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Recent Developments in the Debate on Deferral

by

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The provisions of Subpart F are under attack. This exceedingly complex part of the tax code determines whether profits earned abroad by U.S. corporate investors qualify for deferral. One side of the debate argues that deferral leads to an inefficient allocation of capital by favoring investment in low-tax locations abroad over investment in the United States and encourages tax avoidance behavior at the U.S. Treasury's expense. Proponents of this view would support the elimination of deferral, or as an incremental reform, the expansion of the class of income subject to accrual taxation. The other side of the debate argues that the lighter taxation of foreign relative to domestic source income is necessary in today's global economy where U.S. firms face increasing competition from foreign firms. This side would support an expansion that would exempt a broader set (if not all) of active income from U.S. taxation.

Traditionally, the debate over deferral has focused on which of two efficiency goals the U.S. tax code should support: *capital export neutrality*, under which tax considerations play no role in an investor's allocation of capital between domestic and foreign jurisdictions, and *capital import neutrality*, under which all investments in a country face the same tax burden regardless of the residence of the investor. The problem is that these two efficiency goals are mutually exclusive in a world in which effective tax rates vary across countries. The current U.S. tax system can be seen as a compromise between these two goals --- neither capital export nor capital import neutrality obtains. This hybrid nature of the tax code makes it difficult to predict the efficiency and revenue consequences of any reform of Subpart F.

In this paper, I attempt to bring the debate over deferral up to date. The paper is divided into three sections. The first starts with a review of traditional models of international tax systems to provide a basic understanding of the efficiency consequences of deferral. This section then proceeds to evaluate some of the theoretical arguments for deferral that have appeared in the most recent economic literature. The second section provides a brief overview of current U.S. tax policy toward foreign source income. This review provides the background necessary to evaluate results from the empirical economic literature on the impact of taxes on multinational firms. The third section explores how firms' economic behavior is affected by the availability of deferral on active profits. Understanding the behavioral responses of firms to home and host country taxation is necessary to evaluate the efficiency and revenue aspects of changes to the current

deferral regime. As in the first section, the focus is on the most recent evidence available in the economic literature.

1. Is there an economic rationale for deferral?

Before examining the more recent economic work on the optimal taxation of foreign source income, it is useful to briefly review the lessons from traditional models. Countries have historically chosen between source and residence-based methods of taxing international income and economists have primarily focused on the efficiency consequences of this choice. Under a pure source-based system of taxation, countries tax all income generated within their border (upon accrual), regardless of the home country of the investor. This system is also referred to as a "territorial" system. Under a pure residence-based system, countries tax all income of resident investors (upon accrual), regardless of whether the income is foreign or domestically generated.

Although much of the theoretical tax literature has addressed the optimality of these two different tax systems, in practice, no country actually employs a pure version of either system. All countries exert the right to take the first crack at taxing the profits earned within their borders.¹ This creates the potential for the double taxation of foreign source profits. The difference between tax systems across countries is the extent to which home countries tax the profits earned abroad of resident investors and the type of double taxation relief granted if foreign profits are taxed. Although none of the countries that tax foreign source profits grant unlimited foreign tax credits, the relief from double taxation can be so generous that it effectively transforms a residence-based system into a territorial system. Postponing the tax liability on foreign source profits through deferral also decreases the extent to which foreign profits are taxed under residence systems. If firms are able to indefinitely defer taxes on all foreign source income, the system is effectively source-based.

1.1 The efficiency properties of pure source- and residence-based taxation

Although neither pure residence or source systems exist in practice, it is useful to review the efficiency properties of these systems. In what follows I assume that the goal of policy-makers is to maximize worldwide welfare.² The standard result is that a pure residence system ensures efficiency in investment location decisions while a pure source system preserves efficiency in savings decisions. To understand this result consider a simple model in which investors must make two decisions: (1) how much to save and (2) how to allocate this savings across locations.³ Start by focusing on the second decision: how to allocate a given level of investment across countries to maximize income. For simplicity, assume there are two countries, A and B. Let the value of the marginal product of capital in country i be VMP_i where i subscripts the location of capital (i equals A or B). The VMP is the value of the additional output produced from each unit of capital. Assume that as more capital is located in a country, its incremental value decreases (the VMP schedules are downward sloping).

If investors allocate capital to maximize total incomes, then the value of the marginal product of capital in the two countries will be equal in equilibrium. As a result, the allocation of capital will be globally efficient in that no reallocation of capital across locations can increase incomes of investors. Savings decisions are also undistorted in the no-tax equilibrium. Since factors are paid according to the value of their marginal products (under the assumption of competitive pricing), the returns to capital will be equal across locations. No reallocation of the returns to savings across investors resident in different countries can increase global welfare.

¹ Some countries do provide tax holidays or grant tax sparing in an effort to attract foreign investment.

² An alternative goal is the maximization of national income. In this paper, I focus primarily on models that consider both the welfare of domestic and foreign residents relevant for setting tax policy. It is interesting to note that following a national perspective would result in optimal tax rates on foreign source income that exceed the rates prescribed by policies that ensure capital export or import neutrality. This is because foreign taxes are considered costs of employing capital abroad instead of an offset to U.S. taxes. Optimal tax policy from a national standpoint therefore requires that foreign income be taxed upon accrual but after a deduction, not a credit, for foreign taxes. This raises the effective tax rate on foreign source income relative to a system that allows credits for foreign taxes paid abroad (or exempts this income from home country taxation). Recent work taking a national perspective shows that allowing for imperfect competition in foreign markets may create a role for deferral taxation (see Devereux and Hubbard 1999).

³ It should also be noted that taxes can affect a third decision: whether to reside in country A or in country B.

Now consider how the allocation of capital across countries will be affected by taxes on the returns to capital. An equilibrium in the presence of taxes requires that (1) the after-tax returns in each country are equal for investors resident in country A and (2) the after-tax returns in each country are equal for investors resident in country B (otherwise arbitrage opportunities would exist).

Efficiency properties of residence-based systems

Consider the after-tax return to capital for investors in a world in which both countries impose a pure residence system. Let the tax applied to foreign and domestic source income be t_A in country A and t_B in country B. In equilibrium, the after-tax return to investment in country A must equal the after-tax return to investment in country B for investors resident in country A: $(1-t_A)VMP_A = (1-t_A)VMP_B$. The same must be true in equilibrium for investors resident in country B: $(1-t_B)VMP_A = (1-t_B)VMP_B$. Under this tax system, both the pre-tax and post-tax returns to capital will be equal across countries in equilibrium and, as a result, the allocation of capital is efficient. Even if taxes are not the same in the two countries, the residence system does not distort the location of investment. This system of taxation is said to preserve *capital export neutrality* --- investors pay the same level of taxes on investment returns regardless of the location of their investments. Note that the same efficiency result will obtain in a world in which source countries exert the right to tax returns to capital within their border, as long as the residence system allows full credits for taxes paid to source countries and taxes foreign source earnings upon accrual.

