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The Case Against Deferral: A Differential Reconsideration

by

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ABSTRACT

The ability to defer home-country taxation of foreign income is widely criticized as encouraging excessive foreign investment. This criticism is based on a model in which the function of deferral is to reallocate a fixed supply of capital between foreign and domestic uses. In realistic situations, however, deferral enhances the value to home countries of inframarginal foreign investment, taxation raises the value of marginal foreign investment, and the tradeoff between foreign and domestic investment need not be one-for-one. Together, these considerations imply that deferring home taxation of foreign income can enhance economic efficiency.

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1. Introduction.

In principle, the foreign profits of a multinational firm are taxable both by the foreign countries in which it operates and by its home country. In practice, major capital-exporting countries typically grant relief from home country taxes in order to prevent the excessive double taxation of profits earned in foreign locations. The reasoning behind offering some kind of double tax relief is obvious, since failure to do so would effectively eliminate much international business activity,[1] thereby greatly reducing economic efficiency. Whether double tax relief is better provided by home countries or by host countries, and how such relief might best be structured, are important and open questions. Anyone tempted to doubt the importance and timeliness of these issues receives frequent contrary reminders from advocates of U.S. tax reform.[2]

One effective method of alleviating international double taxation is simply to exempt foreign income from home country taxation. A more modest approach, taken by the United States and several other OECD countries, is to grant foreign tax credits for income taxes paid to foreign governments, and to permit taxpayers to defer home-country taxation of foreign income until such income is repatriated to the home country.[3] In the case of the United States, deferral of home-country taxation is limited to the active foreign profits earned by separately incorporated affiliates abroad, and is subject to various limitations.[4]

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[1] For example, it was not long ago that the German corporate tax rate was 56 percent and the American corporate tax rate was 48 percent. If simply added together, these sum to a tax rate (104 percent) high enough to reduce the profitmaking zeal of the most ardent capitalist.

[2] See, for example, National Foreign Trade Council (1999).

[3] Countries other than the United States permitting taxpayers to claim foreign tax credits and to defer home country taxation of foreign income include Canada, Japan, Norway, and the United Kingdom.

[4] Much of the recent controversy in the United States concerns restrictions on the ability of American taxpayers to defer U.S. taxation of foreign income in certain situations. In 1998, the U.S. Department of

The purpose of this paper is to evaluate the desirability of deferring home-country taxation of foreign-source income. Since the important work of Peggy Musgrave (1963, 1969), the received wisdom of the economics literature offers two separate policy objectives, one, "capital export neutrality," that maximizes world welfare, and a second, "national neutrality," that maximizes home country welfare. In the simple setting usually considered, "capital export neutrality" corresponds to a policy of taxing foreign income upon accrual and granting unlimited foreign tax credits. "National neutrality" corresponds to a policy of taxing foreign income upon accrual but allowing only a tax deduction for foreign income taxes. Consequently, deferral is inconsistent with either the maximization of world welfare or the maximization of home country welfare.

The analysis in this paper reconsiders the first-best reasoning that is responsible for the optimality of "capital export neutrality" and "national neutrality." In this setting, the function of home-country taxation is to determine the allocation of capital between domestic and foreign uses. In a more general framework, the function of deferral and other home-country tax provisions is to influence not only the allocation of capital but also the distribution of resources between taxpayers and the government, the incentives to undertake various activities that are complementary with foreign business operations, and incentives to avoid foreign taxes. In the second-best setting of international tax policies, the blanket presumption that foreign income should be taxed upon accrual requires sophisticated support that is unlikely to materialize.

Section 2 of the paper summarizes U.S. rules governing the taxation of foreign income. Section 3 reviews evidence of the extent to which American taxpayers defer

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the Treasury proposed new regulations that would limit the ability to defer U.S. taxation of income earned by entities treated as branches by foreign governments.

U.S. tax liabilities on foreign income. Section 4 derives a general expression for the welfare effects of taxing foreign-source income, emphasizing the simplifications necessary to obtain the standard neutrality results. Section 5 evaluates the policy implications of important considerations that the standard analysis omits and that weigh in favor of permitting deferral for foreign income. Section 6 is the conclusion.

2. International taxation: The basics.[5]

It is useful to review the U.S. system of taxing foreign income in order to illustrate and clarify some of the important features of international taxation. The United States taxes income on a residence basis, meaning that American corporations and individuals owe taxes to the U.S. government on all of their worldwide income, whether earned in the United States or earned outside the United States. In order to avoid subjecting American multinationals to double taxation, U.S. law permits firms to claim foreign tax credits for income taxes (and related taxes) paid to foreign governments.[6] The U.S. corporate tax rate is currently 35 percent. Under the foreign tax credit system, a U.S. corporation that earns $100 in a foreign country with a 20 percent tax rate pays a tax of $20 to the foreign government and $15 to the U.S. government, since its U.S. corporate tax liability of $35 (35 percent of $100) is reduced to $15 by the foreign tax credit of $20.

2.1 Deferral of U.S. taxation.

[5] Portions of the following brief description of U.S. law are excerpted from Hines (1991, 1997, 1999) and Hines and Hubbard (1995).

[6] Under U.S. law, firms may claim foreign tax credits for taxes paid by foreign affiliates of which they own at least 10 percent, and only those taxes that qualify as income taxes are creditable.

Under U.S. law, Americans must pay tax to the U.S. government on their worldwide incomes, with the exception that a certain category of foreign income is temporarily excluded from U.S. taxation. The excluded category is the unrepatriated portion of the profits earned by foreign subsidiaries; taxpayers are permitted to defer any U.S. tax liabilities on those profits until they are paid as dividends to the United States. 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 U.S.-owned branch banks in other countries, are taxed immediately by the United States.

