that firms communicate through their financial statements and investigate the U.S. capital market's valuation of these benefits. United States companies that operate in low–tax rate foreign jurisdictions and reinvest their foreign earned income abroad can garner large tax savings. If a U.S. MNC faces, on average, foreign tax rates in excess of the U.S. statutory rate (i.e., the MNC is in an excess foreign tax credit position), low–tax rate foreign earnings can be selectively repatriated with high-tax foreign earnings and generate zero repatriation tax liability. If a U.S. multinational faces, on average, foreign tax rates below the U.S. statutory rate (i.e., the MNC is in an excess limit position), the imposition of any residual U.S. tax (and of foreign withholding taxes) generally is deferred until the low–tax rate foreign income is repatriated to the United States. The benefit of this residual U.S. tax (and foreign withholding tax) deferral, however, is recognized in consolidated financial statement income and retained earnings only if management represents that the repatriation of the foreign income will be

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postponed indefinitely (Accounting Principles Board [APB] Opinion no. 23, 1972). In such cases, the foreign earnings are designated as permanently reinvested foreign earnings (PRE), and any potential tax expense associated with repatriation is not recognized.

PRE tax deferral benefits (as a result of the unrecognized, and previously undisclosed, potential repatriation tax liability) have been recognized in financial statements for almost twenty-five years.[1] Beginning with fiscal year 1993, firms also are required to disclose an estimate of the unrecognized deferred U.S. income and foreign withholding tax liabilities associated with PRE (an amount denoted as TAX). That is, under SFAS no. 109, U.S. MNCs must in their income tax footnotes provide their undiscounted estimate of the taxes that would arise if PRE were repatriated, or else state that it is not practicable to determine such an estimate. The objectives of this paper are to describe the magnitudes and assess the capital market's valuation of disclosed PRE and TAX.

Financial statements are a key vehicle through which management can choose to inform investors of the firm's major tax-planning activities. However, publicly available financial statements may not provide investors with finely tuned or unambiguous tax-planning signals for at least two reasons. First, a tension exists between management's conflicting desires to provide value-relevant information to investors and to keep competitors and tax authorities uninformed. Numerous tax directors and professionals have indicated in private conversations that income tax footnotes required in public financial statements are often deliberately written to disguise the firm's tax-planning strategies. Second, the accounting guidance for reflecting international tax deferral savings in financial statement income is sufficiently open-ended and nebulous as to create an adverse selection problem. Investors may be unable to distinguish between (1) companies that designate earnings as PRE because they have substantial tax savings created by long-term deferral strategies, and (2) companies that designate earnings as PRE because they wish to report lower income tax expense and therefore higher financial statement net income.

We examine all publicly traded U.S. companies that disclose PRE in the income tax footnotes of their fiscal 1993 financial statements. Statement for Financial Accounting Standard (SFAS) no. 109 mandates that a firm disclose in its income tax footnote the amount of its PRE if it is material (i.e., deemed to be substantial enough to affect statement-users' inferences). We categorize our sample into four tax-liability reporting groups by what they disclose in the same income tax footnote about the magnitudes of TAX, the unrecognized deferred U.S. income and foreign withholding tax liabilities associated with PRE. The groups are (1) TAX is

1. Although disclosure was not formally required until 1993 by SFAS no. 109, many firms disclosed the cumulative amount of PRE (if material) in footnotes in earlier years.

positive ($n = 60$); (2) TAX is zero, insignificant, or substantially offset by foreign tax credits ($n = 79$); (3) TAX is "not practicable to estimate" ($n = 89$); and (4) no information is provided about TAX ($n = 112$).

We find that 340 companies, or 8.9 percent of all companies included in the National Automated Accounting Retrieval System (NAARS), report PRE in fiscal 1993. PRE ranges from 0 to $8.1 billion (reported by Exxon). Median PRE is $40 million, 7.5 percent of the market value of common equity. Median non-PRE retained earnings (RE) is $90 million, 18.5 percent of the market value of equity. Median proportion of PRE to total retained earnings is 31 percent.

Of our sample, 18 percent (sixty firms) report a positive unrecognized deferred tax liability associated with PRE. Presumably, companies with positive TAX are in excess limit foreign tax credit positions. For those firms, the median TAX is $13 million and 0.9 percent of the market value of equity, and the median ratio of TAX to PRE is 23 percent. Consistent with reporting positive TAX and facing excess foreign tax limits, these companies appear to have more extensive operations in low-tax foreign jurisdictions than do the other companies in the sample. Their median foreign effective tax rate is 28 percent, as compared to their median domestic effective tax rate of 32 percent. Of the four groups, they alone have a positive mean or median difference between domestic and foreign effective tax rates.

Our market valuation regressions provide preliminary evidence that the equity market views managers' representations of the potential tax liabilities associated with PRE as credible. We find that the market negatively values the unrecognized deferred tax liability disclosed with PRE. Thus, while the tax law allows this repatriation tax liability to be deferred, that liability appears to be capitalized currently in stock prices. These initial results are consistent with the inability of firms with potentially positive repatriation taxes to convince investors of the permanence of their tax savings from investments in low-tax countries. Potentially, this market capitalization of repatriation taxes diminishes the attractiveness for firms in excess limits to invest in and shift income to tax havens. Our results also are consistent with zero tax capitalization for those firms not reporting a positive repatriation tax liability associated with PRE. This implies that these firms credibly signal to the market that they face no repatriation taxes.

6.2 Background

Although the U.S. government taxes U.S. companies on their worldwide incomes, foreign subsidiaries are not included in the U.S. consolidated tax return. Active earnings generated by foreign subsidiaries are not taxed in the United States until cash is repatriated to the U.S. parent. Upon repatriation, foreign source earnings are taxed at the U.S. tax rate (t_{US}), subject

to a credit for foreign taxes paid (which is limited to the amount of U.S. taxes that would have been owed on the income had it been U.S. source). As a result, a U.S. MNC facing an average foreign tax rate (t_F) less than t_{US} delays paying the residual U.S. tax ($t_{US} - t_F$) until foreign earnings are repatriated to the United States. On the other hand, when a U.S. MNC with $t_F > t_{US}$ repatriates foreign earnings, it neither faces a residual U.S. tax liability nor receives full credit for prior foreign taxes paid.

In contrast to federal tax laws, U.S. accounting standards require companies to file consolidated financial statements in which the total current earnings of their foreign subsidiaries are recognized, regardless of whether they have been repatriated to the U.S. parent. In addition, firms must reduce current-period foreign earnings by an estimate of the total current and future foreign and U.S. taxes payable on them.[2] Consequently, the income tax expense reported in the income statement includes an estimated charge for future withholding and residual U.S. taxes (after adjusting for foreign tax credits) that will arise from the future repatriation of current earnings of foreign subsidiaries. The charge is not discounted—that is, it does not reflect the anticipated timing of the estimated future withholding and residual U.S. taxes.

