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In the United States"

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ABSTRACT

We test the hypothesis that the Tax Reform Act of 1986 (TRA 86) induced acquisitions of U.S. companies by foreign investors from worldwide tax jurisdictions, principally the United Kingdom and Japan. We find that tax advantages realized post-acquisition by U.K. and Japanese investors are very small relative to the size of the acquisitions. Thus, we conclude that TRA 86 did not significantly enhance the competitive advantage of foreign firms in the U.S. acquisition market.
We test the hypothesis that the Tax Reform Act of 1986 (TRA 86) induced foreign acquisitions in the United States. Prior literature maintains that TRA 1986 provided a competitive advantage to foreign investors from worldwide tax jurisdictions, principally the United Kingdom and Japan, relative to other foreign and U.S. corporate investors.¹ We identify and analyze the conditions necessary for the validity of the tax explanation for the surge in post-TRA 86 foreign direct investment. In addition, we examine the U.S. corporate income tax returns of domestic corporations that were acquired between 1987 and 1989 by U.K. and Japanese investors to determine whether the acquisitions satisfy these key conditions. Our findings aid in clarifying whether TRA 86 resulted in competitive advantages for certain foreign buyers and contribute to the debates regarding the elasticity of foreign investment to domestic tax policy and the U.S. tax burden borne by foreign-controlled U.S. corporations.

Surging foreign acquisitions after passage of TRA 86 have drawn considerable attention to the link between taxes and foreign direct investment (FDI). The dollar volume of foreign acquisitions increased from approximately $12 billion in the four quarters preceding passage of TRA 86 to approximately $44 billion in 1987 (Mergers & Acquisitions). Based on rank sum tests, Scholes and Wolfson (1990) report that this dramatic increase in foreign acquisitions from the four quarters

¹Income earned in the U.S. by foreign investors generally is subject to one of two home country tax regimes (territorial or worldwide). Under a territorial tax system, the home country exempts income earned in the U.S. from home country tax. France, Switzerland, Canada and Germany have a territorial tax system with respect to U.S. income. Thus, business income earned in the U.S. by a French, Swiss, Canadian, or German investor is only taxed in the U.S. Under a worldwide tax system, the home country taxes their residents (including multinational corporations domiciled within the borders) on their worldwide income. Japan and the United Kingdom are the principal countries with a worldwide tax system with respect to income earned in the U.S. Thus, business income earned in the U.S. by a Japanese or U.K. investor is taxed currently in the U.S. and in Japan or the U.K. when the income is repatriated to the home country corporation through dividends, interest, rents, royalties, service income, etc. If repatriation occurs through dividend payments, Japan and the U.K. allow a foreign tax credit for income taxes paid to the U.S. government.
preceding passage of TRA 86 to the four quarters of 1987 could have occurred by chance with probability of only .0143. Foreign acquisition activity remained elevated for the ensuing three years (approximately $61 billion in 1988, $54 billion in 1989, and $42 billion in 1990). Moreover, U.K. and Japanese acquisitions constituted .53, .58, and .60 of the total foreign acquisition activity in 1987, 1988, and 1989, respectively.

Extending the prior literature examining the interrelation between domestic tax policy and foreign direct investment (e.g., Hartman, 1984), Scholes and Wolfson (1990) hypothesize that TRA 86 encouraged the 1987-90 sharp increase in foreign acquisitions. In essence, Scholes and Wolfson maintain that TRA 86 resulted in increased corporate effective tax rates due to provisions such as those disallowing accelerated depreciation and investment tax credits. Firms from worldwide tax

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2Total U.K. and Japanese acquisitions of U.S. companies averaged only $4 billion for the years 1980 through 1985 (Auerbach and Hassett, 1993, Table 4.4, p. 131).

3Foreign direct investment in the U.S. dropped precipitously in 1991 and 1992. Net inflow of foreign direct investment, as measured by the Commerce Department, includes foreign acquisitions of existing U.S. companies (reported in Mergers & Acquisitions) as well as establishment of new and expansion of existing foreign controlled branches or subsidiaries in the U.S.. The net inflow of foreign direct investment peaked at $67.9 billion in 1989 and fell to $45.1 billion in 1990 and $11.5 billion in 1991. In 1992, the net inflow dipped to a negative $3.95 billion, as foreigners liquidated more U.S. investments than they made. Among the reasons speculated for this recent dramatic decline in FDI are the U.S. and global recession and "continued Congressional calls for unfair and harsh measures targeting U.S. foreign-owned corporations" (Wall Street Journal, 3-18-93). Other factors, such as the collapse of the junk bond and other merger and acquisition debt markets, also may have contributed to this decline.

4Subsequent corporate tax payments are consistent with increased corporate taxes resulting from TRA 86. Annual U.S. corporate income taxes collected after credits were approximately $65 billion in 1984 and 1985 and leaped to approximately $96 billion in 1988 and 1989 (Pavelko and Treubert, 1991, p. 54 and Karvounis and Shumofsky, 1992, p.49). From 1982 to 1986, corporate tax receipts represented an average of 9.4 percent of total federal government receipts. From 1987 to 1989, the percentage of total federal revenue resulting from corporate tax receipts rose to an average of 11.2 percent (GAO, 1992, p. 78). Similarly, U.S. corporate average effective tax rates calculated for 200 to 250 of the largest U.S. corporations by the Joint Committee on Taxation and General Accounting Office were 16.5, 16.8, and 18.6 percent, respectively, in 1982, 1983, and 1986 (1984 rates were not published, and 1985 rates were not computed.). Similar calculations in 1987, 1988, and 1989 produced U.S. average effective tax rates of 27.8, 31.3, and 32.9 percent, respectively (GAO, 1992, p. 34). Although these comparisons do not control for economic fluctuations or other non-statutory
jurisdictions, unlike U.S. investors and foreign investors from territorial tax systems, are able to offset the post-86 increase in explicit U.S. corporate tax burden with home country repatriation tax savings generated by increased foreign tax credits.⁵

Prior investigations (e.g., Swenson, 1992) of the relation between the TRA-86 tax increase and foreign direct investment have produced mixed results. Direct tests of the tax hypothesis are hampered by numerous plausible non-tax explanations for increased foreign investment in the U.S. post-TRA 86. Confounding factors include foreign currency exchange rate fluctuations, differences in goodwill accounting, liberalization of capital markets, fear of increased trade restrictions, expansionary foreign economic conditions, passive anti-trust policies during the Reagan administration, and firm-specific strategic factors. Furthermore, cross-border acquisitions increased worldwide during the latter half of the 1980s, not just in the United States. For example, U.S. acquisitions of foreign targets rose from $1.2 billion in 1985 to $16.3 billion in 1990 (Mergers & Acquisitions),⁶ worldwide foreign direct investment from the United Kingdom increased by 149 percent from 1984 to 1988, and worldwide foreign direct investment from Japan doubled from 1986 to 1988 (Slemrod, 1990b).

We bypass the need to control for these confounding non-tax factors in our tests of the tax hypothesis by focusing on the conditions necessary for the tax explanation to be valid. If the necessary conditions are satisfied for recent acquisitions by firms from worldwide tax jurisdictions (i.e., U.K. and Japan), this research will provide additional evidence supporting the tax hypothesis.

⁵Scholes and Wolfson (1990) also indicate that the TRA 86 increase in domestic shareholder-level taxes on capital gains favored post-86 foreign acquisition activity. We do not address this argument in this paper.

⁶The dollar amount of purely domestic acquisition activity in the United States also rose sharply during the 1980s. U.S. purchases of U.S. targets rose from an average of $81 billion per year from 1981 to 1985 to an average of $159 billion per year from 1986 to 1989 (Mergers & Acquisitions).
However, if the necessary conditions are not satisfied, this research will provide the most conclusive evidence to date refuting the tax hypothesis.