To illustrate deferral, consider the case of an American-owned subsidiary that earns $400 in a foreign country with a 20 percent tax rate. This subsidiary pays taxes of $80 to the foreign country (20 percent of $400), and might remit $100 in dividends to its parent company, using the remaining $220 ($400 - $80 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 parent company is not required to pay U.S. taxes on any part of the $220 that its subsidiary earns abroad and does not pay as a dividend to the United States. If, however, the subsidiary were to pay a dividend of $220 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 corporations holding 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. This Subpart F income includes 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 able to defer U.S. tax liability on their foreign profits until they choose to remit dividends at a later date.

2.2 Excess foreign tax credits.

Since the foreign tax credit is designed to prevent 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 income. For example, an American firm with $400 of foreign income faces a foreign tax credit limit of $140 (35 percent of $400). If the firm pays foreign income taxes of less than $140, then it is entitled to claim foreign tax credits for all of its foreign taxes paid. If, however, the firm

[7] If the parent firm does not have excess foreign tax credits (on which more shortly), it is eligible to claim a foreign tax credit of $25, representing the product of foreign taxes paid by its subsidiary and the subsidiary's

pays $175 of foreign taxes, it would be permitted to claim no more than $140 of foreign tax credits.

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 below their foreign tax credit limits are said to have "deficit foreign tax credits." American law permits taxpayers to use excess foreign tax credits to reduce their tax obligations on foreign income earned in either of the previous two years or in any of the subsequent 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. A taxpayer then has excess foreign tax credits if the sum of worldwide foreign income tax payments exceeds this limit.

3. Deferral in practice.

Before analyzing the welfare economics of taxing foreign source income it is useful to review the extent to which American firms avoid U.S. taxation of their foreign income by deferring repatriation. The available evidence comes in two forms: the aggregate repatriation rates of American subsidiaries, and the selectivity of dividend repatriation rates as evidenced by their correlation with after-tax costs of paying dividends.

The experience of the last 30 years is that American companies repatriate roughly half of the after-tax income earned by their foreign subsidiaries. Repatriation for U.S. tax

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ratio of dividends to after-tax profits [$80 x ($100/$320) = $25].

purposes consists either of dividends or of Subpart F income. Table 1 reviews the experience of the larger controlled foreign corporations of American multinational firms.[8] In 1992, the last year for which such data are available, the 7,500 largest foreign subsidiaries of American companies with assets in excess of $500 million had after-foreign-tax earnings and profits of $51 billion. These subsidiaries paid 81 percent of their after-tax earnings and profits in dividends to their parent companies, and generated Subpart F income equal to an additional 26 percent of earnings and profits.[9] The worldwide economic downturn during 1992 is no doubt responsible for unusually large dividend payout rates that year, since dividends typically are correlated with a subsidiary's permanent as well as transitory income. From 1968 to 1986 dividend payout rates ranged between 32 and 48 percent of after-tax profits. Subpart F income rises sharply over the 1968-1986 period, though it never exceeds 20 percent of after-tax foreign income.

There is considerable variation between the payout rates of subsidiaries located in different countries. This variation no doubt reflects local business cycle conditions, differences in industrial composition, and, notably, tax differences that are country-specific. Table 2 presents payout rate information by country in 1992. Dividend payout rates vary from a low of 10 percent for American-owned subsidiaries in Japan to payout

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[8] Data reported in Tables 1-3 are drawn from tax return information published by the Internal Revenue Service. Specifically, Green (1995/96) reports data for 1992, Lewis (1991) reports data for 1986, Lewis (1989) reports data for 1984, Simenauer (1986) reports data for 1982, Gianelos and Sutton (1984) report data for 1980, Internal Revenue Service (1982) reports data for 1976, Internal Revenue Service (1981) reports data for 1974, and Internal Revenue Service (1979) reports data for 1972 and 1968.

[9] There is a minor complication in distinguishing dividends paid from Subpart F income, since these two items are reported separately. In the case of Subpart F income that is immediately repatriated as dividends, it is possible for the same income that is reported paid as dividends also to be reported as Subpart F income. Taxpayers are instructed to distinguish these two items, and have incentives not to overstate their taxable dividends, but nevertheless may occasionally enter the same income in both categories, in which case it is inappropriate to sum dividends and Subpart F income in evaluating the extent to which taxpayers forego deferral.

rates that exceed 100 percent for subsidiaries in Canada, the Cayman Islands, Germany, and the Netherlands.

Table 3 presents payout rates by industry of affiliate, and by year, from 1968 to 1992. Here, too, it is clear that the aggregate repatriation figures mask considerable variation, in this case between subsidiaries located in different countries. While the finance, insurance, and real estate industry has payout rates that are consistently below the average of all industries, and the motor vehicles industry has (in recent years) consistently higher than average payout rates, the payout rates of other industries fluctuate relative to the average. One implication of the evidence reported in Tables 2 and 3 is clear, however: aggregate payout rates are not artifacts of the behavior of subsidiaries in a small number of industries or countries, but instead reflect a general pattern in which American firms face U.S. taxation on roughly half of the after-tax income of their foreign subsidiaries.

Firms have incentives to repatriate dividends selectively, particularly when idiosyncratic tax situations make it attractive to do so.[10] While aggregate data do not reveal the extent of tax-motivated dividend repatriation, studies of individual firm behavior as revealed in tax return filings consistently report evidence of repatriation behavior that is sensitive to tax considerations. Hines and Hubbard (1990) find that, in 1984, only 16 percent of the foreign subsidiaries of American firms paid any dividends at all to their parent companies. Foreign subsidiaries were more likely to pay dividends if

[10] Firms with excess foreign tax credits have significantly lower repatriation costs than do firms with deficit foreign tax credits, but nevertheless incur some costs in repatriating dividends from lightly taxed subsidiaries, since doing so reduces foreign tax credit carryforwards and may trigger additional tax costs due to the way that home country laws allocate income and expenses for tax purposes. Grubert, Randolph, and Rousslang (1996) report that 33 percent of the income earned by foreign subsidiaries of American companies in 1984 was earned by firms with foreign tax credits; this fraction rose to 66 percent after passage of the Tax Reform Act of 1986 but fell to 35 percent by 1992.

the associated tax costs were low and if parent companies also paid sizable dividends to their common shareholders. Altshuler and Newlon (1993) report similar findings for 1986, as does Grubert (1998) for 1990, while Altshuler, Newlon, and Randolph (1995) find transitory tax costs to have much larger effects on dividend payments than do permanent tax costs in a panel of subsidiaries in 1980, 1982, 1984, and 1986.