The first key to our study is that U.S. accounting standards permit one exception to this comprehensive income tax treatment. If a firm indicates that its unrepatriated foreign earnings are permanently reinvested abroad, then no income tax expense for estimated future U.S. and withholding taxes is required. According to APB no. 23, paragraph 12 (and echoed in SFAS no. 109, paragraph 31a):

> The presumption that all undistributed earnings will be transferred to the parent company may be overcome, and no income taxes should be accrued by the parent company, if sufficient evidence shows that the subsidiary has invested or will invest the undistributed earnings indefinitely or that the earnings will be remitted in a tax-free liquidation. A parent company should have evidence of specific plans for reinvestment of undistributed earnings of a subsidiary, which demonstrate that remit-

2. APB Opinion no. 23, paragraph 10 (1972), indicates that it is generally presumed that all undistributed earnings of a foreign subsidiary will be transferred to the parent company. Accordingly, the undistributed current-period earnings of a foreign subsidiary are included in current-period consolidated accounting income and are accounted for as a timing difference (i.e., earnings are recognized for accounting and tax purposes at different times). Income tax expense recognized in the consolidated income statement that is attributable to timing differences is accrued currently. To quote APB no. 23 directly, "Problems in measuring and recognizing the tax effect of a timing difference do not justify ignoring income taxes related to the timing difference. Income taxes of the parent applicable to a timing difference in undistributed earnings of a subsidiary are necessarily based on estimates and assumptions. For example, the tax effect may be determined by assuming that unremitted earnings were distributed in the current period and that the parent company received the benefit of all available tax-planning alternatives and available tax credits and deductions" (paragraph 10).

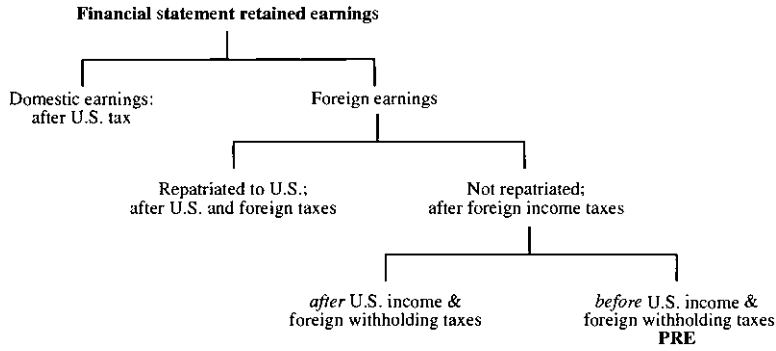

Fig. 6.1 Financial statement retained earnings

Note: A key distinction between U.S. GAAP and U.S. MNC taxation is that GAAP requires firms to record financial reporting tax expense against current and/or cumulative pretax foreign earnings that are not yet repatriated, *unless* the earnings are deemed to be permanently reinvested (PRE). However, no U.S. taxes are actually paid until repatriation occurs.

> tance of the earnings will be postponed indefinitely. Experience of the companies and definite future programs of operations and remittances are examples of the types of evidence required to substantiate the parent company's representation of indefinite postponement of remittances from a subsidiary.

The results of this accounting guidance are reflected in the partitions of retained earnings illustrated in figure 6.1. Domestic earnings and repatriated foreign earnings are fully tax-affected. Unrepatriated foreign earnings are after foreign income taxes, but may be before (i.e., PRE) or after future repatriation taxes (i.e., foreign withholding and domestic income taxes).[3]

APB no. 23 anticipates the imprecision in designating foreign earnings as permanently reinvested by elaborating on the proper accounting treatment for situations in which circumstances change and it becomes apparent that some or all of the undistributed earnings that were previously considered permanently reinvested now will be remitted in the foreseeable future. In such cases, companies are instructed to accrue, as an expense of the current period, income taxes that are attributable to the anticipated remittance. The reverse accounting treatment is required whenever it becomes apparent that unremitted earnings that previously were not classified as currently reinvested (i.e., estimated taxes were provided) now will

3. An employee of a large U.S. MNC privately indicated to us that "postponed indefinitely" is interpreted by his/her company as "will not be remitted in the foreseeable future," where foreseeable future is defined as one year or less. This individual also indicated that a U.S. MNC anticipating repatriation of foreign earnings at little to no tax cost may designate such earnings as permanently reinvested to inform investors of a potential future tax liability that currently is estimated as zero.

not be remitted in the foreseeable future. Here companies must reduce their current tax expense by undoing some of the prior accrual.

The imprecision in classifying foreign earnings as PRE, combined with the potentially large effects on net income arising from changes in classification, may create an adverse selection problem for investors. Investors may be unable to distinguish between (1) companies that designate earnings as PRE because they have substantial tax savings created by long-term deferral of their residual U.S. and foreign withholding taxes, and (2) companies that designate earnings as PRE because they wish to report lower income tax expense and therefore higher financial statement net income. This is because managers may manipulate current net income up or down by whether they classify unremitted current- and/or prior-period foreign earnings as PRE. For example, if a company earns $100 abroad and pays $20 in foreign taxes, it can increase its current net income by $15 ($100 × 35% − $20) if it represents that the remittance to the United States of the cash created by the foreign earnings is indefinitely postponed. Alternatively, it could decrease current net income by $15 by representing that $100 of prior-period PRE, on which it had paid $20 in foreign taxes, is now likely to be remitted in the future.

SFAS no. 109, effective for fiscal years beginning after 15 December 1992, is the most recent guidance regarding accounting for income taxes. Despite the imprecision in classifying foreign earnings as PRE, SFAS no. 109 justifies retaining the exception to comprehensive recognition of deferred taxes for undistributed earnings of foreign subsidiaries that will be invested indefinitely because of the complexities involved in determining the size of the potential deferred tax liability. However, paragraph 44c of SFAS no. 109 adds a new disclosure requirement that is the second key to our study. Firms with material amounts of PRE are required to disclose an estimate of the amount of TAX associated with their PRE or state that it is not practicable to estimate it.

Firms' disclosures under this new requirement fall into one of the four tax-liability reporting groups outlined in the introduction:

1. TAX is positive.
2. TAX is zero, insignificant, or substantially offset by foreign tax credits.
3. TAX is "not practicable to estimate."
4. No information is provided about TAX.

Table 6.1 provides an example of the kind of disclosure shown by each group using actual excerpts from fiscal year 1993 income tax footnotes of our sample companies. In the tests described in section 6.3, we assign the value of zero to our measure of the deferred tax liability for every group, except the first.

Table 6.1 **Examples from 1993 Income Tax Footnotes**

Company	TAX	Footnote Description
Monsanto	Positive	Income and remittance taxes have not been recorded on $500 million in undistributed earnings of subsidiaries, either because any taxes on dividends would be offset substantially by foreign tax credits or because Monsanto intends to reinvest those earnings indefinitely. The estimated U.S. income tax if such earnings were paid as dividends would be $82 million.
Exxon	Zero, insignificant, or substantially offset by foreign tax credits	The corporation had $8.1 billion of indefinitely reinvested, undistributed earnings from subsidiary companies outside the United States. Unrecognized deferred taxes on remittance of these funds are not expected to be material.
Deere & Co.	Not practicable to estimate	As of 31 October 1993 accumulated earnings in certain overseas subsidiaries and affiliates totaled $361 million, for which no provision for U.S. income taxes or foreign withholding taxes had been made because it is expected that such earnings will be reinvested overseas indefinitely. Determination of the amount of unrecognized deferred tax liability on these unremitted earnings is not practicable.
H. J. Heinz & Co.	No information provided	Undistributed earnings of foreign subsidiaries considered to be reinvested permanently amounted to $1.14 billion as of 27 April 1994.