For the tax hypothesis to explain recent U.K. and Japanese acquisitions of U.S. targets, the U.K. and Japanese purchasers of these targets must be able to offset increased U.S. taxes post-86 with home country repatriation tax savings generated by increased foreign tax credits. Otherwise, they enjoy no competitive advantage relative to territorial or U.S. investors. We have identified three necessary conditions that must be satisfied post-acquisition for the U.K. and Japanese purchaser to benefit from increased foreign tax credits. First, the U.S. target must pay creditable U.S. income taxes (creditable U.S. income taxes include regular U.S. income taxes and alternative minimum taxes). This condition is particularly interesting since academics and politicians alike have speculated that foreign-controlled firms in the U.S. pay no or small amounts of U.S. taxes. Such allegations are inconsistent with the Scholes and Wolfson hypothesis concerning tax-motivated post-1986 foreign acquisitions. Thus, our examination of this first condition will aid in illuminating the validity of the tax hypothesis as well as the current skepticism concerning the tax burden borne by foreign-controlled U.S. corporations. The second condition necessary for U.K. and Japanese purchasers to benefit from increased foreign tax credits post-acquisition is that the U.S. target must repatriate dividends to their foreign parent. Foreign tax credits for income taxes paid in the U.S. do not arise from other forms of repatriation, such as interest, rents, royalties, or service income. Third, the U.K. or Japanese investor must incur a net repatriation tax savings due to increased foreign tax credits. Foreign tax credits

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7 We cannot observe worldwide investors' ex-ante expectations of satisfying these conditions and thus reaping a tax advantage. Thus, we proxy for ex-ante expectations of repatriation tax savings using ex-post realizations of the necessary conditions for these savings. This approach seems at least as reasonable as alternative expectations proxies (e.g., ex-post anecdotal or survey data regarding ex-ante expectations).

provide no current benefit if the U.K. or Japanese investor is not paying home country taxes or has excess foreign tax credits.

We investigate the necessary conditions for post-acquisition years through 1991 by examining the U.S. tax returns of a sample of corporations that were acquired by U.K. and Japanese investors between 1987 and 1989. While we are unable to reject that taxes may have been a factor in some foreign acquisitions, in general, the tax advantages are very small relative to the size of the acquisitions. We find that (1) 43 percent of the acquisitions, comprising 59 percent of the total acquisition dollars seem to satisfy the necessary conditions for at least one post-acquisition year, (2) the principal reasons why companies do not satisfy the conditions we examine is that they do not pay taxes or dividends, and (3) the estimated upper bound of the mean (median) tax advantage for U.K. and Japanese investors relative to other investors is 1.5 percent (0.1 percent) of the acquisition price.

The remainder of this paper is organized as follows. Section 2 reviews prior literature examining the interrelation between domestic tax policy and FDI. Section 3 models the tax hypothesis and details the necessary conditions. Section 4 discusses the research methodology and data we use to investigate each condition. The results are presented in Section 5. The paper concludes with a summary of the research and its implications.

2.0 PRIOR RESEARCH

While Scholes and Wolfson (1990) first articulated the tax hypothesis for the surge in foreign direct investment post-86, Hartman (1984) pioneered the empirical literature on the interrelation between domestic tax policy and foreign direct investment (FDI) in the United States. In determining

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*We bias in favor of acceptance of the null hypothesis that taxes motivated these U.K. and Japanese acquisitions by assuming that any condition we cannot observe directly is satisfied. This assumption particularly biases in favor of satisfaction of the third condition, since we are unable to observe the foreign tax credit position of U.K. and Japanese parents.*
the welfare consequences of domestic tax policy, Hartman stresses the importance of considering the
elasticity of international capital flows to domestic tax incentives rather than deriving such
consequences from a closed economy model. As explained by Hartman, U.S. tax incentives often do
not provide benefits for foreign investors. For example, the incentive may only apply to U.S. residents
who are the final recipients of capital income or the foreign investor may be from a worldwide tax
jurisdiction, in which case U.S. tax incentives decrease U.S. taxes and foreign tax credits and may
result in zero net benefit.\footnote{Hartman emphasizes that this analysis assumes that foreign firms repatriate their U.S. earnings.} Hartman points out that when domestic tax incentives increase demand
and reduce returns for U.S. assets without benefitting foreign investors, the incentives create
competitive disadvantages for foreign firms.

Hartman's (1984) empirical estimates are consistent with the predicted effects of domestic tax
policy on FDI. Using annual data from 1965 to 1979, he estimates the response of FDI to the after-tax
rate of return realized by foreign investors in the U.S., the overall after-tax rate of return on capital in
the U.S., and the relative tax rate on U.S. capital owned by foreigners to the tax rate on U.S. capital
owned by U.S. investors. The significant negative relative tax rate coefficient implies that if the tax rate
on U.S. capital owned by U.S. investors decreases (increases) and the tax rate on U.S. capital owned
by foreign investors remains unchanged, net foreign investment in the U.S. will decrease (increase).

Slemrod (1990a) extends the stream of studies emanating from Hartman's early empirical work
(Boskin and Gale, 1987; Newlon, 1987; and Young 1988) by investigating the effects of both U.S. and
home country taxation on FDI in the U.S. Slemrod extrapolates FDI data from 1959, 1974, and 1980
Bureau of Economic Analysis surveys to extend from 1950 to 1987 and disaggregates FDI by the
country of the investing firm to facilitate the study of home country influences. His results generally
support a negative effect of U.S. effective tax rates on FDI from both territorial and worldwide
investors. This finding does not support the hypothesis that U.S. effective tax rates are positively

\footnote{Hartman emphasizes that this analysis assumes that foreign firms repatriate their U.S. earnings.}
related to FDI from worldwide investors. Slemrod concludes that this unexpected result for worldwide
investors "may indicate that, because of deferral and the availability of sophisticated financial
strategies, the home country tax rate and its system of alleviating international double taxation is not
an important determinant of FDI" (1990, p. 112).

Swenson (1992) is the most direct test of the tax hypothesis for post-TRA 86 FDI because she
includes several years of post-1986 data and focuses on the manufacturing sector. Swenson
regresses country by country FDI on changes in the manufacturing sector's average effective tax rate
from 1979 to 1990. The average effective tax rate reflects all effects of the tax code, including
statutory tax rates, depreciation allowances, and other investment incentives on all existing
manufacturing investment (new and old). After controlling for shifts in exchange rates, she finds that
the coefficient on the U.S. average effective tax rate is positive, as expected, and statistically
significant. Furthermore, the coefficient is higher for investment from countries with worldwide tax
systems than for investment from countries with territorial tax systems.11

Auerbach and Hassett (1993) contend that the tax explanation for the surge in post-TRA 86
FDI applies to new asset purchases rather than to foreign acquisitions of existing assets. Acquisitions
of existing assets never generated large investment tax credits, even before TRA 86. Auerbach and
Hassett argue that the repeal of the investment tax credit should have had little effect on incentives for
foreign acquisitions of existing assets. The surge in U.K. and Japanese acquisitions of existing
domestic assets after TRA 86, however, is not consistent with this analysis. Thus, Auerbach and
Hassett are led to conclude that taxes do not explain recent FDI trends in the United States.

Auerbach and Hassett (1993) provide important insights but do not consider that purchasing a
U.S. business is often the first step before purchasing new assets. If newly acquired U.K. and
Japanese subsidiaries purchase new assets to expand their operations, the tax hypothesis may still be

11However, Swenson (1992) finds a negative relation between marginal effective tax rates and FDI.
valid. Furthermore, strategic factors may have constrained U.K. and Japanese firms to purchase operating businesses with existing distribution channels before purchasing new assets.

