Abstract - This paper first presents a “static” no–behavioral–change estimate of the revenue implications of dividend exemption, and how it depends on the various components of the scheme that are assumed. Using 1996 data, we find that there is a “static” gain in excess of $9 billion. The allocations of parent overhead expense to exempt income and the full taxation of sales source and royalty income, which can no longer be shielded by excess credits flowing over from dividends, are much more significant than the foregone taxes on dividends. The Treasury files are then used to evaluate the potential significance of behavioral responses, the most important of which involve expense allocations and royalties. The objective of the analysis is to identify companies that have the same incentives under current law as all companies would have under exemption. The evidence suggests that the behavioral changes may be large but that they would tend to offset each other. Royalty payments will decline but, at the same time, parent multinational corporations will carry less debt on their own books.

INTRODUCTION

Discussions of the possible adoption of dividend exemption for taxing foreign business income usually hinge on the relative merits of capital export neutrality (CEN) and capital import neutrality (CIN). Under the CEN principle, foreign business income is taxed at the home (U.S.) tax rate so as not to distort the companies’ choice between foreign and domestic investment. Supporters of CIN claim that foreign operations should be subject only to the local foreign tax so that U.S. companies could compete with their foreign rivals. This paper and the related paper by Altshuler and Grubert (2001) indicate that this CEN versus CIN analysis is basically beside the point. It is based on an overly simple view of both the nature of foreign investment and the tax system. This paper shows that adopting dividend exemption in the form described here would probably raise revenue. Altshuler and Grubert shows that the effective tax rate on investment in low–tax countries may well go up. Analyzing how the current and alternative systems actually work suggests that implementation of dividend exemption may in fact be a move toward more equal taxation of domestic and foreign income.

1 This is also emphasized in Grubert and Mutti (2001). This paper presents a more detailed analysis of some of the issues they raise.
To evaluate the revenue implications of switching from the current worldwide–foreign tax credit system for taxing foreign business income to a dividend exemption (or territorial) system, it is necessary to first spell out the important differences between the two schemes. We then go on to present a “static” no–behavioral–response estimate of the revenue change and how it depends on the specific features of the system that we assume. The large “static” gain, which might be somewhat surprising, suggests large potential responses by the companies as they confront different after–tax returns on some important behavioral margins. Some potential responses, such as the switch from taxable royalties to exempt dividends, will lower U.S. revenues. Other reactions, however, might come at the expense of foreign governments, not the U.S. Treasury, e.g., the shifting of parent debt to the books of subsidiaries abroad to avoid the impact of expense allocations. The behavior of companies under current law is used to estimate the approximate net impact of these dynamic changes in behavior.

The Current System

Under the current system, the income that a U.S. subsidiary earns abroad from an active business, such as a manufacturing operation, is taxed by the United States only when it is repatriated. Passive income, such as bond interest, is taxed currently. In an effort to avoid the double taxation of foreign–source income, the United States provides a credit to multinational corporations (MNCs) for the taxes paid to foreign host governments. This foreign tax credit is limited to what the U.S. tax rate would have been on the net income after deductions. The limits and credits are calculated by “basket” or type of income, such as passive income, financial services income, or general active nonfinancial income. Foreign tax credits are isolated within each basket to prevent excess credits generated in highly taxed active businesses from spilling over and shielding lightly taxed income such as passive interest.

MNCs base their calculations of foreign tax credits and limits on the combined repatriated income of all their foreign operations in a basket. These calculations may place a corporation in either an “excess credit” or an “excess limit” position. Companies in excess credit—those with creditable foreign taxes in excess of their limitation—pay no residual U.S. tax. In this context, the repatriation tax on any foreign dividend is simply the foreign withholding tax, that is, the final taxes imposed by host governments on income remitted to U.S. parent companies. Under current law, multinational corporations may use these excess credits to offset U.S. taxes on interest and royalty income from abroad, and on income from export sales, half of which may be classified as foreign–source income. Companies in excess limit—those with fewer foreign taxes to credit than the tentative U.S. tax on the foreign income—must pay a residual U.S. tax. In this instance, the repatriation tax amounts to the difference between the U.S. and the foreign tax rate on the repatriated income. From 1992–1996, about two–thirds of all foreign manufacturing income was associated with parents in excess limit positions.

Dividend Exemption

Some industrial countries, such as France and the Netherlands, have dividend exemption (or territorial) systems. Germany and Canada reach the same result by exempting active dividends by treaty and having extensive treaty networks. The features of the “baseline” exemption system assumed in this paper are largely based on these foreign systems,
but in one case, which is identified, we rely on basic U.S. tax principles. The features assumed are:

1. Active foreign income — that is, dividends from incorporated foreign subsidiaries and the income of unincorporated branches abroad — would be exempt from U.S. taxation, and the foreign tax credits associated with that income would no longer play any role in the tax system. In other words, whatever income can be deferred under current law (because it is active and does not violate the anti-abuse rules) will be exempt under the dividend exemption system evaluated here.

Two requirements would have to be satisfied for income to qualify as "active." First, it would have to come from a real business such as a manufacturing operation rather than from passive investments such as bonds. In addition, the income would be classified as active only if the taxpayer owned a significant share of the foreign business.