6.3 Methodology

We describe the characteristics of the firms in 1993 that report PRE in aggregate and by the type of associated TAX each reports. In addition, we use market valuation tests to determine the value relevance of PRE and TAX. We estimate the following regression for all sample firms:

$$(1) \qquad \mathrm{PRICE}_i = \beta_0 + \beta_1 \mathrm{DNI}_i + \beta_2 \mathrm{FNI}_i + \beta_3 \mathrm{CS}_i + \beta_4 \mathrm{RE}_i + \beta_5 \mathrm{PRE}_i + \beta_6 \mathrm{TAX}_i + \varepsilon_i,$$

where on a per-share basis,

PRICE = market price of common equity at the end of fiscal 1993,
DNI = after-tax financial statement domestic income for fiscal 1993,
FNI = after-tax financial statement foreign income for fiscal 1993,
CS = total common equity less total retained earnings at the end of fiscal 1993,
RE = total retained earnings less PRE at the end of fiscal 1993,

PRE = permanently reinvested foreign earnings at the end of fiscal 1993, and
TAX = unrecognized deferred tax liability associated with PRE at the end of fiscal 1993 if positive (otherwise zero).

We scale dollar amounts by the number of common shares outstanding at the end of fiscal 1993 in order to mitigate the effects of heteroskedasticity that are present in the unscaled data. Our model relies on a standard valuation model in which price is regressed on net book value and net income (e.g., Ohlson 1995; Barth, Beaver, and Landsman 1998; Francis and Schipper 1999; Collins, Maydew, and Weiss 1997). This valuation approach, which relies exclusively on accounting numbers, is isomorphic to a discounted dividend model under two assumptions (Ohlson 1995). The first assumption is that there is "clean surplus" between balance sheet numbers at the beginning and end of a period and net income and dividends over that period. This essentially means that retained earnings at the end of the period equals retained earnings at the beginning of the period plus net income earned over the period less dividends declared during the period. This clean-surplus assumption permits dividends to be expressed in terms of accounting numbers. It also implies that price equals book value plus the discounted sum of future abnormal earnings. The second assumption is that future abnormal earnings follow a first-order autoregressive process. This implies that the discounted sum of future abnormal earnings can be expressed as a multiple of current net income.[4]

For our purposes, we decompose net book value into the CS, RE, and PRE components and include the unrecognized tax liability, TAX, to examine separately the market valuations of PRE (alone and relative to RE) and TAX. If the market perceives firms' disclosures regarding the TAX associated with PRE as credible and capitalizes this tax liability into current prices, then we expect the TAX coefficient will be negative. If the market does not perceive the tax liability signal as credible or does not capitalize the expense into current prices, then we expect the TAX coefficient will not differ from zero. Thus, our tests regarding the TAX coefficient are analogous to prior accounting studies investigating the market valuation of disclosed, but unrecognized, nontax liabilities (e.g., Landsman 1986 and Barth 1991 examining unrecorded pension liabilities). In addition, our tests are analogous to prior economics and accounting studies investigating the capitalization of unrecorded future investor tax liabilities into stock prices (e.g., Harris and Kemsley 1999; Harris, Hubbard, and Kemsley 2000), although we examine an unrecorded future tax liabil-

4. Models such as the one we express in equation (1) have sparked a resurgence of interest in "levels-based" valuation research in accounting. See Harris and Kemsley (1999) and Harris, Hubbard, and Kemsley (2000) for recent applications of this type of valuation model to address capitalization of shareholder taxes.

ity assessed at the parent-corporation level rather than the external-investor level.

We decompose after-tax net income into its domestic and foreign components to control, at least partially, for possible valuation differences due to the extent of a company's foreign operations. Collins, Kemsley, and Lang (1998) report that foreign earnings are valued differently, and generally at a higher level, than domestic earnings for their sample of manufacturing companies. In addition, Bodnar and Weintrop (1997) provide some evidence that greater opportunities for growth in foreign operations contributes to higher foreign than domestic earnings valuation.

6.4 Sample and Descriptive Statistics

We constructed our data set through a keyword search of the NAARS database, which contains the full-text annual reports of approximately 3,800 publicly traded companies.[5] We searched the file for fiscal 1993, the most recent year in which full data are available and the first year all firms were required to disclose PRE and TAX under SFAS no. 109. Fiscal 1993 encompasses fiscal year ends between 1 July 1993 and 30 June 1994. Our keyword search yielded 576 potential matches. Of these, 350 related to permanently reinvested foreign earnings, and the amount of PRE was specified.[6] A further ten companies were excluded because either the number of shares or their price per share was reported on Compustat as zero or negative, or their retained earnings or financial statement net income was zero. The final sample consists of 340 publicly traded U.S. MNCs that reported a positive amount of PRE at the end of fiscal 1993.

Our sample is listed by two-digit Standard Industrial Code (SIC) and tax-liability reporting group in appendix A. Of the sample, some 292 (86 percent) are in the manufacturing industry (one-digit SIC = 2 or 3). This is consistent with prior research demonstrating that the manufacturing industry comprises the vast majority of U.S. companies with significant foreign operations (Collins, Kemsley, and Lang 1998). The largest number of sample companies (57, or 17 percent) are in the nonelectrical machinery industry (SIC = 35). There are 46 companies (14 percent) in the chemicals industry (SIC = 28), and 34 companies (10 percent) in the electrical machinery industry (SIC = 36). A casual review detects no relation between industries and tax-liability reporting groups.

5. Our key-word search terms were "undistributed w/1 earnings," or "permanently w/1 earnings," or "indefinitely w/1 reinvest!," or "permanently w/1 reinvest!," or "unremitted w/1 earnings," or "retained earnings subsidiaries outside," or "remit! w/15 ((foreign sub!) or (non-US sub!) or international)."

6. Potential matches were not included in the final sample for the following reasons: (1) the match was unrelated to foreign earnings, (2) the firm was not a U.S. multinational, (3) no Center for Research in Security Prices IPERM was found for the firm, and (4) PRE was zero.

Panels A and B of table 6.2 report descriptive statistics for the full sample. In panel A, we highlight the median statistic because many of the underlying variables are highly skewed. Total assets of our sample firms range from $24 million to $185 billion, having a median of $767 million. Revenues range from $15 million to $98 billion, with a median of $887 million. The range of the market value of common equity is $7 million to $78 billion, with a median of $768 million. Median after-tax domestic and foreign financial statement net incomes are $10 million and $3 million, respectively. The median PRE is $40 million, and the median proportion of PRE to total retained earnings is 31 percent. Descriptive statistics for the less skewed per-share variables used in our regression analysis also are shown in panel B. The mean common stock price per share (PRICE) is $29.24, while mean PRE and RE per share are $2.66 and $6.28, respectively.

Panel A of table 6.3 provides descriptive statistics by tax-liability reporting groups. Companies that disclose no TAX information tend to be smaller than companies in the other three groups.[7] Median assets are $1,230 million (TAX > 0 group), $863 million (TAX = 0 group), $1,002 million (Not Practicable to Estimate group), and $370 (No TAX Information group), respectively. Similar patterns exist for revenues and the market value of equity. In terms of income, the TAX > 0 and Not Practicable groups both have median after-tax domestic income of $22 million. However, the TAX > 0 group has a median after-tax foreign income of $11 million, while that of the Not Practicable group is only $3 million. Median after-tax domestic and foreign income for the TAX = 0 group and the No TAX Information group are $9 million and $2 million, and $4 million and $1 million, respectively. Median PRE is $57 million (TAX > 0), $58 million (TAX = 0), $54 million (Not Practicable), and $29 million (No TAX Information). The mean (median) estimated deferred tax liability (TAX) associated with PRE reported by the TAX > 0 group is $55 million ($13 million). For the firms reporting positive deferred repatriation taxes, the mean (median) of TAX as a percentage of PRE is 0.23 (0.23).