In summary, prior research on the foreign acquisitions tax hypothesis is inconclusive. Difficulty controlling for non-tax factors and alternative explanations weaken prior tests of the hypothesis. As Slemrod (1990b, p.1) concludes, to date it has been impossible to establish a clear link between tax policy and FDI. This research takes an alternative approach. We test the tax hypothesis by determining whether the necessary conditions for its validity are satisfied.

3.0 THE NECESSARY CONDITIONS FOR THE TAX HYPOTHESIS

The tax hypothesis for foreign acquisitions relies on the crucial assumption that U.K. and Japanese purchasers of U.S. targets can offset increased U.S. taxes post-86 with home country repatriation tax savings generated by increased foreign tax credits. Thus, our necessary conditions enumerate the prerequisites for worldwide firms to benefit from an increase in foreign tax credits.

Below, we illustrate the impact of violating each necessary condition on the validity of the hypothesis.

First, we express the annual after-tax returns from active U.S. investment by corporations from territorial (or U.S.) and worldwide home countries as follows:

\[ r_{us} = r_{TERR} = R_{US} (1 - t_{us}) \]
\[ r_{ww} = R_{US} - R_{US} t_{us} - R_{US} t_{H} + pR_{US} t_{us} = R_{US} (1 - t_{us} - t_{H}) + pR_{US} t_{us} \]

where:

\[ r_{US} = \] U.S. investor's after-tax return from U.S. investment,
\[ r_{TERR} = \] territorial investor's after-tax return from U.S. investment,
\[ R_{US} = \] before-tax return from U.S. investment,\(^{12}\)

\(^{12}\)We use \( R_{us} \) here to denote the tax base in the U.S. and home country. This assumes the cash dividend in the home country is fully grossed-up to reflect the before-tax rate of return earned in the U.S. Relaxing this assumption provides an additional condition for the validity of the tax hypothesis.
\begin{align*}
    t_{us} &= \text{U.S. effective tax rate on corporate assets,}^{13} \\
    r_{ww} &= \text{worldwide investor's after-tax return from U.S. investment,} \\
    t_h &= \text{home country's effective tax rate, and} \\
    p &= \text{portion of U.S. tax payments that are utilized to offset home country tax liability of the target's foreign parent.}
\end{align*}

The difference in the annual after-tax returns of territorial (or U.S.) and worldwide investors is obtained by subtracting equation (2) from equation (1) as follows:14

\begin{equation}
    r_{\text{Terr}} \ (\text{or } r_{us}) - r_{ww} = R_{us}^t - pR_{us}^t
\end{equation}

This difference represents the home-country tax that the foreign parent firm in a worldwide tax jurisdiction must pay upon repatriation of U.S. subsidiary earnings. The tax hypothesis posits that rising U.S. tax rates benefit U.K. and Japanese firms relative to other investors because rising tax rates increase home-country foreign tax credits, thus reducing the present value of the stream of annual repatriation taxes, or:

\begin{equation}
    \delta \text{PV} (R_{us}^t - pR_{us}^t) / \delta t_{us} < 0.
\end{equation}

Restated, equation 4 is equivalent to the following basic criterion for assessing the validity of the tax hypothesis for foreign acquisitions:

\begin{equation}
    \delta \text{PV} (pR_{us}^t) / \delta t_{us} - \text{PV} [t_h (\delta R_{us} / \delta t_{us})] > 0.
\end{equation}

If an acquisition meets the criterion stipulated in equation 5, rising U.S. effective tax rates generate positive repatriation tax savings, and the tax hypothesis is valid. An acquisition can only meet the criterion if \( \delta \text{PV} (pR_{us}^t) / \delta t_{us} > 0 \), or rising U.S. effective tax rates increase useable foreign

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\(^{13}\)We use the term effective tax rate to encompass provisions such as allowable depreciation, the statutory tax rate, and allowable credits such as the investment tax credit.

\(^{14}\)Consistent with prior studies, we do not distinguish between U.S. and territorial investors. However, perhaps territorial investors can better avoid increased U.S. taxation through reorganization or transfer pricing than the subset of U.S. investors without foreign operations. If so, the incidence of increased taxation may fall more heavily on this subset of U.S. investors than territorial investors.
tax credits for foreign parent firms. In addition, rising corporate effective tax rates may increase before-tax rates of return on corporate assets (Scholes and Wolfson, 1990). In this case, equation 5 requires the increase in foreign tax credits to exceed home-country taxes on this additional before-tax income (i.e., \( \delta \text{PV} (\delta R_{us}t_{us})/\delta t_{us} > \text{PV} [t_{us} (\delta R_{us}/\delta t_{us})] \)).

The necessary conditions stipulate three requirements that must be satisfied post-acquisition for rising U.S. effective tax rates to generate positive repatriation tax savings. First, U.K.- and Japanese-owned targets must pay creditable U.S. income taxes post-acquisition. Otherwise, \( R_{us}t_{us} \) equals zero, and the U.S. tax system does not generate any foreign tax credits to offset home-country taxes. Second, U.K.- and Japanese-controlled U.S. corporations must make cash distributions to their home country parent which are classified as taxable dividends.16 Otherwise, \( p \) equals zero. Foreign tax credits (other than those available to offset possible withholding taxes) do not arise from other forms of repatriation, such as interest, rents, royalties, or service income. These other items generally are deductible in the host country, and thus taxing this income in the home country does not result in double taxation and foreign tax credit relief.16 Third, U.K. or Japanese parents must be able to offset their home country taxes with the increased foreign tax credits generated from their U.S. target's tax payments. Similar to a failure to satisfy condition 2, if foreign parent firms are unable to utilize the foreign tax credits generated from target subsidiaries, \( p \) equals 0.

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16 U.K.-controlled foreign corporation rules only apply to investments in countries where the effective tax rate is less than one-half of the U.K. effective tax rate, and Japanese controlled foreign corporation rules only apply to investments in countries considered tax havens (Price Waterhouse Information Guides, Doing Business in the U.K. and Doing Business in Japan). U.S. operations do not meet either of these conditions, so there are no deemed dividend distributions from U.S. targets. U.S. source income is deferred from taxation in the U.K. or Japan until actually distributed to the U.K. or Japanese parent.

16 The worldwide investor enjoys the greatest competitive advantage between pre- and post-1986 relative to the territorial or U.S. investor if dividends are repatriated annually to the home country. In the extreme, if the worldwide investor defers repatriation indefinitely, then \( \delta \text{PV} (\delta R_{us}t_{us})/\delta t_{us} \), \( \text{PV} [t_{us} (\delta R_{us}/\delta t_{us})] \), and repatriation tax savings all equal zero. In this case, an increase in the U.S. tax rate does not bestow a relative advantage on the worldwide versus any other investor.
4.0 SAMPLE AND RESEARCH METHODOLOGY

Our empirical tests focus on post-acquisition behavior of the U.S. target and U.K. or Japanese parent to determine if an acquisition satisfies the three necessary conditions for the tax hypothesis. The sample of acquisitions examined and the research methodology we employ to test each condition are discussed below.

