Old Rules and New Realities: Corporate Tax Policy in a Global Setting

Mihir A. Desai
Harvard University and NBER

James R. Hines Jr.
University of Michigan and NBER

.
October 2004

We thank Rosanne Altshuler for many extremely helpful comments on earlier drafts of this paper.

Old Rules and New Realities: Corporate Tax Policy in a Global Setting

ABSTRACT

This paper reassesses the burden of the current U.S. international tax regime and reconsiders well-known welfare benchmarks used to guide international tax reform. Reinventing corporate tax policy requires that international considerations be placed front and center in the debate on how to tax corporate income. A simple framework for assessing current rules suggests a U.S. tax burden on foreign income in the neighborhood of $50 billion a year. This sizeable U.S. taxation of foreign investment income is inconsistent with promoting efficient ownership of capital assets, either from a national or a global perspective. Consequently, there are large potential welfare gains available from reducing the U.S. taxation of foreign income, a direction of reform that requires abandoning the comfortable, if misleading, logic of using similar systems to tax foreign and domestic income.

JEL Classifications: H87, H21, F23.

Keywords: *corporate taxation, international taxation, multinational corporations, foreign tax credit.*

Mihir A. Desai
Harvard Business School
Morgan 363
Soldiers Field
Boston, MA 02163
mdesai@hbs.edu

James R. Hines Jr.
University of Michigan
Business School
701 Tappan Street
Ann Arbor, MI 48109-1234
jrhines@umich.edu

I. Introduction

Markets and economies evolve continuously, making yesterday's tax solutions possibly much less efficient or desirable today. Time also brings changes in our understanding of the impact, and wisdom, of different tax choices, again carrying the message that what might have seemed to work for yesterday may not be sensible today. A rapidly integrating world and a wave of recent scholarship on multinational firms combine to suggest that the mismatch between yesterday's tax policy and today's reality is particularly pronounced with respect to international taxation.

The rising economic importance of international transactions has put increasing pressure on corporate tax systems to accommodate foreign considerations. This accommodation has not been an easy or simple process. In many countries, particularly high-income countries such as the United States, corporate tax provisions are designed on the basis of domestic considerations. Subsequently, modifications intended to address problems and opportunities that arise due to global capital and goods markets are incorporated, often as afterthoughts. While such a method of policy development has the potential to arrive at sensible outcomes, doing so requires greater degrees of luck and patience than most would care to attribute to existing political systems.

Several recent developments have contributed to a growing sense of unease over the structure of U.S. corporate taxation, particularly its international provisions, and have prompted calls for reform. The European Union successfully challenged export subsidies embedded in the U.S. corporate income tax, leading the World Trade Organization to authorize tariffs on American exports. Reported cases of corporate malfeasance and the aggressive use of tax shelters have drawn attention to the tax avoidance activities of many corporations, with particular attention on the role of tax havens. The difficulty of spurring investment through traditional channels has frustrated policymakers intent on reversing the large loss in manufacturing jobs in the early 2000s. These events have each contributed to an increasing dissatisfaction with the structure of corporate taxation, and at the same time reflect the insufficiency of evaluating corporate taxes on the basis of strictly domestic considerations. The international tax provisions at the center of the trade dispute are emblematic of

immensely complex international rules appended to a corporate tax system designed primarily with domestic activity in mind.

Successful corporate tax reform requires the corporate income tax to be placed firmly in an international setting, which is not currently the case in the United States. To be sure, the U.S. corporate income tax includes many provisions concerning the taxation of foreign income, but these provisions largely reflect attempts to apply the logic of domestic taxation to foreign circumstances. As a consequence, the current U.S. corporate income tax includes foreign provisions that distort taxpayer behavior and impose significant burdens on international business activity, particularly given the greater mobility of international business activity. This paper outlines a framework for considering the burden of this tax system.

Assessing the burden of the current system is useful but does not provide guidance on how international considerations might be better incorporated into a reform of corporate taxation. Incorporating realistic assumptions about the nature of multinational firm activity yields some novel analyses of what constitutes efficient systems. These analyses imply that efficiency requires that foreign investment income face no residual tax upon repatriation. From the standpoint of countries (such as the United States) that employ a worldwide regime and impose residual repatriation taxes, a reduction in the tax burden on foreign income would not only improve national welfare but also improve world welfare. Consequently, a movement to reform corporate taxation in the direction of exempting foreign income has a compelling logic. Of course, the history of taxation in the United States and elsewhere offers many examples of persistent differences between what countries do and what they should do. Nonetheless, thinking clearly about the burden of the current system and the appropriate efficiency benchmarks provides the foundation for closing the gap between old rules and new realities.

Section two of the paper reviews evidence of the rising importance of international business operations to corporate profits and corporate taxation. Section three reviews the current U.S. rules governing the taxation of foreign income. Section four evaluates the burden of current U.S. taxation of foreign income, noting that appropriate measurement of the current burden includes consideration of actions that are not taken due to the associated tax

costs. Section five presents and evaluates standard guidelines for efficient taxation of foreign income, drawing attention to new concepts based on ownership considerations that increase the attractiveness of exempting foreign income from taxation. Section six is the conclusion.

II. The rising importance of foreign income

The available evidence points to the likely importance of international provisions to the U.S. corporate tax system. Figure 1 plots the ratio of receipts of profits from the rest of the world to total corporate profits, for American firms, from 1948 to 2003.[1] The figure is striking in several respects. First, the period prior to 1963, during which most U.S. international tax provisions were adopted, was characterized by a peripheral role for foreign profits. Second, the two oil-price shocks of the 1970s led to temporary sharp jumps in the ratio of foreign to domestic profits, against a background of what was otherwise a steady rising trend through the late 1990s. Third, the years since 1998 have witnessed a sharp acceleration in the ratio of foreign profits to total corporate profits, a figure that now has reached twenty five percent.

This figure likely understates the truly global nature of U.S. firms today. Figure 1 employs measures of foreign profits on an after-tax basis and domestic profits on a pre-tax basis, so foreign profits likely represent closer to forty percent of the relevant total earnings of American corporations. Additionally, U.S. exports and imports have grown in magnitude and importance to the U.S. economy, rising fractions of business activity in the United States are undertaken by foreign-owned firms, technologies developed in the United States are exploited abroad to increasing degrees, and a host of other developments illustrate the rising importance of international transactions with important tax implications. If it was ever appropriate to design corporate tax policy as if corporations were domestic entities with minor sources of foreign income, it is now transparently imprudent to do so.

One of the critical decisions facing multinational firms is whether to reinvest foreign earnings abroad, or repatriate those earnings as dividends paid to parent companies. Figure 2 provides a profile of payout ratios – the share of current earnings that are repatriated to parent

[1] The data depicted in Figure 1 are drawn from Tables 6.16B, 6.16C and 6.16D of the NIPA tables which are available at www.bea.gov. The figure plots the ratio of "receipts from the rest of the world" to "corporate profits."

companies in the United States – on an annual basis from 1982 to 1998 and a quarterly basis from 1999 to 2002.[2] While this ratio has declined slowly over time, there have been recent sharp changes, particularly in the last several quarters. Several factors might explain this pattern. First, if repatriation amounts are sticky and foreign profitability has increased, this could result in falling ratios. Second, if firms anticipate even more pronounced foreign income and investment growth, their willingness to repatriate profits declines and would be reflected in declining ratios. Third, over the last two years, a repatriation tax holiday has been featured in various legislative proposals, and the recent sharp decline could simply reflect anticipation of the possibility of such a holiday. Each of these alternative explanations speaks either to the growing importance of foreign operations or to the growing sophistication of firms in managing the complexity of international tax provisions.

There is considerable evidence that foreign tax considerations influence the changing profitability of American firms and tax collections by the U.S. government. Figure 3 traces the ratio of aggregate foreign tax credits claimed against U.S. tax liabilities to total corporate income subject to tax from 1973 to 2000, using data published in the *Statistics of Income*.[3] The downward slope of the ratio depicted in the figure might be interpreted as suggesting the declining importance of international income or international tax provisions to U.S. firms. In combination with the data appearing in Figure 1, however, such an explanation seems unwarranted. Rather, the modest and steady decline in the importance of foreign tax credits more likely reflects foreign tax reductions and the sophistication with which firms repatriate income to the United States. As foreign income has grown in importance, the return to careful tax planning has likewise grown, so it is not surprising that taxpayers have responded with greater efforts to avoid foreign and U.S. taxes. Hence the available evidence suggests that, both in magnitude and in character, foreign income, and its taxation by foreign countries and the United States, continue to grow in importance over time.

[2] The data depicted in Figure 2 are drawn from Tables 6a and 6b of the U.S. International Transactions Account Data, which are available at www.bea.gov. This figure plots the ratio of "distributed earnings" to "total earnings" from U.S. Direct Investment Abroad as provided in these tables.

[3] These data are reported in various issues of the Statistics of Income publication *Corporate Income Tax Returns*. This figure plots the ratio of foreign tax credits to income subject to tax.

III. How does the United States tax foreign income?[4]

The taxation of international transactions differs from the taxation of domestic economic activity primarily due to the complications that stem from the taxation of the same income by multiple governments. In the absence of double tax relief, the implications of multiple taxation are potentially quite severe, since national tax rates are high enough to eliminate, or at least greatly discourage, most international business activity if applied two or more times to the same income.

Almost all countries tax income generated by economic activity that takes place within their borders. In addition, many countries – including the United States – tax the foreign incomes of their residents. In order to prevent double taxation of the foreign income of Americans, U.S. law permits taxpayers to claim foreign tax credits for income taxes (and related taxes) paid to foreign governments.[5] These foreign tax credits are used to offset U.S. tax liabilities that would otherwise be due on foreign-source income. The U.S. corporate tax rate is currently 35 percent, so an American corporation that earns $100 in a foreign country with a 10 percent tax rate pays taxes of $10 to the foreign government and $25 to the U.S. government, since its U.S. corporate tax liability of $35 (35 percent of $100) is reduced to $25 by the foreign tax credit of $10.

Americans are permitted to defer any U.S. tax liabilities on certain unrepatriated foreign profits until they receive such profits in the form of dividends.[6] This deferral is available only on the active business profits of American-owned foreign affiliates that are separately incorporated as subsidiaries in foreign countries. The profits of unincorporated foreign businesses, such as those of American-owned branch banks in other countries, are taxed immediately by the United States.