Although the allocation of capital across countries is not distorted by the differential taxes in countries A and B under the pure residence system (or the residence system with credit), the savings decisions of investors are distorted. Assume that the tax rate on capital income in country B is lower than that in country A ($t_A > t_B$). This means that investors resident in country B receive a higher after-tax return on their savings than that received by investors with residences in country A. As a result, savings decisions are distorted; residents in country A save too little, while those in country B save too much. Welfare would be increased if returns from savings were transferred from residents of country B to residents of country A. This is a violation of intertemporal exchange efficiency. This efficiency concept, called *capital import*

neutrality in the literature, requires that all investments in a country face the same tax rate regardless of the resident of the investor.

Notice that allowing investors to defer home country taxation of foreign source income under the residence systems described above violates capital export neutrality. At the same time, deferral can move a residence system closer to one in which capital import neutrality is preserved. Residence systems that allow indefinite deferral of foreign source profits provide the same efficiency properties as pure source systems.

Efficiency properties of source-based systems

Now consider the introduction of pure source-based taxation: investors pay taxes only in the country in which capital income is earned. Assume again that t_A is greater than t_B . The after-tax returns to capital invested in country A for an investor resident in country A are $(1-t_A)VMP_A$. The after-tax returns for this same investor generated from capital located in country B are $(1-t_B)VMP_B$. Since the VMPs were initially equal (in the pre-tax equilibrium) the imposition of these taxes will induce capital to flow to country B where the after-tax return is higher. Capital export neutrality is violated. The flow of capital from country A into country B leads to a decrease in VMP_B and an increase in VMP_A (if the supply of capital is fixed). An equilibrium results when the after-tax returns are equalized across countries. However, since tax rates are not equal, in the resulting equilibrium pre-tax returns will not be equal. Capital is allocated inefficiently since the pre-tax return in country A will be higher in equilibrium than the pre-tax return in country B. A reallocation of investment from country B to country A would increase total income; as a result, worldwide welfare is not maximized. Notice, however, that unlike under a pure residence system, investors from country A receive the same after-tax returns to investment in country B as investors resident in country B under a source system. Capital import neutrality does hold.

Choosing between capital export and capital import neutrality

Since both efficiency concepts can not be satisfied simultaneously in a world with differential taxation, a compromise must be made. The choice is between a tax structure that distorts the allocation of

savings across different investments and one that distorts the level of overall savings. If, due to some pre-existing distortion (an income tax, for example), domestic savings is inefficiently low, then a tax system that preserves capital import neutrality will increase savings by favoring foreign investment. If, however, the allocation of savings is also affected by taxation (the demand for capital is elastic), then whether pursuing a policy of capital import neutrality is optimal depends on the gains to efficiency brought about by the increase in savings relative to the efficiency losses generated from the inefficient allocation of investment. The possibility that the net welfare gains achieved could be positive supplies a rationale for a policy like deferral, for example, in which the effective tax rate on foreign investment income is lower than on domestic investment income. If, however, there is no pre-existing distortion to savings (in the case in which the supply of capital is inelastic and therefore not affected by income taxes, for example), optimal taxation calls for a policy that preserves capital export neutrality.

An influential paper by Horst (1980) argues that optimal taxation requires the equality across countries of a weighted average of the pre-tax and post-tax returns to capital (the social opportunity cost of capital).⁴ The weights are determined by the elasticities of capital demand and supply. In the case in which the demand for capital is fixed in each country there is no role for tax policy to affect the allocation of savings and source-based taxation (in which capital import neutrality is preserved) is optimal. If, instead, the supply of capital in each country is fixed, residence-based taxation (in which capital export neutrality is preserved) is optimal. One interpretation of this result in the literature is that capital export neutrality should be favored since the supply of capital is generally thought to be less elastic than the demand for capital. The bottom line, however, is that the optimal tax on foreign source income is likely to be somewhere between zero and the home country tax rate on domestic income. One could argue that this provides an economic rationale for deferral.

The subsequent literature has highlighted the drawbacks of the Horst model (see, among others, U.S. Congress 1991, Grubert and Mutti 1995 and, most recently, Keen and Piekkola 1997). To understand the criticism of the model, start by examining the case for capital import neutrality. As U.S. Congress

(1991) points out, a reduction of taxes on both domestic and foreign source income is a more efficient way to increase savings than an equal revenue yield reduction in foreign rates. This is obvious since the former policy does not distort the allocation of capital while raising savings. In Horst's model, the tax rate on domestic income is assumed to be fixed and thus a reduction in the rate on foreign income is attractive since it raises savings. As Grubert and Mutti (1995) explain, if the tax rate on foreign income were held fixed, "...one might similarly conclude that the tax on domestic income should be lowered to stimulate savings (page 442)."⁵

Even in the presence of a pre-existing distortion to domestic savings, the requirements for a policy of capital import neutrality to raise economic efficiency are quite strong.⁶ To ensure an efficient allocation of capital, the tax rate imposed on foreign source income must be zero and the increase in outbound investment generated by reducing the tax on foreign source income must have no impact on domestic investment. This leads the Joint Committee on Taxation, in U.S. Congress (1991), to conclude that "...the economic arguments favoring capital import neutrality are considerably more tenuous than those in support of capital export neutrality (page 248)."

A recent paper by Keen and Piekkola also questions the assumptions in the Horst model (Keen and Piekkola 1997). They show in a formal model that the Horst results require that, for some unknown reason, governments persist in imposing distortionary taxes on domestic income even when they are able to raise revenue with first-best lump-sum taxes.⁷ Somewhat surprisingly, a version of the Horst optimal tax rule does emerge from the Keen and Piekkola framework. In their model, lump-sum taxes are not available as tax instruments while taxes on domestic and foreign income are unconstrained. They find that the optimal taxation of foreign source income depends on both elasticities of capital demand and supply *and* on the rates

⁴ Horst (1980) builds on the work in Musgrave (1969).

⁵ See also Gravelle (1994), footnote 1, chapter 10.

⁶ U.S. Congress (1991).

⁷ This is discussed informally in Keen (1992).

at which pure profits (economic rents) are taxed.⁸ Interestingly, Horst's extreme results do continue to hold in this model. For example, if capital supplies are inelastic, residence taxation is optimal. The lesson of Keen and Piekola is that the choice between policies preserving capital export and import neutrality must take into account the impact of taxes on foreign source income as well as other tax instruments on cross-border investment flows. This, of course, makes the choice between residence and source-based taxation more difficult given the additional information required. It also points out that the trade-off between capital export and import neutrality can continue to exist in more sophisticated optimal tax models.

1.2 Some recent economic arguments for favoring capital import neutrality

The debate over deferral can be viewed as a conflict between adopting capital export neutrality or capital import neutrality as a policy goal. For example, two interesting recent publications have presented economic arguments that provide support for moving the U.S. system towards one that more closely preserves capital import neutrality (for active foreign source income). The National Foreign Trade Council report, NFTC (1999), objects to many of the revisions to Subpart F that have occurred since its enactment in 1962 and recommends an expansion of deferral to a broader set of active foreign source income. The report is based mostly on competitiveness grounds, but also calls for a serious re-evaluation of the relevance of capital export neutrality.⁹ Hines (1999a) argues that in a more realistic second best setting it is possible that favoring foreign over domestic investment can improve economic efficiency. He presents a variety of interesting economic arguments for deferral.