Descriptive statistics for the regression variables are shown by tax-liability reporting group in panel B of table 6.3. The means of PRICE are $34 (TAX > 0), $28 (TAX = 0), $31 (Not Practicable), and $25 (No TAX Information). The means of PRE are $2.66, $2.67, $2.99, and $2.38, respectively.

We also computed the difference in domestic and foreign effective tax rates for those firms in each group that reported (1) zero or positive domestic and foreign tax expense and (2) positive domestic and foreign before-tax income. Effective tax rates greater than 1 were truncated to 1. On average,

7. Inferences are unaltered if we exclude firms that provide no TAX information from our tests.

Table 6.2 Descriptive Statistics

	Mean	Standard Deviation	Minimum	25%	Median	75%	Maximum
			A. Variables in $ Millions				
Assets	5,243	17,152	24	212	767	3,049	184,835
Revenues	3,539	8,745	15	245	887	2,856	97,825
Market value of equity	3,335	7,947	7	183	768	2,868	78,401
Domestic after-tax net income	96	347	−606	−2	10	83	2,879
Foreign after-tax net income	38	234	−2,049	−1	3	24	1,481
Residual common equity	154	1,127	−14,573	14	62	300	5,664
All non-PRE retained earnings	792	2,850	−2,326	7	90	534	41,265
PRE	253	691	0	10	40	184	8,100
Unrecognized deferred tax liability on PRE	48	106	0	2	10	36	700
			B. Variables on a $ per Share Basis				
PRICE	29.24	20.84	1.25	14.38	23.81	39.00	113.75
DNI	0.58	1.98	−8.85	−0.28	0.56	1.65	7.74
FNI	0.28	0.93	−5.15	−0.05	0.14	0.61	4.39
CS	4.08	6.25	−17.83	1.02	3.39	7.03	36.73
RE	6.28	10.60	−29.40	0.71	4.71	10.19	74.27
PRE	2.66	2.86	0.00	0.61	1.62	3.57	16.97
TAX	0.11	0.45	0	0	0	0	5.12

Note: Table reports descriptive statistics for the full sample of 340 publicly traded U.S. MNCs that reported a positive amount of PRE in fiscal 1993. PRICE is the market price of common equity at the end of fiscal 1993. DNI is after-tax financial statement domestic income for fiscal 1993. FNI is after-tax financial statement foreign income for fiscal 1993. CS is total common equity less total retained earnings at the end of fiscal 1993. RE is total retained earnings less PRE at the end of fiscal 1993. PRE is permanently reinvested foreign earnings at the end of fiscal 1993. TAX is the unrecognized deferred tax liability associated with PRE at the end of fiscal 1993. A value of zero is assigned to companies not reporting a positive TAX. All variables are scaled by common shares outstanding at the end of fiscal 1993.

Table 6.3 **Descriptive Statistics**

	TAX > 0 (*n* = 60)		TAX = 0 (*n* = 79)		Not Practicable to Estimate (*n* = 89)		No TAX Information (*n* = 112)	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
			A. Variables in $ Millions					
Assets	11,862	1,230	4,894	863	4,804	1,002	2,290	370
Revenues	4,840	1,417	4,511	1,187	3,964	1,203	1,818	461
Market value of equity	4,634	1,290	4,039	1,002	3,748	896	1,812	535
Domestic after-tax net income	167	22	74	9	132	22	45	4
Foreign after-tax net income	84	11	−14	2	67	3	27	1
Residual common equity	60	92	71	63	266	70	174	54
All non-PRE retained earnings	1,099	139	1,109	71	864	203	346	51
PRE	266	57	319	58	332	54	136	29
Unrecognized deferred tax liability on PRE	55	13	0	0	0	0	0	0
			B. Variables on a $ per Share Basis					
PRICE	34	33	28	24	31	25	25	20
DNI	0.92	0.85	0.35	0.54	0.94	0.87	0.27	0.29
FNI	0.44	0.29	0.24	0.12	0.34	0.15	0.16	0.12
CS	3.70	3.58	4.81	3.80	3.95	3.15	3.87	3.07
RE	7.34	5.30	4.87	4.37	7.52	6.46	5.72	3.62
PRE	2.66	1.64	2.67	1.37	2.99	2.05	2.38	1.56
TAX	0.62	0.31	0	0	0	0	0	0

Note: Table reports descriptive statistics for 340 publicly traded U.S. MNCs that reported a positive amount of PRE in fiscal 1993, by tax-liability reporting group. PRICE is the market price of common equity at the end of fiscal 1993. DNI is after-tax financial statement domestic income for fiscal 1993. FNI is after-tax financial statement foreign income for fiscal 1993. CS is total common equity less total retained earnings at the end of fiscal 1993. RE is total retained earnings less PRE at the end of fiscal 1993. PRE is permanently reinvested foreign earnings at the end of fiscal 1993. TAX is the unrecognized deferred tax liability associated with PRE at the end of fiscal 1993. A value of zero is assigned to companies not reporting a positive TAX. All variables are scaled by common shares outstanding at the end of fiscal 1993.

Table 6.4 **Pearson and Spearman Correlation Coefficients**

	PRICE	DNI	FNI	CS	RE	PRE	TAX
PRICE		0.41	0.31	−0.15	0.61	0.39	0.06
DNI	0.46		0.21	−0.15	0.29	−0.03	−0.02
FNI	0.35	0.26		−0.09	0.12	0.30	0.11
CS	−0.11	−0.15	−0.12		−0.47	−0.11	−0.09
RE	0.59	0.49	0.17	−0.45		0.28	0.09
PRE	0.36	0.03	0.31	−0.09	0.24		0.32
TAX	0.15	0.06	0.11	−0.01	0.07	0.06	

Note: Pearson (Spearman) correlations of variables used in the cross-sectional valuation regressions are above (below) the diagonal. Correlations are for the full sample of 340 publicly traded U.S. MNCs that reported a positive amount of PRE in fiscal 1993. PRICE is the market price of common equity at the end of fiscal 1993. DNI is after-tax financial statement domestic income for fiscal 1993. FNI is after-tax financial statement foreign income for fiscal 1993. CS is total common equity less total retained earnings at the end of fiscal 1993. RE is total retained earnings less PRE at the end of fiscal 1993. PRE is permanently reinvested foreign earnings at the end of fiscal 1993. TAX is the unrecognized deferred tax liability associated with PRE at the end of fiscal 1993. A value of zero is assigned to companies not reporting a positive TAX. All variables are scaled by common shares outstanding at the end of fiscal 1993. Correlations in excess of 0.11 (0.15) in absolute magnitude are significant at $\alpha = 0.05$ (0.01).

the domestic effective tax rate exceeds the foreign effective tax rate only for companies reporting positive repatriation taxes. The mean domestic effective tax rate and foreign effective tax rate differences are 6.5 percent (TAX > 0), −18.6 percent (TAX $= 0$), −14.7 percent (Not Practicable), and −5.5 percent (No TAX Information). The correlation between the difference in domestic and foreign effective tax rates and TAX/PRE, where TAX equals zero for all companies other than TAX > 0, is 0.28 ($p < 0.001$). These results are consistent with the TAX > 0 companies' being in excess limit and provide some support for prior studies' use of foreign effective tax rates to approximate repatriation tax liabilities and foreign tax credit positions (e.g., Hines 1996; Collins, Kemsley, and Lang 1998).