Taken together, this evidence suggests that American multinational firms actively defer U.S. tax obligations on income earned by their foreign subsidiaries, and that the aggregate patterns mask considerable heterogeneity between individual subsidiaries in the likelihood of paying dividends. Firms presumably defer repatriation because the associated tax savings outweigh any business costs associated with deferral. The importance of deferral both to taxpayers and to governments suggests that it is worth reconsidering the rationale behind the current system of taxing foreign-source income.

4. The welfare economics of deferral.

In evaluating the effect of home-country taxation on economic welfare, it is convenient to use the following reduced form expression:

$$W = w_f F + w_d D, \tag{1}$$

in which W denotes economic welfare, F is the level of foreign investment by home-country firms, w_f is the value of foreign investment, D is the level of domestic investment, and w_d is the value of investment in the home country. Equation (1) expresses economic welfare as a function of foreign and domestic investment, so in

assigning the weights w_f and w_d, and in interpreting conditions derived from (1), it is necessary to incorporate the responses of taxpayers and governments to home country tax policies. In this formulation, W may denote the economic welfare of the home country, the aggregate economic welfare of home and foreign countries, or some other combination; of course, each of these objectives corresponds to a differing set of weights w_f and w_d.

4.1 A general analysis of deferral.

It is useful to characterize deferral of home country taxation in a continuous fashion, indexed by the parameter α, and defined so that $\alpha = 0$ corresponds to accrual taxation with deductions for foreign taxes paid while $\alpha = 1$ corresponds to indefinite deferral (which is taken to be equivalent to exempting foreign income from home country taxation). Denote the corporate tax rate in the home country by τ and the corporate tax rate in the foreign country by τ^*. The effective home country tax rate on foreign income becomes $(1-\alpha)\tau(1-\tau^*)$, and the total (home plus host country) effective tax rate on foreign investment (τ^e) becomes:

$$\tau^e = \tau^* + (1-\alpha)\tau(1-\tau^*). \tag{2}$$

Consider a small change in the home country deferral regime; differentiating (1) with respect to α yields:

$$\frac{dW}{d\alpha} = \frac{dw_f}{d\alpha} F + w_f \frac{dF}{d\alpha} + \frac{dw_d}{d\alpha} D + w_d \frac{dD}{d\alpha}. \tag{3}$$

The four terms that appear on the right side of (3) reflect the effects of changes in tax deferral provisions on the allocation of capital and on the desirability of foreign and domestic investment. Changes in the desirability of investment can be further decomposed into changes due directly to tax provisions and those that are due to investment changes induced by tax provisions. In principle, the values of w_f and w_d are functions both of tax deferral provisions and of investment levels, and can be written $w_f(\alpha, F)$ and $w_d(\alpha, D)$. Equation (3) then can be rewritten as:

$$\frac{dW}{d\alpha} = \frac{\partial w_f}{\partial \alpha} F + \left(\frac{\partial w_f}{\partial F} F + w_f \right) \frac{dF}{d\alpha} + \frac{\partial w_d}{\partial \alpha} D + \left(\frac{\partial w_d}{\partial D} D + w_d \right) \frac{dD}{d\alpha}. \tag{4}$$

One additional simplification is available by noting that the parenthetical terms on the right side of (4) represent simply the valuations of marginal foreign and domestic investment. Denoting the value attached to a marginal foreign investment by $\hat{w}_f$, it follows that $\hat{w}_f = \left(\frac{\partial w_f}{\partial F} F + w_f \right)$, and similarly for domestic investment, so (4) becomes:

$$\frac{dW}{d\alpha} = \frac{\partial w_f}{\partial \alpha} F + \hat{w}_f \frac{dF}{d\alpha} + \frac{\partial w_d}{\partial \alpha} D + \hat{w}_d \frac{dD}{d\alpha}. \tag{5}$$

The desirability of foreign and domestic investment is potentially affected by deferral – which is to say that $\frac{\partial w_f}{\partial \alpha}$ and $\frac{\partial w_d}{\partial \alpha}$ may be nonzero – because deferral influences the incentives firms have to perform valuable business operations (such as avoiding foreign taxes) that are associated with their investments.

4.2 Classic neutrality results.

In the classical analysis of capital export neutrality, the welfare effects of changes in α are due entirely to the effect of α on the allocation of capital between domestic and foreign uses. The value of w_f is taken to be the average productivity of capital located abroad, and the value of w_d is taken to be the average productivity of capital located at home. Consequently, the classical analysis imposes that $\frac{\partial w_f}{\partial \alpha} = \frac{\partial w_d}{\partial \alpha} = 0$, since welfare weights are determined by the productivity of capital and not by tax considerations *per se*.

Taking the total level of investment to be fixed, it follows that $\frac{dD}{d\alpha} = -\frac{dF}{d\alpha}$, so (5) becomes:

(6) $$\frac{dW}{d\alpha} = \frac{dF}{d\alpha}(\hat{w}_f - \hat{w}_d)$$

Since the optimal tax policy is characterized by $\frac{dW}{d\alpha} = 0$, optimality therefore implies either that $\frac{dF}{d\alpha} = 0$ (in which case home country taxation of foreign investment is

irrelevant), or that $\hat{w}_f = \hat{w}_d$. The latter follows from the function of tax policy in this framework, which is to determine the allocation of a fixed supply of capital between foreign and domestic uses.