To illustrate deferral, consider the case of a subsidiary of an American company that earns $500 in a foreign country with a 20 percent tax rate. This subsidiary pays taxes of $100 to

[4] This description of U.S. taxation of foreign income is drawn from Desai, Foley and Hines (2003).
[5] The United States is not alone in taxing the worldwide income of its residents while permitting them to claim foreign tax credits. Other countries with such systems include Greece, Japan, Norway, and the United Kingdom. Under U.S. law, taxpayers may claim foreign tax credits for taxes paid by foreign firms of which they own at least 10 percent, and only those taxes that qualify as income taxes are creditable.

the foreign country (20 percent of $500), and might remit $100 in dividends to its parent U.S. company, using the remaining $300 ($500 - $100 of taxes - $100 of dividends) to reinvest in its own, foreign, operations. The American parent firm must then pay U.S. taxes on the $100 of dividends it receives (and is eligible to claim a foreign tax credit for the foreign income taxes its subsidiary paid on the $100).[7] But the American firm is not required to pay U.S. taxes on any part of the $300 that the subsidiary earns abroad and does not remit to its parent company. If, however, the subsidiary were to pay a dividend of $300 the following year, the firm would then be required to pay U.S. tax (after proper allowance for foreign tax credits) on that amount.

U.S. tax law contains provisions designed to prevent American firms from delaying the repatriation of lightly-taxed foreign earnings. These tax provisions apply to controlled foreign corporations, which are foreign corporations owned at least 50 percent by American individuals or corporations who hold stakes of at least 10 percent each. Under the Subpart F provisions of U.S. law, some foreign income of controlled foreign corporations is "deemed distributed," and therefore immediately taxable by the United States, even if not repatriated as dividend payments to American parent firms.[8]

Since the foreign tax credit is intended to alleviate international double taxation, and not to reduce U.S. tax liabilities on profits earned *within* the United States, the foreign tax credit is limited to U.S. tax liability on foreign-source income. For example, an American firm with $200 of foreign income that faces a U.S. tax rate of 35 percent has a foreign tax credit limit of $70 (35 percent of $200). If the firm pays foreign income taxes of less than $70, then the firm would be entitled to claim foreign tax credits for all of its foreign taxes paid. If, however, the firm pays $90 of foreign taxes, then it would be permitted to claim no more than $70 of foreign tax credits.

---

[6] Deferral of home-country taxation of the unrepatriated profits of foreign subsidiaries is a common feature of systems that tax foreign incomes. Other countries that permit this kind of deferral include Canada, Denmark, France, Germany, Japan, Norway, Pakistan, and the United Kingdom.

[7] In this example, the parent firm is eligible to claim a foreign tax credit of $25, representing the product of foreign taxes paid by its subsidiary and the subsidiary's ratio of dividends to after-tax profits [$100 x ($100/$400) = $25].

[8] Subpart F income consists of income from passive investments (such as interest and dividends received from investments in securities), foreign base company income (that arises from using a foreign affiliate as a conduit for certain types of international transactions), income that is invested in United States property, money used offshore to insure risks in the United States, and money used to pay bribes to foreign government officials. American firms with foreign subsidiaries that earn profits through most types of active business operations, and that subsequently reinvest those profits in active lines of business, are not subject to the Subpart F rules, and are therefore able to defer U.S. tax liability on their foreign profits until they choose to remit dividends at a later date.

Taxpayers whose foreign tax payments exceed the foreign tax credit limit are said to have "excess foreign tax credits;" the excess foreign tax credits represent the portion of their foreign tax payments that exceed the U.S. tax liabilities generated by their foreign incomes. Taxpayers whose foreign tax payments are smaller than their foreign tax credit limits are said to have "deficit foreign tax credits." American law permits taxpayers to use excess foreign tax credits in one year to reduce their U.S. tax obligations on foreign source income in either of the two previous years or in any of the following five years.

In practice, the calculation of the foreign tax credit limit entails certain additional complications, notable among which is that total worldwide foreign income is used to calculate the foreign tax credit limit. This method of calculating the foreign tax credit limit is known as "worldwide averaging." A taxpayer has excess foreign tax credits if the sum of worldwide foreign income tax payments exceeds this limit. Worldwide (foreign) income includes not only branch income and the repatriated earnings of foreign subsidiaries, but also most foreign source interest income, royalties received from abroad, and half of the income earned on certain exports from the United States.[9] Because these sources of income are considered to have foreign source, firms with ample foreign interest, royalty, and export income have higher foreign tax credits as a result, and such firms, if they have excess foreign tax credits, are therefore effectively untaxed by the United States on these other sources of income. Certain expenses, however, are deducted from foreign income in calculating the foreign tax credit limit; these deductible expenses include a portion of domestic interest, R&D, and general administrative overhead expenses, the concept being that a portion of such expenditures by multinational firms goes toward enhancing income produced by foreign operations. Since these expenses are allocated between domestic and foreign source based on ratios of foreign to domestic income and assets, this system implicitly denies a fraction of the U.S. deduction for domestic expenditures undertaken by firms with excess foreign tax credits.[10]

IV. How burdensome is current U.S. taxation of foreign income?

[9] See Desai and Hines (2001) for further elaboration of the design and impact of the rules determining the extent to which income earned on exports from the United States is considered to be foreign v. domestic income.

[10] For an analysis of the incentives created by the U.S. system of allocating deductions, and their effect on behavior, see Hines (1993) and Froot and Hines (1995).

Estimating the economic burden of current U.S. taxation of foreign income is foundational to any analysis of corporate tax reform. This section starts by presenting some basic results on the measurement of the tax burden in an idealized setting, followed by evaluating current and alternative estimates of the magnitude of this burden. The available evidence suggests that, properly measured, the current U.S. tax regime imposes a significant burden on American firms earning foreign income.

IV.A. The burden of home country taxation.

The United States does not exempt foreign income from taxation, instead taxing it at the same rate as domestic income, while permitting taxpayers to claim credits for income taxes paid to foreign governments. There are numerous complications associated with determining taxable foreign income and the credits that can be applied against associated tax liabilities. While a complete assessment of the burden of U.S. taxation unavoidably requires delving into the fine details of U.S. tax law provisions and their effects, it is helpful to begin by considering the burden of home country taxation in a simplified foreign tax credit system.

Consider a system in which the United States taxes all accrued foreign income at the U.S. corporate tax rate of 35 percent, and permits taxpayers to claim unlimited credits for foreign income taxes paid on this income. With such rules in place, the effective rate of taxation of foreign business activity would be 35 percent, the same as for domestic U.S. business activities. Firms investing in foreign countries with 20 percent tax rates would face additional 15 percent U.S. taxes on their foreign income while firms investing in foreign countries with 40 percent taxes would pay 40 percent to the foreign government and receive 5 percent back from the U.S. government. In the interest of further simplifying matters, we consider a case in which the United States is the only potential source of investment in a foreign country.

The use of this stylized system of taxing foreign income would not only affect U.S. tax collections but also influence the behavior of taxpayers. American firms investing in low-tax foreign countries would face higher tax rates on their investment income than they would if the United States did not tax foreign income. As a result, firms would find it in their interest to invest less than under a system in which the United States exempted foreign income from

taxation, and conversely, American firms would invest more in high-tax countries than they would under exemption, since the system of foreign credits effectively taxes income earned there at lower than the local tax rate.

As a further analytic simplification, it is convenient to consider the case in which taxes are imposed directly on capital invested, rather than on the returns to (income generated by) investment. It is possible to plot the response of local investment to the total tax rate on income earned locally as depicted in Figure 4. The area in this figure shaded with downward sloping lines is the tax revenue collected by the United States on income earned by investments in the foreign country, while the area shaded with upward sloping lines is tax revenue collected by the foreign country. American investors invest in the foreign country an amount of capital equal to K_1, though in the absence of U.S. taxation the investment level would have been K_2. The area below the investment demand schedule and above the foreign tax rate line between K_1 and K_2, shaded with horizontal lines, represents lost after-tax profit opportunities, much in the same way that the area below a consumer's demand curve and above the marginal cost curve represents deadweight loss. An accurate calculation of the burden of home country taxation is comprised of home taxes actually paid and the burden arising from the absence of what would otherwise have been profitable economic activity.

The insight from this simple specification can be significantly generalized by considering the profit function. Pretax profits earned by American firms in country *i* can be written $\pi_i(\boldsymbol{\tau}, \mathbf{x})$ where $\boldsymbol{\tau} \equiv (\tau_1,...,\tau_n)$ is the vector of tax rates on income earned in countries *1* through *n*, and $\mathbf{x} \equiv (x_1,...,x_n)$ is the vector of other characteristics of these potential investment locations. The tax vector $\boldsymbol{\tau}$ represents the combined effect of home and host country taxation. If the home country exempts foreign income from taxation, then the relevant tax vector is $\boldsymbol{\tau}^* \equiv (\tau_1^*,...,\tau_n^*)$, in which τ_j^* is the tax rate in country *j*, while if the home country taxes foreign income while providing foreign tax credits, then the relevant tax vector is $\boldsymbol{\tau}_\mathbf{h} \equiv (\tau_h,...,\tau_h)$, in which τ_h is the home country tax rate.