4.1 Sample

We constructed an initial sample consisting of all U.K. and Japanese acquisitions from 1987 to 1989 exceeding $100 million in purchase price. These 116 acquisitions account for $85 billion of acquisition activity, or approximately 94 percent of the total dollar volume of U.K. and Japanese acquisitions during these three years (Mergers & Acquisitions). The distribution of the 116 acquisitions across acquisition years and country of acquirer appears below (dollars are stated in billions and the number of U.K. and Japanese acquisitions appear in parentheses):

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>1987</td>
<td>$21 (29)</td>
<td>$1 (3)</td>
</tr>
<tr>
<td>1988</td>
<td>$22 (30)</td>
<td>11 (13)</td>
</tr>
<tr>
<td>1989</td>
<td>$21 (26)</td>
<td>9 (15)</td>
</tr>
<tr>
<td>Total</td>
<td>$64 (85)</td>
<td>$21 (31)</td>
</tr>
</tbody>
</table>

We traced the acquisition histories for each of the 116 acquisitions initially identified using a number of sources including Mergers & Acquisitions, Who Owns Whom, International Directory of Corporate Affiliations, America's Corporate Families - International Affiliates, Moody's International, Commerce Clearing House Capital Changes Reporter, Wall Street Journal, Financial Times, and New

\[\text{17Our empirical tests are conducted ex-post. Ex-ante it is possible that the tax hypothesis may (may not) have been an important factor in motivating an acquisition that ex-post fails (satisfies) the necessary conditions. For example, a foreign investor may acquire a target because of the investor's post-TRA 86 relative tax advantage. However, because of unexpected operating or financial performance, the target may not pay taxes post-acquisition, preventing the investor from realizing the expected relative tax advantage. Our concluding remarks address the implications of this approach in light of our results.}\]
York Times. This screen identified 12 acquisitions totaling $4 billion that could not be motivated by the tax hypothesis for one of the following reasons: (1) a single U.K. or Japanese parent did not acquire at least 10 percent of the U.S. target;¹⁸ (2) the U.K. or Japanese purchaser sold the target to an unrelated buyer within one year of the acquisition; or (3) the U.K. or Japanese purchaser transferred the target's assets to non-U.S. affiliated corporations within one year of the acquisition.

Another 23 acquisitions totaling $11 billion were eliminated from the sample due to unavailable or incomplete tax return data. Information used to examine the conditions is taken from the U.S. tax return containing the post-acquisition operations of the target. The above-mentioned acquisition histories were used to identify the name of the most likely U.S. tax filer post-acquisition. These post-acquisition tax filers were matched with IRS provided lists of employer identification numbers (EIN numbers) to locate tax returns. Observations for which EIN matches could not be made were dropped from the sample. In approximately two-thirds of the acquisitions with an EIN match, the post-acquisition filer was a holding company filing a consolidated return aggregating the operations of several U.S. businesses. Each post-acquisition consolidated tax return was examined closely to verify that the target's assets were contained in the return. If this verification could not be made, the acquisition was dropped from the sample.

We located and verified target assets within post-acquisition tax returns for 81 acquisitions totaling $70 billion in purchase price and spanning 67 different tax returns.¹⁹ Descriptive statistics are provided in Table 1, Panels A and B. Fifty-seven acquisitions totaling $53 billion are U.K., and 24 acquisitions totaling $17 billion are Japanese. Consistent with the 116 acquisitions initially identified,

¹⁸Through treaties with the United States, dividends from U.S. subsidiaries only generate U.K. and Japanese foreign tax credits if the U.K. or Japanese parent owns at least 10% of the U.S. subsidiary's stock. Therefore, each U.K. and Japanese purchaser must acquire and hold at least 10% of their U.S. subsidiaries' stock for the tax hypothesis to be a possible motivation for the acquisition.

¹⁹There are less than 81 post-acquisition tax filers because 27 targets file post-acquisition as part of a consolidated group that includes at least one other target.
the U.K. acquisition activity is greater than the Japanese acquisition activity, and the U.K. acquisitions are somewhat evenly distributed across the three acquisition years, whereas the Japanese acquisitions are concentrated in 1988 and 1989. In addition, 62 of the U.S. acquired targets are in the manufacturing sector and 19 are in the service sector. The median acquisition price is $273 million.

4.2 Tests of Necessary Conditions

We determine which acquisitions meet the necessary conditions for the post-acquisition period from 1988 to 1991. Post-acquisition tax returns through 1991 are provided by the Internal Revenue Service. At the time of acquisition, the U.K. and Japanese relative tax advantage equals the present value of the repatriation tax savings generated by increased foreign tax credits. Although U.K. and Japanese-controlled domestic corporations may fail to satisfy the conditions in the post-acquisition period we examine, they could expect to do so in later years. However, the longer it takes a target to fulfill the necessary conditions, the smaller the present value of repatriation tax savings and the less valuable the relative tax advantages of TRA 86. The empirical tests associated with each of the three conditions are discussed below.

4.2.1 Condition #1: U.K. and Japanese Subsidiaries Pay Creditable U.S. Taxes

Condition 1 is tested by examining the regular U.S. income tax and alternative minimum tax payments reported on the U.K.- and Japanese-owned targets' post-acquisition tax returns (Form 1120). These two tax payments are based on income and thus are creditable for foreign tax credit purposes.

If the U.K.- or Japanese-acquired target files as part of a U.S. consolidated group, we examine the consolidated group’s tax payments to test condition 1.\(^{20}\) U.S. income taxes are assessed on the group’s combined income, so only the group’s total tax payments are disclosed on the return.

\(^{20}\)Consolidation is elective, not mandatory, for U.S. tax purposes. Ownership of at least 80 percent of a subsidiary’s stock is required for tax consolidation.
However, this presents no interpretation problem, even in the event the target's tax status and the group's tax status are inconsistent. To illustrate this point, suppose the target generates a taxable loss post-acquisition but files with a consolidated group reporting taxable income and tax payments. We will determine that this acquisition meets condition 1. This is appropriate because the amount of the target's taxable loss is decreased as a result of TRA 86, thus increasing the group's taxable income, U.S. tax payments, and creditable foreign taxes. Such a situation is consistent with the tax explanation for U.K. and Japanese FDI. Alternatively, suppose the target generates taxable income post-acquisition, but files with a consolidated group reporting a taxable loss and zero tax payments. We will determine that this acquisition does not meet condition 1. This is appropriate because there are no U.S. taxes paid post-86 to generate increased foreign tax credits (although the target's taxable income may have increased as a result of TRA 86). Thus, the foreign investor from a worldwide taxing jurisdiction has no current competitive advantage in acquiring such a target.

4.2.2 Condition #2: U.K. and Japanese Subsidiaries Repatriate Taxable Dividends to Foreign Parent

The second condition requires that U.K.- and Japanese-controlled U.S. subsidiaries repatriate taxable dividends to their foreign parents. We test condition 2 in two stages by first determining whether the U.K.- and Japanese-acquired U.S. targets make post-acquisition cash distributions and then by seeking to determine whether the distributions would qualify for dividend classification. The reconciliation of retained earnings in Schedule M-2 of the U.S. target's corporate tax return (Form 1120) provides post-acquisition cash distributions. To initially test condition 2, we consider the U.K.- and Japanese-controlled corporations paying U.S. taxes in any post-acquisition year, and identify those with a positive amount of cash distributions in that year or any subsequent post-acquisition year.\(^\text{21}\)

\(^{21}\)The shareholder of the U.S. subsidiary may not be the foreign acquirer because intermediate foreign subsidiaries may lie between the U.S. subsidiary and the foreign parent. However, we conservatively assume that the foreign tax credits associated with the cash distribution are utilizable.
Cash distributions received by a foreign parent can be classified in the home country as taxable dividends and/or non-taxable returns of capital. A distribution will be a taxable dividend to the extent of the payor's current and accumulated undistributed profits. We do not have profit and distribution histories for the U.S. targets that existed pre-acquisition. Thus, we assume that post-acquisition cash distributions do not exceed current and accumulated undistributed profits (and thus are taxable dividends) if the target reports positive book income (before taxes) in any post-acquisition year. Book income (before taxes) is taken from the reconciliation of book income and taxable income (Schedule M-1, Form 1120).