In order to evaluate (6) it is necessary to consider the implications of tax incentives for investment. Investors allocate capital between foreign and domestic uses up to the point that the after-tax marginal product of capital equals the shadow cost of the capital resource. Denoting the marginal product of capital in domestic uses by q_d, and the marginal product of capital in foreign uses by q_f, it follows that:

(7a) $$q_d = \frac{\lambda}{1-\tau}$$

(7b) $$q_f = \frac{\lambda}{1-\tau^e}$$

in which λ is the shadow cost of capital facing investors.

Appropriate choices of $\hat{w}_f$ and $\hat{w}_d$ depend critically on whose welfare is being evaluated. Consider first the aggregate welfare of all countries added together. In this setting, without any other distortions in the economy, the value of an additional unit of domestic capital equals the pre-tax marginal product of capital in domestic uses. In the same scenario the value of an additional unit of capital employed abroad equals the pre-tax marginal product of capital used abroad. It follows, therefore, that an optimal tax policy is determined by setting $\hat{w}_f = q_f$ and $\hat{w}_d = q_d$. From (6), (7a), and (7b), it

follows that optimality requires that $\hat{w}_f = \hat{w}_d$, or $\tau^e = \tau$. From (2), $\tau^e = \tau$ implies that $\alpha = \frac{\tau^*(1-\tau)}{\tau(1-\tau^*)}$, which is equivalent to taxing foreign income upon accrual while permitting taxpayers to claim foreign tax credits.[11] Such a tax system is said to promote "capital export neutrality," since investment income is taxed at the same rate regardless of the location in which it is earned.

An alternative to global welfare maximization is exclusive concern for the welfare of the home country, which implies welfare weights that differ from those corresponding to world welfare, and naturally carries differing implications for optimal tax policy. Foreign tax obligations represent costs from the standpoint of the home country, so optimal tax policy is determined by setting $\hat{w}_f = q_f(1-\tau^*)$ and $\hat{w}_d = q_d$. From (6), (7a), and (7b), it follows that an optimal tax policy implies $\frac{(1-\tau^*)}{1-\tau^e} = \frac{1}{(1-\tau)}$, or $\tau^e = \tau^* + \tau(1-\tau^*)$. Consequently, optimal taxation from the standpoint of the home country implies $\alpha = 0$, or taxing foreign income upon accrual but after deduction of foreign taxes. Such a tax system is known as one that promotes "national neutrality."

4.3 Extensions.

The basic insight that world welfare is maximized by accrual taxation of foreign income with provision of foreign tax credits, while home country welfare is maximized by accrual taxation of foreign income after deduction of foreign taxes, is due to Musgrave

[11] Alternatively, this system is approximated by home country taxation of foreign income while permitting taxpayers to deduct foreign taxes paid (but not to claim foreign tax credits), and that permits partial deferral. The distinction between the incentives created by deferral and those created by foreign tax credits is further explored in Section 5.

(1963, 1969). The subsequent literature analyzes the implications of four extensions to the basic setup that produces these results. The first extension is the possibility that the tax policies of other governments are endogenous to home country tax policy.[12] Naturally, this consideration changes the optimal tax policy from the standpoint of a government seeking to maximize the welfare of its own residents, since it enhances the attractiveness of home country tax policies that encourage foreign governments to reduce their own taxation of inward foreign direct investment. Incorporating such spillovers in the choice of optimal tax policies requires governments to determine the direction and magnitude of any effects of home country tax policies on foreign tax policies. While the United States is a capital exporter of sufficient size potentially to influence the tax policies of other countries,[13] most capital exporting countries are unlikely to have such effects and therefore may not be influenced by this consideration. And even for the United States it is very difficult to estimate the effect of the home country tax regime on foreign tax policies.

The second extension to the setting analyzed by Musgrave is recognition of the endogeneity of saving and its heterogeneous taxation in differing countries. Horst (1980, 1982) and Dutton (1982) note that explicit consideration of saving incentives changes the optimal taxation regime to one that appropriately weights the effects of home country tax policies on both saving and investment in affected countries. Keen and Piekkola (1997)

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[12] Hamada (1966), Hartman (1977), Feldstein and Hartman (1979), Bond and Samuelson (1989), Gordon (1992), and Oakland and Xu (1996), among others, explore issues related to strategic setting of tax rates on foreign income by imperfectly competitive governments.

[13] See, for example, McLure and Zodrow (1996), who document the reluctance of the government of Bolivia to introduce a cash-flow style corporate income tax due to its potential noncreditability by American investors in Bolivia. Case-specific tax provisions, such individually-negotiated tax holidays, are more likely to be influenced by home country tax rules; see, for example, the evidence reported in Hines (1998b) concerning the effect of "tax sparing" on local tax rates in developing countries.

generalize this result to reflect the costs of distortions associated with raising tax revenues from sources other than taxing foreign investment income.

The third extension identifies domestic economic activity that is complementary to foreign investment and with which there are associated important positive economic spillovers. For example, Hufbauer (1992) calls attention to the potential complementarity of foreign investment and domestic research and development, the latter activity being notorious for generating positive externalities. More generally, Hufbauer maintains that the headquarters activities of multinational firms create a range of benefits for local economies, on the basis of which he argues in favor of less burdensome taxation of the foreign income of American multinationals. Grubert and Mutti (1995) reply by elaborating the argument of the U.S. Congress (1991) – that, in such settings, a more efficient policy than offering favorable treatment of foreign income is to provide tax incentives directly for those activities, such as R&D, that generate positive economic spillovers.