The burden (**B**) of home country taxation of foreign income takes the form of reducing after-tax profits, so the magnitude of this burden can be measured as:

(1) $$\mathbf{B} = \sum_{i=1}^{n} \pi_i\left(\boldsymbol{\tau}^*, \mathbf{x}\right)\left(1-\tau_i^*\right) - \pi_i\left(\boldsymbol{\tau}_\mathbf{h}, \mathbf{x}\right)\left(1-\tau_h\right).$$

Rearranging terms, this can be expressed as:

(2) $$\mathbf{B} = \sum_{i=1}^{n} \pi_i\left(\boldsymbol{\tau}_\mathbf{h}, \mathbf{x}\right)\left(\tau_h - \tau_i^*\right) + \sum_{i=1}^{n}\left[\pi_i\left(\boldsymbol{\tau}^*, \mathbf{x}\right) - \pi_i\left(\boldsymbol{\tau}_\mathbf{h}, \mathbf{x}\right)\right]\left(1-\tau_i^*\right).$$

The first summation in equation (2) is simply current home country tax collections, since it represents the product of current pretax profits and home country effective tax rates on foreign income (the difference between home and foreign tax rates). The first term inside the second summation can be evaluated using the fundamental theorem of the calculus:

(3) $$\mathbf{B} = \sum_{i=1}^{n} \pi_i\left(\boldsymbol{\tau}_\mathbf{h}, \mathbf{x}\right)\left(\tau_h - \tau_i^*\right) + \sum_{i=1}^{n}\left(1-\tau_i^*\right)\int_{\boldsymbol{\tau}_\mathbf{h}}^{\boldsymbol{\tau}^*} \frac{\partial \pi_i\left(\mathbf{z}, \mathbf{x}\right)}{\partial \mathbf{z}} d\mathbf{z}\,.$$

in which **z** is the running variable corresponding to the combined burden of foreign and home country taxation of foreign profits. The partial derivative on the right side of equation (3) is the derivative of the pretax profit function with respect to the vector of tax rates. The properties of the profit function further guarantee that the integral in equation (3) can be evaluated in any order, since it is not path-dependent.[11]

Evaluating the burden of home country taxation requires knowledge of the profits that firms would have earned along a sequence of given tax configurations. In practice, the burden estimate presented in equation (3) can more easily be bounded. A lower bound on the total burden of home country taxation is the tax revenue collected by the home country, or the first term in equation (3). This figure provides a lower bound because the second term on the right side of equation (2), and therefore also the second term on the right side of equation (3), is nonnegative. Taxpayers facing the tax vector $\boldsymbol{\tau}^*$ do a better job of maximizing after-tax profits than they would if they instead allocated resources while thinking that they faced a tax

[11] See Auerbach and Hines (2002) for a related analysis of the welfare evaluation of tax and other distortions.

vector $\boldsymbol{\tau}_{\mathbf{h}}$. As a consequence, these second terms must be nonnegative, which follows from the fact that $\sum_{i=1}^{n} \pi_i\left(\boldsymbol{\tau}^*, \mathbf{x}\right)\left(1-\tau_i^*\right) \geq \sum_{i=1}^{n} \pi_i\left(\boldsymbol{\tau}_{\mathbf{h}}, \mathbf{x}\right)\left(1-\tau_i^*\right)$.

An upper bound on the burden of home country taxes is the home country tax revenue that *would have* been collected if taxpayers behaved as though there were no home country taxes on foreign income, even though taxes were imposed at their usual rates. This implication follows from transforming equation (2) to yield:

$$\mathbf{B} = \sum_{i=1}^{n} \pi_i\left(\boldsymbol{\tau}^*, \mathbf{x}\right)\left(\tau_h - \tau_i^*\right) + \sum_{i=1}^{n}\left[\pi_i\left(\boldsymbol{\tau}^*, \mathbf{x}\right) - \pi_i\left(\boldsymbol{\tau}_{\mathbf{h}}, \mathbf{x}\right)\right]\left(1-\tau_h\right). \tag{4}$$

The first term on the right side of equation (4) is the tax revenue collected by the home country if behavior were determined by the foreign tax vector, $\boldsymbol{\tau}^*$, instead of the actual tax rates, $\boldsymbol{\tau}_{\mathbf{h}}$, that investors face. By a similar logic as above, behavior motivated by tax rate differences between foreign locations reduces pretax foreign profits in the interest of maximizing after-tax foreign profits. Accordingly, the second term on the right side of equation (4) is nonpositive, since $\sum_{i=1}^{n} \pi_i\left(\boldsymbol{\tau}^*, \mathbf{x}\right) \leq \sum_{i=1}^{n} \pi_i\left(\boldsymbol{\tau}_{\mathbf{h}}, \mathbf{x}\right)$. In the context of the earlier example, the upper bound is depicted as the sum of the areas shaded with vertical, horizontal and downward-sloping lines in Figure 4 as this combined area corresponds to home country tax revenue if investment were at the K_2 level. If the relationship between investment and the total tax rate is roughly linear in this range, then it is possible to approximate the actual burden by the average of the lower and upper bound measures.

IV. B. How large is the lower bound of the burden?

The complexity of current income tax arrangements makes it difficult to determine U.S. tax collections on foreign income, let alone estimate what U.S. tax collections would have been if the behavior of American taxpayers had instead been unaffected by home country taxation. A useful starting point for the first calculation is available, however, from aggregate statistics drawn from information reported on tax returns. Raub (2003) reports that U.S. corporations claiming the foreign tax credit in 1999 reported $166 billion of foreign

source taxable income, against which they claimed $38 billion of foreign tax credits. Applying a 35 percent tax rate to this income, it follows that the associated U.S. tax liability on foreign income was $58 billion, against which firms could credit $38 billion in foreign tax credits, for a net $20 billion U.S. tax liability. This $20 billion U.S. tax liability in turn represents 12 percent of the aggregate foreign income of $166 billion.

The $20 billion figure comes from a comparison of existing U.S. law with an alternative that would entirely exempt foreign income from taxation, an alternative that would, for example, not require American firms to allocate domestic expenses, such as those for interest and R&D, against foreign source income. The very simple calculation used to arrive at the $20 billion figure ignores many considerations that bear on actual corporate tax obligations, including the special circumstances of different taxpayers, the fact that some corporations have tax losses or can benefit from tax loss carryforwards, some are subject to the alternative minimum tax,[12] not all firms face effective U.S. corporate tax rates of 35 percent, and other considerations. One of the most important omissions in this calculation is the ultimate U.S. tax liability that must be paid on foreign income that is earned but not contemporaneously repatriated. Given the relatively low repatriation rates depicted in Figure 2, and the well-documented tendency of American firms to repatriate more heavily taxed foreign income first,[13] it follows that there is a considerable future U.S. tax liability associated with any year's foreign profits. Firms defer repatriation due to the associated tax benefits, but deferral need not greatly reduce the present value of associated home country tax liabilities in order to represent an optimal strategy on the part of taxpayers.

In order to consider the degree to which average foreign tax rates on unrepatriated and repatriated profits might differ, it is useful to consider further available evidence from aggregate data. Comisky (2003) indicates that, among the 7,500 largest controlled foreign corporations of American firms, profitable affiliates earned $171 billion of pretax earnings and profits in 1998, on which they paid $34 billion of foreign income taxes. This corresponds

[12] Firms with sufficient net operating loss carryforwards may not be subject to current U.S. taxation on foreign source income, but it would be a mistake to treat as zero the present value of the associated U.S. tax liabilities, since absorbing net operating loss carryforwards today means that they are unavailable for use in reducing tax burdens on domestic income in the future. Similar considerations apply to other aspects of the corporate income tax; see, for example, Lyon and Silverstein (1995) for an analysis of the impact of the alternative minimum tax on the U.S. taxation of foreign income.

to a U.S.-definition average foreign tax rate of slightly under 20 percent, and therefore an ultimate U.S. tax liability of 15 percent,[14] again taking the U.S. tax rate to be 35 percent. Since American firms repatriate less than half of their foreign profits as dividends each year, and the ultimate U.S. tax liability associated with an average dollar of the unrepatriated portion of foreign profits exceeds that associated with the average dollar of profits that are repatriated, it follows that the actual U.S. tax burden on foreign income exceeds the average rate calculated on the basis merely of income recognized in current tax calculations. Conservatively, the $20 billion estimate can be increased by 50 percent to $30 billion, to incorporate the effects of taxes owed on unrepatriated earnings and the differing average rates of taxation on repatriated and unrepatriated income.[15]

This estimate of a lower bound stands in sharp contrast to prevailing estimates of the economic burden on multinational firms of the current system relative to an exemption system. For example, Grubert and Mutti (GM) (2001) present the startling conclusion that exempting foreign income from taxation would *increase* U.S. tax collections by $7.7 billion a year, assuming that taxpayer behavior did not change with the tax regime shift.[16] Observers such as Rangel and Buckley (2004) have mistakenly inferred from the GM calculation that the current U.S. tax system actually subsidizes foreign investment, which is not what the calculation says. Instead, GM compares revenue collections under the current U.S. tax regime to an alternative with specified features that are selected as one possible realistic reform scenario, and that differs from the no-tax alternative that is the basis of the $20 billion figure derived above. In order to estimate the burden of U.S. taxation of foreign income, it is necessary to consider an alternative that does not tax active foreign income and that leaves the taxation of domestic income unchanged. Since GM is instead an effort to evaluate the consequences of a reform that would retain some of the current taxation of foreign income, and that would raise revenue by imposing greater taxes on some domestic activity, it is

[13] See, for example, the evidence reported by Desai, Foley and Hines (2001).
[14] This calculation assumes the impact of dividend withholding taxes to be very modest, given the very low rates at which they are applied; see Desai and Hines (1999) and Desai, Foley and Hines (2004) for consideration of this issue. Recently released figures for 2000 suggest an average foreign tax rate that is slightly lower than 20%.
[15] This adjustment is also grounded in the estimates of the value of deferral in government budget forecasts. Notably, the U.S. tax expenditure budget lists the 2004 value of deferral as $10.03 billion (U.S. Office of Management and Budget, 2004, p. 290).
[16] For similar estimates of revenue consequences of changes to dividend exemption with alternative assumptions of allocation rules, see Table 1 of Grubert (2001).

inappropriate as a measure of the net burden on American businesses of the current taxation of foreign income.

In order to serve as a measure of the current U.S. tax burden on foreign income, the GM calculation would need to be adjusted for its treatment of current taxation, as it omits some important current sources of U.S. tax revenue, and compares the existing U.S. system to one that would continue to tax some foreign income earned by American companies. Consequently, the GM calculation is not designed to estimate total U.S. tax collections on foreign income, and some significant adjustments would be necessary in order to use it for this purpose.