4.2.3 Condition #3: U.K. and Japanese Parents Benefit from Credits for Their Targets' U.S. Tax Payments

Condition 3 requires that U.K. or Japanese parents benefit from the foreign tax credits generated by their targets' U.S. tax payments. The foreign tax credit limitation is determined by comparing actual plus deemed paid foreign taxes on foreign source income to the home country tax liability on foreign source income. Two aspects of this calculation can prevent parent firms from receiving credit for their targets' U.S. tax payments. First, the deemed paid tax credit calculation can limit the amount of U.S. taxes allowed as a home-country tax credit. This calculation determines the gross-up percentage or the amount of deemed paid credits that attach to dividend distributions.22

__________________________

by the foreign payee.

22U.K. and Japanese firms calculate dividend deemed paid tax credits for dividend distributions from U.S. subsidiaries as follows:

\[
\text{DeemedPaidTaxCredit} = \frac{\text{U.S. Taxes Paid}}{\text{Income} - \text{U.S. Taxes Paid}} \times \text{CashDividend}
\]

The U.K. definition of income in the denominator is the U.S. target's book income (before taxes). The Japanese definition of income is the larger of (1) the U.S. target's book income (before taxes) or (2) the U.S. target's taxable income (before NOL carryforwards) plus tax-exempt income (Slemrod and Timbers, 1990, p. 11).
The home country tax rate is imposed on the sum of the cash dividend and the deemed paid tax credit. In addition, the credit subsequently subtracted for foreign taxes cannot exceed this calculated deemed paid tax credit. Though we do not have sufficient data to test this aspect of condition 3, it is possible that deemed paid tax credit calculations prevent some foreign parents (particularly Japanese parents) from receiving full credit for their U.S. target's tax payments.23

Second, allowable foreign tax credits cannot exceed the home country tax liability on foreign source income. Thus, foreign tax credits provide no current benefit to parents without worldwide taxable income or to parents where this foreign tax credit limitation is binding. This limitation is more likely to be binding when the home country’s tax rate is less than the U.S. tax rate.

We proxy for whether U.K. and Japanese parents have positive worldwide taxable income using parent book income from Global Vantage or Moody’s International. Japanese corporations can carry tax net operating losses back one year and forward five years. U.K. corporations can carry these losses back one year and forward indefinitely. For firm-years satisfying conditions 1 and 2 post-

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23 For Japanese-controlled U.S. corporations, foreign tax credits generated per dollar of dividend distribution may decrease post-86 if U.S. taxable income is used in the denominator. This can be illustrated by re-expressing the deemed paid tax credit formula in footnote 22 as (For simplification, tax exempt income is ignored in this formula):

\[
\frac{\text{U.S. Taxable Income} \times \text{U.S. Statutory Tax Rate}}{\text{U.S. Taxable Income} - (\text{U.S. Taxable Income} \times \text{U.S. Statutory Tax Rate}) + \text{Cash Dividend}}
\]

This simplifies to:

\[
\frac{\text{U.S. Statutory Tax Rate}}{1 - \text{U.S. Statutory Tax Rate}} \times \text{Cash Dividend}
\]

Substituting .46 for the pre-1986 U.S. statutory tax rate and .34 for the post-1986 U.S. statutory tax rate demonstrates that if U.S. taxable income is used in the denominator of the deemed paid tax credit formula, dividends distributed from Japanese owned U.S. corporations generate deemed dividend credits up to 85 percent of the pre-1986 cash dividend and up to only 51 percent of the post-1986 cash dividend. Thus, it is possible that rising U.S. effective tax rates do not benefit Japanese parents in post-acquisition years in which adjusted U.S. taxable income exceeds book income.
acquisition, we test condition 3 by determining whether the sum of parent book income (before taxes) in the post-acquisition period and the preceding four years is positive.

Data constraints prevent us from determining the foreign tax credit positions of specific parent firms. However, it is quite likely that U.K. firms, in particular, face binding foreign tax credit limitations with regard to U.S. source dividends. Since 1986, the U.K. tax rate has been 33 to 35 percent, whereas post-TRA 86 the combined Federal and state U.S. tax rate has been approximately 40 percent. Therefore, the U.S. appears to be a high tax rate country compared to the U.K.

Furthermore, U.K. firms calculate the foreign tax credit limitation on a subsidiary-by-subsidiary basis, and thus U.K. firms cannot offset high taxed dividends from the U.S. against low taxed dividends from another country. Finally, U.K. firms cannot carryover excess foreign tax credits from year to year. Any excess foreign tax credits generated in a particular year are permanently lost.

5.0 RESULTS

This section provides results for tests of each of the necessary conditions underlying the foreign acquisition tax hypothesis and estimates of the economic significance of the hypothesized tax factors in post-86 foreign acquisitions.

5.1 Tests of Necessary Conditions

Table 2, Panel A provides summary statistics for the full sample of acquisitions and for U.K. and Japanese subsamples. The U.K. subsidiaries comprise 70 percent (57/81) of the acquisitions and

24U.K. corporations are not subject to provincial or local income taxes. However, both state and Federal U.S. income taxes are creditable foreign taxes (*International Tax Summary, Coopers & Lybrand*).

26U.K. companies can mitigate this constraint by using an overseas holding company ("mixer company") to average foreign taxes from different sources where some of the rates are higher and some are lower than the U.K. rate. Three of the U.S. companies in this study that were acquired by British investors indicate on the tax return that the majority shareholder of the U.S. company is a Dutch company.
75 percent ($52,649/$70,139) of the total acquisition dollars. Although the sizes of the U.K. and Japanese subsidiaries are similar, the U.K. companies have higher earnings, taxable income, dividends, and taxes.

Table 2, Panel B provides results from the test of the first condition: Does the company pay regular U.S. income tax or alternative minimum tax in the post-acquisition period? Seventy-two percent (58/81) of the acquired companies, comprising 72 percent of the total acquisition dollars ($50,247/$70,139), pay some taxes during the post-acquisition period. The percentage of acquisitions satisfying condition 1 is less for Japan than for the United Kingdom. Seventy-nine percent (54 percent) of the U.K. (Japanese) acquisitions and 86 percent (29 percent) of the total U.K. (Japanese) acquisition dollars are included on post-acquisition tax returns that report the payment of U.S. taxes. Although similar in size, the acquired companies satisfying condition 1 (Panel B) report higher net income, taxable income, dividends, and taxes than the companies not paying taxes.

For the 58 acquisitions satisfying condition 1, Table 2, Panel C presents results of the test of the second condition: Does the company make a post-acquisition distribution qualifying as a dividend concurrent with or subsequent to the payment of taxes? This condition is tested in two parts. The test of condition 2A eliminates 19 subsidiaries (13 U.K. and six Japanese) that made no post-acquisition distributions concurrent with or subsequent to the payment of taxes. The test of condition 2B eliminates three U.K. subsidiaries and one Japanese subsidiary that made distributions but reported no positive book earnings in any post-acquisition year. Based upon the absence of earnings, we assume that these distributions are non-taxable returns of capital.

Forty-three percent (35/81) of the acquired companies, comprising 59 percent ($41,072/$70,139) of the total acquisition dollars, satisfy conditions 1, 2A, and 2B. Fifty-one percent

\[ \text{\textsuperscript{26}} \] Fortysix percent (48 percent) of the companies paid regular (alternative minimum) tax in at least one post-acquisition year. The mean regular (alternative minimum) tax paid annually is $14 ($1) million.
(25 percent) of the U.K. (Japanese) acquisitions and 72 percent (19 percent) of the total U.K. (Japanese) acquisition dollars are included on post-acquisition tax returns that report both the payment of taxes and the remittance of dividends. As a result, U.K. investments comprise 83 percent of the acquisitions and 92 percent of the total acquisition dollars that satisfy conditions 1 and 2. In addition, the summary statistics at the bottom of Panel C indicate that the tax filers that satisfy the first two conditions are larger and have higher earnings, taxable income, dividends, and taxes than the full sample of companies (Panel A).