The fourth extension to the Musgrave formulation is the argument that reduced taxation of foreign investment income can effectively precommit home country firms to producing greater output, which enhances their profitability in certain imperfectly competitive markets. This claim, as advanced by Levinsohn and Slemrod (1993) and Devereux and Hubbard (1999), relies on two controversial propositions: that favorable taxation of foreign income commits home country firms to higher production levels, and that higher production levels are in fact desirable from a national standpoint.

Peggy Musgrave's analysis of the welfare economics of taxing foreign income concerns the effect of taxation on incentives to locate productive capital. These four

extensions in the subsequent literature amend her analysis in two separate ways. The endogeneity of saving, the existence of complementary activities with positive spillovers, and the ability of home governments to precommit their firms to higher production levels carry implications for the relative values of $\hat{w}_f$ and $\hat{w}_d$. In particular, these considerations suggest that $\hat{w}_f$ and $\hat{w}_d$ are affected by factors in addition to the marginal productivity of capital in different locations. Strategic tax setting between governments is a consideration of a very different kind, since its value depends on the level of F, and therefore any significant tax rate spillover effects constitute instances of nonzero $\frac{\partial w_f}{\partial \alpha}$.

5. Efficient taxation of foreign income in general settings.

The classical analysis of foreign income taxation omits several considerations that are potentially very important in evaluating the effect of deferral on national and world welfare. These considerations can be conveniently grouped according to the terms in (5) to which they correspond. Specifically, the additional considerations consist of factors that influence appropriate welfare weights to attach to marginal foreign investment induced by deferral, the effects of deferral on welfare weights for inframarginal foreign investment, and the opportunity cost of foreign investment in terms of domestic investment. Certain of these factors appear in the literature and are reviewed in the previous section; the purpose of this section is to draw attention to factors that have not received appropriate attention.

5.1 The size of $\hat{w}_f$.

As many observers note, foreign business operations may be complementary with domestic activities such as research and development, headquarters activities, corporate investment, and others that generate economic spillovers due either to their intrinsic nature or to high rates of domestic taxation. These considerations suggest that $\hat{w}_f$ exceeds the private returns to capital deployed abroad. As Grubert and Mutti (1995) argue, however, many of these activities are complementary with domestic investment to an equal or greater degree than they are with foreign investment, thereby implying that $\hat{w}_d$ also exceeds the private returns to capital deployed at home. If domestic and foreign tax rates are set optimally, then the home country tax treatment of foreign income should, by this logic, depend on the relative complementarity of foreign and domestic business operations with other activities the government seeks to encourage.

This argument recognizes that beneficial tax treatment of foreign income is costly from a government revenue standpoint, and therefore necessitates higher tax rates on other economic activity that the government would prefer not to discourage.[14] There are two separate issues that appear in this context. The first is whether the analysis of optimal tax treatment of foreign income is conducted in an environment in which the government simultaneously optimizes on all of its other tax margins. If not, then the existence of important complementarities between foreign investment and desirable domestic acivity can be a powerful argument for deferral or other favorable tax treatment of foreign income. This is in spite of the existence of alternative tax policies that would encourage such activities more directly, since these alternatives are (for some reason)

unavailable. It is worth considering, however, why it is that governments might prefer optimal tax policies for taxing foreign income while imposing suboptimal tax policies for other kinds of income.

The second issue concerning complementarities with foreign investment stems from the distinction between the behavior of multinational firms and the behavior of all other business entities. Foreign tax provisions concern the former and not the latter, and these two groups of taxpayers need not react identically to the same tax incentives. For example, if research spending by multinational firms is unusually elastic with respect to its after-tax price,[15] then the optimal tax policy is one that offers multinational firms particularly generous research credits. If it is not possible to link the research credit directly to the presence of foreign operations, a second best policy may be to encourage foreign investment by firms that are likely to claim the credit.

A different sort of complementarity emerges from the interaction of corporate finance and the individual income tax. The United States taxes corporate income twice, first at the corporate level and second at the individual level when profits are remitted to shareholders. Foreign operations of American companies that generate very little in the way of U.S. corporate tax revenue (due to a combination of foreign tax credits and deferral) may nevertheless be responsible for sizable tax revenue through the taxation of individual dividend receipts and capital gains on corporate stock. This possibility is made very realistic by the rapid growth of the fraction of after-tax corporate profits of American firms for which their foreign operations are responsible.

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[14] For numerical estimates of home country welfare gains (and world welfare losses) from the elimination of deferral combined with a revenue-neutral corporate tax reduction, see Rousslang and Pelzman (1983).

[15] See, for example, the (high) estimated responsiveness of American multinational firms to changes in the tax deductibility of their domestic research expenditures, as documented by Hines (1993). Slemrod (1991)

There is evidence that the double taxation of corporate income may be more burdensome for firms with foreign income than for those with only domestic income. The extra burden stems from the use of dividend payments to signal profitability, and comes in the form of the individual tax cost associated with corporate dividends. Firms reporting foreign profits may have greater need than do others to signal their profitability in the form of dividend payments to common shareholders, since market participants are particularly skeptical of reported earnings that may be denominated in foreign currencies, are subject to exchange rate risk, capital controls, subvention by foreign managers, and various forms of interference by foreign governments. Hines (1996a) finds that, among American firms, $1 of reported foreign profitability is associated with the same level of dividend payments to common shareholders as is $3 of reported domestic profitability. This effect is so strong that the United States receives greater tax revenue from the foreign operations of American companies by taxing individual dividend income than it does by taxing corporate income.[16] The use of dividends to signal foreign profitability, when combined with the shareholder-level tax on foreign income, raises the cost of capital for foreign investment by firms that anticipate the tax costs they will subsequently impose on their shareholders. This effect raises the value of $\hat{w}_f$, since marginal foreign investments must produce reasonable after-tax returns in addition to the individual income tax revenue they generate. Consequently, this consideration increases the attractiveness of providing deferral for the corporate-level tax on foreign income.

