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THE SIGNIFICANCE OF INTERNATIONAL TAX RULES FOR SOURCING INCOME: THE RELATIONSHIP BETWEEN INCOME TAXES AND TRADE TAXES

John Mutti
Harry Grubert

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ABSTRACT

This paper examines how rules to determine the source of income internationally for tax purposes can have important effects on the form in which taxable income is reported and on the location of economic activity. In the case of U.S. law, two provisions are significant: allowing a portion of export income to be regarded as foreign source and treating royalties received as foreign source. These source rules have become increasingly important due to tax policy changes adopted in the 1980s and to the growing role in U.S. production and trade of goods that require intangible intellectual property. In addition, very similar transactions can be carried out as trade in goods, trade in services or production by a foreign affiliate, and tax incentives can influence that choice. How the source rules operate and the incentives they create are demonstrated in a set of stylized calculations to determine after-tax returns under various assumptions about relevant income and withholding tax rates, tariffs, and the importance of tangible and intangible capital in production. An assessment of the empirical importance of these provisions is based on recent studies of the determinants of trade and investment by U.S. multinational corporations. The treatment of royalty income appears to encourage royalty payments from high-tax countries and to promote real economic activity there.

John Mutti
Department of Economics
Grinnell College
Grinnell, IA 50112

Harry Grubert
Office of International Tax Analysis
U.S. Department of the Treasury
Washington, DC 20220

International trade economists have long paid attention to the role of tariffs and other trade taxes on the pattern of trade and international investment. Over the past six decades multilateral negotiations under the auspices of the General Agreement on Tariffs and Trade (GATT) have sought to reduce these barriers and to prevent alternative forms of protection from arising. Article III of the GATT, which requires that national treatment be provided foreign goods, is intended to prevent the erection of offsetting domestic taxes and regulations that would nullify the tariff concessions that a country makes. For example, taxes levied on foreign goods once they clear customs (indirect taxes) must be no greater than those imposed on domestic goods (see Jackson 1989).

That concern over the comparable taxation of foreign and domestic goods has not extended to the comparable taxation of business income through direct taxes such as income taxes. Rather, a primary GATT concern regarding direct taxes demonstrates a different focus: do special income tax provisions available to a single sector constitute a subsidy against which countervailing duties can be levied? In spite of the narrow GATT focus, economists have come to analyze many broader aspects of income taxation that can have important influences on trade and investment.

From an early post-war perspective, income taxes were presumed to have little influence on the location of real output across countries: a general tax imposed on an internationally immobile resource was borne by that factor and represented a windfall loss that did not alter the

pattern of production. In a world of increasingly mobile capital and labor, that perspective has become less warranted. In the 1960s and 1970s academicians and policy makers debated the influence of home and host country tax and tariff rates on the location of production, investment and trade internationally (see Bergsten, Horst and Moran 1978). The current paper pursues a related but less obvious issue, the way that rules to determine the source of income for tax purposes also can have important effects on the form in which taxable income is reported and economic activity is located. In particular, two issues are evaluated in more detail: the ability to regard a portion of export income as foreign source (sales source rules) and the treatment of royalties received as foreign-source income. The potential benefits from these source rules have become particularly important due to U.S. tax policy changes adopted in the 1980s and to the growing role of U.S. production and trade in goods that require intangible intellectual property.

The U.S. computer software industry provides good examples of the conflicting incentives that exist. Relatively similar transactions can be carried out as trade in goods, trade in services or production by foreign affiliates. How a company chooses to structure these often-substitutable transactions will depend upon several policy measures: host country tariffs on software imports, foreign income tax rates and the opportunity to deduct royalty payments from taxable income, foreign withholding rates on royalties, the way U.S. taxes are imposed on foreign-source income, and the U.S. income tax rate. The incentives

created by these tax and trade provisions may result in fundamentally similar transactions being characterized quite differently when different industries and countries are involved.

The purpose of this paper is to analyze more generally how income taxes and rules for sourcing income in different locations affect trade and investment. The paper demonstrates several implications of rules that govern whether export income, service income and royalties are regarded as domestic or foreign-source income, a determination relevant in calculating a firm's foreign tax credit position. The relative significance of these source rules is demonstrated in a set of stylized calculations that show how domestic and foreign policies affect a firm's after-tax returns under various assumption about the importance of tangible and intangible capital in production. A brief section considers some related examples and issues that arise as a result of source rules applied in foreign countries, which also affect the incentives U.S. firms face.

The empirical significance of the incentives identified above is treated in the final section of the paper. Useful background information is provided with respect to two issues. First, because these incentives apply to active business income, but not to passive income from portfolio investments, a general overview of U.S. income earned abroad is presented. It indicates that the focus on active income is not misplaced or directed at an inconsequential part of U.S. investment activity. Second, because the benefits from characterizing income as foreign source depend upon a firm's ability to claim credit

for foreign taxes paid, the foreign tax credit position of U.S. multinational corporations is briefly discussed. Finally, recent work that evaluates the response to these tax incentives is reviewed. While such tax benefits might result only in income shifting, with no effect on the location of economic activity, these provisions appear to influence real economic activity as well.

I. Basic Approaches in Taxing Foreign-Source Income

The United States, together with Japan and the United Kingdom, apply a worldwide system that taxes all of the income their residents receive regardless of the source of that income across countries. To avoid double taxation of foreign-source income, the United States grants a credit for foreign income taxes paid, where the credit is limited to the amount of the U.S. tax liability on foreign income. The amount of foreign income to declare is defined by U.S. rules, not by foreign rules that determine the foreign tax actually paid.

Whether income from different foreign countries and different types of activities can be combined to calculate an overall foreign tax credit limitation, or whether separate limitations should apply to each source country or to certain types or baskets of income are important issues that the United States has answered differently over time. U.S. law provides for a limitation that does not distinguish by country of origin, so that the foreign tax paid on a dividend received from an active business in a high-tax country may offset the U.S. tax due on a dividend received from a low-tax country. The United States does separate different types of income into different baskets, so that

interest income received from a tax haven country that imposes a low withholding tax cannot be combined with dividends received from a country that imposes a high income tax, which otherwise would shield the interest income from U.S. taxation.

Because the United States limits the foreign tax credit that can be claimed, an example showing how this limitation is calculated provides a useful way to introduce two important concepts necessary in the discussion that follows: does a firm have excess foreign tax credits, or is it in an excess limit position where it owes a residual U.S. tax? Suppose a firm receives $1,000 of foreign-source income, has paid a foreign income tax of $385, and also has domestic-source income of $1,000. Given a U.S. income tax rate of 35 percent, the foreign tax credit limitation is $350, calculated as the U.S. tax liability on total income (.35x$2,000) multiplied by the share of income that is foreign source (0.5). In this case the firm owes no residual U.S. tax on its foreign-source income, has excess foreign tax credits of $35, and pays U.S. tax of $350 on its domestic-source income.

If source rules allow the firm to characterize a larger share of its income as foreign source, the firm benefits by being able to claim a larger foreign tax credit, and it avoids U.S. taxation of that recharacterized income. For example, if the firm can treat an additional $100 as foreign-source rather than domestic-source income, the foreign tax credit limitation becomes $385. The firm now can claim all of the foreign tax paid as a credit against the U.S. tax liability on foreign-source income, and its U.S. liability on domestic-source

income is $315; total taxes paid decline by $35.