⁸ For example, ceteris paribus, a lower tax on pure profits in a capital importing country increases the attractiveness of source-based taxation from an efficiency standpoint. In this situation, source taxation acts as a substitute for pure profit taxation.

⁹ The NFTC report presents five arguments against pursuing capital export neutrality (CEN): (1) CEN can not be achieved unilaterally, (2) CEN can not be achieved by focusing solely on direct investment, (3) CEN has not really been followed by the United States, (4) the economics literature casts serious doubt on the viability of CEN as a matter of economic theory and (5) strict adherence to CEN principles drives the government to adopt counter-intuitive positions that seem to sacrifice the interest of the U.S. fisc in favor of the interests of countries with relatively high rates of tax (see pages xi - xiii).

Both NFTC (1999) and Hines (1999a), among others, argue that the traditional models used to evaluate the taxation of foreign source income are not rich enough for policy analysis.¹⁰ Theoretical models should incorporate the reality that (1) policies that seek to maximize worldwide welfare may not succeed in a world in which some countries set taxes to maximize national welfare, (2) foreign investment may generate important positive externalities at home, (3) portfolio income may play an important role in allocating capital across locations (making capital export neutrality obsolete), (4) tax avoidance behavior may actually benefit home countries, and (5) foreign investment may not offset domestic investment on a one-for-one basis.¹¹ It is instructive to think about the conditions under which some of these recent arguments for deferral would find support in second-best models. Within this context, I comment on the first three points below. The last two are briefly discussed in section 3.

The NFTC Report contends that it is ill-advised to pursue capital export neutrality in a world in which only some countries set tax policy to maximize global welfare. This argument suggests that U.S. tax policy is chosen in the presence of pre-existing distortions. If the initial allocation of capital is not efficient, due to other countries choosing tax policies that maximize national income or preserve capital import neutrality, then preserving capital export neutrality for U.S. investors may actually increase efficiency losses (lead to an even more inefficient allocation of capital). Although this argument seems economically sound, it is likely that a model that generates this result would also show that pursuing capital export neutrality unilaterally may *decrease* efficiency costs depending on assumptions concerning the underlying economic parameters. In other words, it is likely that the NFTC argument will find unambiguous support only in a restricted model.

Another issue that is raised in the NFTC Report concerns the role of portfolio investment in models of optimal taxation.¹² The report argues that the empirical significance and mobility of portfolio capital

¹⁰ Also see the discussion in Goodspeed and Witte (1997), for example.

¹¹ There is a literature on strategic tax policy that considers the impact of home country tax policy on the tax policies of other governments. In these models, governments set tax policy to maximize national welfare, not global welfare. I have ignored this literature since the focus of this selective review is on results of analyses that consider the welfare of both foreign and domestic residents relevant for tax policy.

¹² See also Hufbauer (1992).

makes it neither sufficient nor necessary to pursue capital export neutrality as a means of maximizing global welfare.¹³ Grubert and Mutti (1995), not discussed in NFTC (1999), examine this line of argument within the context of an optimal tax model.

Grubert and Mutti (1995) ask whether the perfect mobility of portfolio capital and/or the presence of positive externalities generated by the R&D and other headquarters services of U.S. multinationals makes capital export neutrality an obsolete guide to U.S. tax policy. They introduce both portfolio flows and R&D capital into a traditional model and derive formulas for optimal tax rates on domestic and foreign income. The question is whether foreign income should be tax favored. Grubert and Mutti start by assuming that the government is in a setting in which taxes on domestic and foreign source income are chosen to maximize worldwide welfare subject to a revenue constraint. There are two countries, the U.S. and the "rest of the world" and three goods: domestically produced goods (D), goods produced abroad by U.S. affiliates (F), and foreign produced goods (L). There is no corporate level tax abroad and shareholder level taxes are assumed to be equal for all investments (and therefore play no role in the analysis). Portfolio capital is assumed to be perfectly mobile. Shareholders in either country can invest in U.S. companies at home or abroad and in foreign companies.¹⁴

The model is second best since the U.S. government can only tax the income earned by U.S. firms (L is produced abroad by foreign firms). Grubert and Mutti remind us that the solution to this problem goes back to the classic work of Cortlett-Hague (1953-54). Since income earned on foreign produced goods is not taxed, worldwide efficiency requires that the U.S. impose higher (lower) taxes on their complements (substitutes).¹⁵ The question is whether a reduction in the tax on foreign income will lead to a greater

¹³ The NFTC report does not provide evidence that portfolio income is perfectly mobile.

¹⁴ In equilibrium there is one worldwide after-corporate tax rate of return. Grubert and Mutti assume that only equity shares of companies are available. U.S. shareholders are assumed to invest so that the after-tax return earned by investing abroad in F through a U.S. company is equal to the return from investing in L through a foreign company (direct investment and portfolio investment is perfectly substitutable from the shareholders viewpoint). Foreign shareholders behave analogously (equating the after-tax rate of return in foreign and U.S. shares). U.S. companies, acting on behalf of their shareholders, are assumed to equate the after-tax return in D and F production.

¹⁵ Cortlett-Hague (1953-54) demonstrates that optimal tax policy calls for taxing the good that is most complementary to the untaxed good at a higher rate. This allows the U.S. to indirectly tax L, lower demand, and produce the most efficient allocation given the constraints on the tax instruments available. The analogy is setting taxes on commodities

decrease in the demand for foreign produced goods (and the capital used by foreign firms) than a reduction in the tax on domestic income. In other words, is the (compensated) cross-price elasticity of demand between F and L greater than between D and L? If so, the U.S. should favor foreign over domestic production.

Grubert and Mutti use U.S. Department of Commerce data to calculate, for U.S. multinationals, the significance of import and export competing goods to domestic and foreign sales. They conclude that there is no a priori reason to expect that foreign produced goods (L) are better substitutes for goods produced abroad by U.S. firms (F) than goods produced domestically by U.S. firms (D). This suggests that there is no convincing case for a departure from capital export neutrality (equal U.S. tax rates on D and F) --- competitiveness concerns in the export market do not dominate competitiveness concerns in the import market. Note that the presence of perfectly mobile portfolio capital does not change this result since it does not affect the substitutability between D and L or between F and L.¹⁶

Grubert and Mutti also address the argument that foreign direct investment creates positive externalities and therefore should be tax-favored. This argument stresses the benefits of foreign investment to U.S. R&D and the benefits of headquarter activities to home economies.¹⁷ The question in the Grubert and Mutti framework is whether a reduction in the tax on the foreign income of U.S. firms will lead to a greater increase in R&D (which leads to greater U.S. output at home and abroad) than a reduction in the tax on domestic income. Based on simulation analysis, Grubert and Mutti conclude that "...there is no general presumption that cutting the tax on foreign-source income provides the greatest incentive to perform more R&D (page 447)."¹⁸ Furthermore, it is well-known that subsidizing the spillover producing activity directly

in a world in which leisure can not be taxed. The Cortlett-Hague prescription is to put a higher tax on the good that is most complementary to leisure.

¹⁶ The U.S. taxation of corporate income affects the prices of U.S. goods produced both at home and abroad relative to foreign produced goods. As a result, the effect on the relative prices of U.S. versus foreign produced goods will be greater and the burden on U.S. shareholders will be lower if portfolio capital is perfectly mobile.