Pearson and Spearman correlations between the regression variables are provided in table 6.4. The Pearson (Spearman) correlations between DNI and PRICE and between FNI and PRICE are 0.41 (0.46) and 0.31 (0.35), respectively. The Pearson (Spearman) correlations between RE and PRICE and between PRE and PRICE are 0.61 (0.59) and 0.39 (0.36), respectively. The Pearson (Spearman) correlations between DNI and FNI and between RE and PRE are 0.21 (0.26) and 0.28 (0.24), respectively.

6.5 Results

The results of estimating equation (1) are shown in column (1) of table 6.5.[8] The TAX coefficient is −3.19 (t-statistic = −1.75), which is margin-

8. Diagnostic tests indicate that the results reported in table 6.5 are unaffected by outliers, and the null hypothesis of correct model specification under White's (1980) test is never

Table 6.5 Regression Coefficient Estimates

Variable	Full Sample (1)	TAX > 0 (2)	TAX = 0 (3)	Not Practicable to Estimate (4)	No TAX Information (5)
N	340	60	79	89	112
Intercept	13.28	26.52	13.95	9.58	10.47
	(9.81)	(6.35)	(4.75)	(3.69)	(4.88)
DNI	2.68	1.93	1.92	4.54	1.79
	(6.36)	(1.60)	(2.25)	(5.92)	(2.28)
FNI	3.25	3.25	2.16	5.35	3.99
	(3.63)	(1.46)	(1.31)	(2.45)	(2.28)
CS	0.59	−0.17	0.48	0.68	0.79
	(4.20)	(−0.43)	(1.44)	(3.00)	(3.17)
RE	1.06	0.81	0.99	1.10	1.14
	(12.02)	(3.33)	(4.47)	(5.14)	(9.52)
PRE	1.80	−0.23	2.31	1.52	1.80
	(5.78)	(−0.29)	(3.64)	(2.71)	(3.33)
TAX	−3.19				
	(−1.75)				
Adjusted R^2	0.54	0.35	0.49	0.63	0.59

Note: Table gives cross-sectional OLS (ordinary least squares) valuation regressions of stock price per share on disaggregations of the book value of common equity and financial statement net income. The full sample is the 340 publicly traded U.S. MNCs that reported a positive amount of PRE in fiscal 1993. Subsets are based on disclosures in income tax footnotes about TAX (the unrecognized deferred U.S. income and foreign withholding tax liabilities associated with PRE). Regression model: $\text{PRICE}_i = \beta_0 + \beta_1\text{DNI}_i + \beta_2\text{FNI}_i + \beta_3\text{CS}_i + \beta_4\text{RE}_i + \beta_5\text{PRE}_i + \beta_6\text{TAX}_i + \varepsilon_i$. PRICE is the market price of common equity at the end of fiscal 1993. DNI is after-tax financial statement domestic income for fiscal 1993. FNI is after-tax financial statement foreign income for fiscal 1993. CS is total common equity less total retained earnings at the end of fiscal 1993. RE is total retained earnings less PRE at the end of fiscal 1993. PRE is permanently reinvested foreign earnings at the end of fiscal 1993. TAX is the unrecognized deferred tax liability associated with PRE at the end of fiscal 1993. A value of zero is assigned to companies not reporting a positive TAX. All variables are scaled by common shares outstanding at the end of fiscal 1993.

ally significant ($p < 0.05$) using a one-tailed test. These results provide weak evidence consistent with the market capitalizing the deferred repatriation tax liability into current stock prices. The PRE coefficient is 1.80 and greater than the RE coefficient of 1.06 at the 0.05 level.[9] However, the

rejected at conventional levels. The regression coefficient estimates are unaltered materially if dummy variables depicting one-digit SIC codes are added to the regression; however, the *t*-statistic for TAX is reduced to −1.39. If the intercept is scaled by common shares outstanding, inferences are unaltered; however, the PRE coefficient increases to 3.24. No other coefficients change materially.

9. If higher levels of PRE signal greater foreign investment and future foreign earnings, then this finding is consistent with prior evidence of higher foreign (relative to domestic) earnings valuation (e.g., Bodnar and Weintrop, 1997; Collins, Kemsley, and Lang 1998). However, we are unable to discern to what extent, if any, RE represents repatriated foreign earnings or unrepatriated foreign earnings (which have not been, but could be, designated as PRE in the future) and the effect, if any, of such amounts on the relative magnitudes of

foreign earnings multiple of 3.25 is not significantly greater than the domestic earnings multiple of 2.68.[10]

A TAX coefficient of −3.19 implies that each dollar (per share) of reported unrecognized deferred tax liability reduces the per-share price by $3.19. This seems large on face value. However, TAX represents the unrecognized deferred tax liability associated with both current and prior foreign earnings that are designated as PRE, and thus is expected to reflect some combination of the earnings multiples reflected in the PRE and FNI coefficients. Thus, we compare the absolute value of the estimated TAX coefficient to both the PRE and FNI coefficients. Our tests reveal that the absolute value of the TAX coefficient is not significantly different from either the PRE or the FNI coefficients. The magnitude of the negative value that the market assigns per dollar of TAX is not significantly different from the magnitude of the positive value the market assigns per dollar of PRE or FNI. Thus, it appears that the market capitalizes TAX using earnings multiples similar to those applied to PRE and FNI.

The results of estimating equation (1) separately for each tax-liability reporting group also are shown in table 6.5, columns (2–5). The TAX > 0 firms' PRE coefficient in column (2) is −0.23 (t-statistic = −0.29). This PRE coefficient is significantly less than each of the other groups' PRE coefficients.[11]

The PRE coefficient for the TAX = 0 group is 2.31 (t-statistic = 3.64), for the Not Practicable group is 1.52 (t-statistic = 2.71), and for the No TAX Information group is 1.80 (t-statistic = 3.33). These coefficients are not significantly different from one another. For these three groups, which do not report a positive deferred tax liability, the market consistently values a dollar of PRE from 1.5 to 2 times more than a dollar of other fully

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the PRE and RE coefficients. Nevertheless, we also explore the effect of PRE on parent-company dividend distributions to external shareholders by regressing dividends per share on the independent variables in equation (1). The coefficients (t-statistics) are as follows: Intercept 0.14 (2.92), DNI 0.08 (5.05), FNI 0.00 (0.08), CS −0.00 (−0.92), RE 0.03 (8.43), PRE 0.08 (6.95), TAX −0.12 (−1.83). To the extent that RE represents domestic retained earnings, the larger coefficient on PRE relative to RE is consistent with Hines's (1996) finding of parent company's dividend payout rates being three times higher for foreign profits than for domestic profits. The DNI and FNI coefficients, however, are inconsistent with higher foreign profit dividend payout rates.