If the circumstances above are changed so that foreign income taxes paid are $285 rather than $385, then the foreign tax limitation remains $350, the foreign tax credit is $285, and the residual U.S. tax due is $65. Being able to characterize more income as foreign source provides no advantage, because a residual tax will be due on any additional foreign-source income. Therefore, the foreign tax credit position of the firm is a key factor in determining the effects of source rules in the U.S. system of taxing worldwide income.

Another aspect of the U.S. worldwide tax system is that income earned from an active trade or business is generally not subject to U.S. taxation until it is repatriated to the United States.[1] In that respect U.S. law is more similar to a territorial system of taxation that exempts certain types of foreign-source income from home country taxation. Most OECD countries apply this territorial approach either by explicitly exempting the foreign-source income or by achieving the same result through bilateral tax treaties.

Not all foreign-source income is exempt under a territorial system, because tax authorities in those countries recognize that some domestic and foreign assets, such as deposits in bank accounts, are very close substitutes. Therefore, they are likely to tax the passive income earned from such investments on a residence basis, to avoid creating an incentive for their residents to move their savings out of the country. Also, countries that apply a territorial system generally impose a tax on the royalty and interest payments a firm receives from abroad. Thus,

the distinction between worldwide and territorial systems of taxation is most relevant in considering returns to equity in an active trade or business, which is the category analyzed in this paper.

II. U.S. Rules for Sourcing Income

The following discussion presents three alternative types of transactions that are economically similar but are treated differently under U.S. tax law. The three alternatives include the export of a good from the United States, the export of a service from the United States, and the transfer of technology to an affiliate who provides the good or service in the foreign market. An important part of the difference in tax treatment is attributable to rules that determine what part of the income earned is regarded as domestic source and what part is foreign source. The computer software industry is used as a point of reference in the discussion, because the three different types of transactions all represent plausible ways of selling software abroad. The different incentives identified, however, apply to other industries as well.

A. Exports of Goods

Begin by considering the exportation of a good from the United States. Suppose a U.S. company develops a new computer program in the United States and exports pre-packaged software to foreign users. The profit it earns depends upon the revenue received from the foreign buyer, Rev_f, the tariff rate that must be paid to import the good into the foreign market, τ, the variable cost of goods sold, Cost, and the U.S. income tax rate imposed on export earnings, t_x:

$$\pi = (1-t_x)\ [Rev_f/(1+\tau) - Cost].$$

All capital is assumed to be equity financed, and the distinction between tangible and intangible assets is ignored at this point. The U.S. income tax rate may differ from the rate imposed on domestic income if the firm takes advantage of the Foreign Sales Corporation (FSC) provisions of the tax code. The FSC provisions are a successor to earlier Domestic International Sales Corporation (DISC) legislation, which was adopted in 1971 as a means of making U.S. export production attractive in comparison with production in a foreign country that imposed a low income tax rate. As suggested above, the ability to defer the residual U.S. tax liability until foreign income is repatriated can result in a lower effective tax rate on foreign production.

The FSC legislation allows a portion of the income from foreign export sales to avoid U.S. taxation if the goods are sold through a FSC. Under the combined taxable income administrative pricing rule, 15 percent of the corporation's taxable income from exports sold through the FSC is exempt from federal income tax. Under this treatment the exempt income is intended to reflect the FSC's activity abroad in selling the exported goods. An alternative approach, the gross receipts method, results in exempt income equal to about 1.19 percent of gross receipts. Because the benefit from this latter rule declines as the firm's profit margin increases, firms with profit margins greater than 8 percent will find the combined taxable income method more advantageous. In fact, that is the most commonly selected method, and it is particularly relevant for the high technology examples considered here. In 1987 FSCs reported gross export receipts of $84.3 billion and net

exempt income of $2.1 billion. The effective tax rate on U.S. export income, then, will be lower than the statutory corporate tax rate.

If the U.S. firm is in an excess foreign tax credit position, it may benefit even more under provisions of the sales source rules. These rules specify how firms are to determine the source of income (domestic or foreign) from the sale of inventory property. As shown above, if a firm that has excess credits can declare additional foreign source income, it can claim a larger foreign tax credit and the additional foreign-source income escapes U.S. taxation.

If the exported goods are sold through a FSC and the combined taxable income method is used to determine FSC income, generally no more than 25 percent of the combined taxable income of the FSC and the U.S. exporter can be treated as foreign-source income. In combination with the FSC exemption that would allow 40 percent of the firm's export income to escape U.S. taxation. If the goods are not sold through a FSC, however, the firm can often use rules to source 50 percent of the export profits abroad. Thus, firms are more likely to forego operating a FSC if they are in an excess credit position, since they will gain a larger benefit from the other provisions of the sales source rules.

The importance of the sales source rules is indicated by the U.S. Treasury Department (1992) calculation that U.S. firms' tax liabilities would rise $1.8 to $2.1 billion in their absence. A more recent estimate (Rousslang 1994) suggests a lower tax benefit, roughly half this size. This latter calculation indicates that fewer firms actually claim 863(b) income on Form 1118 than would be predicted on the basis of

firms in excess credit positions.

A further potential transaction to consider is the exportation of a master disc to a foreign firm who will then produce and distribute the product abroad. Suppose this arrangement is an arm's length transaction with an unrelated party, so that the tax treatment of a foreign affiliate does not enter the discussion. If payment takes the form of a royalty received over time, then all of the income received is foreign source for the purpose of calculating the foreign tax credit. Therefore, a U.S. firm in an excess credit position may find it more advantageous to characterize the foreign payment as a royalty rather than as export income. In addition, in the absence of any conformity rules between foreign and domestic reporting practices, the payment by the foreign buyer may not be regarded as a royalty and it may not be subject to a withholding tax. Nevertheless, the difficulty of valuing the technology being transferred and reaching an arm's-length agreement may limit the attraction of this approach.

The benefit from a lower U.S. tax rate on export earnings encourages U.S. production, and this benefit will be more significant the larger the profit margin on goods exported. Conversely, a higher foreign tariff rate discourages U.S. production. In the case of computer software, tariffs on pre-packaged software range from zero in many countries to 85 percent in India. The total value of U.S. merchandise exports reported in 1993 was $2.3 billion.[2]

B. Exports of Services

An alternative transaction to consider is the U.S. provision of a

service to a foreign buyer. In the case of computer software, this item is reported by the Commerce Department as computer and data processing services, and in 1993 total sales were $1.8 billion. Such a transaction might involve development of a program or analysis carried out in the United States, which is then delivered to the foreign customer. The profit the firm earns is represented by the revenue it receives from the foreign buyer, the cost of providing the service, and the U.S. tax rate:

$$\pi = (1-t_{us}) \ [Rev_f - Cost].$$

Several factors distinguish this case from the exportation of a good. The delivery of a service is not ordinarily subject to a tariff. The treatment of the income earned by providing the service may be less favorable, however. The United States regards such services provided by domestic establishments as domestic-source income and subject to U.S. tax. Exports of software services do not qualify for FSC treatment,[3] although exports of master discs could benefit from the sales source rules in calculating the foreign tax credit. In general, the relevant U.S. tax rate for providing services will exceed the effective rate on income from exports of goods.