¹⁷ See the arguments in Hufbauer (1992) and Frisch (1990).

¹⁸ The assumptions for this conclusion are that demand for U.S. products is more elastic in foreign than domestic markets and that R&D has more of an effect on sales in the domestic market.

through the R&D credit, for example, is more efficient than indirectly, through a lower rate on foreign-source income.

Hines (1999a) adds a different twist to the positive externality argument: what if the R&D expenditures of multinational firms are more responsive to changes in the after-tax price of R&D than domestic firms?¹⁹ Efficiency concerns would dictate that the optimal credit or subsidy available to firms with foreign operations should be higher than that available to purely domestic firms. What if it is not feasible to provide research subsidies only to firms with overseas operations? Hines argues that an appropriate second-best policy may be deferral since it encourages investment by firms that are more likely to engage in R&D. However, the bulk of the current research credit may, in fact, be claimed by multinational firms. If this is the case, the credit is well targeted. Changes to the R&D allocation rules may also raise the R&D expenditures of firms with foreign operations in a more efficient manner than deferral.²⁰

In summary, the presence of positive externalities, perfectly mobile portfolio capital, and countries pursuing policies that do not preserve capital export neutrality, does not provide a particularly strong case for abandoning capital export neutrality as a policy goal. However, the work discussed so far does indicate that there are conditions under which policies that favor foreign over domestic investment may result in an optimal allocation of capital.²¹ Some balance between capital export and import neutrality is most likely optimal from an efficiency standpoint.

One conclusion from the review so far is that the results from the current optimal tax literature alone are not likely to resolve either the debate between pursuing capital export or import neutrality as a policy goal or the current debate on deferral. This is not only due to the difficulty in implementing the prescriptions from optimal tax models. The problem is that the models discussed so far focus only on

¹⁹ Evidence from Hines (1993) suggests that R&D in multinational firms is quite sensitive to its after-tax cost.

²⁰ The R&D allocation rules raise the price of R&D for firms in excess credits. Hines finds that allowing firms to deduct 100 percent of R&D expenditures against domestic income would stimulate an increase in R&D that is greater than the tax revenue lost.

²¹ The most recent work that we are aware of on efficient international tax structures is Keen and Wildasin (1999). They examine the efficiency properties of optimally coordinated tax regimes and find that some of the traditional results no longer hold when the model is adjusted to take into account the presence of individual country budget constraints.

efficiency.²² Simplicity, administrability, and consistency with international norms are also important goals for international tax policy.²³ Any reform of the deferral system, either a move towards or away from capital export neutrality, must juggle efficiency gains and/or losses against administrative and compliance costs as well as revenue concerns. Including these concerns in economic models of international tax systems could provide useful guidelines for policy-makers and is an important avenue for future research.

2. A brief review of U.S. tax policy toward foreign source income

Before discussing the results of current empirical investigations of the impact of deferral on firm behavior, I provide an overview of the U.S. system for taxing the international income of U.S. corporations.²⁴ This review is meant to make it clear that the starting point for any evaluation of tax reform is a system in which neither capital export nor import neutrality is preserved, simplicity is not the rule, and provisions designed to protect the U.S. tax base abound. Readers familiar with the tax law in this area can skip directly to section 3.

The U.S. taxes on a residence basis through a credit and deferral system. To prevent income earned abroad from being taxed twice, the U.S. allows firms to claim foreign tax credits for income taxes paid to foreign governments. These tax credits can be used to offset U.S. tax liability on foreign-source income. A limitation on the credit prevents U.S. firms from using foreign tax credits to reduce U.S. tax liabilities on income earned at home. The limit is the amount of tax that would be due if the foreign income were earned in the U.S.

²² As Slemrod (1990) stresses, to develop useful guidelines for tax reform, optimal tax models must not focus on efficiency and equity alone. Optimal tax models must take into account the administrative costs of taxation, the possibility of tax evasion and tax arbitrage, and the optimal form of enforcement policies. These considerations are extremely important for setting tax policy towards multinational corporations. We have ignored in this paper the distributional consequences of international tax policy. See Ault and Bradford (1990) for a discussion of tax equity within the context of international taxation.

²³ U.S. Treasury (1993) lists five objectives for tax policy: simplicity, administrability, consistency with international norms, economic efficiency, and competitiveness. The Treasury report focuses on the inherent conflicts between these objectives and explains that the current tax rules represent a compromise.

²⁴ This section borrows heavily from Altshuler and Hubbard (1999).

To understand how the credit works, consider a multinational that earns \$100 in a country with a tax rate of 45 percent that repatriates all income as it is earned. Since the U.S. tax rate is 35 percent, the foreign taxes paid (\$45) exceed the U.S. tax liability (\$35) on the \$100 of foreign-source income. A firm in this situation is said to be in an "excess credit" position because it has more foreign tax credits than can be claimed in the current year.²⁵ The same firm would be said to be in an "excess limitation" position if it had earned the \$100 in a country with a tax rate below the U.S. rate.

In some situations, the foreign tax credit system allows firms to use excess credits from one source of foreign income to offset U.S. tax payments on income from another source. This procedure is called "cross-crediting" or "averaging." To understand how cross-crediting works, assume that the multinational firm earns \$100 both in a country with a tax rate of 25 percent and a country with a tax rate of 45 percent. Cross-crediting allows the U.S. parent corporation to offset the \$10 of U.S. tax liability on the \$100 repatriated from the low-tax affiliate against the \$10 of excess credits on the \$100 repatriated from the high-tax affiliate. As a result, no U.S. tax is due on the \$200 of foreign-source income. Firms may only average income of the same type of "basket" for the purpose of the foreign tax credit: averaging is allowed within but not across baskets. The limit to the foreign tax credit combined with the opportunity for cross-crediting has important implications for capital export neutrality.

The time at which the U.S. Treasury taxes foreign profits depends on how the multinational has organized its foreign operations. If those operations are organized as subsidiaries (they are separately incorporated in the foreign country), then the profits are not *generally* taxed until they are paid to the U.S. parent corporation. The profits of foreign operations organized as branches (they are not separately incorporated in the foreign country) are taxed upon accrual.

Prior to the Revenue Act of 1962, multinationals enjoyed deferral on all classes of foreign-source income earned by foreign subsidiaries (with the exception of income earned in foreign personal holding companies). The Revenue Act created the Subpart F provisions in an effort to hamper the ability of firms to

²⁵ Under current law, excess credits can be carried back to offset any U.S. tax payments on foreign-source income made in the previous two years. Credits may also be carried forward without interest and used to offset U.S. tax

avoid U.S. taxes on foreign income by retaining it abroad in low-tax jurisdictions.²⁶ In general, these "anti-tax avoidance" provisions deny deferred taxation on foreign subsidiary income that is considered abusive. The original provisions impose accrual taxation on certain "passive" income such as that income earned from investments in financial assets, foreign base company sales and services income, and income derived from the insurance of U.S. risks. Income from active business investments abroad continued to enjoy deferred taxation.