Table 2, Panel D provides results from the final test determining whether the foreign parent can utilize foreign tax credits generated by the U.S. subsidiary. Parent utilization of foreign tax credits is contingent on the parent reporting positive worldwide taxable income and the parent not being in a binding foreign tax credit limit position. We cannot observe the foreign tax credit position of foreign parents.\(^{27}\) Condition 3 is tested partially by examining the earnings of the foreign parent. All of the acquisitions satisfying conditions 1 and 2 report net positive book income (before taxes) when parent book income for the post-acquisition period and the preceding 4 years is summed. Thus, we assume these companies report positive worldwide taxable income, and no companies are eliminated in this limited test of the third condition.\(^{28}\)

Forty-three percent (35/81) of the acquisitions, comprising 59 percent ($41,072/$70,139) of the total acquisition dollars, satisfy all the necessary conditions to support the tax hypothesis. Lack of tax payments and failure to remit dividends during the examination period eliminate approximately one-half of the acquisitions. These results suggest that while the tax hypothesis may be a partial explanation for the post-TRA 86 surge in foreign investment in the U.S, other factors also are important.

\(^{27}\)The foreign parent financial statement information available through Global Vantage or Moody's International is not detailed enough to discern the parent's foreign tax credit position.

\(^{28}\)This assumption may bias our results in favor of accepting the tax hypothesis for foreign acquisitions.
in explaining the surge in foreign investment in the late 1980s. The next section attempts to measure
the economic significance of the hypothesized tax factors in foreign acquisitions.

5.2 **Economic Significance of Tax Factors in Foreign Acquisitions**

Although TRA 86 increased U.S. taxes for all investors, investors from worldwide taxation
countries (e.g., U.K. and Japan) may have mitigated this increase with a reduction in repatriation
taxes. This section estimates an upper bound for the tax savings that U.K. and Japanese investors
may have enjoyed as a percentage of the acquisition price. The present value of the tax advantage to
investors from worldwide countries depicted in equation (5) is the repatriation tax savings resulting
from the increased useable foreign tax credits in excess of the increased home country taxes, \( \delta PV \)
\( (pR_{us,tus})/\delta t_{us} - PV \{t_{us} \delta R_{us}/\delta t_{us}\} \). We estimate \( \delta PV \) \( (pR_{us,tus})/\delta t_{us} \) and assume \( PV \{t_{us} \delta R_{us}/\delta t_{us}\} \) is
zero. This assumption introduces upward bias into our estimates of the present value of the
repatriation tax savings. We compute our estimates as follows:

\[
PV(TRA\ 86)_i = \left\{ (\ %\ Incr, \ *\ \text{Taxes,} \ *\ \left(ACQassets/HOLDassets\right)) / r \right\} / Acq_i \tag{6}
\]

where:

- \( PV(TRA\ 86)_i \) = present value of the future stream of increased taxes (deemed tax
  credits) as a result of TRA 86 for company \( i \) divided by the acquisition price,
- \( \%\ Incr, \) = predicted percentage change in effective tax rates as a result of TRA
  86 for the SIC of acquired company \( i \) (per Fullerton, Gillette, and
  Mackie, 1987),\(^{29}\)
- \( \text{Taxes,} \) = mean taxes paid (deemed tax credits) during the post-acquisition
  period for company \( i \),
- \( ACQassets, \) = total assets of acquired company \( i \),
- \( HOLDassets, \) = total assets of acquired company \( i \)'s holding company,
- \( Acq_i \) = acquisition price for company \( i \), and
- \( r \) = discount rate.

\(^{29}\)Using Treasury and Commerce Department data to estimate a general equilibrium model
of economic behavior, Fullerton, Gillette, and Mackie (1987) predict industry-specific changes in effective
tax rates as a result of TRA 86. Based on these estimates, the distribution of % Incr for our sample
has a mean of 0.22, median of 0.09, minimum of -0.03, and maximum of 1.15.
We compute these estimates twice, first based on mean post-acquisition taxes (which assumes \( p=1 \)) and then based on mean post-acquisition deemed tax credits.\(^{30}\) This computation assumes that the increase in taxes or deemed credits as a result of TRA 86 (\( \% \text{Incr} \times \text{Taxes} \)) is received in perpetuity. We use Fullerton, Gillette, and Mackie's (1987) predictions of the impact of TRA 86 on industry-specific effective tax rates to estimate the increase in U.S. taxes (deemed tax credits) post-86 for each acquired company. When the computation is based on taxes paid during the post-acquisition period, it is assumed that all U.S. taxes paid will be converted into foreign tax credits that will be utilized by the foreign parent in the year of payment and that the level of tax payments during the post-acquisition period will continue indefinitely.\(^{31}\) When the computation is based on our estimate of the deemed dividend credits created during the post-acquisition period, it is assumed that the company will continue to generate credits in the future of the same magnitude as those generated during the post-acquisition period.\(^{32}\) The present value of the estimated stream of tax savings is scaled by the acquisition price. Since fifty-six (69 percent) of the acquired companies file as part of a consolidated tax return, the portion of the taxes attributable only to the acquired company is estimated as the percentage of total assets held by the acquired company divided by the total assets in the consolidated return (\( \text{ACQassets} / \text{HOLDassets} \)). The portion of the acquisition price that is attributable to the relative tax savings is computed applying a discount rate of 10 percent.\(^{33}\)

---

\(^{30}\)Deemed tax credits are calculated for each post-acquisition year as specified in footnote 22. The mean deemed tax credit for the post-acquisition period is then computed.

\(^{31}\)This overstates the value of the tax savings to the extent that dividend repatriation is deferred, tax payments fall, and foreign parents face foreign tax credit limitations.

\(^{32}\)The Schedule M-1 and M-2 book income and cash distribution information is incomplete for three observations. In those three cases, we assume all taxes translate into deemed tax credits, just as in the first set of computed estimates.

\(^{33}\)The estimate of the tax advantages to investors from worldwide taxation countries is overstated to the extent that the discount rate is understated. The discount rate should impound both the risk of change in the relation between the U.S. and home country's tax laws and the risk of change in the
Table 3 presents summary statistics of the estimated percentage of the acquisition price that could be explained by the tax hypothesis. We find that the mean (median) present value of the tax advantages, assuming all taxes are ultimately offset as foreign tax credits, is 1.5 percent (0.1 percent) of the acquisition price for the full sample of eighty-one companies. When the level of deemed credits during the post-acquisition period is assumed to be maintained in the future, the mean (median) present value of the tax advantages is 0.3 percent (0.0 percent) of the acquisition price. When the analysis is limited to the thirty-five companies that meet all of the necessary conditions and the taxes paid are assumed to be fully converted to credits, the mean (median) present value of tax advantages is 2.7 percent (0.5 percent) of the acquisition price. The mean (median) present value of the tax advantages for the thirty-five companies based on current levels of deemed credits is 0.8 percent (0.2 percent) of the acquisition price.

The estimates in Table 3 suggest that, except for a few acquisitions, the tax hypothesis was not a significant economic factor in the acquisitions examined in this study. Further analysis of the limited number of acquisitions for which the tax advantages appear to be significant potentially raises more doubts about the importance of the tax hypothesis. If the current level of tax payments is maintained and all taxes translate into an increase in foreign tax credits in the home country, the present value of the tax advantages to investors from worldwide countries is largest (31 percent and 14 percent) for two Japanese acquisitions totaling less than $1 billion in the financial services industry. However, the industry commonly thought to be most affected by the tax hypothesis is manufacturing due to the lengthening of depreciation periods and elimination of the investment tax credit (Scholes and Wolfson, 1990 and Swenson, 1992).

acquired company's tax status.
6.0 CONCLUSION

This paper investigates the relation between foreign direct investment and domestic tax policy. Prior research has produced mixed evidence concerning a possible link between TRA 86 and a surge in foreign investment subsequent to its passage. Our investigation of the actual post-acquisition tax returns filed by U.K.- and Japanese-acquired companies provides clear evidence that there was little realization of the tax hypothesis for the acquisitions we examine. While nearly half of the acquired companies we examine exhibit behavior (paying taxes and dividends) that is not inconsistent with the tax hypothesis, the magnitude of the tax benefits are quite small when compared to the acquisition price.