C. Direct Investment Abroad and Affiliate Production

Suppose a U.S. company develops a new technology in the United States. If it licenses the technology for use in the United States (or exploits the technology itself domestically), the royalty payment (additional income) is treated as domestic-source income and is subject to U.S. tax. If instead the company licenses the new technology to a foreign producer or produces abroad in a foreign affiliate, the royalty

it receives is considered foreign-source income.

The profit the parent firm receives after payment of foreign taxes but before the determination of any residual U.S. tax can be represented in this situation as

$$\pi = (1-t_f)(1-w_d)\ (Rev_f - Cost - R) + (1-w_r)R$$

where all profits are repatriated, Rev_f represents the revenue that the foreign affiliate is receiving in the foreign market, Cost is the variable cost of production in the foreign country, R is the royalty paid to the parent, t_f is the foreign income tax rate, w_d is the dividend withholding rate, and w_r is the royalty withholding rate. Statutory and effective tax rates are assumed to identical. If the parent is in an excess foreign tax credit position and U.S. and foreign rules for defining income and allowable expenses are the same, then the foreign tax paid will be the final tax burden and no residual U.S. tax is paid. A firm operating in a low-tax country does not lose that tax advantage, while a firm operating in a high-tax country pays taxes that exceed the comparable burden on domestic-source income.

If the parent firm owes a residual tax to the U.S. government because it is in an excess limit position, then the parent's after-tax income attributable to this foreign operation is

$$\pi = (1-t_{us})(Rev_f - Cost).$$

For a firm operating in a high-tax country, this represents an advantage over the situation depicted above, because the higher foreign tax burden generates credits that can shield other foreign-source income the parent earns. Conversely, if the firm operates in a low-tax country but

profits are repatriated when earned, the additional U.S. tax due eliminates the tax advantage gained from foreign production in that location.

This representation assumes that when the firm transfers technology to its affiliate to produce abroad, the affiliate will pay a royalty to the parent. As established in 1984 under Section 367(d) of the Internal Revenue Code, transferring an intangible as described above cannot be used as a tax-free method of capitalizing a foreign affiliate. Tax legislation in 1986 provides that transferring an intangible shall result in a commensurate royalty payment to the parent. In the case of a firm in excess credit position, paying a royalty that is subject to a low withholding tax is advantageous, and the U.S. requirements mentioned above may affect the firm very little. A firm in excess limit, however, may have an incentive to pay a lower royalty and to gain the benefits of deferring the U.S. tax liability on the income it earns and retains in a low-tax country. The present treatment ignores the opportunity to defer that tax liability and does not elaborate the possible benefits from retaining income abroad for firms in excess limit, because the source rule issues discussed above are most relevant to firms in an excess credit position.

The treatment of royalty payments by foreign governments may be less favorable than shown. Host countries may view royalty payments as an attempt by the U.S. parent to escape taxation at the corporate level. The host country may levy a high withholding tax in lieu of being able to tax the royalty at the individual level. Some host countries simply

deny a deduction of any payment of royalties, interest or technical service fees made to an affiliated company. For a firm in an excess credit position, that reduces the return to operations in that country.

In the case of the software industry, the Bureau of Economic Analysis judges that sales of computer-related services by foreign affiliates are by far the dominant method of serving foreign markets. In contrast to the exports of goods or services from the United States, which were roughly $2 billion each, total service sales by affiliates in computer and office equipment manufacturing and in professional and commercial equipment were $40 billion in 1993 (Sandheimer and Bargas 1994). Therefore, royalties are likely to be one of the primary forms in which this activity appears in U.S. tax and balance of payments tabulations.

III. Comparisons of Alternative Tax Treatment

Table 1 summarizes the issues discussed above by comparing the after-tax return earned under several alternative tax treatments. The stylized cases assume that the same revenues are earned from foreign sales in all situations. Variable costs of production are assumed to be the same whether production takes place at home or abroad, but two different cases are presented to reflect a difference in the relative importance of variable costs as a share of total revenues. The two values chosen, 40 percent and 65 percent, represent differences among export industries that can be inferred from the Statistic of Income (1993): in industries such as pharmaceutical drugs the cost of goods sold as a share of business receipts is represented by the 40 percent

figure, while in various non-electrical machinery industries the 65 percent value is observed.

The firm finances its spending on tangible and intangible capital with equity. Two alternatives are presented to indicate how differences in the relative importance of these two types of assets (particularly where intangible capital and royalty payments are of greater importance) affect after-tax returns. The importance of intangible capital can only be approximated in rough terms. The 1989 Benchmark Survey of U.S. Direct Investment Abroad reports the relative importance of parent receipts from affiliates of direct investment income, royalties and other direct investment services. Royalties may not represent the entire return to intangible capital if some of the returns appears as higher direct investment earnings (Grubert 1994). Also, receipts for other services (or charges for parent headquarter expenses) may represent a source of return comparable to royalties in some sectors, but from a tax perspective they represent U.S. domestic-source income. Those payments are more important in several service sectors, including computer and data processing services, but they are less important in manufacturing. As an approximate indicator of the importance of intangibles, two cases are considered, one where intangibles account for 40 percent of foreign operating income (before the deduction of royalty payments), and one where they account for 20 percent. Both the revenue and royalty figures should be interpreted as discounted present values of a stream of payments received over time.

The U.S. income tax rate is assumed to be 35 percent. Operations

in two different foreign countries are presented, one with an income tax rate of 45 percent, to represent a high-tax country such as Japan, and one with an income tax rate of 10 percent, to represent low-tax countries such as Singapore, Hong Kong, or Ireland. (Other countries may have even lower tax rates, but little real business activity occurs in them.) In the high-tax case the dividend and royalty withholding rates are both 10 percent, while in the low-tax alternative both rates are 2.5 percent. The tariff rate imposed on imports from the United States is 10 percent.

To compare the tax consequences of exporting a good versus exporting a service, note the base case for exports of goods assumes no tariff and no special tax treatment of export income, and the rate of return is calibrated to be the same (9.75 percent) as when a service is exported. The imposition of a tariff reduces the net revenues to exporters of goods, making that way of serving the foreign market less attractive.[4] More favorable tax treatment of export income does not necessarily overcome this penalty. When the profit margin is small, as in column two, even applying advantageous sales source rules for a firm with excess foreign tax credit does not offset the effect of the tariff.

This result reflects a relationship developed in the effective protection literature: a relatively low tariff imposed on a good where value added accounts for a small share of its price can yield a very high effective rate of protection. Essentially, the tariff is a foreign tax that is deductible but not creditable against the U.S. income tax liability, and that treatment will discourage U.S. exports

more in industries where profit margins are small. Because exports of services are not subject to foreign tariffs, that form of serving the foreign market may appear more attractive, as in column two.