One important adjustment concerns the unrepatriated income of foreign subsidiaries, which GM treats as though generating no U.S. tax revenue at all. In the prevailing theory of corporate dividends alluded to by GM,[17] the future dividend tax on repatriated current earnings is nonetheless fully an obligation of investors, and deferral does not reduce the present value of repatriation taxes on current income. While such an assessment may ascribe too few benefits to deferral,[18] the force of the analysis nonetheless implies that home country taxes impose significant burdens even on foreign income that is unrepatriated. If anything, there is reason to expect, as GM note, and as discussed above, that the unrepatriated income of foreign subsidiaries will be subject to higher rates of U.S. taxation than is the currently repatriated income of foreign subsidiaries, as firms currently repatriate less income from low-tax locations relative to high-tax locations.

The GM estimate concerns a system that would exempt active foreign income from U.S. taxation, but that would tax all receipts of what is now foreign-source export, interest and royalty income, and would permit taxpayers to deduct only a prorated fraction of domestic (U.S.) interest, administrative and overhead expenses. Such a proposed system imposes a significant cost on foreign investment, as noted by GM and by Altshuler and Grubert (2001), since any additional foreign investment, even if financed with borrowing from foreign banks,

[17] This literature includes Auerbach (1979) and Bradford (1981), and its application to multinational firms, in Hartman (1985), Newlon (1987), Sinn (1993) and Hines (1994).

[18] Desai, Foley and Hines (2003) and Altshuler and Grubert (2003) note the possibility that American firms can defer U.S. taxation of foreign profits for extended periods of time by deploying accumulated profits in new foreign investments, and examine evidence of such behavior.

would reduce the interest deductions that the parent company could claim for borrowing used to finance domestic investments. Furthermore, such a system raises considerable revenue by increasing the tax on domestic activities that produce exports and intangible assets that are exploited at home and abroad. In interpreting this calculation it is important to recognize that the revenue effect of a tax reform that, in part, increases tax collections on domestic activity does not offer an accurate representation of the existing tax burden on foreign income. GM recognizes this, and instead addresses the issue of what revenue might be raised by adopting a practical alternative to an idealized tax system that would actually exempt dividends from taxation.

The complications associated with such a method can be illustrated with respect to the treatment of export and royalty income. Current U.S. tax law offers a favorable treatment of export income for firms with excess foreign tax credits from their foreign operations. Should this be treated as a tax benefit for foreign business activity, as would be appropriate if the export sales were immutable and unaffected by their tax treatment, or should it be treated as a tax benefit for export activity, as would be appropriate if the excess foreign tax credits can be treated as given? The reality is doubtless somewhere between these two extremes. Taking the GM calculation to be a measure of the tax burden on foreign investment implicitly treats all of the tax benefit from the favorable treatment of export income as though it represents a tax subsidy for foreign investment, which is far too strong. The same is true of the tax treatment of royalty income, which is the product of purposive domestic activity that generates copyrights, trademarks, patents, know-how, and other intangible assets.[19]

On the expense side, the tax system that GM considers is one that would permit American multinational firms to deduct only a portion of their domestic interest and general administrative overhead expenses. The idea is that some portion of interest and administrative expenses incurred in the United States would be treated as though it produces tax-exempt income, so the expenses would not be deductible against U.S. taxable income. GM posit that interest expense would be allocated according to assets, so that a firm with 40 percent of its assets in a foreign country and 60 percent of its assets in the United States, and

[19] Raub (2003) provides a sense of the magnitudes involved, when he reports that, for 1999, American corporations declared $52 billion of foreign source rents, royalties and license fees.

total U.S. interest expenses of $10 million, would be permitted to deduct only $6 million of its interest expense against any U.S. taxable income.[20] A similar method of expense allocation is currently used by the United States, though as GM notes, the method currently operates through the foreign tax credit limit calculation.

Such a system implicitly taxes foreign income, since additional foreign investment reduces the tax benefits of deductions for existing U.S. administrative and interest expenses. It is noteworthy that this is true despite the fact that both foreign and domestic investments are financed with debt, and incur administrative expenses. Thus, a U.S. multinational firm that invests half its capital in the United States and half in a foreign country with the same tax rate as the United States, and that has the same debt/equity ratio in the United States and the foreign country, and the same fraction of costs attributable to general administration in both places, would find itself in the GM scheme unable to deduct all of its interest and overhead costs, since the U.S. deductions would be reduced by half. This type of outcome is partly responsible for the revenue raised by the reform that GM analyzes, but it reflects a significant tax burden on foreign investment.[21]

Adding together the components by which the GM calculation, which is intended for another purpose, understates the true current burden of U.S. taxation of foreign income entails more than doubling the apparent tax collection from foreign dividends, adding much of the tax benefit of current sourcing rules for exports, royalties, and interest, and eliminating expense allocation. Without access to confidential tax return data it is impossible to make these and other adjustments to the GM figures, but the publicly available data present a very different picture of U.S. taxation of foreign income, one in which the foreign operations of American companies generate sizable tax obligations to the U.S. government.

IV.C. Behavior if foreign income were exempt.

[20] GM does not explain the method used to allocate general administrative expenses, though from the text it appears to be one related to a firm's relative fractions of foreign and domestic income.

[21] Raub (2003) reports that American firms allocated $51 billion of interest expenses and $10 billion of R&D expenses against foreign income in 1999. It is noteworthy that average burden calculations are likely to understate the U.S. tax burden on marginal foreign investments, since inframarginal investments have higher after-tax profit rates, and therefore typically face lower total tax burdens, including home country tax burdens. The level of outbound investment is determined by burdens on marginal investments, so the exercise of calculating average burdens will understate the true effect of U.S. taxation on foreign investment.

This estimate of annual U.S. tax collections from foreign investment – $30 billion – provides a lower bound on the burden of U.S. taxes on foreign investment income, and also provides the foundation for an upper bound of this burden. Generating this upper bound requires the even more daring exercise of estimating what the behavior of American investors would be if the United States were to exempt foreign income altogether from taxation.[22] Some aspects of the behavioral responses of American investors are clear. American firms would concentrate greater fractions of their foreign investment in low-tax countries, would undertake more aggressive actions to reduce foreign tax liabilities, would repatriate greater fractions of their foreign profits, particularly from low tax countries, would change their financing of foreign investment, would change the organizational form of their foreign operations, and would have more foreign investment in total. It is possible to use existing estimates of the impact of taxation to obtain a rough sense of the size of the necessary adjustment.

There is considerable evidence that foreign direct investment (FDI) by American firms is highly sensitive to its tax treatment by home and host governments.[23] This evidence comes in two forms. The first is time-series estimation of the responsiveness of FDI to annual variation in after-tax rates of return. Implicit in this estimation is a *q*-style investment model in which contemporaneous average after-tax rates of return serve as proxies for returns to marginal FDI. Studies of this type consistently report a positive correlation between levels of FDI and after-tax rates of return at industry and country levels.[24] The implied elasticity of FDI with respect to after-tax returns is generally close to unity, which translates into a tax elasticity of investment of roughly -0.6. The estimated elasticity is similar whether the investment in question is American direct investment abroad or FDI by foreigners in the United States.

The primary limitation of aggregate time-series studies is that they are largely identified by yearly variation in taxes or profitability that may be correlated with important omitted variables. As a result, it becomes very difficult to identify the effects of taxation separately

[22] Such an exemption scheme would include removing the implicit taxation of foreign operations through domestic expense allocation rules. The calculation assumes that the United States would continue to tax truly passive foreign income. While the previous revenue calculations include current Subpart F income, much of this consists of foreign base company income and other income or activity that triggers Subpart F but is not truly passive in nature.
[23] See Hines (1997, 1999, 2004), from which some of this material is excerpted, for further elaboration and critical analysis of many of the studies surveyed in this section.

from the effects of other variables that are correlated with tax rates. Exceptions include Slemrod (1990), who distinguishes FDI in the United States by the tax regime in the country of origin, and Swenson (1994), who distinguishes investment by industry.

Other studies of investment location are exclusively cross-sectional in nature, exploiting the very large differences in corporate tax rates around the world to identify the effects of taxes on FDI. Grubert and Mutti (1991) and Hines and Rice (1994) estimate the effect of national tax rates on the cross-sectional distribution of aggregate American-owned property, plant and equipment (PPE) in 1982. Grubert and Mutti analyze the distribution of PPE in manufacturing affiliates in 33 countries, reporting a –0.1 elasticity with respect to local tax rates. Hines and Rice consider the distribution of PPE in all affiliates in 73 countries, reporting a much larger –1.0 elasticity of PPE ownership with respect to tax rates. Altshuler, Grubert and Newlon (2001) compare the tax sensitivity of aggregate PPE ownership in 58 countries in 1984 to that in 1992, reporting estimated tax elasticities that rise (in absolute value) from –1.5 in 1984 to –2.8 in 1992. Altshuler and Grubert (2004) offer evidence of a -3.5 tax elasticity of investment in a sample of 58 countries in 2000, suggesting a continued, and possibly increasing, responsiveness to foreign tax differences.[25]

In addition to influencing investment levels, the organizational form of foreign investment likewise appears to reflect incentives created by home and foreign taxation. Desai and Hines (1999) and Desai, Foley and Hines (2004a) offer evidence that American firms significantly reduced their participation in international joint ventures after the U.S. Tax Reform Act of 1986 imposed significant tax penalties on income received from foreign joint ventures, and increased the value of international tax planning that is most readily undertaken using wholly-owned foreign affiliates. There is also extensive evidence that American firms arrange the financing and other aspects of their foreign investments to avoid associated tax

[24] See, for example, Hartman (1984), Boskin and Gale (1987), Newlon (1987), and Young (1988).

[25] Other cross sectional evidence is consistent with these findings. Hines (2001) compares the distribution of Japanese and American FDI around the world, finding Japanese investment to be concentrated in countries with which Japan has "tax sparing" agreements that reduce home country taxation of foreign income; the estimated FDI impact of "tax sparing" is consistent with estimated large tax elasticities of foreign investment. Hines (1996) compares the distributions of FDI within the United States of investors whose home governments grant foreign tax credits for federal and state income taxes with those whose home governments do not tax income earned in the United States. One percent state tax rate differences in 1987 are associated with ten percent differences in amounts of manufacturing PPE owned by investors from countries with differing home-country taxation of foreign-source

liabilities. It is noteworthy that this behavior takes place in the presence of existing significant home country taxation, since part of the effect of U.S. taxation is to diminish incentives to avoid foreign tax liabilities.