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considers the tax policy implications of other differences between the characteristics of firms with and without foreign operations.

[16] The estimates reported in Hines (1996a) suggest that $100 of after-tax foreign profits generates $50 greater dividends to domestic shareholders than does $100 of after-tax domestic profits. Taking individual and corporate tax rates to be roughly equal, this effect alone is equivalent to accrual taxation of half of foreign profits after deduction of foreign taxes paid.

A final issue in evaluating $\hat{w}_f$ concerns the attractiveness of inward investment to host countries. Host governments choose tax provisions on the basis of their own objectives, and their tax rates reflect considerations that can compete with the important desire to raise tax revenue without excessively discouraging inward investment. Consequently, tax rate differences between countries may be correlated with the net benefits governments perceive foreign direct investment to bring. Countries for whom the economic activity associated with foreign direct investment is most valuable, due to local economic conditions, tax policies, or other government policies, are the most likely to offer foreign investors attractive tax climates. Conversely, countries that perceive important costs to be associated with foreign direct investment are generally unwilling to try to attract foreign investment with low tax rates.

To the extent that local tax rates reflect the perceived costs and benefits of foreign investment, it no longer follows that capital export neutrality is consistent with maximizing aggregate economic welfare. The reason is that $\hat{w}_f$ then does not equal the pretax marginal product of capital invested abroad, but instead equals something closer to the after-tax marginal product of capital, since foreign tax payments compensate foreign governments for costs imposed by inward direct investment. This consideration implies that a regime of indefinite deferral of home country taxation of foreign income, in which foreign income is effectively exempt from domestic taxation, is consistent with maximizing world welfare. While it is very difficult to establish the determinants of national tax rate differences, and therefore difficult to identify the significance of this implication, it is nevertheless important to analyze the welfare properties of foreign

income taxation bearing in mind that tax rates are not randomly assigned to countries – as they are assumed to be in deriving the standard neutrality results.

5.2 The effect of deferral on w_f

Deferral of home-country taxation influences the way in which multinational firms conduct their foreign business operations, thereby influencing the valuation of foreign investment as reflected in w_f. Most notably, deferral affects the incentives firms have to avoid foreign taxes, which in turn carries important implications for home and foreign governments.

The effect of deferral on foreign tax avoidance can be illustrated by an example in which foreign income is taxed on accrual and taxpayers are entitled to claim foreign tax credits for all foreign income taxes paid (implying rebates from the home government if the foreign tax rate exceeds the home country tax rate). Taxpayers in this example are completely indifferent to foreign taxes, since a $1 reduction in foreign taxes (holding pretax income constant) reduces available foreign tax credits by $1 and thereby merely creates an offsetting increase in domestic tax obligations. Consequently, firms will structure domestic and foreign operations to maximize pretax profits, since doing so also maximizes after-tax profits. They will ignore (possibly not even claim) tax credits provided by foreign governments, forego opportunities to locate production in offshore tax havens, eschew the use of debt contracts or other devices to allocate taxable income to low-tax jurisdictions, and avoid other activities that would normally serve to reduce tax burdens but entail modest costs in terms of lost pre-tax profitability.

The removal of incentives to avoid foreign tax obligations is potentially costly to a home country government that provides foreign tax credits, since foreign tax avoidance generates greater home country tax revenue by reducing the foreign tax credits that taxpayers are eligible to claim. Consequently, the provision of deferral increases the value of w_f from the standpoint of the home government. At least three separate methods of foreign tax avoidance are widely practiced and may be influenced by the home country tax regime, of which the most obvious is the choice to locate foreign investment in low-tax foreign jurisdictions. There is extensive evidence that foreign direct investment is concentrated in low-tax countries,[17] and also indications that the location of investment is influenced by the interaction of home country and host country tax regimes.[18]

A second method used by multinational firms to avoid foreign taxes is to reallocate taxable income between taxing jurisdictions. Such reallocation can take many forms, including the judicious use of debt and royalty contracts as well as the tax-sensitive adjustment of transfer prices for transactions between related parties. As with the location of foreign direct investment, there is extensive evidence that tax considerations influence patterns of reported profitability, though perhaps not as much as is feared in enforcement circles.[19]

The third method of foreign tax avoidance is common to all taxpayer situations, consisting simply of responsiveness to concessions offered by foreign governments. The

[17] See, for example, Grubert and Mutti (1991), Hines and Rice (1994), and Hines (1998b). This literature is reviewed in Hines (1999).
[18] See, for example, Swenson (1994) and Hines (1996b).
[19] See the evidence reviewed in Hines (1999).

reaction of American investment to favorable tax opportunities in Puerto Rico is perhaps the best documented example of such responsiveness,[20] but it is by no means unique.

There exists a fourth channel through which deferral encourages the avoidance of foreign taxes, though its quantitative significance is not well understood. This channel is the international relocation of corporate tax homes. U.S. taxation of the repatriated foreign income of American companies makes it more expensive for a firm with foreign income to be incorporated in the United States than for the same firm to be incorporated in countries that exempt foreign income from taxation. Hines (1991) and Collins and Shackelford (1995) estimate the tax savings available to firms that move their tax homes from countries that tax foreign income to countries that do not. The availability of deferral reduces the potential saving, thereby mitigating the incentive for such movement and consequently preventing taxpayers from incurring various costs in order to escape home country taxes on foreign income.