The tax consequences from affiliate production abroad depend importantly upon the foreign tax credit position of the U.S. parent. For firms in an excess credit position the benefit from being able to treat royalties as foreign-source income is determined by the importance of intangibles in the firm's production and upon the host country tax rate that is avoided when the royalty is a deductible expense. Note in column three where high royalties are paid that the deterrent effect of operating in a country with a high income tax rate is offset by the opportunity to pay royalties, which are subject to a low withholding rate. The composite stream of payments from this affiliate does not generate excess foreign tax credits. Rather, the parent benefits from being able to use its excess credits to offset any residual U.S. tax due. The after-tax return exceeds the return from domestic production. In column four the contrary outcome arises, that the effect of the high foreign income tax rate is not offset by the opportunity to pay royalties. The foreign tax burden again represents the final tax due, but now the after-tax return is less than in the case of domestic production, and foreign production in that location is discouraged. Thus, a high technology firm that receives more of its return from foreign operations in the form of royalties is more likely to gain from operating an affiliate in a high-tax host country.

Contrast this situation to the case of a firm in an excess limit

position. Since a residual tax is due in the United States, production in a high-tax country is not penalized. The ability to use the additional foreign tax credits generated by production there means the U.S. firm does not bear the burden of the higher tax rate.

The gain to the parent with excess credits is much larger when the firm operates in a low-tax foreign country, as shown on line 7 of Table 1. The favorable treatment of royalties, however, appears more important when foreign income taxes are high. For a firm in excess limit, the distinction again does not matter, for the advantage of operating in a low-tax location is captured in higher U.S. government tax collections, not by the firm.

Consider again the higher after-tax profits observed for the firm that pays high royalties and is in an excess credit position. One reason that this benefit appears large in the example above is that for tax purposes the firm is able to claim the gross royalty received as foreign-source income, without having to allocate any U.S. research and development expenses against it. Section 861 of the Internal Revenue Code addresses the allocation of expenses, but the implementation of this section has varied considerably over time. Regulations prepared in 1977 have periodically been applied, but in 1993 a more favorable set of provisions was available. Given this variability, the purpose here is not to represent current policy but instead to show how an allocation rule dilutes the benefit from the favorable source rule for royalties.

Suppose 30 percent of R&D expenses are assigned to domestic-source income, and the remaining 70 percent are allocated based on the

percentage of sales in domestic and foreign markets.[5] If a good were developed exclusively for the foreign market, adhering to this rule would cause a significant difference in the examples in Table 1. Allocating expenses to foreign-source income reduces both foreign-source income and the size of the foreign tax credit that can be claimed, and for a parent firm in an excess credit position, the after-tax return declines. The parent's loss will equal the amount of the allocation times the U.S. tax rate. Nevertheless, because not all R&D expenses must be allocated to the foreign-source income, the treatment is more favorable than would occur with strictly U.S. production.

If the United States were to treat royalties as domestic-source income, how would that provision affect the current comparisons? There would be no need to allocate some portion of R&D expenses to foreign source income. The U.S. firm with excess foreign tax credits would no longer benefit from bringing home lightly taxed foreign-source income free from U.S. tax. The corresponding entries in Table 1 for the case of a firm paying out a higher share of royalties indicate returns fall from 9.86 percent to 7.97 percent in the high-tax host country and from 13.75 percent to 11.70 percent in the low-tax host country. The more important royalty payments are, the greater the decline suffered by the firm with excess credits, since it no longer can receive royalties free of U.S. tax. Perhaps such a policy shift would give U.S. parents an incentive to declare fewer royalties and instead to make larger overhead charges for research and development, an item that appears in the BEA category other direct investment services. While such an entry

generally would be regarded as U.S. source income, it typically has not been subject to a high foreign withholding tax.

The negative effect on U.S. firms is not as disadvantageous as if a high-tax foreign government did not recognize royalties as deductible business expenses. In that situation if the same withholding rate were levied on all payments to the parent, then all of the foreign-source income would become subject to the higher foreign income tax rate. The rate of return would fall from 9.86 percent to 6.75 percent.

In summary, source rules that treat royalties and portions of export income as foreign source influence the attractiveness of production at home or abroad. In addition, because services provided to foreigners generally are domestic-source income rather than foreign-source income, firms in an excess credit position may find it attractive to structure those transactions in another form. Few general presumptions emerge because the relative advantages of different locations or transactions depend importantly upon host country trade and tax policies, too.

IV. Foreign Rules for Sourcing Income

U.S. firms also are influenced by foreign rules for sourcing income. In the case of U.S. exports of goods and services, the purchasing country may claim that some part of the income earned is sourced in that country, even if the provider has no permanent business establishment there.[6] Consider situations that involve services, where a host country pays for oil core logs to be analyzed or an economic

consulting report to be prepared, but the work is done outside of the country. In the case of a service provided to a related party, many host country governments will prohibit that party from deducting the payment from its foreign taxable income. If the payment is not to a related party, Colombia, for example, treats the income as domestic source and subject to Colombian income taxation and withholding taxes (McLure, et al, 1987).

This treatment can be compared to the situations represented in the stylized examples above. When a foreign government claims the right to tax the service income, it may have no way of verifying what costs are incurred in providing the service. Therefore, it may levy a tax on the gross payment to the foreigner. That approach is similar to imposing a withholding tax on gross interest or royalty payments where no attention is paid to expenses incurred in earning that income. The present example differs from a royalty or interest payment, however, because in this case the U.S. government does not recognize that any foreign-source income is earned. If the U.S. firm already is in an excess credit position, it can make no use of the additional foreign tax credits generated. To evaluate that effect, recall the stylized example where the initial rate of return was 9.75 percent. Consider the effect of imposing a tax of 9.1 percent on the gross value of the service payment. That rate yields exactly the same outcome as the 10 percent tariff on U.S. exports reported earlier: returns fall to 8.27 percent and to 7.20 percent for the two different ratios of variable costs to total costs. The penalty on the U.S. producer again arises because the foreign tax is

deductible but not creditable. For a higher foreign tax rate, the provision of services becomes even less attractive.

Host-country taxation of this income represents a trade barrier that discriminates against foreign service providers, since those individuals will also face home country taxation of what the home country regards as domestic-source income. Are there circumstances, however, where this treatment will have the same neutral effect on trade that arises under the destination principle of border tax adjustment that is applied to indirect taxes?

Under that principle, an indirect tax is imposed on imports and rebated on exports. As shown by various authors (Baldwin 1970, Feldstein and Krugman 1990) the goal of such border tax adjustment is to leave unaltered the relative prices of domestic and foreign goods both in the home market and in foreign markets. Suppose domestic prices in Countries A and B are initially the same before the imposition of an indirect tax by Country A. The price of the domestic good becomes $P_a(1+t)$, and under a destination principle that imposes the same tax on imports, the price of the foreign good becomes $P_b(1+t)$. Relative prices do not change. Similarly, the price of foreign goods remains P_b in other markets, and when Country A rebates the tax on exports, its price remains P_a. Again, relative prices do not change. To impose an indirect tax in order to be able to gain the benefit of destination principle treatment misinterprets the consequences of making border tax adjustments and mistakenly infers there is some benefit available.

A uniform value added tax levied on all goods has the same economic

effect as a general income tax levied on all income. Making the same border tax adjustment for both taxes would call for imposing the income tax on imports and rebating it on exports. Therefore, the distorting effect of the service tax described above arises not because it is imposed on imports but because it is not rebated on exports.