10. We also estimate equation (1) combining PRE and TAX into a single independent variable, PRE-TAX. The PRE-TAX coefficient is 1.78 (t-statistic = 5.73). All other coefficients remain essentially the same as those in column (1) of table 6.5.

11. When TAX is added to the regression shown in column (2), the PRE coefficient is 3.01 (t-statistic = 1.60) and the TAX coefficient is −11.09 (t-statistic = −1.89). The remaining coefficients do not differ materially from those shown in column (2). The TAX coefficient of −11.09 is larger relative to the PRE and FNI coefficients than we would expect. We attribute some of the unusual magnitude simply to measurement error. In addition, it may be that the reporting of an estimated deferred tax liability other than zero causes investors to react as if the "true" liability is potentially larger.

tax-affected retained earnings. However, the difference between the PRE and RE coefficients is not statistically significant in any of the groups. The similarity across PRE coefficients for the firms not reporting a positive tax liability suggests that the market infers a zero repatriation tax liability for firms in all three groups. Consistent with the full sample estimates, the foreign earnings multiple is not significantly different from the domestic earnings multiple in any of the four tax-liability reporting groups.

6.6 Conclusion

This study provides initial evidence consistent with the current capitalization into stock prices of the unrecognized deferred tax liability associated with unrepatriated foreign earnings generated in low-tax jurisdictions. Such evidence implies that firms in excess limit positions receive little to no market reward for deferring material repatriation tax liabilities. Many tax directors and advisors have indicated in private conversations that publicly traded companies focus primarily on tax planning strategies that enhance stock prices. Thus, our results imply that the incentive for excess limit companies to structure complex tax planning schemes involving either tax havens or shifting income from the United States to low-tax foreign jurisdictions is potentially diminished. These results are consistent with Collins, Kemsley, and Lang's (1998) failure to detect shifting of income from the United States to low-tax foreign jurisdictions by U.S. MNCs in excess limit positions.

Besides documenting a potential disincentive for excess limit firms to reinvest in low-tax jurisdictions, the findings may provide preliminary input to the long-standing debates in the public finance literature regarding the capitalization of shareholder taxes. The negative coefficient on TAX is consistent with the market's anticipation of eventual remittance of unrecognized deferred repatriation taxes and capitalization of these costs into current stock prices. This result is also consistent with Hartman (1985), who indicates that timing is irrelevant for repatriations that generate a tax liability of \$1 today and a tax liability of $\$1(1 + r)^n$ at time n. The results are also consistent with zero tax capitalization for firms anticipating no material future repatriation tax liabilities (all groups, except $TAX > 0$). In other words, share prices reflect cross-sectional variation in repatriation marginal tax rates as captured by the measures of TAX. The market appears to interpret that firms other than $TAX > 0$ are able to extract their foreign affiliate profits through non-costly dividends or some other tax-planning device, and that firms reporting $TAX > 0$ have exhausted their options to extract foreign profits without incurring tax cost and thus must use costly dividend payments to transfer profits to the United States.

An important distinction between this study and other recent findings of tax capitalization (e.g., Harris, Hubbard, and Kemsley 2000; Auerbach

and Hassett 1997) is that this study investigates future intrafirm transfers (i.e., from subsidiary to parent, rather than from parent to external shareholders). Because this study evaluates future transfers involving a single shareholder transferee (the parent), we are able to incorporate more precise measures of future dividend taxes into our tests than are studies examining tax capitalization of external shareholder taxes.

Finally, future studies should consider the robustness of these preliminary findings by, for example, examining years subsequent to 1993 and/or employing event studies to evaluate the share-price response around the public announcement of PRE and TAX. Event studies could provide more powerful tests of the valuations of PRE and TAX and the capitalization of TAX in share prices. Unfortunately, the release of PRE and TAX in the annual 10-K filing coincides with the disclosure of voluminous information. As a result, structuring expectations models for PRE and TAX and isolating their respective price effects will be challenging.

Appendix

Table 6A.1 List of Sample Companies across Tax-Liability Reporting Groups and by SIC

SIC	Description	Tax$ > 0 (n = 60)	Tax$ = 0 (n = 79)	Not Practicable (n = 89)	No Tax Info (n = 112)
10	Metal mining				Placer Dome Inc.
13	Oil and gas		Triton Energy Corp. BJ Services	Tuboscope Vetco	Maxus Energy Corp. Rowan Companies
14	Mining, nonmetal	Nord Resources			
15	Construction, building	Morrison Knudsen			
16	Construction, nonbuilding	Fluor Corporation Jacobs Engineering			Guy F Atkinson Co.
17	Construction, special trade				C H Heist Corp. Insituform Mid America
20	Food products	Brown Forman Coca Cola Company Philip Morris William Wrigley Jr. Co.	General Mills Campbell Soup	Pepsico Inc. Tootsie Roll Ind. McCormick & Co. Pilgrims Pride	H J Heinz Co.
22	Textile	Unifi Inc.		Interface Inc.	Chemfab Corp. Albany International
23	Apparel	Farah Inc.			Kellwood Co. Stage II Apparel
25	Furniture		BE Aerospace Interlake Corp. Johnson Controls	Herman Miller Inc.	

26	Paper products	John Wiley & Sons	International Paper James River Corp. Sonoco Products	Bemis Inc. Bowater Inc. Champion International Federal Paper Board Minnesota Mining Weyerhauser Co. Westvaco Corp.	Avery Dennison Corp. Boise Cascade Riverwood International Scott Paper Co.
27	Printing	McGraw-Hill Paxar Corp.		American Greetings	Filtertek Inc.
28	Chemicals	Vigoro Corp. Lawter International Monsanto Pfizer Inc.	Armor All Products Block Drug Inc. Helene Curtis Ind. Abbott Labs Bairnco Corp. Ecobal Inc. International Flavors Marion Merrell Dow Rhone Poulenc Rorer Rohm & Haas Co. Smith International Witco Corp.	Learonal Allergan Inc. B F Goodrich Dow Chemical E I DuPont Guardsman Products Life Technologies P P G Industries Schering Plough Corp. Stepan Chemical Union Carbide W R Grace & Co. H B Fuller Co.	I M C Fertilizer Group Mallinckrodt Group Proctor & Gamble Co. N C H Corp. Forest Laboratories Macdermid Inc. Aloette Cosmetics Betz Laboratories Bristol Myers Squibb Ferro Corp. F M C Corp. Hercules Inc. Sherwin Williams Wellman Inc. Lilly Industries Air Products Syntex Corp.
29	Petroleum	Amerada Hess Corp. Ultramar Corp.	Exxon Corp. Mobil Corp. Unocal Corp.	Amoco Corp. Chevron Corp. Murphy Oil Corp.	