Deferral of home country taxation of foreign income increases the incentives for home country firms to use these methods to avoid foreign taxes. Viewed parochially, home country interests are consistent with avoiding foreign taxes, since such taxes represent costs – like any other – of undertaking foreign investment. To the extent, however, that altruistic, diplomatic or other considerations encourage the home government to internalize the effect of its policies on the welfare of foreign countries, the impact of foreign tax avoidance on w_f is greatly attenuated, since aggregate (home plus foreign) tax burdens are little affected. In such a setting, deferral-induced foreign tax avoidance can be detrimental to national interests, since such avoidance typically entails resource costs on the part of the firms involved. Also, there is the realistic possibility that

[20] See, for example, Bond (1981) and Grubert and Slemrod (1998).

deferral could so enhance the attractiveness of locating profits in low-tax foreign jurisdictions that companies respond by reallocating taxable income out of the home country. The available evidence, while consistent in its message that reported taxable profits are sensitive to their tax treatment, is insufficient to establish whether there is greater responsiveness of the distribution of taxable income between domestic and foreign locations or its allocation among foreign locations.

5.3 The tradeoff between foreign and domestic investment.

Musgrave draws attention to the fact that an important cost associated with foreign investment is that capital invested abroad cannot also be invested domestically. As subsequent commentors observe, the tradeoff between foreign and domestic investment need not be one-for-one, since the supply of investment funds is endogenous to its rate of return. There are two additional, and mutually countervailing, reasons to expect a tradeoff between foreign and domestic investment that is something other than one-for-one. The first of these reasons is that the availability of deferral encourages investors to undercapitalize their foreign operations initially in order to create opportunities for profitable subsequent active reinvestment of retained earnings. If, when faced with attractive foreign investment opportunities, American multinational firms were to respond by capitalizing their foreign operations to desired steady state levels, then subsequent foreign profits would either have to be immediately repatriated (thereby removing the benefits of deferral) or else reinvested abroad in projects with below-market rates of return. Anticipating this outcome, firms have incentives to undercapitalize their foreign operations initially. These incentives, which are analyzed in

greater detail by Newlon (1987), Sinn (1993), and Hines (1994), imply that anticipation of deferral reduces the initial capital outlay firms make to fund their foreign operations, thereby mitigating the effect of foreign investment on the size of the domestic capital stock.

The second reason for other than a one-for-one tradeoff between foreign and domestic investment comes from the effect of foreign tax credits and deferral in encouraging foreign investment and thereby worsening the conflict of interest between bondholders and shareholders of multinational firms. Multinational firms with nonzero probabilities of default due to the riskiness of their domestic business operations will, from the standpoint of their bondholders, invest too much of their capital abroad when foreign tax credits and deferral are available.

Consider, for example, the case in which the foreign tax system is identical to the home country tax system, so that the provision of foreign tax credits implies that there is no net domestic taxation of foreign income. Shareholders, who control the corporation, will equate the after-tax marginal products of capital in foreign and domestic investments, which in this case is identical to equating the pre-tax marginal products as well. The problem is that, from the standpoint of the firm's bondholders, this is not the optimal investment rule. A multinational firm that defaults in its home country pays no domestic taxes (since its taxable income is negative) but nevertheless must pay foreign taxes on income earned by any profitable operations abroad. Bondholders, who are the residual claimants on the firm's assets in the event of default, prefer that the corporation invest up to the point that the after-foreign-tax marginal product of capital invested abroad is equal to the pre-tax marginal product of capital invested at home. Anticipation

that shareholders will not accommodate this preference increases the default premium on corporate debt, raising borrowing rates and thereby making all investment more costly. This conflict between the interests of shareholders and bondholders therefore implies a tradeoff between foreign and domestic investment beyond the simple tradeoff due to the allocation of a fixed supply of capital. This effect, which is analyzed in greater detail by Hines (1998a), can be so powerful that, in realistic situations, and with a perfectly elastic supply of saving, more generous tax treatment of foreign income can reduce total (domestic plus foreign) investment even though it encourages foreign investment.

5.4 Evaluating deferral in the second best.

The first best analysis of the welfare economics of taxing foreign income entails three simplifications that warrant careful reconsideration. The first is the relative valuation of marginal investment at home and abroad, which the classical analysis takes to be equal to tax-adjusted marginal products of capital. Upon closer consideration, there is a strong presumption that such calculations understate the relative value of foreign investment and therefore understate the attractiveness of deferring home taxation of foreign income. The second simplification of the first best approach is its omission of any effect of deferral on the value of inframarginal foreign investment. Incorporating the effect of deferral on the behavior of foreign governments and on tax avoidance by home country firms again enhances the attractiveness of permitting deferral. The third simplification is the assumption that foreign investment offsets domestic investment on a one-for-one basis. This assumption is clearly too simple, though it is unclear what implications a more complete analysis might have for the value of deferral.

6. Conclusion.

Musgrave's classic analysis of the welfare economics of international taxation has a powerful logic that cautions against deferring home country taxation of foreign income. According to its reasoning, governments concerned with the welfare of their own residents should permit tax deductions for foreign tax payments, while those that internalize the effect of their own tax policies on the welfare of other countries should grant foreign tax credits; in both cases foreign income should be taxed upon accrual. The United States joins many other countries in not following this advice. American taxpayers are entitled to defer U.S. taxation of their foreign income, and each year U.S. taxes are deferred on roughly half of the income earned by the foreign subsidiaries of American multinational corporations.

Musgrave's first-best simplification of the problem of taxing foreign income omits many important second-best considerations that mitigate in favor of allowing deferral. In the Musgrave framework, the taxation of foreign income functions only to reallocate a fixed stock of capital between home and abroad, the value of which equals its tax-adjusted marginal product of capital. In actual international tax practice, the function of home country taxation of foreign income is considerably broader, in particular encompassing its role in mitigating disincentives for international tax avoidance. In addition, the realities of international taxation suggest that the value of additional foreign investment exceeds its marginal private product, and that the tradeoff between foreign and domestic investment is something other than one-for-one.