It is often attractive to use debt to finance foreign affiliates in high-tax countries and to use equity to finance affiliates in low-tax countries, thereby accumulating income where tax rates are low and deductions where tax rates are high.[26] The evidence is broadly consistent with these incentives. Hines and Hubbard (1990) find that the average foreign tax rate paid by subsidiaries remitting nonzero interest to their American parent firms in 1984 exceeds the average foreign tax rate paid by subsidiaries with no interest payments, while the reverse pattern holds for dividend payments. Grubert (1998) estimates separate equations for dividend, interest, and royalty payments by 3467 foreign subsidiaries to their parent American companies (and other members of controlled groups) in 1990, finding that high corporate tax rates in countries in which American subsidiaries are located are correlated with higher interest payments and lower dividend payout rates. Desai, Foley and Hines (2004b) report that, within groups of affiliates controlled by the same American parents, debt levels are significantly higher among affiliates located in countries with higher tax rates. Desai, Foley and Hines (2001, 2002a) consider the responsiveness of dividend repatriations to tax rate differences, finding that a variety of non-tax factors affect repatriation decisions, but that one percent lower repatriation tax rates are associated with one percent higher dividends – implying that repatriation taxes reduce aggregate dividend payouts by 12.8 percent.

Contractual arrangements between related parties located in countries with different tax rates offer numerous possibilities for sophisticated tax avoidance. Evidence of tax-motivated income reallocation comes in several forms. Grubert and Mutti (1991) and Hines and Rice (1994) analyze the aggregate reported profitabilities of U.S affiliates in different foreign locations in 1982. Grubert and Mutti examine profit/equity and profit/sales ratios of U.S.-owned manufacturing affiliates in 29 countries, while Hines and Rice regress the profitability of all U.S.-owned affiliates in 59 countries against capital and labor inputs and local productivities.

---

income, and three percent differences in numbers of affiliates owned, implying a tax elasticity of investment equal to –0.6.

Grubert and Mutti report that high taxes reduce the reported after-tax profitability of local operations; Hines and Rice come to a similar conclusion, their data indicating that one percent tax rate differences are associated with 2.3 percent differences in pretax profitability. While it is possible that high tax rates are correlated with other locational attributes that depress the profitability of foreign investment, competitive conditions typically imply that after-tax rates of return should be equal in the absence of tax-motivated income-shifting. The fact that before-tax profitability is negatively correlated with local tax rates is strongly suggestive of active tax avoidance.

Harris et al. (1993) report that the U.S. tax liabilities of American firms with tax haven affiliates are significantly lower than those of otherwise-similar American firms over the 1984-1988 period, which may be indirect evidence of aggressive transfer-pricing by firms with tax haven affiliates. Collins et al. (1998) analyze a pooled sample of U.S. multinationals over 1984-1992, finding a similar pattern of greater reported foreign profitability (normalized by foreign sales) among firms facing foreign tax rates below the U.S. rate. And Klassen et al. (1993) find that American multinationals report returns on equity in the United States that rose by 10 percent relative to reported equity returns in their foreign operations following the U.S. tax rate reduction in 1986.

Patterns of reported profitability are consistent with other indicators of aggressive tax-avoidance behavior, such as the foreign exploitation of intangible property developed in the United States, which produces foreign source royalty income and generates tax deductions in host countries. Hines (1995) finds that royalty payments from foreign affiliates of American companies in 1989 exhibit a –0.4 elasticity with respect to the tax cost of paying royalties, and Grubert (1998) also reports significant effects of tax rates on royalty payments by American affiliates in 1990. Clausing (2001) finds that reported trade patterns between American parent companies and their foreign affiliates, and those between foreign affiliates located in different countries, are consistent with transfer-pricing incentives. Controlling for various affiliate characteristics, including their trade balances with unaffiliated foreigners, Clausing finds that ten percent higher local tax rates are associated with 4.4 percent higher parent company trade

[26] Hines (1994) identifies exceptions to this rule that stem from the benefits of limiting equity finance in affiliates located in countries with very low tax rates in anticipation of reinvesting all of their after-tax profits over long periods.

surpluses with their local affiliates, which is suggestive of pricing practices that move taxable profits out of high-tax jurisdictions. Swenson (2001) finds a similar pattern in the reported prices of goods imported into the United States, in which high unit tariff rates appear to be associated with unusually low prices.

The upshot of a large body of research in the last 15 years is that the investment and tax avoidance behavior of American multinational firms is very sensitive to its tax environment. There is some controversy over whether investment and tax avoidance have become more sensitive over time, or whether it was always highly sensitive but had not been properly measured in the past. GM raises the possibility that repatriation taxes do not affect locations of foreign investment, which is interesting but inconsistent with the findings of most of the literature. GM offers evidence of the unimportance of repatriation taxes based on a comparison of American firms with excess foreign tax credits and those without excess foreign tax credits, which are unfortunately endogenous states and therefore inconclusive for identification purposes in cross sections such as theirs.[27]

As a theoretical matter, the Hartman and Sinn models are sometimes misunderstood to imply that home country taxes will not affect FDI levels.[28] These models imply instead that the steady state capitalization of a single foreign subsidiary is not a function of home country repatriation taxes. In the growth models of Newlon (1987), Sinn (1993), and Hines (1994), however, the present discounted value of foreign investment by a single subsidiary remains a function of repatriation taxes, since such taxes influence the time path of investment, and actual FDI data reflect present values rather than steady states. More importantly, repatriation taxes influence the profitability of foreign investment in all of these models, and therefore affect decisions of where and how much to invest.

IV.D. Implications for estimated tax burdens.

[27] For example, the effect of repatriation taxes can be identified by considering the distribution of FDI in the United States from countries with differing home-country tax regimes, as in Hines (1996), or through analysis of the effects of "tax sparing" treaty provisions, as in Hines (2001). See Altshuler and Grubert (2001) for evidence on the irrelevance of repatriation taxes.

[28] These models include Hartman (1985), Newlon (1987), Sinn (1991), Sinn (1993), Hines (1994), and Weichenreider (1996).

The available evidence implies that American firms would significantly restructure their foreign investments in the absence of U.S. taxation of foreign income. This restructuring would likely happen on two margins: greater foreign investment and a restructuring of all activity in the direction of reducing foreign tax obligations and thereby improving after-foreign-tax profitability.[29] Taking current U.S. taxation of foreign income to constitute roughly 40 percent of the total tax burden on outbound investment, and applying a conservative unit elasticity of foreign direct investment, it follows that exempting foreign income from U.S. taxation would be associated with 40 percent greater outbound FDI. Hence, if the structure, location, and tax avoidance characteristics of U.S. outbound FDI were not to change in response, an upper bound on the burden of current U.S. tax rules would exceed current revenue collections by 40 percent.

This 40 percent figure is only the starting point for determining an upper bound on current U.S. tax burdens. The findings of a large body of research indicate that American investors made more sensitive to foreign tax rate differences by the exemption of foreign income from U.S. taxation would respond by restructuring their foreign operations to avoid foreign taxes. Put differently, reduced U.S. taxation would have very large effects on differences between the attractiveness of earning profits in different foreign locations, and greatly improve the returns to avoiding foreign taxes. In the interest of producing a conservative estimate, it is useful to assume that current U.S. taxation neutralizes roughly half of the benefit of earning profits in low-tax locations relative to high-tax foreign locations. Removal of U.S. taxation of foreign income would therefore at least double the relative attractiveness of low-tax foreign locations.

In order to illustrate the magnitudes and mechanisms involved, suppose that the current taxation of foreign income reflects a combination of activities in countries with 35

[29] The benefits of reducing foreign tax obligations would be most important for American firms without excess foreign tax credits under the current tax regime, since firms with persistent excess foreign tax credits already benefit significantly from reducing foreign taxes. This emphasis on the distinction between firms with and without persistent excess foreign tax credits lies at the heart of the analysis in GM (2001), Grubert (2001) and Altshuler and Grubert (2001). These papers offer evidence that American firms with excess foreign tax credits appear not to concentrate their foreign activities in low-tax locations to a greater degree than do American firms without excess foreign tax credits, from which they conclude that repatriation taxes do not influence foreign investment patterns. This conclusion is inconsistent with the findings of other empirical work and with the implications of most FDI models, and may simply reflect the endogeneity of a firm's foreign tax credit position.

percent tax rates and countries with 15 percent tax rates. Exempting foreign income from taxation would encourage investors to respond to the 20 percent foreign tax rate difference between the countries. For example, Hines and Rice (1994) report that one percent lower foreign tax rates are associated with 6.3 percent greater pretax incomes. In this example, and under these assumptions, the elimination of U.S. taxes would result in reallocations in response to half of the 20 percent difference, and thereby stimulate 63 percent greater pretax income production in the low-tax countries than in the high-tax countries. At the same time, foreign tax avoidance in all locations would increase in response to removal of home country taxation.

While this example is merely illustrative, it indicates the magnitudes of reallocations of activity that could result from exempting foreign income from taxation. Adding together the various channels of financial, organizational, and investment responses to exempting foreign income from taxation, it would be remarkable if significant relocation of after-tax income production did not accompany exemption along with increased tax avoidance for all foreign operations. Avoidance of foreign taxes, either by relocating activity to low-tax locations or by undertaking actions to avoid foreign taxes in all locations, would, under current rules, generate greater U.S. tax liabilities by reducing the foreign tax credits that American firms can claim. It is probably conservative to estimate that, for any given aggregate level of outbound U.S. FDI, tax avoidance responses to the removal of home country taxation would encourage activity that would have doubled home country tax collections if U.S. taxes had been applied.

Adding the 100 percent figure corresponding to tax avoidance to the 40 percent estimate for greater total U.S. outbound investment produces an aggregate sum of 140 percent. It follows that an upper bound on the current burden of U.S. taxation of foreign income is 140 percent greater than current tax collections. Putting aside the conservative nature of this calculation, an upper bound is unlikely to represent the true burden, and a better first-order (linear) approximation to the true burden is the average of the lower and upper bounds, or a total 70 percent greater than current revenue collections. In the current U.S. context, and employing the figures provided above, this would correspond to a total burden equal to 20 percent of pretax foreign income, or roughly $50 billion on an annual basis. Such

an estimate of the magnitude of efficiency losses relative to revenue is well within the range of comparable calculations for other aspects of the U.S. tax system. Indeed, given the high responsiveness of U.S. multinationals to tax factors, a 1.7 ratio of efficiency losses to revenues seems modest.[30]

V. Efficient taxation of foreign income[31]

In order to evaluate the wisdom of current U.S. taxation of foreign income it is necessary to consider appropriate welfare standards. While there is a timeless quality to the economic principles that form the basis of efficient tax policy design, the application of these principles to the taxation of foreign income has varied over time, and in particular, has undergone a significant recent change. Until recently, three benchmarks were commonly used to evaluate the efficiency of international tax systems: capital export neutrality (CEN), national neutrality (NN) and capital import neutrality (CIN).