(*continued*)

Table 6A.1 (continued)

SIC	Description	Tax$ > 0 (n = 60)	Tax$ = 0 (n = 79)	Not Practicable (n = 89)	No Tax Info (n = 112)
30	Rubber	Nike Inc. Furon Co. Armstrong World Industries	Illinois Tool Works	Reebok International	First Brands Corp.
31	Leather	Brown Group			
32	Stone, clay, glass	Owens Corning		Corning Inc. Manville Corp.	Donnelly Corp. A P Green Industries Devcon International Lafarge Corp.
33	Primary metals		Engelhard Corp. Phelps Dodge Corp.	Aluminum Company Asarco Inc.	Alcan Aluminum Reynolds Metals Talley Industries
34	Fabricated metals	Blount Inc.	B M C Industries Eljer Industries Hexcel Corp. S P S Technologies	Watts Industries	American Consumer Products Crown Cork & Seal Eastern Co. Robertson Ceco Corp. Wahlco Environmental
35	Machinery, excluding electronic	Seagate Technology 3Com Corp. Compaq Computer Corp. Data Switch Corp. Selas Corp. America Storage Technology York International	Baldwin Technology Flow International Maxtor Corp. Joy Technologies Black & Decker Cray Research Industrial Acoustics	Telxon Corp. Chipcom Corp. Clark Equipment Genicom Corp. Graham Corp. Hein Werner IMO Industries	Manitowoc Inc. Silicon Graphics Adaptec Inc Banctec Inc. Cincinnati Milacron Conner Peripherals International Totalizator

			Salem Corp.	Monarch Machine Tool	Oilgear Co.
			Thermedics Inc.	Nacco Industries	Premark International
			Unisys Corp.	Network Systems	Scotsman Industries
			Binks Manufacturing	Raymond Corp.	Sundstrand Corp.
			Harnischfeger Ind.	S P X Corp.	Applied Materials
			Hewlett Packard	Westinghouse Electric	Dresser Industries
			Nordson Corp.	Deere & Co.	Kulick & Soffa Ind.
			Baker Hughes Inc.	Data General	Moog Incorporated
				Q M S Incorporated	Robbins & Myers
				Standex Int'l.	Datapoint Corp
36	Machinery, electrical	National Semiconductor	Raychem Corp.	Duracell Int'l.	Integrated Device Technology
		Exide Corp.	Burr Brown Corp.	Harris Corp.	Mitel Corporation
		Unitrode Corp.	Genlyte Group	Intervoice Inc.	Plantronics Inc.
		Advanced Micro Devices	Maytag Corp.	Brite Voice Systems	Knogo Corporation
		Bel Fuse Inc.	Standard Motor Prod.	General Signal	Aydin Corporation
		C T S Corp.	Tekelec	Texas Instruments	Checkpoint Systems
		Tellabs Inc.	Thomas Industries		Communications System
			Time Warner Inc.		D S C Communications
					Franklin Electric
					Vishay Intertechnology
					Microsemi Corporation
					Read Rite Corporation
37	Transportation equipment	A O Smith Corp.	Varity Corp.	Champion Parts	Augat Incorporated
		Textron Inc.	Arvin Industries	Chrysler Corporation	I T T Corporation
			Federal Mogul Corp.		McDonnell Douglas Corp.
			United Technologies		Tenneco Incorporated
			Navistar International		Walbro Corporation

(*continued*)

Table 6A.1 (continued)

SIC	Description	Tax$ > 0 (n = 60)	Tax$ = 0 (n = 79)	Not Practicable (n = 89)	No Tax Info (n = 112)
38	Measurement instruments	U S Surgical Corp.	Dionex Corp. Medex Inc. Bio Rad Laboratories Snap On Tools St Jude Medical Optical Coating	Concord Camera Cordis Corp. Biomet Inc. Medtronic Inc. Honeywell Inc. Polaroid Corp. Stryker Corp. Becton Dickinson & Co.	Respironics Incorporated Autoclave Engineers Sci Med Life Systems Badger Meter Inc. Beckman Instruments Mine Safety Appliances Measurex Corporation Daniel Industries Litton Industries
39	Miscellaneous manufacturing	W M S Industries A T Cross Co. Tyco Toys W H Brady Co.	Mattel Inc.	Dixon Ticonderoga	BIC Corporation Hasbro Incorporated Galoob Lewis Toys Inc.
40	Railroad			C S X Corp.	Orient Express Hotels
44	Water transportation	Tidewater Inc. Overseas Shipholding Group			
47	Transportation services				Air Express International Expeditors International Harper Group
49	Electric/gas service		Thermo Process Systems		A E S Corporation
50	Durable goods (wholesale)		Handleman Co.	Crane Company Fisher Scientific	
51	Nondurable goods (wholesale)	Sigma Aldrich	International Multifoods	Standard Commercial Corp. Enron Corp.	Terra Industries

53	General merchandise	Sears Roebuck & Co.			
54	Food stores	Great Atlantic & Pacific			
56	Apparel and accessory stores	Woolworth Corp.			Petrie Stores
58	Eating and drinking places		McDonalds Corp.		Sizzler International
59	Miscellaneous retail	Toys R US Jan Bell Marketing			Viking Office Products
60	Banking		Advance Ross Corp.		
61	Credit agencies	American Express Beneficial Corp.	H P S C Inc.	Household Int'l.	
62	Securities and commodities	Merrill Lynch Salomon Inc.	Bear Stearns	Franklin Resources	
63	Insurance		Intercargo Corp.		
64	Insurance agents	Arthur J Gallagher & Co.	Alexander & Alexander		Crawford & Company
72	Personal services		H & R Block Inc.		Service Corp International
73	Business services	Autodesk Inc.	Manpower Inc.	Continuum Inc. Filenet Corp. Nashua Corp. Volt Information Boole & Babbage Comdisco Inc.	Blythe Holdings B M C Software Borland International Enterra Corporation Shared Medical Systems Sothebys Holdings
78	Motion pictures			Paramount Communications	
80	Health services				National Medical Enterprise
82	Educational services			Berlitz Int'l.	
87	Engineering and management services	Dun & Bradstreet		Krug Int'l. Ceridian Corp.	

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Comment Kevin Hassett

In "Valuing Deferral: The Effect of Permanently Reinvested Foreign Earnings on Stock Prices," Professors Collins, Hand, and Shackelford have made a very important positive contribution to both the accounting and economics literatures. Their careful description of the accounting rules concerning both permanently reinvested earnings (PRE) and the concomitant taxes avoided provides researchers with valuable new insights into the behavior of firms. Those who teach graduate public finance will be remiss if they do not immediately add this paper to their reading lists, as the new ground broken provides ample opportunity for future research.

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Although the new facts presented in this paper are an important first step, the empirical analysis falls a bit short for two reasons. First, valuation models of the type estimated are really reduced-form regressions that are virtually impossible to interpret; thus, the evidence concerning the relative importance of the new variables is difficult to interpret as well. Second, by keeping the focus that they have, the authors have fallen just short of providing priceless new evidence concerning one of the most important unresolved issues in the economics of the firm. The paper that the authors did not write (at least not yet) may be an even more important contribution. I will address each of these points in turn.

What Does Their Reported Regression Mean?

About the only thing that we learn from the regressions reported is that the PRE distinction is not simply a meaningless ploy—it does seem to have some effect on value. It would be wrong to conclude more than that, however, because it is essentially impossible to interpret the coefficients in table 6.5.

In an important theoretical paper, Ohlson (1995) provides justification for regressing the market value of the firm on net book value and net income. While this approach has been widely adopted in the accounting literature, I believe it is of little value because it does not provide coefficients that have any meaning when applied to actual data.

It is hard to figure what the book value measures are capturing, because economic and accounting depreciation are so different, and more importantly, because the units are all messed up. The market value measure is in current dollars, but the book value variables are in mish-mash dollars, depending on the timing of the relevant earnings and transactions. Because each firm has its own timing, each firm has its own flavor of mish-mash, and identifying things off the cross-sectional variation in mish-mash seems overly optimistic.