Our findings indicate that TRA 86 did not significantly enhance the competitive advantage of foreign firms in the U.S. acquisition market. This implies that U.S. policy-makers considering revisions to the tax statutes, such as restoration of the investment tax credit (or raising U.S. corporate tax rates), may not need to be overly concerned about such a provision providing a disincentive (an incentive) for foreign direct investment in the U.S. from worldwide countries.

In addition, our findings confirm speculation that recently acquired foreign-controlled U.S. corporations pay small amounts of U.S. taxes. The mean (median) post-acquisition regular taxable income reported by the 81 foreign-acquired companies examined in this study is -$10 million (-$17 million). Mean (median) annual post-acquisition tax payments are $15 million ($1 million). Future research is necessary to determine what (if any) role transfer pricing plays in the low reported taxable incomes and tax payments of these foreign-controlled U.S. targets.

Despite the clarity of our findings, two potential limitations deserve mentioning. First, our analyses are based upon ex-post realizations. It is possible, though unlikely, that the tax hypothesis was a principal determinant in the decisions of some foreign acquirers. Some worldwide investors may have anticipated large U.S. tax payments and complete offset against taxes in their home
countries. However, unanticipated events, such as unprofitability, may have reduced or eliminated the relative tax advantages that were relied upon in the acquisition decision. However, it is unlikely that such erroneous forecasts would have been pervasive enough in our sample to account for the extremely small ex-post realizations of tax benefits we observe.

Second, the foreign investors may have anticipated realization of the tax advantages in a period subsequent to our examination period. However, if this is the case, the foreign investors face considerable risk of revision in either the tax laws of the U.S. or their home countries or of changes in their own tax status. Legislation could eliminate the deferred tax advantages and possibly create tax disadvantages, relative to domestic or territorial country investors. Thus, planned realization of the tax advantages several years after the acquisition is unlikely. Likewise, expectation that the stream of tax advantages would continue for long periods is unlikely.
REFERENCES


Panel A provides the dollar amount (number) of the 81 acquisitions across the year of acquisition, the country of the acquirer, and the industrial sector (manufacturing vs. service) of the acquiree.

**Panel A:**
($ millions)

<table>
<thead>
<tr>
<th>Year</th>
<th>UK</th>
<th>Japan</th>
<th>Manufacturing</th>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987</td>
<td>23,241 (23)</td>
<td>1,358 (3)</td>
<td>22,097 (22)</td>
<td>2,502 (4)</td>
</tr>
<tr>
<td>1988</td>
<td>16,176 (19)</td>
<td>8,551 (7)</td>
<td>13,947 (20)</td>
<td>10,780 (6)</td>
</tr>
<tr>
<td>1989</td>
<td>13,232 (15)</td>
<td>7,581 (14)</td>
<td>14,035 (20)</td>
<td>6,778 (9)</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>42,124 (49)</td>
<td>7,955 (13)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td>10,524 (8)</td>
<td>9,536 (11)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Panel B provides descriptive statistics for the 81 acquisitions and selected data from the 67 post-acquisition tax returns filed by the acquirees (or their holding companies).*

Panel B:
($ millions)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>10%</th>
<th>25%</th>
<th>50%</th>
<th>75%</th>
<th>90%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquisition</td>
<td>863</td>
<td>1,520</td>
<td>149</td>
<td>200</td>
<td>273</td>
<td>750</td>
<td>2,000</td>
</tr>
<tr>
<td>Total Assets</td>
<td>4,543</td>
<td>10,570</td>
<td>306</td>
<td>439</td>
<td>1,276</td>
<td>3,724</td>
<td>14,070</td>
</tr>
<tr>
<td>Sales</td>
<td>1,419</td>
<td>2,588</td>
<td>153</td>
<td>321</td>
<td>647</td>
<td>1,549</td>
<td>3,300</td>
</tr>
<tr>
<td>Net Income</td>
<td>17</td>
<td>136</td>
<td>-81</td>
<td>-21</td>
<td>3</td>
<td>23</td>
<td>125</td>
</tr>
<tr>
<td>Taxable Income</td>
<td>-10</td>
<td>218</td>
<td>-160</td>
<td>-75</td>
<td>-17</td>
<td>27</td>
<td>120</td>
</tr>
<tr>
<td>Dividends</td>
<td>53</td>
<td>247</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>16</td>
<td>71</td>
</tr>
<tr>
<td>Taxes Paid</td>
<td>15</td>
<td>54</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>34</td>
</tr>
</tbody>
</table>

* There are 67 "sets" of post-acquisition tax returns because a limited number of acquirees file as a part of the same holding company post-acquisition. The amounts for total assets, sales, net income, dividends, and taxes paid are the averages per the acquirees' tax returns for the post-acquisition years 1988-1991.
TABLE 2
TEST OF THE CONDITIONS NECESSARY TO MEET THE TAX HYPOTHESIS
($ in millions)

PANEL A:

<table>
<thead>
<tr>
<th></th>
<th>TOTAL</th>
<th>UK</th>
<th>JAPAN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acq $</td>
<td># of Acq</td>
<td>Acq $</td>
</tr>
<tr>
<td>FULL SAMPLE</td>
<td>70,139</td>
<td>81</td>
<td>52,649</td>
</tr>
</tbody>
</table>

|                  | mean       | median      | mean        | median      | mean       | median    |
| Assets           | 4543       | 1276        | 3108        | 1259        | 7289       | 1369      |
| Sales            | 1419       | 647         | 1367        | 616         | 1520       | 880       |
| Net income       | 17         | 3           | 32          | 8           | -12        | -8        |
| Taxable Income   | -10        | -17         | 30          | -12         | -87        | -27       |
| Dividends        | 53         | 0           | 72          | 1           | 16         | 0         |
| Taxes            | 15         | 1           | 20          | 2           | 6          | 1         |

(data from 67 post-acquisition tax filers)

PANEL B:

CONDITION 1: The company must pay creditable U.S. taxes post-acquisition.

TEST OF CONDITION 1: Did the company pay regular U.S. income tax or alternative minimum tax in the post-acquisition period?

<table>
<thead>
<tr>
<th></th>
<th>TOTAL</th>
<th>UK</th>
<th>JAPAN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acq $</td>
<td># of Acq</td>
<td>Acq $</td>
</tr>
<tr>
<td>PAY TAXES</td>
<td>50,247</td>
<td>58</td>
<td>45,262</td>
</tr>
</tbody>
</table>

|                  | mean       | median      | mean        | median      | mean       | median    |
| Assets           | 5385       | 1310        | 3560        | 1530        | 10,300     | 674       |
| Sales            | 1465       | 749         | 1603        | 715         | 1093       | 880       |
| Net income       | 52         | 14          | 63          | 15          | 22         | 6         |
| Taxable Income   | 38         | 0           | 53          | 5           | -3         | 5         |
| Dividends        | 70         | 1           | 88          | 2           | 21         | 0         |
| Taxes            | 22         | 5           | 26          | 5           | 11         | 3         |

(data from 48 post-acquisition tax filers)
PANEL C:

CONDITION 2A: The company must make a post-acquisition distribution to its shareholders.