Since the Subpart F provisions were enacted in 1962, Congress has expanded their scope to include additional types of foreign subsidiary income.²⁷ The Tax Reform Act of 1986, hereafter TRA'86, substantially eroded the ability of financial services firms to defer foreign-source income by incorporating within Subpart F additional categories of both passive and active income. The new provisions terminated deferral on dividends and interest earned by financial services subsidiaries regardless of whether the income was generated from the conduct of active business, on third-party insurance income, and on shipping income regardless of whether it was reinvested in shipping assets. Recent legislation in 1997 and 1998 includes an exemption from Subpart F for the active financing income of insurance companies, banks, and securities firms.²⁸ The latest incarnation of the Subpart F exception contains some different tests for determining whether income derived from the active conduct of a financial services business qualifies for deferral and more stringent anti-abuse rules.

liability in the following five years.

²⁶ The Subpart F rules were the outcome of a debate on whether to entirely eliminate deferral. Congress supported deferral, the administration supported accrual taxation. This debate is discussed further in section 3.

²⁷ The Tax Reduction Act of 1975 disallowed deferral on shipping income that was not reinvested in shipping assets. This act also eliminated deferral of passive income earned in tax haven countries by repealing the safe harbor minimum distribution rules in Subpart F. Income from countries participating in Arab League boycotts was denied deferral in 1976. The Tax Equity and Fiscal Responsibility of 1982 expanded Subpart F to include foreign oil-related income.

²⁸ The exception from Subpart F was for income that is derived in the active conduct of a banking, financing, or similar business by a CFC that is predominantly engaged in the active conduct of such business. The exception also applied to certain investment income of a qualifying insurance company with respect to risks located within the CFC's country of creation or organization. The exception did not apply to investment income allocable to contracts that insure related party risks or risks located in a country other than the country in which the qualifying insurance company is created or organized.

TRA'86 also changed the foreign tax credit limitation. Prior to TRA'86, there were six separate foreign tax credit baskets.²⁹ The goal of the basket system is to separate income that bears extremely high foreign taxes from income of a different type or category that bears little or no foreign tax. TRA'86 expanded the number of baskets, decreasing the potential to average for the purpose of the foreign tax credit, particularly so for financial income.³⁰ The new baskets included one for high-withholding-tax interest income, an expanded passive income basket that captures passive income generally (not just interest income), a separate basket for financial services income, a separate basket for shipping income and a separate basket for the dividends of each noncontrolled (between 10 and 50 percent) foreign corporation.

Why was the treatment of financial service income singled out by TRA'86? One theme in U.S. Congress (1987) is that foreign financial income is highly mobile and consequently the choice of location is very sensitive to variation in tax rates. Congress believed that the types of income targeted for inclusion in Subpart F "...could sometimes be earned through a foreign corporation in a tax haven country that bears limited substantive economic relation to the income and that allowing continued deferral of U.S. tax on this type of income could encourage the movement of the associated operations abroad at the U.S. Treasury's expense (page 965)." The current taxation of this foreign income is meant to move the tax system closer to one in which capital export neutrality is preserved.

It is important to take into account the changes to the foreign tax credit limitation enacted with TRA'86 and their impact on the ability of firms to cross-credit. As with the changes to the Subpart F rules, the increase in baskets was motivated by a concern that income generated from financial assets could be easily shifted and used to absorb excess credits from unrelated highly taxed business operations.

²⁹ The baskets prior to TRA'86 were for: (1) passive interest income, (2) domestic international sales corporation (DISC) dividend income, (3) foreign sales corporations (FSC) dividend income, (4) foreign trade income of a foreign sales corporations, (5) oil and gas extraction income, and (6) all other foreign-source income.

³⁰ As explained in the Joint Committee on Taxation's *General Explanation of the Tax Reform Act of 86*, "A separate or special limitation generally is applied to a category of income for one of three reasons: the income's source (foreign or U.S.) can be manipulated; the income typically bears little or no foreign tax; or the income often bears a rate of foreign tax that is abnormally high or in excess of rates on other types of income. Applying a separate limitation to a category of income prevents the use of foreign taxes imposed on one category of income to reduce the U.S. tax on other categories of income (page 856)."

Congress was also concerned that on balance, cross-crediting created a situation in which foreign investment was favored over U.S. investment. Allowing for cross-crediting can move the tax system closer or farther from capital export neutrality depending on the foreign tax credit position of multinational corporations. Parent firms in excess limitation positions are indifferent between investments at home and in low-tax countries abroad since (ignoring deferral) they face the same tax rate at home and abroad. Multinationals in excess credit positions, however, prefer investments in low-tax locations over investments in high-tax locations, since excess credits absorb any residual tax owed to the U.S. government on income repatriated from low-tax jurisdictions. Increasing the number of separate limitation baskets makes cross-crediting more difficult and, along with the changes to the Subpart F provisions, can move the tax system towards capital export neutrality.

The most recent developments regarding deferral involved the use of hybrid entities to avoid Subpart F while reducing the foreign tax rate on active income. Subpart F exempts from current taxation dividends and interest paid from one controlled foreign corporation (hereafter, CFC) to another when both are incorporated in the same jurisdiction.³¹ In Notice 98-11, the Treasury described two methods of using hybrids to reduce foreign taxation while avoiding Subpart F. In the first method, a CFC earning active income subject to a high foreign tax rate would borrow from an entity formed in a low tax jurisdiction by another CFC incorporated in the same jurisdiction as the first CFC. Under the “check the box” rules, the U.S. parent would elect to treat the lending entity as a branch of the second CFC, but for foreign tax purposes it was treated as a corporation. As a result, interest payments on the loan were deductible for foreign tax purposes and reduced the effective tax rate of the first CFC, but for U.S. tax purposes the interest was treated as paid to the second CFC and therefore exempt from Subpart F under the same country exception. The second method was even simpler: A CFC subject to high foreign tax would borrow directly from an entity in a low tax jurisdiction treated as a corporation for foreign tax purposes

³¹ A CFC is a foreign corporation that is at least 50 percent owned by a group of U.S. shareholders each of whom has at least a 10 percent interest in the company.

but a branch for U.S. tax purposes. Since a taxpayer cannot borrow from its own branch, the interest payments which reduced the foreign tax rate were ignored for U.S. tax purposes.

The Treasury proposed in regulations to treat these hybrids as corporate entities for Subpart F purposes, thus creating Subpart F income, on capital export neutrality and anti-avoidance grounds. The multinationals objected on competitiveness grounds and because the tax avoided was foreign, not U.S. tax. Under pressure from Congress, Treasury withdrew its proposed regulations in Notice 98-35, and thereafter reissued them with a delayed effective date. Treasury also promised to issue a comprehensive study of Subpart F, which should be forthcoming soon.

As this short review of U.S. tax policy should make clear, the current tax code reflects a compromise between the two efficiency goals and concerns about tax evasion opportunities.³² Deferral moves the system towards one that preserves capital import neutrality and approximates an exemption system if repatriations are delayed for long periods of time.³³ The Subpart F provisions and the basket system are designed to protect the U.S. tax base and discourage behavior motivated only by the desire to avoid U.S. taxes. However, the ability to cross-credit within foreign tax credit baskets creates a tax system in which, even in the absence of deferral, capital import neutrality applies arbitrarily to one group of firms (those in excess credits) and capital export neutrality applies to another (those in excess limitation). Given the current state of affairs, an important and natural question to ask is the extent to which the tax system collects any corporate tax revenue on foreign source income. A related question is whether U.S. firms' investment location decisions are affected by home country taxation. Finally, it is instructive to consider the efficiency and revenue consequences of switching to an exemption system,

³² The Treasury Department also continues to stress the need to strike a balance between efficiency and competitiveness concerns. Notice 98-11 recently issued by Treasury states that "U.S. international tax policy seeks to balance the objective of neutrality of taxation as between domestic and foreign business enterprises (seeking neither to encourage nor to discourage one over the other), with the need to keep U.S. business competitive. Subpart F strongly reflects and enforces that balance (page 3)."