Ignoring that problem, the net income measures are meant to capture the present value of profits. If they do, their coefficients should be something like $1/(r - g)$, where r is the firm-specific discount rate and g is the firm-specific profit growth rate. Because these coefficients must vary both within firms and across firms for different source income depending on potentially country-specific r's and g's, it is hard to interpret what we learn from pooled regressions. The more likely case, however, is that the relationship between these earnings and future outcomes is nonlinear in an unknown fashion, and that any other current variable included in the regression may matter in a linear equation simply because it helps approximate the firm's discount rate or future earnings better than do current earnings all by their lonesome selves. These forces are clearly important in this context, because the flow variable coefficients are only a little larger than the

coefficients on stocks, when a sensible back-of-the-envelope expectation might be that the coefficient are ten times as large. Moreover, the difficulty of interpreting these reduced-form regressions is apparent in the dividend regression presented in n. 9. Because PRE is a signal that money is not coming home, higher PRE should lower current dividends. Since the regression shows the opposite, however, one can only conclude that there is much more going on, and that PRE signals something not elsewhere controlled for.

Aside from the problem of mixing stocks and flows, the timing of the variables in these regressions is also unusual, to say the least. As the discussion of the theory makes clear, announcements are the events that provide the useful distinguishing characteristics. Because the left-hand side variable is the end-of-year market price, and the right-hand side variables are the accounting things for that year, we have the peculiar case that the information in the explanatory variables postdates the information in the dependent variable, because the accounting information is released a number of months after the end of the year.

How Does the Evidence Provided Relate to Different Views of Dividend Taxation?

The authors mention some implications of their results regarding the new and old views in their conclusion. This section fleshes this out a little more, and discusses how the work might be extended to provide potentially priceless new information concerning the effects of dividend taxation.

A Quick Review of the New and Old Views

The alternative views of the impact of dividend taxation on the firm relate to different assumptions concerning the sources and uses of funds.[1] According to the "old view," firms use equity issues to finance investment and distribute a fixed fraction of the proceeds as dividends. Under this view, an extra dollar of retained earnings is worth $1 to the shareholder because it substitutes for marginal equity funds obtained through a new share issue. That is, according to the old view, q is always equal to 1.

It is instructive to stop for a minute and think about the equilibrating mechanisms that keep q at 1 under the old view. Suppose the dividend tax rate were lowered. Shouldn't the value of the firm go up? No—according to the old view, q is always 1, and does not depend on dividend taxes. In response to lower dividend taxes—which might initially drive up the value of its shares—the firm issues new shares and spends the proceeds on new capital, driving down the marginal earnings flow from capital until lower

1. These issues were first treated by King (1977), Auerbach (1979), and Bradford (1981).

earnings have exactly offset the benefits of the dividend tax decrease. Dividend taxes do not change value because they do change investment.

Under the new view, retained earnings provide the marginal equity funds, so the opportunity cost to the shareholder of new investment is reduced by the dividend taxes foregone, net of the increased tax burden on the capital gains induced by the accrual; q is equal to $(1 - \theta)/(1 - c)$, where θ is the dividend tax rate and c is the accrual equivalent capital gains tax rate. Thus the market value of the firm will respond to changes in dividend taxes. On the other hand, the decision to invest, which at the margin is equivalent to the decision to pay a dividend now as opposed to paying it at some point in the future, is unaffected by the dividend tax, because the same present value of dividend taxes will be paid regardless of the timing of the payment. So long as the tax rates do not change over time, dividend taxes are capitalized into the value of the firm, but do not affect investment.

Thus, under the new view, there is *no* equivalent equilibrating mechanism that responds when the dividend tax changes. The market value of the firm changes when dividend taxes change precisely because investment does not.

What Is the Existing Empirical Evidence Concerning the Two Views?

Casual observation suggests that the old view has been adopted by most researchers as a strong prior, perhaps because the new view at times has counterintuitive implications. Although the latest evidence provides some support for the new view, the jury clearly is still out. One of the key differences between the two theories that has been exploited by empirical researchers has been between the theories' predictions concerning the impact of dividend taxation on investment. Poterba and Summers (1985) provide evidence supportive of the old view. One problem with this test, however, is that it depends on empirical investment equations that have very poor properties, making the power of such tests questionable. Recent papers more supportive of the new view include Harris, Hubbard, and Kemsley (1997) and Auerbach and Hassett (1997).

In the international tax arena, Hartman (1985) restated the new-view hypothesis as requiring that repatriation taxes do not affect the timing of repatriations. Altshuler, Newlon, and Randolph (1995) provide evidence supportive of the Hartman hypothesis.

How Do These Views Inform Our Thinking about PRE and TAX?

The authors have presented us with two new variables to think about: PRE, which is the proportion of cumulative foreign earnings that is described as permanently reinvested abroad, and TAX, which is the company's estimate of how much tax it would pay if the money were repatriated immediately.

How should the market value of the firm respond to PRE and TAX announcements? It depends crucially on which view holds. Under the new view, an announcement of higher PRE is equivalent to an announcement that dividends will be lowered today to finance new investment. Absent any signaling effects, this is only a dividend-timing announcement, and should have no effect on market value. In an event study that focuses on changes, the coefficient on TAX should be zero as well, because the tax information should already be impounded in price. In regressions such as those reported in the paper, TAX should be fully capitalized into the value of the firm, so it should have a coefficient of -1 in a cross-sectional regression.

Under the old view, the effect depends on whether we think old-view adjustments occur instantaneously or that they take some time. If they occur instantaneously, then q is always 1, and none of these variables will have an effect.[2] Running through the equilibrating mechanism, however, and allowing for some delayed adjustment, gives a different story. An announcement that PRE will be higher is the same as an old-view firm's declaring that it will lower its dividend payout rate. When this happens, the shareholder is made better off if dividend taxes are higher than capital gains taxes. In this case, a lower payout rate has an effect analogous to that of a lower dividend tax rate: q increases above 1; firms issue shares and invest and drive it back to 1. So, allowing for adjustment costs (or some other impediment to instant adjustment), the old view would predict that an announcement of higher PRE would correspond to an increase in market value. TAX is a measure of how much the firm is saving shareholders by its new policy, so the TAX variable should be *positively* correlated with value.

Thus, the two views provide opposing predictions, and a well-designed test could shed significant light on which view is more relevant to U.S. MNCs. The theory makes it clear that the differential effect of the PRE and TAX variables should be strongest when firms make announcements of changes to these variables. In the future, the authors should attempt to identify the dates of these announcements, and should perform a simple event-study description of market value changes surrounding these announcements. This test will likely be biased against the new view because plausible signaling stories may explain announcement effects that look like old-view responses. The bias should affect PRE more than TAX, however, and a clear look at the TAX coefficients controlling for PRE could be the most powerful test performed to date.

2. This might seem to be an extreme view, but Fischer Black, while discussing an investment paper I presented at a conference once, stated that he had no idea why anyone would want to run q-regressions because q is always 1, and any variation in q was clearly the result of incompetent measurement on the part of the researcher.

Conclusion

While I question the value of the regressions presented in table 6.5, there is no question that this paper provides a very important contribution to the literature. In addition to providing an interesting perspective on the accounting practices of firms, the authors have provided invaluable new information that can likely be used in the future to shed light on one of the more important unresolved issues in empirical public finance.

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