CEN is the doctrine that the return to capital should be taxed at the same total rate regardless of investment location, with the idea that adherence to CEN promotes world welfare. A system of worldwide taxation with unlimited foreign tax credits satisfies CEN, since then foreign and domestic investments are all effectively subject to the same (home country) tax rate, and firms that maximize after-tax returns under such a system thereby also maximize pretax returns. NN is the doctrine that foreign investment income should be subject to home country taxation with only a deduction for foreign taxes paid. The idea behind NN is that home countries promote their own welfare by subjecting foreign income to double taxation, thereby discouraging all but the most productive foreign investments, and retaining investment capital for use at home. Thirdly, CIN emphasizes that the return to capital should be taxed at the same total rate regardless of the residence of the investor. Pure source-based taxation is consistent with CIN, as long as individual income tax rates are harmonized to ensure that the combined tax burden on saving and investment does not differ among investors residing in different countries.

[30] See Auerbach and Hines (2002) for a discussion of current estimates of such ratios for different aspects of the U.S. tax system.

[31] For a fuller discussion of the CON/NON framework, see Desai and Hines (2003). This section draws on Desai (2004).

These traditional welfare benchmarks suffer from a number of shortcomings. CIN offers little guidance for the design of a single country's system of taxing foreign income, since its application requires simultaneous consideration and coordination of corporate and personal taxes in all countries in the world. While CEN and NN do not suffer from this shortcoming, they have other worrisome features. Tax policies adopted by other countries matter not at all in determining whether a country's tax system conforms to CEN, which seems an unlikely feature of a benchmark that is intended to characterize policies that promote global efficiency. Tax policies that implement NN would subject foreign investment income to punishing home country taxation, thereby discouraging multinational business operations and, as a realistic matter, more likely reduce rather than advance home country welfare. As an empirical matter, such policies have not been adopted by any major capital-exporting nation. Moreover, a very common policy approach – exempting foreign income from taxation – is incongruent with any of these welfare benchmarks.

CEN, NN, and CIN rely on the intuition that FDI represents the transfer of net savings between countries. This characterization of FDI was discarded long ago by the scholarly community that studies multinational firms. Instead, modern scholars view FDI as arising from differential capabilities, and consequently differential productivity, among firms, and the extension of intangible assets across borders. This intuition squares well with empirical FDI patterns, which include the fact that most of the world's FDI represents investment from one high-income country into another, and the fact that a very high fraction of such investment takes the form of acquiring existing businesses. Consequently, most FDI represents transfers of control and ownership, and need not involve transfers of net savings. This emphasis on transfers of ownership, and the productivity differences that drive ownership patterns, implies that CEN, NN, and CIN do not characterize optimal tax systems, whereas other welfare benchmarks do. The modern view of FDI as arising from productivity differences among firms, with ownership changes taking the form of FDI, raises the possibility that greater outbound FDI need not be associated with reduced domestic investment. Indeed, it is conceivable that greater outbound FDI is associated with greater domestic investment, either by home country firms undertaking the FDI or by unrelated foreign investors. Under this view, in short, multinational firms are not engaged in the reallocation of the capital stock as much as they are engaged in the reallocation of ownership and control of existing capital stocks.

This emphasis on ownership suggests that tax policies should be evaluated on the basis of their effects on the allocation of ownership of productive assets. Global efficiency is characterized by ownership arrangements that maximize total world output, whereas national welfare (taking the tax policies of other countries as given) is characterized by tax policies that maximize home country incomes. This perspective yields the welfare benchmarks of capital ownership neutrality (CON) and national ownership neutrality (NON), in which CON is a direct analogue to CEN, and NON a direct analogue to NN. CON requires that tax rules not distort ownership patterns, which is equivalent to ownership of an asset residing with the potential buyer who has the highest reservation price in the absence of tax differences. As a practical matter, CON is satisfied by conformity among tax systems, including situations in which all countries exempt foreign income from taxation, and situations in which all countries tax foreign incomes while providing complete foreign tax credits. The national welfare considerations that form the basis of NON suggest, much as is evident in practice, that countries should want to exempt foreign income from taxation. This policy prescription stems from the observation that outbound foreign investment need not be accompanied by reduced domestic investment in a world of shifting ownership patterns. As a result, countries have incentives to select tax rules that maximize the productivity of foreign and domestic investment, since doing so improves tax collections as well as private incomes. When both capital stocks and ownership claims are affected by tax rules, then NON need not correspond exactly to maximizing national welfare, and home countries might benefit from imposing modest taxes on foreign investment.

The CON/NON framework places productivity differences among multinational owners, and the transfers of control induced by tax rules, front and center in analyzing the efficiency of taxation. The relevance of such a framework depends on the degree to which such differences matter relative to the actual transfers of net saving emphasized in the CEN/NN/CIN framework. That scholars who study multinationals have dismissed the view of FDI as transfers of net savings as "neither satisfying theoretically nor confirmed empirically" suggests that employing welfare frameworks that rely exclusively on such notions is incomplete at best.[32] That incorporation of modern interpretations of FDI produces tax policies that countries actually use further suggests the importance of these alternative frameworks.

[32] See Caves (1996).

The CON/NON paradigms carry direct implications for U.S. taxation of foreign income. The NON logic implies that the United States would improve its own welfare by exempting foreign income from taxation, rather than, as it does now, subjecting foreign income to taxation imposing significant burdens on American firms. In addition, should it be relevant to American policy, CON implies that a reduction of U.S. taxation of foreign income would improve world welfare by moving U.S. taxation more in the direction of other countries that currently subject foreign income to little or no taxation.

VI. Conclusion

Improving the taxation of foreign investment income requires abandoning the notion of international tax provisions as appendages to a domestic corporate tax. At first glance it is perfectly logical to posit that, given that the U.S. tax system requires American companies to remit 35 percent of their taxable incomes to the U.S. government, the same type of taxation should apply to foreign income. Unfortunately, the realities of a competitive world capital market suggest otherwise. U.S. taxation of foreign income impairs the productivity of American firms in the global marketplace, and interestingly, impairs the productivity of investments located in the United States, since it distorts ownership patterns by foreign investors as well as Americans.

It would appear that the current taxation of foreign income, a product of many complex appendages to the domestic corporate tax, imposes significant burdens on U.S. firms. The simple framework developed above suggests that the annual burden on American firms is conservatively estimated at $50 billion a year. The current U.S. tax regime conforms neither to traditional efficiency benchmarks nor to more recent measures grounded in modern notions of multinational decision-making. Ownership based concepts of efficiency imply that national and world welfare would be advanced by reducing U.S. taxation of foreign income, thereby permitting taxpayers and the country to benefit from greater market-based allocation of resources to the most productive owners.

References

Altshuler, Rosanne and Harry Grubert (2001). "Where Will They Go If We Go Territorial? Dividend Exemption and the Location Decisions of U.S. Multinational Enterprises," *National Tax Journal* 54:787-809.

Altshuler, Rosanne and Harry Grubert. (2003) "Repatriation Taxes, Repatriation Strategies, and Multinational Financial Policy," *Journal of Public Economics* 87:73-107.

Altshuler, Rosanne and Harry Grubert, "Taxpayer responses to competitive tax policies and tax policy responses to competitive taxpayers: Recent evidence," *Tax Notes International*, 28 June 2004, 34 (13), 1349-1362.

Altshuler, Rosanne, Harry Grubert and T. Scott Newlon. (2001) "Has U.S. Investment Abroad become More Sensitive to Tax Rates?" In James R. Hines Jr., ed. *International Taxation and Multinational Activity* (Chicago: University of Chicago Press) 9-32.

Auerbach, Alan J. (1979) "Wealth Maximization and the Cost of Capital," *Quarterly Journal of Economics* 93:433-446.

Auerbach, Alan J. and James R. Hines Jr. (2002) "Taxation and Economic Efficiency." In Alan J. Auerbach and Martin Feldstein, eds. *Handbook of Public Economics*, volume 3 (Amsterdam: North-Holland) 1347-1421.

Boskin, Michael and William G. Gale. (1987) "New Results on the Effects of Tax Policy on the International Location of Investment." In Martin Feldstein, ed. *The Effects of Taxation on Capital Accumulation* (Chicago: University of Chicago Press) 201-219.

Bradford, David F. (1981) "The incidence and allocation effects of a tax on corporate distributions," *Journal of Public Economics* 15:1-22.

Caves, Richard E. (1996) *Multinational Enterprise and Economic Analysis*. Cambridge, U.K.: Cambridge University Press.

Clausing, Kimberly A. (2000) "The Impact of Transfer Pricing on Intrafirm Trade." In James R. Hines, Jr., ed. *International Taxation and Multinational Activity* (Chicago, University of Chicago Press: 173–194.

Collins, Julie H., Deen Kemsley, and Mark Lang. (1998) "Cross-Jurisdictional Income Shifting and Earnings Valuation, *Journal of Accounting Research* 36:209-229.

Comisky, John. (2003) "Controlled foreign corporations, 1998," *Statistics of Income Bulletin*, Winter 2002-2003.

Desai, Mihir A. (2004) "New Foundations for Taxing Multinational Corporations," Special Issue from the University of Chicago Federal Tax Conference. *Taxes*, 41-49.

Desai, Mihir A., C. Fritz Foley, and James R. Hines Jr. (2001) "Repatriation Taxes and Dividend Distortions." *National Tax Journal* 54: 829-851.

Desai, Mihir A., C. Fritz Foley, and James R. Hines Jr. (2002) "Dividend Policy inside the Firm." NBER Working Paper No. 8698 (Cambridge, MA: National Bureau of Economic Research).