Note that the tax in the service example is an income tax on an individual or corporation, not an indirect tax on computer programs or consulting reports. Therefore, it does not fall within the standard conditions for border tax adjustment under the GATT. Historically, the GATT has not allowed rebates of direct taxes at the border, and in fact a GATT panel ruled against the U.S. DISC program on the grounds that it effectively taxed export income at a lower rate than domestic income and therefore represented an export subsidy.

The new General Agreement on Trade in Services is a possible forum to address issues of double taxation or border tax adjustments applied to direct taxes. In the Uruguay Round negotiations the United States strongly opposed such a move (Matthews 1995). Without considering the precise rationale for the U.S. position, recognize there are significant administrative issues to address in verifying what income taxes have been paid in the production of a particular product. Another reason for caution in introducing this issue before the GATS may be due to ambiguities in the application of the national treatment standard to income tax systems. Determining what constitutes comparable treatment can be difficult. For example, would levying a withholding tax on foreigners in lieu of imposing an income tax on them be construed as

resulting in a heavier burden on some foreigners in some years?

While income taxes are not included in the GATS, income taxes are included within the North American Free Trade Agreement, presumably on the grounds that the United States has signed bilateral tax treaties with the other member countries to recognize and interpret specific provisions of each other's revenue codes. The ability to ensure such understandings within the GATT would not hold under the standard most-favored-nation application of any agreement to all signatories. A record of effective economic cooperation within a trade bloc would make a joint tax policy change more feasible, but a contrary trend in the European Union should be noted. Movement toward a single market that eliminates internal border controls makes destination treatment more difficult to achieve.

V. Foreign-Source Income, Taxation and Firm Response

How important are the incentives created by the two source rules identified above? This section begins with a presentation of several general measures to indicate the relative importance over time and in a given year of various items of foreign-source income, especially the active business income reported in the general basket used in calculating the foreign tax credit limitation relevant to royalties and allocated export income. A related issue is the likelihood that a firm will have a potential excess of foreign tax credits and thereby benefit from these two source rules. Data from 1990 are evaluated to consider how current positions differ across industries and to assess what positions may be expected in the future. Finally, current studies

directly relevant to evaluate the response to the sales source rules and to the treatment of royalties are summarized.

A. The Importance of Active Business Income

Table 2 provides a summary of several balance of payments entries for investment income and for other payments among affiliated enterprises. The key observation to make is that active business income accounts for a significant part of U.S. activity abroad. Therefore, source rules that govern the calculation of the foreign tax credit limitation for this basket may appear arcane but can be expected to have significant economic effects.

In spite of the widely reported surge in portfolio investment as individual savers have bought shares of stock in foreign companies and mutual funds, direct investment abroad still accounts for the major source of income earned by U.S. residents from foreign economies. Direct investment income has risen considerably since the mid-1980s, although slow foreign economic growth in the 1990s has contributed to little change in recent years. Other investment income rose in the late 1980s but it now plays a smaller role than a decade earlier.

Note that in 1993 direct investment income was $61.6 billion, which is greater than other forms of investment income that do not involve ownership control. Payments and receipts from intercompany debt are also included in this total, but net intercompany debt was not a significant enough figure to have much influence on the total: parent receipts of interest were $4.1 billion and payments to foreign affiliates were $2.4 billion.

Royalties grew particularly rapidly between 1986 and 1990, and by 1993 they exceeded $20 billion. Over three-fourths of U.S. receipts come from affiliates rather than unrelated parties. That arrangement is not surprising because two unrelated parties may not easily predict or agree on the future profits likely to be generated by an intangible. Affiliation avoids the need to make that sort of forecast. Changes in the tax law discussed above may have given U.S. firms a greater incentive to receive royalties, too. Receipts from other private services are a much larger number than royalties, but they have not grown as rapidly. In contrast to royalties, less than 30 percent are accounted for by receipts from affiliates. Adding together direct investment income plus net receipts of royalties and other service income from affiliates gives an even larger figure indicative of transactions over which a firm has considerable control in responding to the tax incentives identified above.

These aggregate figures still must be qualified to identify more accurately items that appear in the general basket for calculating the foreign income tax limitation. First, only the portion of direct investment earnings repatriated to the United States is subject to a residual U.S. tax or relevant in determining the foreign tax credit limitation. Second, not all foreign-source income declared by U.S. taxpayers appears in the general basket, and therefore it may not be combined with royalties and export income in calculating the foreign tax credit limitation.

With respect to the first point, Table 2 contains the BEA measure

of distributed earnings. The corresponding pay out ratio shows considerable variation: it exceeds 70 percent in 1986, 1988 and 1989, but it is less than 50 percent in 1993 and 1994.[7] Therefore, predicting future behavior is not straightforward.

With respect to the second point, data reported by the Internal Revenue Service are useful in interpreting the general picture derived from BEA data, even though the calendar year definitions are not the same. Foreign-source income declared by corporations claiming a foreign tax credit in 1990 was $99.6 billion, while deferred income retained abroad was $34.9 billion. Active foreign source income reported in the general basket was $73.6 billion; the foreign tax credit limitation was $24.7 billion and the foreign tax credit claimed was $22.6 billion, leaving a residual U.S. tax liability of $2.1 billion. Part of the $99.6 billion received by U.S. corporations was passive foreign-source income (such as interest received) and another part was financial service income. These separate categories of income may be subject to a higher residual rate of U.S. taxation because they cannot be combined with other foreign-source income that has been subject to a high foreign rate of taxation. For example, in the case of passive income of $4.3 billion, the foreign tax credit limitation was $1.462 billion, and the foreign tax credit claimed was $385 million; these figures imply an effective foreign income tax rate of 9 percent. In the case of financial service income, the corresponding numbers were a $2.432 billion limitation, a $1.536 billion foreign tax credit claimed and an effective foreign tax rate of 21.5 percent.

The total foreign tax credit limitation for all corporate income was $29.6 billion and the foreign tax credit claimed was $25.0 billion. The items in the general basket cited above account for a large share of the U.S. tax liability on foreign-source income (83 percent), but a smaller share of the residual tax collected by the U.S. government after allowing for foreign tax credits (43 percent). While other items are important from the standpoint of tax administration, the incentives examined in this paper apply to a significant part of U.S. activity abroad.

B. The Excess Credit Position of U.S. Parent Firms

Source rules that allow firms to characterize more income as foreign source provide a benefit to firms that have excess foreign tax credits. By reducing the U.S. statutory tax rate and establishing separate income baskets to calculate the foreign tax credit limitation, the 1986 Tax Reform Act made it much more likely that U.S. parent firms would be in an excess credit position with respect to income in the general basket. For example, data analyzed by Altshuler and Newlon (1993) from the set of U.S. companies with positive foreign-source income indicate that the percentage of income reported by firms in excess credit positions was 35 percent in 1982 and 42 percent in 1984. Ignoring the transition years of 1986 and 1988, the post-reform figure for 1990 shows that 65 percent of the income declared in the general basket is by firms with excess foreign tax credits. Therefore, a much wider set of firms can benefit from favorable source rules than was true a decade earlier. Whether this figure declines in the future depends in

part upon how costly firms find it to shift income or operations out of high-tax countries or if foreign countries reduce their tax rates in competition with the United States.