Normative economic reasoning can and should be applied to timely tax policy problems, including the taxation of foreign income. It is, however, necessary to consider all relevant aspects of these problems. Musgrave's analysis of foreign income taxation is an excellent starting point for a comprehensive examination that takes into consideration the second best nature of taxation, and that is likely to offer a more favorable assessment of deferral. This is an important task that would be unwise to defer.

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Table 1: Dividends Paid and Subpart F Income as Percentages of After-tax Earnings and Profits, for All Industries, by Year

	1992	1986	1984	1982	1980	1976	1974	1972	1968
Dividends Paid (percent)	81	41	41	46	34	32	49	48	43
Subpart F Income (percent)	26	11	15	20	8	6	3	1	1
After-tax Earnings and Profits ($)	51,141	37,556	28,928	22,995	30,956	14,819	13,210	9,727	4,600

Note: Dollar figures are millions of current dollars. Dividend data for 1992, 1986,1984,1982, and 1980 represent dividends paid to American parents and their domestic subsidiaries, whereas dividend data for 1974, 1972, and 1968 represent dividends paid to American parent corporations and their subsidiaries, including foreign subsidiaries.

Data for 1968, 1972, and 1980 are estimated using a stratified sample of corporate returns with sampling weights of unity for subsidiaries of corporations with total assets of $250 million or more; data for 1976, 1982, and 1984 represent subsidiaries of corporations with total assets of $250 million or more; data for 1986 and 1992 represent the 7,500 largest subsidiaries of corporations with total assets of $500 million or more.

Table 2: 1992 Dividends Paid (to US Parent Corporations and their Domestic Subsidiaries) and Subpart F Income as Percentages of After-tax Earnings and Profits, for All Industries, by Country

	Dividends Paid as a Fraction of After-tax Earnings and Profits	Subpart F Income as a Fraction of After-tax Earnings and Profits	After-tax Earnings and Profits, $ millions
All countries	81	26	51,141
Bahamas	64	63	568
Belgium	62	46	1,732
Bermuda	70	73	1,878
Brazil	37	18	1,909
Canada	124	19	2,135
Cayman Islands	115	28	1,101
France	78	15	1,924
Germany	173	33	4,055
Hong Kong	46	37	2,025
Ireland	47	19	2,100
Italy	83	18	1,806
Japan	10	3	15,558
Mexico	31	9	2,249
Netherlands	134	17	5,267
Switzerland	71	52	2,724
Singapore	35	14	1,142
United Kingdom	43	13	8,181

Note: dollar figures are millions of current dollars. Data represent the 7,500 largest subsidiaries of corporations with total assets of $500 million or more in 1992.

Table 3: Dividends Paid and Subpart F Income as Percentages of After-tax Earnings and Profits, by Industry

	1992 Dividends [SFI]	1986 Dividends [SFI]	1984 Dividends [SFI]	1982 Dividends [SFI]	1980 Dividends [SFI]	1976 Dividends [SFI]	1974 Dividends [SFI]	1972 Dividends [SFI]	1968 Dividends [SFI]
All industries	81 [26]	41 [11]	41 [15]	46 [20]	34 [8]	32 [6]	49 [2]	48 [1]	43 [1]
Mining	52 [11]	87 [9]	48 [7]	52 [7]	11 [1]	37 [6]	24 [0]	31 [12]	23 [0]
Construction	41 [9]	93 [28]	36 [5]	38 [11]	24 [19]	11 [4]	15 [0]	35 [8]	33 [4]
Manufacturing	85 [12]	42 [5]	41 [6]	43 [31]	28 [10]	34 [6]	51 [3]	35 [1]	45 [1]
Food	61 [6]	36 [6]	33 [5]	43 [13]	25 [8]	34 [4]	46 [1]	30 [2]	48 [2]
Chemicals	51 [7]	29 [5]	32 [12]	51 [33]	33 [18]	39 [10]	46 [1]	33 [1]	47 [2]
Petroleum	123 [20]	10 [16]	33 [5]	26 [29]	22 [12]	32 [13]	51 [6]	44 [0]	84 [0]
Nonelectrical machinery	-113 [-26]	56 [1]	43 [4]	66 [75]	13 [10]	34 [1]	50 [1]	39 [0]	32 [2]
Electronic equipment	43 [15]	21 [6]	26 [4]	38 [9]	39 [32]	38 [5]	43 [2]	16 [1]	24 [2]
Motor vehicles	98 [11]	78 [1]	118 [3]	333 [1100]	n/a	25 [1]	161 [2]	43 [0]	41 [2]
Transportation and public utilities	59 [17]	18 [18]	89 [38]	85 [143]	9 [2]	34 [3]	35 [2]	11 [1]	24 [5]
Trade	110 [31]	37 [7]	56 [13]	87 [7]	27 [2]	41 [4]	36 [2]	15 [0]	26 [1]
Finance, Insurance, and Real Estate	70 [45]	35 [29]	27 [41]	32 [5]	8 [1]	18 [4]	48 [5]	27 [1]	39 [7]
Services	123 [50]	32 [12]	25 [14]	42 [2]	16 [1]	25 [6]	83 [14]	27 [1]	36 [5]

Note: Dividend data for 1992, 1986,1984,1982, and 1980 represent dividends paid to American parents and their domestic subsidiaries, whereas dividend data for 1974, 1972, and 1968 represent dividends paid to American parent corporations and their subsidiaries, including foreign subsidiaries.
Data for 1968, 1972, and 1980 are estimated using a stratified sample of corporate returns with sampling weights of unity for subsidiaries of corporations with total assets of $250 million or more; data for 1976, 1982, and 1984 represent subsidiaries of

corporations with total assets of $250 million or more; data for 1986 and 1992 represent the 7,500 largest subsidiaries of corporations with total assets of $500 million or more.