TEST OF CONDITION 2A: For those companies that paid creditable U.S. taxes during the post-acquisition period, did they make a distribution to their shareholders in a year that U.S. taxes were paid or in any subsequent year during the post-acquisition period?

<table>
<thead>
<tr>
<th>TOTAL</th>
<th>UK</th>
<th>JAPAN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acq $</td>
<td># of Acq</td>
</tr>
<tr>
<td>DISTRIBUTION</td>
<td>42,358</td>
<td>39</td>
</tr>
</tbody>
</table>

CONDITION 2B: The company's distribution to its shareholders (in condition 2A) must qualify as a taxable dividend.

TEST OF CONDITION 2B: Did the company report positive net income before taxes in any post-acquisition year?

<table>
<thead>
<tr>
<th>TOTAL</th>
<th>UK</th>
<th>JAPAN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acq $</td>
<td># of Acq</td>
</tr>
<tr>
<td>DIVIDEND</td>
<td>41,072</td>
<td>35</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>mean</th>
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<th>mean</th>
<th>median</th>
<th>mean</th>
<th>median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets</td>
<td>8084</td>
<td>2700</td>
<td>4137</td>
<td>2408</td>
<td>21,240</td>
<td>14,630</td>
</tr>
<tr>
<td>Sales</td>
<td>2179</td>
<td>1275</td>
<td>2345</td>
<td>1188</td>
<td>1627</td>
<td>1484</td>
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<tr>
<td>Net income</td>
<td>91</td>
<td>23</td>
<td>105</td>
<td>23</td>
<td>44</td>
<td>26</td>
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<tr>
<td>Taxable Income</td>
<td>78</td>
<td>27</td>
<td>106</td>
<td>27</td>
<td>-14</td>
<td>37</td>
</tr>
<tr>
<td>Dividends</td>
<td>129</td>
<td>18</td>
<td>155</td>
<td>16</td>
<td>45</td>
<td>52</td>
</tr>
<tr>
<td>Taxes</td>
<td>36</td>
<td>9</td>
<td>41</td>
<td>9</td>
<td>19</td>
<td>12</td>
</tr>
</tbody>
</table>

(data from 26 post-acquisition tax filers)
PANEL D:

CONDITION 3: The foreign parent must be able to utilize the foreign tax credit against its home country tax.

TEST OF CONDITION 3: Did the foreign parent report net positive earnings in the post-acquisition period and the preceding four years?

<table>
<thead>
<tr>
<th></th>
<th>TOTAL</th>
<th>UK</th>
<th>JAPAN</th>
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</thead>
<tbody>
<tr>
<td>Acq $</td>
<td>41,072</td>
<td>37,834</td>
<td>3,238</td>
</tr>
<tr>
<td># of Acq</td>
<td>35</td>
<td>29</td>
<td>6</td>
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<tr>
<td>FTC</td>
<td>41,072</td>
<td>37,834</td>
<td>3,238</td>
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</table>

<table>
<thead>
<tr>
<th>metric</th>
<th>mean</th>
<th>median</th>
<th>mean</th>
<th>median</th>
<th>mean</th>
<th>median</th>
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<tbody>
<tr>
<td>Assets</td>
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<td>2700</td>
<td>4137</td>
<td>2408</td>
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<td>2345</td>
<td>1188</td>
<td>1627</td>
<td>1484</td>
</tr>
<tr>
<td>Net income</td>
<td>91</td>
<td>23</td>
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<td>106</td>
<td>27</td>
<td>-14</td>
<td>37</td>
</tr>
<tr>
<td>Dividends</td>
<td>129</td>
<td>18</td>
<td>155</td>
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<tr>
<td>Taxes</td>
<td>36</td>
<td>9</td>
<td>41</td>
<td>9</td>
<td>19</td>
<td>12</td>
</tr>
</tbody>
</table>

(data from 26 post-acquisition tax filers)
TABLE 3  
ESTIMATES OF THE PRESENT VALUE OF THE INCREASED U.S. TAXES (DEEMED TAX CREDITS)  
FOLLOWING TRA 86 AS A PERCENTAGE OF THE ACQUISITION PRICE

This table provides estimates of the present value of the increase in U.S. taxes (the increase in deemed tax credits) following TRA 86 as a percentage of the acquisition price. Throughout the paper it is assumed that these increased U.S. taxes increase the overall tax burden of U.S. corporations and foreign investors from territorial countries but have no effect on the overall tax burden of foreign investors from worldwide countries because they are fully offset by foreign tax credits in the home country. Statistics are presented for both the full sample of 81 acquisitions and the subset of 35 acquisitions that meet each of the four conditions detailed in Table 2. Table 3 assumes that U.S. taxes (deemed tax credits) increased as a result of TRA 86 in perpetuity and applies a 10% discount rate. We use Fullerton, Gillette, and Mackie's (1987) predictions of the impact of TRA 86 on industry specific effective tax rates to estimate the percentage increase in U.S. taxes (deemed tax credits) post-86 for each acquired company. Fifty-six (69%) of the acquired companies file a consolidated return with companies that were not part of the acquisition. For those acquisitions, the percentage of the company's U.S. taxes (deemed tax credits) related to the acquisition is assumed to equal the acquired company's assets divided by its holding company's assets. For the acquired companies that are not included in a consolidated return with non-acquisition companies, all of the taxes (deemed credits) are attributed to the acquisition (i.e., ACQassets=HOLDassets):

\[
PV(TRA\ 86)_i = \left\{ \left( \frac{\%\ Incr_i \cdot Taxes_i \cdot (ACQassets_i/HOLDassets_i)}{r} \right) \right\} / Acq_i
\]

where \( PV(TRA\ 86)_i \) = present value of the future stream of increased taxes (deemed tax credits) as a result of TRA 86 for company i divided by the acquisition price, \( %\ Incr_i \) = predicted percentage change in effective tax rates as a result of TRA 86 for the SIC of acquired company i (per Fullerton, Gillette, and Mackie, 1987), \( Taxes_i \) = mean taxes paid (deemed tax credits) during the post-acquisition period for company i, \( ACQassets_i \) = total assets of acquired company i, \( HOLDassets_i \) = total assets of acquired company's holding company i, \( Acq_i \) = acquisition price for company i, \( r \) = discount rate.

<table>
<thead>
<tr>
<th></th>
<th>Full Sample</th>
<th>Companies Meeting All Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n=81)</td>
<td>(n=35)</td>
</tr>
<tr>
<td><strong>Taxes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mean</td>
<td>1.5</td>
<td>2.7</td>
</tr>
<tr>
<td>std. dev.</td>
<td>4.3</td>
<td>6.0</td>
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<tr>
<td><strong>Assume</strong></td>
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<tr>
<td>minimum</td>
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<td>-0.4</td>
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<tr>
<td><strong>Discount</strong></td>
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<td>0.0</td>
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<tr>
<td>median</td>
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<td>0.5</td>
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<tr>
<td><strong>Rate of 10%</strong></td>
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<tr>
<td>third quartile</td>
<td>0.8</td>
<td>1.5</td>
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<tr>
<td>maximum</td>
<td>30.7</td>
<td>30.7</td>
</tr>
</tbody>
</table>

(All numbers are expressed as a percentage of the acquisition price.)
The authors thank workshop participants at Columbia University, Pennsylvania State University, and University of Southern California for valuable comments and suggestions. Professors Collins and Shackelford are grateful for data accessibility provided by Statistics of Income (SOI), Internal Revenue Service. The assistance in locating tax returns received from the following SOI employees was particularly valuable: Victor Rehula, Ken Szeflinski, and Carl Wescott. In addition, Professors Collins and Shackelford acknowledge and appreciate financial assistance provided by the Ernst & Young Foundation and the Tax Foundation.