The extent to which benefits are available from declaring additional foreign-source income varies considerably across industries. Based on 1990 data Table 3 shows the amount of foreign-source income declared by industry and the extent to which aggregate tax payments exceeded the foreign tax credit limitation for firms in the industry. The third column shows the percentage of foreign-source income accounted for by firms in an excess credit position, and the fourth column presents the average effective tax rate on active foreign-source income.

Note the unique position of the office and computing machinery industry. Not only does it account for nearly half of all the excess credits reported by non-petroleum manufacturing parents, but the proportion of industry income accounted for by firms with excess credits exceeds 95 percent. That industry, however, should not be regarded as typical of all high-technology industries where returns to intangibles are an important part of total revenue. Other high-technology industries such as drugs and electronics owe a residual U.S. tax. Some industries may be more reliant upon production and sales in high-tax countries, while other industries are more footloose and can locate production in low-tax countries but still serve high-tax markets. Furthermore, the average effective tax rate is an endogenous variable, determined by the mix of repatriated income subject to different tax rates, and some industries may have a lower cost of adjusting the form

of their repatriations in order to reduce their overall tax burden.

The Altshuler-Newlon study also reports the likelihood a firm's foreign tax credit position changes from excess credit to excess limit or vice versa. Comparing 1980 to 1982 and then 1982 to 1984, they find that 52.4 percent and then 58.1 percent of income was reported by firms whose tax credit position did not shift. That leaves a significant share of firms whose position did shift, perhaps due to exogenous changes in policy or to random shocks over the business cycle or to tax-motivated adjustments by the firm. While a firm might have less incentive to alter its exports or foreign production if an excess credit position were only transitory, how should observed shifts in the firm's foreign tax credit position be interpreted? Knowing a firm's expected or more permanent ex ante foreign tax credit position would allow a more accurate assessment of the role of taxes. Altshuler and Newlon create such a proxy in their study of MNC repatriation practices, a good precedent for other work. If firms assign a high probability to having excess credits, even firms in excess limit will respond to the source rule incentives discussed above.

C. The Sales Source Rules

The sales source rules do not provide a neutral incentive to all U.S. exporters. Rather, the incentive only arises when the firm is an MNC with foreign affiliate operations that generate excess foreign tax credits. The greater the profit rate per dollar of sales, the greater the benefit to MNC exports. Because such MNCs also may pay high royalties, however, they may not consider sales source rule benefits to

be the most desirable strategy to absorb foreign tax credits.

Rousslang's review of the sales source rules provides direct observation of which firms actually claimed these benefits. Thirty-six percent of the allocated export income was claimed by firms in an excess credit position, although those firms accounted for 73 percent of the tax saving. By claiming additional foreign-source export income, many firms converted their position from one of potential excess credits to one of excess limit. Industries that gained an above-average tax benefit, measured as a share of export sales, appear to be paper and publishing, drugs and toiletries, office and computing equipment, electrical and electronic equipment, and instruments.[8] Note that this list includes the three manufacturing industries in Table 3 that were not in excess credit in 1990. In those industries the tax incentive to expand exports further is much smaller on average.

Rousslang projects the potential effect of the sales source rules by calculating the marginal reduction in the cost of capital from this tax benefit, multiplying the resultant price effect times the relevant export demand elasticity and finally allowing for subsequent adjustment of the exchange rate. Such a procedure is standard practice when the effect of a tax policy change is difficult to disentangle from other influences.

If the experience of individual firms were to be evaluated to verify such projections, what effects would demonstrate the influence of the sales source rules? One possibility is that the tax benefit from exporting would cause the U.S. parent to serve foreign markets by

greater export production rather than affiliate production abroad. Under that scenario the ratio of exports to affiliate sales is likely to rise, especially if the foreign market is fixed in size and greater exports necessarily cause a reduction in affiliate sales. Another possibility, however, is suggested by a complementary relationship between exports and affiliate sales (Lipsey and Weiss 1981, Grubert and Mutti 1991). In this situation, a U.S. export may be an input with few close substitutes in foreign production, but the output produced abroad may be sold in markets where there are many substitutes available. Thus, a lower tax on U.S. exports or a lower tax on foreign profits both promote exports and affiliate sales. Where output will be affected most cannot be predicted a priori when affiliate sales represent a mixture of sales in a protected home market and in more competitive world markets.

For example, in a regression to explain the ratio of U.S. exports to total affiliate sales, we find in the 1982 cross-sectional data set used in our earlier study that a higher foreign corporate income tax rate reduces the export share.[9] Using 1989 data for the same set of countries, we find the tax coefficient is insignificant. That outcome does not indicate that taxes are unimportant, however, but only that there is not a differential effect on exports and affiliate sales.

This distinction can be seen by considering the two separate demand equations

$$\text{Ln (Exports)} = a_0 + a_1 \ln(1-t) + a_2 \text{ lnGDP} + \ldots$$

$$\text{Ln (Affiliate Sales)} = b_0 + b_1 \ln(1-t) + b_2 \text{ lnGDP} + \ldots$$

and then subtracting the second from the first

$$\text{Ln (Exports/Affiliate Sales)} = (a_0 - b_0) + (a_1 - b_1)\ \ln(1-t) + (a_2 - b_2)\ \ln GDP + \ldots$$

where t is the foreign income tax rate and GDP is representative of other variables that affect demand for both goods. In 1989 higher foreign corporate income taxes still have a negative effect on affiliate sales (a statistically significant estimate of b_1), but the effect on exports is too imprecisely estimated for the difference between the two to be significant.

In any event, reporting the two separate demand equations seems preferable, not only in this framework but also when time series and cross-sectional data are pooled and changes in the cost of exporting from the United States and producing abroad both can be considered. In that situation the two demand equations become

$$\text{Ln Exports} = a_0 + a_1 \ln P_x + a_2 \ln P_f + a_3 \ln GDP + \ldots$$

$$\text{Ln Affiliate Sales} = b_0 + b_1 \ln P_x + b_2 \ln P_f + b_3 \ln GDP + \ldots$$

where P_x represents the price of exporting from the United States, which is affected by the U.S. tax rate on export income, and P_f represents the price of affiliate production in the foreign country, which is affected by the host country tax rate for firms in excess credit. If changes in export and foreign prices are presumed to have symmetric effects, then the ratio of export to affiliate sales appears as

$$\text{Ln (Exports/Affiliate Sales)} = (a_0 - b_0) + e\ \ln(P_x / P_f) + (a_3 - b_3) \ln GDP,$$

where the elasticity of substitution, e, requires that $a_1 + a_2 = b_1 + b_2$, a testable constraint from parameters estimated in the two separate

demand equations (Leamer and Stern, 1970).

Kemsley (1995) relies upon the ratio of exports to affiliate sales in explicitly addressing the role of the sales source rules. Based on Compustat data for individual firms he identifies two trends in the post-1986 period: exports relative to affiliate sales have risen, and a larger share of firms are in excess credit positions. He estimates that firms in excess credit positions account for this increased reliance on exports to serve foreign markets. Average export sales in his sample are $80 million per firm, and he projects that in the absence of the sales source benefits a firm would export $70 million less.