Desai, Mihir A., C. Fritz Foley, and James R. Hines Jr. (2003) "Chains of Ownership, Tax Competition, and the Location Decisions of Multinational Firms." In Heinz Herrmann and Robert Lipsey eds., Foreign Direct Investment in the Real and Financial Sector of Industrial Countries (Berlin: Springer-Verlag), 61-98.

Desai, Mihir A., C. Fritz Foley, and James R. Hines Jr. (2004a) "The Costs of Shared Ownership: Evidence from International Joint Ventures." *Journal of Financial Economics* 73:323-374.

Desai, Mihir A., C. Fritz Foley, and James R. Hines Jr. (2004b) "A Multinational Perspective on Capital Structure and Internal Capital Markets." forthcoming in *Journal of Finance*.

Desai, Mihir A. and James R. Hines Jr. (1999) "'Basket' Cases: Tax Incentives and International Joint Venture Participation by American Multinational Firms." *Journal of Public Economics* 71:379-402.

Desai, Mihir A. and James R. Hines Jr. (2001) "The Uneasy Marriage of Export Subsidies and the Income Tax," in James Poterba (ed.) *Tax Policy and the Economy* 15 (Cambridge, MA: MIT Press) 41-94.

Desai, Mihir A. and James R. Hines Jr. (2003) "Evaluating International Tax Reform." *National Tax Journal* 56:487-502.

Froot, Kenneth A., and James R. Hines Jr. (1995) "Interest allocation rules, financing patterns, and the operations of U.S. multinationals", in: Martin Feldstein, James R. Hines Jr. and R. Glenn Hubbard, eds., *The Effects of Taxation on Multinational Corporations* (University of Chicago Press, Chicago) pp. 277-307.

Gordon, Roger H. and James R. Hines Jr. (2002) "International Taxation." In Alan J. Auerbach and Martin Feldstein, eds. *Handbook of Public Economics*, vol. 4 (Amsterdam: North-Holland) 1935-1995.

Grubert, Harry. (1998) "Taxes and the Division of Foreign Operating Income Among Royalties, Interest, Dividends and Retained Earnings." *Journal of Public Economics* 68: 269-290.

Grubert, Harry. (2001) "Enacting Dividend Exemption and Tax Revenue," *National Tax Journal* 54:811-827.

Grubert, Harry and John Mutti. (1991) "Taxes, Tariffs and Transfer Pricing in Multinational Corporate Decision Making." *Review of Economics and Statistics* 73: 285-293.

Grubert, Harry and John Mutti. (2001) *Taxing International Business Income: Dividend Exemption versus the Current System* (Washington D.C.: American Enterprise Institute).

Harris, David, Randall Morck, Joel Slemrod, and Bernard Yeung. (1993) "Income Shifting in U.S. Multinational Corporations." In Alberto Giovannini, R. Glenn Hubbard, and Joel Slemrod, eds., *Studies In International Taxation* (Chicago: University of Chicago Press).

Hartman, David G. (1985) "Tax Policy and Foreign Direct Investment," *Journal of Public Economics* 26:107-121.

Hines, James R., Jr. (1994) "Credit and Deferral as International Investment Incentives." *Journal of Public Economics* 55: 323-347.

Hines, James R., Jr. (1995) "Taxes, Technology Transfer, and the R&D Activities of Multinational Firms." In Martin Feldstein, James R. Hines Jr., and R. Glenn Hubbard, eds. *The Effects of Taxation on Multinational Corporations* (Chicago: University of Chicago Press) 225-248.

Hines, James R., Jr. (1996) "Altered States: Taxes and the Location of Foreign Direct Investment in America." *American Economic Review* 86:1076-1094.

Hines, James R., Jr. (1997) "Tax Policy and the Activities of Multinational Corporations." In Alan J. Auerbach, ed. *Fiscal Policy: Lessons From Economic Research* (Cambridge, MA: MIT Press) 401-445.

Hines, James R., Jr. (1999) "Lessons from Behavioral Responses to International Taxation." *National Tax Journal* 52: 305-322.

Hines, James R., Jr. (2001) "'Tax Sparing' and Direct Investment in Developing Countries." In James R. Hines Jr., ed. *International Taxation and Multinational Activity* (Chicago: University of Chicago Press), 39-66.

Hines, James R., Jr. (2004) "Do Tax Havens Flourish?" forthcoming in James M. Poterba ed., *Tax Policy and the Economy*, vol. 19 (Cambridge, MA: MIT Press).

Hines, James R., Jr. and R. Glenn Hubbard. (1990) "Coming Home to America: Dividend Repatriations by U.S. Multinationals." In Assaf Razin and Joel Slemrod, eds. *Taxation in the Global Economy* (Chicago: University of Chicago Press): 161-200.

Hines, James R., Jr. and Eric M. Rice. (1994) "Fiscal Paradise: Foreign Tax Havens and American Business." *Quarterly Journal of Economics* 109: 149-182.

Klassen, Kenneth, Mark Lang, and Mark Wolfson. (1993) "Geographic Income Shifting by Multinational Corporations in Response to Tax Rate Changes." *Journal of Accounting Research* 31: 141-173.

Lyon, Andrew B. and Gerald Silverstein. (1995) "The Alternative Minimum Tax and the Behavior of Multinational Corporations," in Martin Feldstein, James R. Hines Jr. and R.

Glenn Hubbard eds., *The Effects of Taxation on Multinational Corporations* (Chicago: University of Chicago Press) 153-177.

Newlon, Timothy S. (1987) *Tax Policy and the Multinational Firm's Financial Policy and Investment Decisions* (Ph.D. dissertation, Princeton University, Princeton, NJ).

Rangel, Charles B. and John Buckley. (2004) "Current International Tax Rules Provide Incentives for Moving Jobs Offshore," *Tax Management Weekly Report*, 29 March 23:489-496.

Raub, Brian. (2003) "Corporate Foreign Tax Credit, 1999," *Statistics of Income Bulletin*, Fall 2003.

Sinn, Hans-Werner. (1991) "The Vanishing Harberger Triangle," *Journal of Public Economics* 45:271-300.

Sinn, Hans-Werner. (1993) "Taxation and the Birth of Foreign Subsidiaries" In Horst Herberg and Ngo Van Long, eds., *Trade Welfare, and Economic Policies: Essays in Honor of Murray C. Kemp* (University of Michigan Press, Ann Arbor, MI), 325-352.

Slemrod, Joel. (1990) "Tax Effects on Foreign Direct Investment in the United States: Evidence From a Cross-Country Comparison." In Assaf Razin and Joel Slemrod, eds. *Taxation in the Global Economy* (Chicago: University of Chicago Press), 79-117.

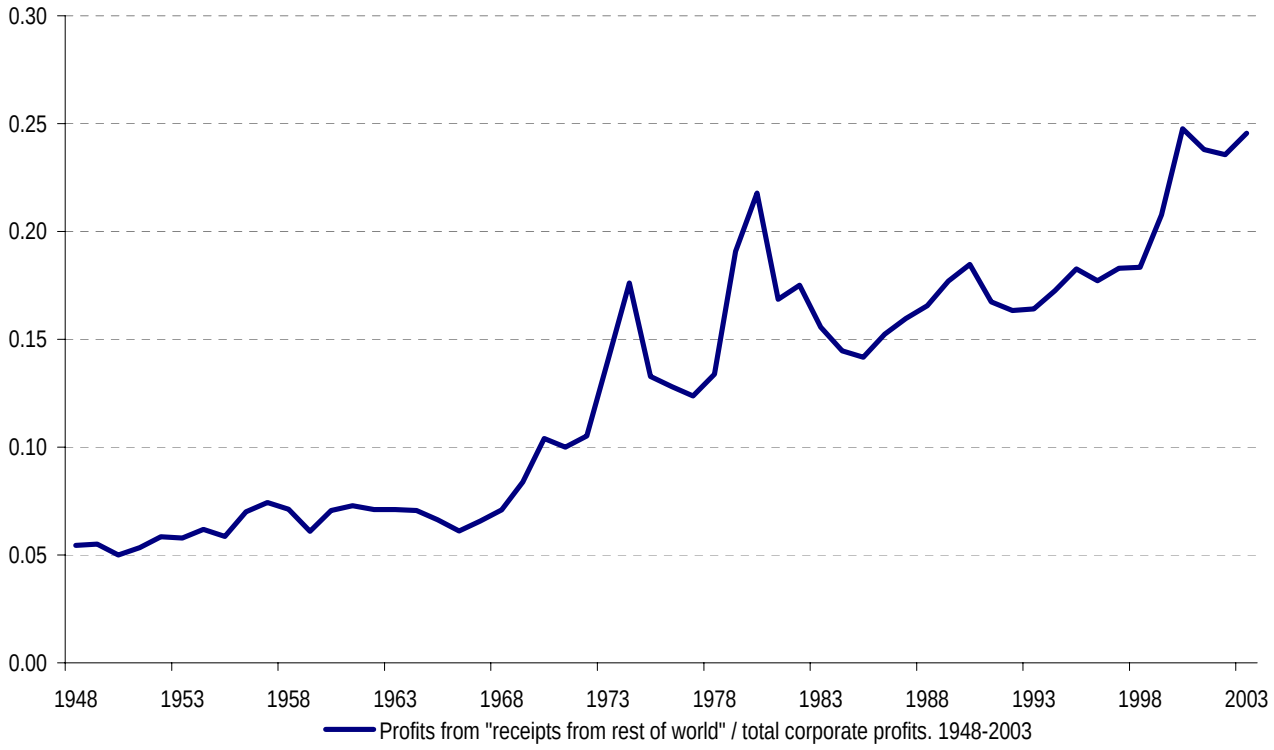
Swenson, Deborah L. (2001) "Tax Reforms and Evidence of Transfer Pricing," *National Tax Journal* 54:7-25.

United States Office of Management and Budget. (2004) *Budget of the United States Government, Fiscal Year 2005* (Washington, DC: U.S. Government Printing Office).

Weichenrieder, A.J. (1996) "Anti-tax Avoidance Provisions and the Size of Foreign Direct Investment," *International Tax and Public Finance* 3:67-81.