³³ Some empirical evidence on the extent to which repatriations from low-tax countries are delayed, presumably to avoid U.S. taxation, can be found in Grubert and Mutti (1999). They report that there were virtually no dividend repatriations from low-tax locations (country average effective tax rates less than 10 percent) in the first 15 years after the incorporation of a CFC. Their data contains information from the tax and information returns of manufacturing CFCs of U.S. parent corporations (in the manufacturing sector) and is based on the top 7,500 CFCs in terms of asset size.

given the extent to which the U.S. system currently approximates one. These questions are addressed in turn in the next section.

3. Does home taxation of foreign profits matter?

3.1 Do we collect any corporate tax revenue from the foreign profits of U.S. firms?

Altshuler and Newlon (1993), hereafter A&N, attempt to quantify the use of tax avoidance strategies available under credit and deferral tax systems using tax return data from 1986. They find that the average U.S. tax rate on the foreign source income of a large sample of nonfinancial U.S. multinationals was only 3.4 percent in 1986. Their results indicate that this low rate was not merely the result of uniformly high foreign tax rates; rather, it appears to arise from the ability of U.S. firms to cross-credit between different sources of income for the purpose of exploiting the foreign tax credit. For instance, A&N present evidence that almost three-quarters (73 percent) of parents had both high-tax and low-tax subsidiaries, and therefore had the potential to cross-credit through concurrent dividend payments.³⁴ They find that most (54 percent) of the parents receiving dividends in 1986 received them from both high- and low-tax subsidiaries, and these parents account for the bulk (94 percent) of dividend remittances. A&N calculate that the dividend payments from subsidiaries in their sample generated little U.S. tax revenue at the margin: only 8 percent of total dividend payments increased U.S. taxes at all, compared to 17 percent of payments which actually decreased U.S. taxes (due to cross-crediting) and 75 percent which had no impact on U.S. taxes.

A&N also provide some evidence that U.S. multinationals use different channels for income remittances to reduce their global tax liabilities. Remitting income through the interest, rent, and royalty channels instead of the dividend channel takes advantage of the deductibility of such payments against the subsidiary's taxes. They find that relatively more interest, rents and royalties come from subsidiaries facing high source country tax rates and that subsidiaries with parents in excess credits remitted substantially more income in these tax deductible forms than did those with parents in excess limitation. This makes sense,

³⁴ A high-tax subsidiary is a controlled foreign subsidiary with an average tax rate (foreign taxes paid / pre-tax earnings and profits) greater than the U.S. statutory corporate tax rate.

since these firms are effectively averaging the excess credits created from other sources of foreign income to offset the additional U.S. tax liability generally created by interest, rents and royalties.

While this paper concentrates on measuring the quantitative significance of cross-crediting, A&N also present a table that shows the potential value of deferral to U.S. parent corporations. This table depicts the distribution of Subpart F income by subsidiary tax rate. Not surprisingly, the vast majority of this income was accounted for by subsidiaries facing low tax rates (83 percent was held in subsidiaries with average tax rates less than 40 percent, 81 percent in subsidiaries with average tax rates less than 30 percent, and 75 percent in subsidiaries with average tax rates less than or equal to 20 percent). Although this income is taxed upon accrual, Subpart F income may be earned on passive investments of retained active CFC income that does benefit from deferral. U.S. multinationals may choose to retain this active income in low-tax jurisdictions and earn Subpart F income on it until such time as excess credits are available from elsewhere to offset the residual U.S. tax liability that would accrue if the active income were sent back immediately to the United States. In summary, A&N suggests that firms are able to take advantage of deferral and the overall limitation on the foreign tax credit to avoid paying much U.S. tax on their foreign income.³⁵

Grubert and Mutti (1995) present a more sophisticated calculation of the U.S. residual tax on foreign source income that takes into account unrepatriated earnings and profits, income that is misclassified as foreign source due to the export sales source rules (section 863b) and the source rules for royalties, and income that is misclassified as domestic source due to the interest allocation rules. These calculations use 1990 tax return data for the active income basket. Before adjustments, Grubert and Mutti calculate an effective tax rate on active foreign source income of 2.7 percent. Adding unrepatriated income lowers the rate to 1.9 percent. Making adjustments for the misclassification of domestic and foreign source income under current tax law produces a *negative* effective tax rate on foreign source income of 2.6 percent. They

³⁵ This, as pointed out by Hines (1996), ignores the shareholder-level taxes collected when the income is distributed to U.S. parents corporations' own shareholders. In fact, Hines finds that more revenue is raised by the U.S. Treasury from shareholder level dividend taxes on foreign profits than by the corporate income tax.

conclude that the negative average effective tax rate suggests that the U.S. tax system "...could not have much effect on the competitiveness of U.S. affiliates abroad (page 453)."

What does this negative effective tax rate on foreign source income say about a switch to a territorial system? Most territorial countries exempt active foreign income from home taxation but tax payments such as interest and royalties which are deductible in host countries. While the calculation takes into account the treatment of royalties under a territorial system, it does not adjust for the tax treatment of interest. Grubert and Mutti (1995) argue that since interest would no longer be sheltered from U.S. taxation through cross-crediting with dividends under exemption, their calculation suggests that a change to this system would actually raise revenue for the U.S. Treasury. A more full-blown analysis by the same authors, discussed further below, also suggests that transforming the current system into a dividend exemption system would likely be revenue enhancing (see Grubert and Mutti 1999).

At this point it makes sense to turn back to one of the arguments in support of deferral mentioned in the previous section. Hines (1999a) suggests that by increasing the incentive to avoid foreign taxes, deferral raises the value of foreign investment, and, consequently economic welfare. By providing a tax incentive to invest in low-tax countries over high-tax countries, deferral increases the portion of taxes that are paid to the U.S. Treasury on foreign source income. As a result, this tax avoidance behavior is good from a home country perspective. This argument, however, does not take the limit on the foreign tax credit into account. Cross-crediting decreases the extent to which deferral, by providing an incentive to invest in lower-tax locations, generates higher residual U.S. taxes on foreign investment. In practice, the extent to which deferral increases home country corporate tax revenue is an open question.³⁶ In addition, as Hines points out, from a global perspective, the split of tax revenue on foreign investment between home and host governments should be irrelevant. From this viewpoint, if firms must use resource costs to structure operations and repatriations to minimize foreign taxes, deferral may be detrimental to economic welfare.