This strong effect may be due to systematic differences across firms in the products they make, the country markets they serve and the tax rates applicable in those markets. For example, exporters may successfully develop markets in high-tax countries, but their sales may be more attributable to tastes or income levels in those countries than to tax factors. Therefore, Kemsley also estimates an aggregate cross-sectional relationship similar to the one reported above. He again reports a strong effect from the sales source rules, as he finds that in countries with higher tax rates a larger share of the market is served by exports and that this relationship is more pronounced in 1989 than in 1982.[10] Because the causation in this relationship still is ambiguous, we believe it is premature to claim a precise measure of the sales source rules' effectiveness. Nevertheless, the work cited here does sharpen the focus regarding the effects to be considered in demonstrating that changes in real activity do flow from this tax

benefit.

D. Royalties as Foreign Source Income

Royalty receipts are much larger than allocated export income under the sales source rules, and at least in absolute terms a greater influence on MNC operations can be expected. To assess the effect of treating royalties as foreign-source income, again consider the set of responses to be observed. By paying royalties a firm can increase its after-tax return from operating in high-tax countries. The tax saving is greater for firms that would be in excess credit than those in excess limit. Under what circumstances will this tax saving affect the location of real economic activity?

If the foreign market can only be served by affiliate production and if the technology developed for the home market can be costlessly applied to production in the foreign market, then the royalty represents a pure rent. A change in the tax treatment of the royalty merely changes the distribution of the rent without altering the firm's operations in the country. If the firm can exploit the technology elsewhere and still serve the same foreign market, however, favorable tax treatment of the royalty can alter the incentive to produce in a country. In particular, treating royalties as foreign-source income reduces the disadvantage of producing in a high-tax country where the cost of equity-financed investment otherwise is higher.

Two relationships are relevant in assessing the empirical response to this tax incentive. One is the tendency for firms to pay larger royalties from high-tax locations. Aggregate data from the 1989

Benchmark Survey show this effect quite strongly, for various representations of royalty payments as the dependent variable and for various potentially relevant tax effects. The relevant tax variable is somewhat ambiguous, because the tax price of paying a royalty depends upon the foreign tax credit position of the parent and the alternative foregone (retaining income abroad, paying a dividend, paying interest, etc.). Also, if royalties are represented relative to assets or sales, the foreign tax rate influences the denominator as well, implying a different functional form.

Estimates based on the aggregate data used above for all affiliates in a host country give the following results:

$$\text{Royalty/sales} = \underset{(2.38)}{.009} - \underset{(-3.28)}{.040}\, w_r - \underset{(-2.48)}{.028}\, \ln(1-t) \qquad F_{2,27} = 8.50$$

$$\text{Royalty/sales} = \underset{(2.18)}{.010} - \underset{(-3.19)}{.040}\, w_r + \underset{(2.01)}{.032}\, t \qquad F_{2,27} = 7.12$$

$$\text{Royalty/sales} = \underset{(4.40)}{.017} - \underset{(-3.99)}{.038}\, w_r - \underset{(-.37)}{.006}\, t - \underset{(-3.74)}{.083}\, \text{High} + \underset{(4.31)}{.23}\, \text{High}*t \qquad F_{4,25} = 11.89$$

where w_r is the withholding rate imposed on royalties, t is the effective income tax rate, High is a dummy equal to one for those countries where the effective tax rate exceeds 0.34, and the term High*t multiplies this dummy times the tax rate. Royalties as a share of affiliate sales are larger in countries where the foreign income tax rate is higher and the royalty withholding rate is lower. The final equation suggests that firms operating in countries where the foreign

tax rate exceeds the U.S. rate are particularly likely to adopt the strategy of paying higher royalties. This relationship is demonstrated more completely in an analysis of firm-specific data by Grubert (1994), who controls on firm characteristics such as research and development expenditures and also treats other repatriation decisions the firm makes.

This effect on financial practices also has an effect on the firm's real operations. Using firm-specific data Grubert and Mutti (1995) substantiate their 1991 finding from aggregate data that foreign corporate income taxes have a significant negative effect on MNC location choices. The more recent paper finds that this effect is especially strong within a geographic area where several alternative countries provide access to the same general market, a result consistent with the inter-state analysis of Swenson's paper in this volume. The size of this effect falls by roughly 20 percent in the probit estimates that include a variable that interacts the firm's expenditure on research and development per dollar of assets with the relevant tax rate. That is, the opportunity to pay royalties is greater for companies that have a larger stock of intangible, intellectual property (represented by research and development expenditures). Firms that can pay higher royalties face less of a penalty operating in high-tax countries, and the empirical estimates confirm that taxes are less of a deterrent for those firms.

VI. Conclusions

This paper extends an earlier literature by Horst and others from

the 1970s that demonstrated how low tax rates and the opportunity to defer the repatriation of foreign income created an incentive to locate production abroad rather than export from the United States. The focus here is upon a different set of tax provisions that also may influence the location of production internationally. Rather than analyze the level of foreign tax rates, however, the paper evaluates U.S. rules for sourcing income, a determination that is important in calculating the foreign tax credit limitation. These source rules have become increasingly important because a much larger proportion of the income earned abroad by U.S. exporters and by U.S. subsidiaries is reported by parents in excess foreign tax credit positions.

The ability to characterize income as foreign source is especially beneficial to firms with excess credits, because income that is subject to little taxation abroad also may be free of U.S. taxation. The stylized examples demonstrate that while the effects of these provisions are not as transparent as the effects of statutory tax rates, they create significant incentives to report taxable income in certain forms. The sales source rules provide an important benefit by allowing roughly half of export income to be regarded as foreign source. Treating royalties as foreign source may provide an even greater benefit to affiliate production, though, since royalties reduce the affiliate's foreign tax burden and may create no U.S. tax liability when the parent is in an excess credit position. That potentially large effects on firm profits lead to large changes in real economic activity cannot be conclusively proven. Evidence suggests that U.S. exports increase as a

result of the sales source rules, and foreign production in high-tax locations is encouraged by treating royalties as foreign-source income.

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Endnotes

1. An exception to this presumption arises in the case of interest income earned by a bank, which is subject to SubPart F treatment and does not benefit from the deferral of U.S. taxation.

2. This figure recorded under HS 8524905000 includes both pre-packaged software valued at the price at which it is sold to the foreign buyer and also the value of the medium (tape, disc, etc.) used to send software that will require customizing or assistance in installation abroad or to send a master disc that will allow foreign reproduction. In the latter two cases the value of the medium typically represents a small fraction of the value of the intangible knowledge being transferred.

3. Architectural and engineering services and export management services qualify for FSC treatment. Receipts from exports of patents and other intangibles do not qualify as foreign trade gross receipts (U.S. Treasury Department 1990, p. 7), although exports of masters for the distribution of copyrighted movies, tapes and records do qualify.