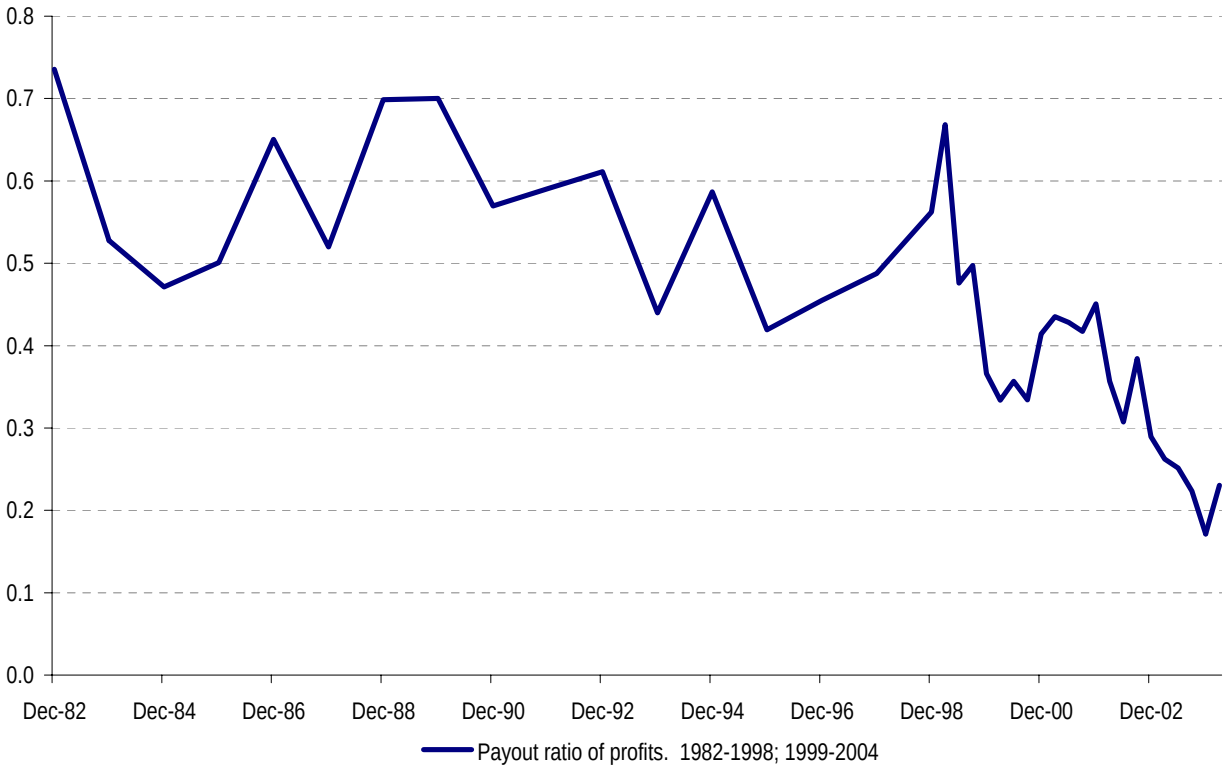
Young, Kan H. (1988) "The Effects of Taxes and Rates of Return on Foreign Direct Investment in the United States," *National Tax Journal* 41:109-121.

Figure 1: The Growing Importance of Foreign Profits to Corporate Profits, 1948-2003



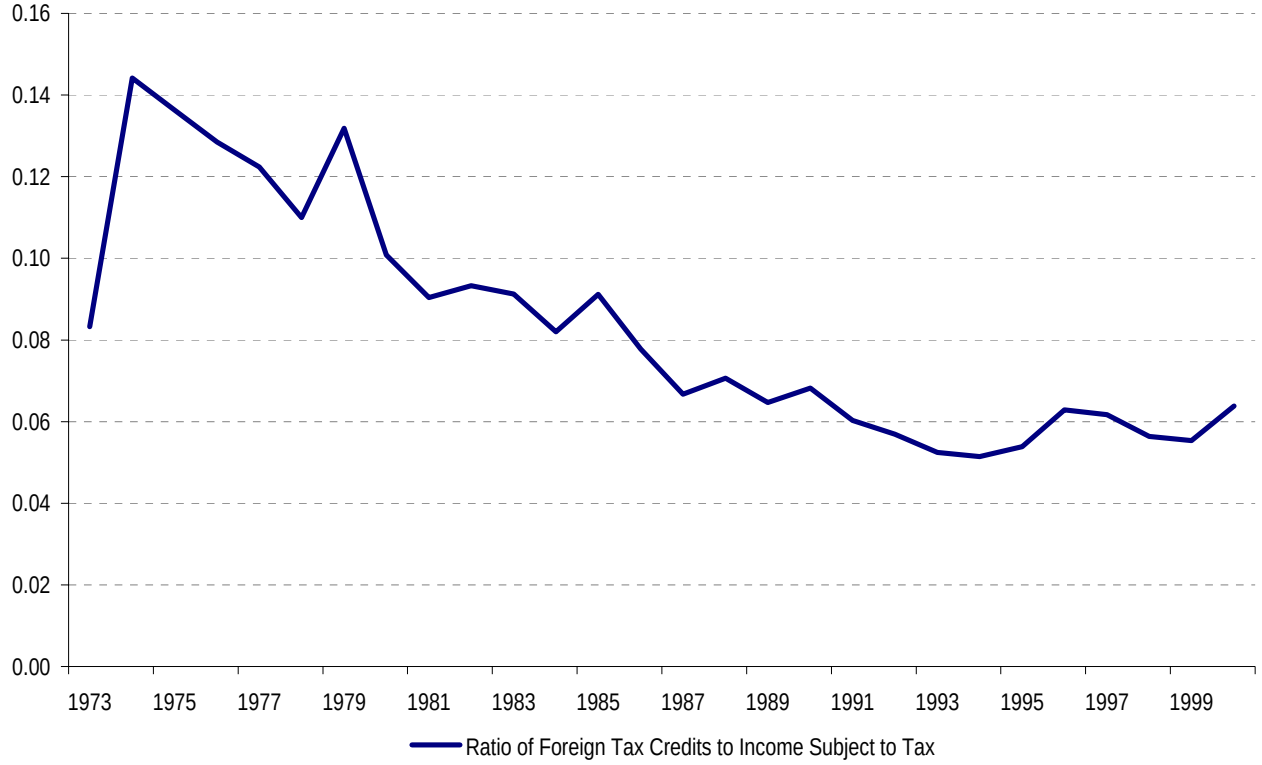
Note: This figure plots the ratio of "receipts from the rest of the world" to "corporate profits" drawn from Tables 6.16B, 6.16C and 6.16D of the NIPA tables available at www.bea.gov.

Figure 2: Payout Ratios of Foreign Earnings, 1982-1998 annual, 1999-2004 quarterly



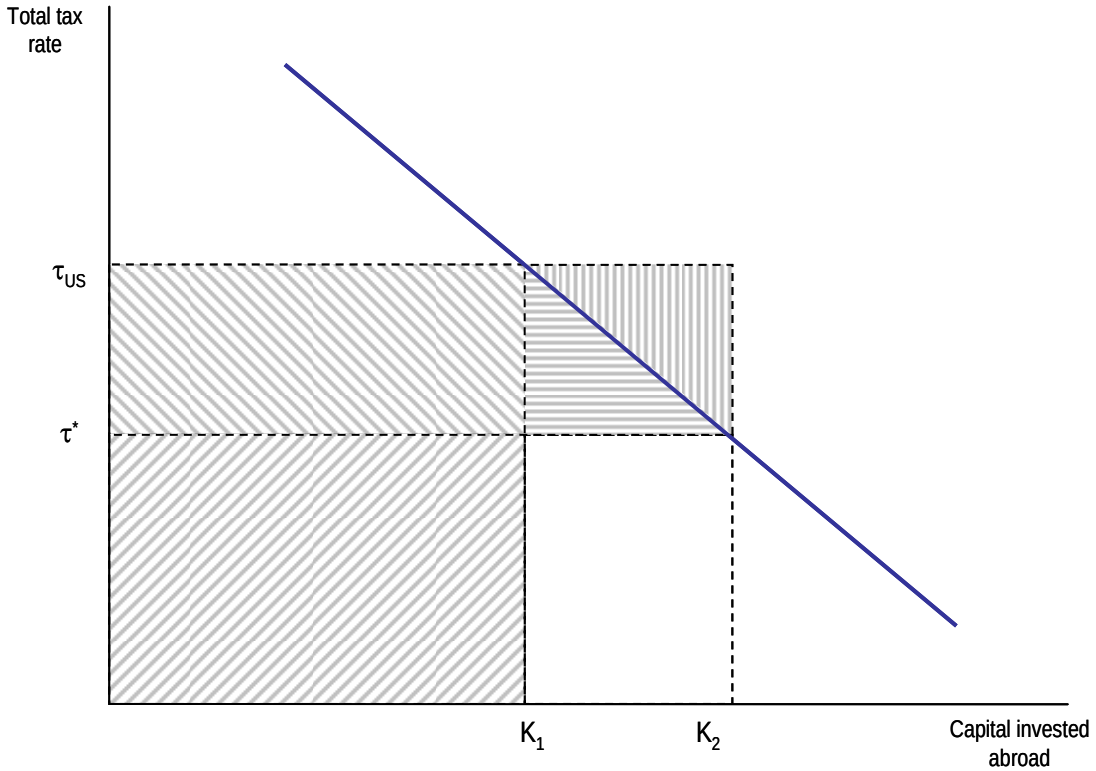
Note: This figure plots the ratio of "distributed earnings" to "total earnings" from U.S. Direct Investment Abroad provided in Tables 6a and 6b of the U.S. International Transactions Account Data available at www.bea.gov.

Figure 3: Ratio of Foreign Tax Credits to Income Subject to Tax, 1973-2000



Note: This figure plots the ratio of foreign tax credits to income subject to tax as reported in various issues of the Statistics of Income publication titled Corporate Income Tax Returns.

Figure 4: The Welfare Consequences of Home Country Taxation of Foreign Investment Income



Note: This figure plots investment demand as a function of the total tax rate on foreign investment income. Tau, US is the U.S. statutory corporate income tax rate and Tau* is the foreign corporate income tax rate.