3.2 *The impact of home and host country taxes on investment behavior*

The empirical estimates discussed so far have focused on the effective tax burden on foreign source income. The research discussed above suggests that through careful tax planning, U.S. multinationals can avoid much residual U.S. tax on their foreign source income under the current credit and deferral system. As I stressed above, the presence of planning opportunities has consequences for tax reform. An important related question is the extent to which firms' real behavior actually responds to home and host country taxes.³⁷ The relevant focus for our analysis is whether the repatriation tax has any impact on investment levels or location. A short review of the theory of the relevance of repatriation taxes to investment behavior with an emphasis on recent results is useful at this point.

Theoretical results

The seminal theoretical work in this area is by Hartman (1985) who showed that under a credit and deferral tax system (like the one used in the U.S.), the home country tax rate on foreign source income is irrelevant to the decision of subsidiaries that finance investment with retained earnings ("mature" subsidiaries). Hartman's insight was that since the taxes paid to the U.S. government upon repatriation of foreign earnings are unavoidable, they decrease both the opportunity cost of investment and the return to investment by the same amount. As a result, U.S. repatriation taxes do not affect the choice between further investment in foreign subsidiaries or repatriation of profits --- capital export neutrality does not hold, even when firms face positive repatriation taxes.³⁸ The cost of capital is influenced by the repatriation tax only to the extent that home country taxes affect the discount rate of investors.³⁹

³⁶ As Hines (1999a) points out, the impact of any policy reform depends on how it affects both the distribution of U.S. assets across foreign locations and between U.S. and foreign locations. See Hines (1997) and (1999b) for excellent reviews of empirical research on the impact of taxes on location decisions.

³⁷ Hines (1997) has reviewed the theoretical and empirical effects of dividend taxes on location behavior. For a brief review of some of the subsequent literature on this topic, see Grubert and Mutti (1999).

³⁸ Subsequent research has derived conditions under which repatriation taxes to play a role in reinvestment decisions within the context of the Hartman model. Leechor and Mintz (1993) and Hines (1994) show that repatriation taxes will affect investment incentives if foreign and domestic tax bases are not defined similarly. Altshuler and Fulghieri (1994) shows that the Hartman result holds only when credit positions are stationary over time. More recent research,

Theoretical work by Sinn (1993) focuses on the impact of repatriation taxes on the initial equity injection from parents to foreign subsidiaries. Sinn showed in a model restricted to equity finance that the availability of deferral leads the parent to inject less capital than it would in a world without deferral since it can obtain the benefits of deferral until it reaches the "target" capital stock. Hines (1994) allows for debt as well as equity financing and shows that this "underinvestment" result continues to hold.⁴⁰

Hines (1999a) identifies this underinvestment as a reason why the trade-off between domestic and foreign investment may not be one for one in a world with a fixed supply of investment funds. Deferral may have less of an impact on the domestic capital stock than is usually assumed in traditional optimal tax models. Recent theoretical work, however, has demonstrated that the availability of alternatives to repatriation for "mature" subsidiaries besides the reinvestment of profits affects whether repatriation taxes play any role in the initial capitalization level of foreign subsidiaries. Weichenrieder (1996) has shown that if firms can reinvest earnings in passive assets they have no incentive to underinvest.⁴¹ This means that the repatriation tax has no impact on the initial capital stock or on the location of investment.

Altshuler and Grubert (1996) consider other alternatives to repatriation that can result in the repatriation tax having no impact on investment. These include having a low-tax subsidiary invest in a high-tax subsidiary so that repatriations flow from the high-tax subsidiary to the parent and allowing the parent to borrow for investment at home against passive assets abroad. Both strategies achieve the equivalent of a dividend remittance without the repatriation tax.⁴²

To summarize, previous and recent theoretical models suggest that (under a credit and deferral system) the repatriation tax *may* be irrelevant to both the level and allocation of investment. The real world,

discussed below in the text, investigates how investment incentives are impacted if there are alternatives besides reinvestment to dividend repatriation.

³⁹ Note that this view is analogous to the "new view" of dividend taxation applied to domestic firms (see King 1977, Auerbach 1979 and Bradford 1981).

⁴⁰ Hines (1994) finds that the initial equity injection may be higher but there is still a growth stage due to the availability of deferral.

⁴¹ In his model investment in passive assets earns the same after-accrual-tax return as investment in the domestic equity market. Hines (1994) shows that if this condition is not met and passive assets are not attractive, the Hartman-Sinn underinvestment result will obtain.

⁴² Although Hines (1994) does not explicitly model the alternative of investing in passive assets, he concludes that there is no incentive to underinvest if firms can freely borrow and lend at world interest rates.

of course, is much more complicated than that captured in the models. Thus, whether repatriation taxes influence location decisions under the current tax system is an empirical question. I turn to the empirical evidence on this question next.

Empirical evidence on the impact of home and host country taxes on investment location

Economists have provided ample empirical evidence that the assets held in U.S. multinational corporations are sensitive to variations in effective tax rates across foreign locations. For recent evidence see, for example, Grubert and Mutti (1991, 1997, 1999), Hines and Rice (1994), and Altshuler, Grubert and Newlon (1998). It is important to note that these papers, the most recent of which are briefly discussed below, focus on investment choices across foreign locations and not between domestic and foreign jurisdictions. That said, a finding that the distribution of assets held by U.S. parents is highly correlated with differences in tax rates across foreign locations suggests that the U.S. tax system does not play much of a role in neutralizing the effect of host country taxes on location choices.

Altshuler, Grubert, and Newlon (1998), hereafter AGN, provides evidence that investment location choices of U.S. manufacturing parents became more sensitive to taxes between 1984 and 1992. To measure the sensitivity of location decisions to host country tax rates, AGN regress a measure of real capital held in each of the 58 countries in their sample on tax variables and measures of non-tax characteristics of countries. These regressions yield an elasticity that measures the sensitivity of the demand for capital in a country to changes in after-tax returns (for a given pre-tax return).⁴³ Their elasticity estimates suggests that a one percent increase in after-tax returns led to an almost 3 percent increase in the real capital stock of manufacturing affiliates in 1992 and a 1.5 percent increase in 1984. This significant increase in elasticities indicates that the allocation of real capital abroad may have become more sensitive to differences in host country taxes in recent years. These results are consistent with the view that technological advances along with the loosening of trade restrictions and capital controls in recent years has increased the ease with which

⁴³ The tax elasticity can also be interpreted as measuring the sensitivity of the demand for real capital to changes in the cost of capital (for given after-tax returns).

capital can cross national borders. As a result, different locations have become closer substitutes for the location of production. According to this view, it would not be surprising if investment location decisions have become increasingly responsive to host country tax considerations.

What does the recent empirical work say about reforms to the tax treatment of foreign source income? First, it provides compelling evidence that the current tax system does not preserve capital export neutrality in practice (at least with regards to investment choices across foreign jurisdictions).⁴⁴ One critique of this interpretation of the literature is that the empirical tests do not explicitly test the impact of U.S. taxes on multinational behavior. The empirical specifications in the work described so far have included measures of host country tax rates only, not the combined effect of host and home country rates. However, one could argue that since the repatriation tax for excess limit firms is highly correlated with host country tax rates, the regressions suggest that repatriation taxes are not significant determinants of investment location choices (see Grubert and Mutti 1999). This line of reasoning assumes that all firms are effectively in excess limit positions. For firms with excess foreign tax credits, the repatriation tax on dividend remittances is the withholding tax on dividends (if one is imposed by the source country). Information on withholding taxes are not included in AGN's regressions, for example.