4. If the firm currently has excess capacity to produce both at home and abroad, a higher tariff creates an incentive to expand foreign production at the given foreign market price. If the firm originally serves the market entirely by exporting a good and engages in no affiliate production, then the marginal adjustment implicit in this procedure is not appropriate. Instead, the firm would consider how much of the tariff could be passed forward to foreign buyers and still leave the outcome more favorable than commencing foreign production.

5. Consider the following example of the influence of this allocation rule. Suppose that a U.S. firm had $100 of domestic income, $100 of foreign income, and $100 of R&D expenses. Also, it paid $35 of foreign income tax. If all the R&D expense is allocated against the domestic revenue, the firm has no taxable domestic-source income and all of its foreign tax payment of $35 is creditable against the U.S. liability of $35 on foreign-source income. If the firm had to allocate $35 of its R&D expenditure to foreign-source income, then foreign-source income falls to $65 and creditable foreign taxes paid would be (Y_f/Y_{total}) times the U.S. tax liability, which is .65*$35, or $22.75. A residual U.S. tax of $12.25 would be due. The firm's total tax liability would be $47.25 rather than $35.

6. Tax laws provide no consistent rationale for determining the source of income in such situations. For example, in the insurance industry income usually is attributed to the country in which the insured risk is located, even though the actuaries who evaluate the risk or the individuals who bear the risk are located elsewhere.

7. The BEA series reflects the new convention adopted in 1992 to exclude unrealized capital gains from retained earnings and total earnings. The high payout ratio in 1986 may reflect the desire to repatriate more highly taxed foreign source income in order to combine it with other income subject to low foreign taxes that subsequently would be treated in separate baskets. For general discussion of the determinants of dividend remittances, including non-tax factors such as the potential importance of foreign investment opportunities or parent financial requirements, see Hines and Hubbard (1990) and Altshuler and Newlon (1993).

8. This calculation is based on Rousslang's figure for the foreign tax credits absorbed in each industry divided by U.S. MNC exports in that industry, as reported in the 1989 Benchmark Survey of U.S. Direct Investment Abroad.

9. The regression is as follows:

$$\ln\left[\frac{\text{Exports}}{\text{Affiliate Sales}}\right] = \underset{(.99)}{4.07} + \underset{(3.06)}{3.29}\ln(1-\text{tax}) + \underset{(.57)}{.09}\ln \text{GDP} - \underset{(-.93)}{.23}\,\text{Trade Barrier}$$

$$\underset{(-2.12)}{-.78}\ln \text{GDP/Capita} + \underset{(1.73)}{1.66}\,\text{Transport}, \quad F_{5,27} = 3.4$$

where tax is the host country corporate tax rate, Trade Barrier is a World Bank categorization of host country trade policy, Transport is a dummy for sales within North America, and the numbers in parentheses are t-statistics.

10. The dominance of the substitution effect in Kemsley's sample of firms may be attributable to a different conceptual measure, aside from the difference in data source and time frame: by focussing only on MNC exports to unrelated parties, which thereby excludes 43 percent of MNC exports, possible complementarities between U.S. and foreign production are less likely to be observed. In the cross-sectional study, treating only the ratio between exports and affiliate sales may obscure the causal relationship involved. For example, affiliate production may be lower in countries with high tax rates, which would cause the export/affiliate sales ratio to rise even in the absence of a separate effect on exports from the sales source rules. Because Kemsley does not report separate export and affiliate demand estimates, or the corresponding separability tests noted above, we cannot clearly identify the extent to which our results differ or the factors that would cause differences. Possible explanations are differences in the definition of the tax variable (average effective tax rates versus statutory tax rates) and differences in the set of countries included in the analysis.

Table 1
After-Tax Returns from Alternative Transactions
to Serve the Foreign Market

Case	Variable Cost/ Total Cost .40	.60	Royalties/Foreign-Source Income .40	.20
Export of goods				
No tariff, no benefits	9.75	9.75		
Tariff, no benefits	8.27	7.20		
FSC benefits, excess limit	8.94	7.80		
Sales source rules, excess credit	10.50	9.16		
Export of Services				
U.S. taxation	9.75	9.75		
Affiliate Production				
Excess credit, high tax			9.86	8.64
Excess credit, low tax			13.75	13.45
Excess limit, high tax			9.75	9.75
Excess limit, low tax			9.75	9.75

Assumptions: t_{us}=.35, τ=.10; High-tax case: t_f=.45, w_d=.10, w_r=.10
Low-tax case: t_f=.10, w_d=.025 w_r=.025

Table 2

Investment Income and Related Service Flows
United States, 1984-93

Category	Year									
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Income Receipts on U.S. assets abroad	104,075	92,760	90,858	99,239	127,414	152,517	160,300	137,003	118,425	119,248
Direct investment receipts	31,262	30,547	31,968	39,608	52,092	55,368	58,740	52,198	51,912	61,579
Earnings	35,593	34,621	35,129	41,918	53,394	55,183	56,958	50,945	50,729	59,882
Distributed Earnings	18,687	19,780	26,077	25,264	41,744	43,257	36,553	33,945	34,441	28,390
Other private receipts	68,267	57,631	53,596	55,848	70,275	91,496	91,048	76,781	59,399	52,621
U.S. Government receipts	5,277	5,499	6,413	5,311	6,703	5,653	10,512	8,023	7,114	5,108
Royalties and license fees	6,098	6,550	7,927	9,914	11,802	13,818	16,634	18,107	19,922	20,398
Affiliated	–	–	5,988	7,629	9,156	10,962	13,250	14,395	15,927	15,974
Other private services	19,126	19,904	27,312	28,369	30,366	36,450	39,713	46,906	50,992	54,870
Affiliated	_	_	8,183	8,176	9,123	12,296	13,622	14,343	16,115	15,981

Sources:
John Sandheimer and Sylvia Bargas, "U.S. International Sales and Purchases of Private Services," Survey of Current Business, September 1994, Vol 74, No. 9, pp. 98-138.
Christopher Bach, "U.S. International Transaction, Revised Estimates for 1984-93," Survey of Current Business, June 1994, pp. 79-127.
Unpublished data from the U.S. Commerce Department.

Table 3

Excess Credit Positions of U.S. Corporations, 1990
(All Dollar Values in Millions)

Industry	Foreign Source Income	Excess Credit	Share of Income Reported by Firms in Excess Credit	Average Effective Foreign Tax Rate
Food	2,914	26	37.8	34.8
Paper	1,454	-16	13.6	32.9
Industrial Chemicals	4,840	59	68.4	34.8
Drugs	3,867	-46	34.2	32.9
Other Chemicals	2,616	104	30.2	37.6
Primary Metals	1,107	14	33.0	34.6
Fabricated Metals	1,173	23	72.3	35.9
Office and Computing Machinery	10,875	516	95.5	38.8
Other Non Electrical Machinery	1,551	117	62.7	40.2
Electrical Machinery and Electronics	4,222	-153	47.6	29.6
Motor Vehicles	4,314	181	99.4	38.2
Other Transport Equipment	1,105	39	21.5	36.7
Istruments	2,552	95	68.0	37.3
Other Manufacturing	4,429	106	44.5	36.1
Total Manufacturing, except petroleum	47,019	1,066	62.8	36.0

Source:
U.S. Treasury Department, Office of Tax Analysis