The most recent work on this topic, Grubert and Mutti (1999), presents results which include both host country corporate tax rates and withholding tax rates in asset location regressions. Interestingly, but not surprisingly, the latter tax rates have no explanatory power. Repatriation taxes do not seem to affect the choice among investment locations abroad.

Another possible critique of AGN (and other work) is that it uses country- and not firm-level data.⁴⁵ Grubert and Mutti (1999) also present some interesting new evidence derived from firm-level data from tax returns. Their results suggest that parents in excess limit positions are just as sensitive to differences in host country tax rates as parents with excess credits. Cummins and Hubbard (1995) also use firm-level data

⁴⁴ We have focused our discussion on evidence regarding the impact of U.S. taxes on investment choices across foreign locations. Hines (1997 and 1999b) reviews the empirical work on this topic along with the literature that has examined the impact of U.S. taxes on the choice between investing at home and abroad.

(from Compustat) to test whether firms' investment decisions in locations abroad are responsive to tax considerations. They calculate a tax-adjusted cost of capital for investment in six different foreign locations that incorporates both host and home country tax parameters. Foreign direct investment is found to be significantly responsive to changes in the tax-adjusted cost of capital. This work, however, does not separate the effect of home and host country taxes on investment behavior. It is possible that home country tax parameters do not significantly affect the investment decisions of the foreign subsidiaries in Cummins and Hubbard's sample.

Taking the recent empirical evidence together, it seems safe to conclude that the current tax climate is one in which U.S. firms behave as if they were subject to a territorial tax system (at least with regards to investment choices across foreign locations). What happens if we move to a system that more closely preserves capital export neutrality through incremental tax reform? TRA'86 provides an interesting case study for analysis. By adding foreign tax credit baskets and limiting deferral on active financial income, the Act arguably moved the tax system closer to capital export neutrality for U.S. parents with foreign subsidiaries in the financial services sector relative to parents with foreign subsidiaries in the manufacturing sector.

Altshuler and Hubbard (1999) investigate the impact of local effective tax rates on the location of assets held by financial parents before and after TRA'86. Similarly to AGN, this paper presents estimates of the sensitivity of the location of assets to after-tax rates of return. Unlike AGN, Altshuler and Hubbard focus on the assets held in financial CFCs. They estimate an elasticity of total assets to after-tax rates of return of 3.5 in 1984 for financial subsidiaries.⁴⁵ This is more than twice the estimate of AGN for real assets held in manufacturing subsidiaries of manufacturing parents for 1984. The allocation of assets held in financial subsidiaries (and, possibly, the location of income) was more sensitive to taxes than the allocation of assets held in manufacturing subsidiaries prior to TRA'86 as suggested by U.S. Congress (1991).

⁴⁵ There are some econometric problems associated with using firm-level data that have not yet been addressed in the this literature.

⁴⁶ Total assets are used instead of real assets in these regressions since real assets make up, on average, less than 8 percent of total assets.

Interestingly, Altshuler and Hubbard find a drop in both the magnitude and significance of differences in host country tax rates on asset location choice after the Act. In fact, the authors find that host country taxes play no role in the allocation of assets held in financial subsidiaries in the 1990s.

The results in Altshuler and Hubbard (1999) provide some suggestive evidence that moving towards a tax system that preserves capital export neutrality could affect the allocation of capital, which, in turn, could be argued to increase worldwide efficiency. Ending deferral for active income would move the system further towards capital export neutrality. However, unless the foreign tax credit system is tightened, there will still be opportunities for U.S. parents to avoid repatriation taxes. Policy-makers must recognize that depending on the reform of the foreign tax credit system, ending deferral for active income may still result in a system in which capital export neutrality is preserved only for those parents in excess limitation positions.

3.3 *What about a move to an exemption system?*

Grubert and Mutti (1999) presents some interesting empirical estimates of the welfare gains and revenue consequences of a change from our current system to a dividend exemption system. At first glance, such a move would seem to increase incentives for firms to locate in low-tax locations and further distort the allocation of capital. If this were the case, the switch could lead to an efficiency loss and lose revenue. Before discussing the results of their analysis, which suggest that these effects would not materialize, it is important to lay-out the type of system Grubert and Mutti contemplate. The following points summarize the dividend exemption system considered in their analysis:

- Active dividend and branch income would be exempt. Active foreign losses could not be used to offset domestic taxable income. Capital gains and losses from the sales of assets that produce active income would be exempt.
- Payments that are deductible abroad, such as royalties and interest, would not be exempt.
- Income from U.S. export sales (section 863b) would not be exempt.
- Overhead expenses would be allocated to exempt income and would not be deductible against U.S. taxable income.
- Passive income would be taxed upon accrual as under current law.
- The anti-tax avoidance provisions in Subpart F would remain in place.

There are a number of implications of these changes. First, there would no longer be the burden of repatriation taxes. This is estimated to lead to an aggregate welfare gain of about \$1 billion per year. Second, there could be an increased incentive to locate foreign operations in low-tax countries. However, Grubert and Mutti show that the allocation of overhead expenses such as interest and R&D expenses to exempt income and the taxation of royalties can increase the tax cost of investing in low-tax locations more than the decrease due to the removal of the repatriation tax. As a result, the exemption system would not necessarily increase incentives to invest in low-tax locations. Third, there are revenue consequences to be considered. Grubert and Mutti estimate what they consider to be a conservative static revenue gain of \$3.4 billion in the active basket. The gain is a result of (1) the elimination of cross-crediting which allows foreign tax credits from dividend remittances to offset U.S. tax liabilities on royalties, interest, and export sales source income and (2) the allocation of overhead expenses to exempt foreign income, which increases the U.S. tax liabilities on all parent corporations regardless of their foreign tax credit position.⁴⁷ Finally, the authors' analysis suggests that income shifting incentives would not substantially increase under dividend exemption. To sum up, moving to a dividend exemption system from our current system could lead to both efficiency and revenue gains along with simplification benefits.

The empirical work reviewed in this section suggests that the availability of deferral along with the foreign tax credit has affected the allocation of capital across foreign locations. This suggests that there could be considerable efficiency gains to ending deferral for active income. However, the role of excess credits in the new tax regime must be carefully taken into account since the presence of spillover credits can reduce any efficiency gains. In addition, there is the efficiency loss due to violating capital import neutrality to consider along with the possibility that the new system will encourage firms to relocate their corporate homes. On the other hand, the estimates in Grubert and Mutti (1999) suggest that expanding deferral through a move to a dividend exemption system, for example, could also lead to efficiency gains.

⁴⁷ This revenue gain does not take behavioral effects into account.

U.S. tax policy towards international income seems to be at a crossroad. Major tax reform could take at least two forms.⁴⁸ Either the foreign tax credit and deferral systems could be tightened to better provide capital export neutrality to U.S. investors, or this efficiency goal could be abandoned. If capital export neutrality is set aside as a policy goal a move towards a territorial or dividend exemption system may be appropriate. Further empirical research is necessary to evaluate the economic consequences of these types of policy changes.

⁴⁸ There are, of course, a multitude of possibilities for both incremental and major tax reform.

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