2. Royalties and interest paid to the U.S. parent company, which are deductible expenses in the host country, would be taxed. The concept underlying existing exemption systems seems to be that whatever is deductible abroad should be taxed at home so that all income is taxed once. Royalty and interest are subject to tax under current law, but they are classified as foreign source. If they are paid out of active business income they are put in the general "active" basket and can be shielded by excess credits originating with dividends.

3. The current anti-abuse regime that applies to controlled foreign corporations (CFCs) — those affiliates with more than 50 percent U.S. ownership — would remain in force. The United States would continue to tax the passive income of CFCs on a current basis. Similarly, sales income routed through a tax haven would continue to be subject to current U.S. tax.

4. The parent company’s overhead expenses, such as interest, would be allocated to exempt income and disallowed as deductions from U.S. taxable income. (R&D expenses, however, would be fully deductible since royalties are taxed.) In other words, we assume that Section 265 of the Internal Revenue Code, which disallows deductions for expenses related to tax-exempt income, would apply. If, on the other hand, the parent company could obtain a full interest deduction in the United States while earning exempt income in a low-tax location abroad, the effective tax rate on investing abroad could be negative.

Under the current system, allocated expenses affect U.S. tax liability only through the foreign tax credit limitation: they enter into the calculation of net foreign income, which determines the amount of allowable foreign tax credits. If the company has excess credits, a greater allocation of expenses to foreign income increases U.S. tax by reducing allowable credits. If the multinational corporation does not have excess foreign tax credits, or is not currently repatriating income, the allocations have no effect on U.S. tax liability. Under the exemption system assumed here, allocations would directly reduce allowable deductions. The amount of the parent company’s interest expense that would be disallowed

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2 See Graetz and Oosterhuis (2001) for a discussion of the structural issues in designing an exemption system.
would be based on the relative size of its domestic and foreign assets.

The exemption countries, such as Germany and Canada, seem to require little or no allocation of overhead expenses to exempt income. In contrast, expense allocation rules are assumed here as an extension of the general U.S. tax principal that expenses should be allocated to exempt income.

5. Active foreign losses would not offset domestic taxable income. Net foreign losses offset domestic taxable income under current law but, if foreign income in subsequent years is positive, an amount equivalent to the previous loss has to be recharacterized as domestic source, reducing the amount of allowable foreign tax credits.

6. Income from U.S. export sales would be fully taxable and not covered by the exemption of active foreign income. Furthermore, no portion of export income could be classified as exempt foreign–source income. The current “sales source” rule, under which 50 percent of export income can be classified as foreign source, would no longer be relevant.

The exemption of active dividends (provision 1) loses revenue to the extent that dividends currently bear a residual U.S. tax. However, as we will see in greater detail in the next section, our estimate using 1996 data from the Treasury tax files shows that dividend exemption would result in a “static” gain of more than $9 billion if all of the provisions listed above are enacted as part of the scheme. The loss in revenue from dividends now paying a net U.S. tax is more than offset by the elimination of credits linked to dividends that currently shield royalty and export income from U.S. tax. The allocation of expenses also raises revenue since these allocations affect all taxpayers under dividend exemption, not just those that are in excess credit as under current law. After presenting the baseline “static” revenue estimate, the next section goes on to show how this gain can be eroded if some of the provisions listed above, such as expense allocations, are not included in the new tax system.

A potential increase in U.S. tax liabilities of the magnitude we estimate suggests a much different array of tax prices that would induce behavioral reactions by the companies. The final section evaluates the magnitude of behavioral responses. The empirical strategy is to identify companies under the current system which face the same tax incentives that all companies would under exemption. We focus on the behavioral responses that are likely to be most significant: adjustments to overhead expenses and royalty payments.

**Overhead Expenses**

The allocation of parent overhead expense, such as interest and headquarters expense, to exempt income is a major source of the projected static revenue gain. Under dividend exemption, more companies will have an incentive to reduce their allocations by using various planning devices, e.g., by invoking the “market value” option in interest allocations. As a result, a smaller share of parent overhead expenses may be allocated to foreign income. Note, however, that MNCs with excess credits face the same incentive today since any smaller allocation to foreign income will increase the amount of foreign taxes they can credit against U.S. income. In the final section we use data from Treasury tax returns to examine whether

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3 The worldwide–taxation–with–credit countries, such as Japan and the United Kingdom, also do not seem to require allocations for foreign tax credit purposes.

4 Some of these responses may be at the expense of foreign governments and not the U.S. Treasury. We focus on the impact of enacting a dividend exemption system on U.S. revenues.
the expense allocations of MNCs in excess credit positions differ from those of MNCs without excess credits.

Along with reducing the share of parent overhead expenses allocated to foreign income, parents will also have an incentive to place fewer overhead expenses on their domestic books. Under the dividend exemption system we study, the parent’s overhead expenses are subject to being allocated to foreign income (see provision 4). Thus, the parent that stands to lose a U.S. tax deduction has an incentive to reduce total overhead deductions on its own books. One example would be shifting debt to a foreign affiliate’s books, where it can obtain a deduction against host country tax. In the case of interest expense, the MNC may simply decide to reduce its leverage. However, under the current system’s allocation rules, firms in excess credit positions already lose a portion of U.S. tax deductions for domestic overhead expenses. In the final section we also investigate whether overhead expenses decrease as firms become more likely to find themselves with excess credits.

Switching from Royalties to Exempt Dividends

When a company transfers an intangible such as a patent or trademark to a subsidiary, the subsidiary is required to pay a royalty according to normal arm’s length principles. Indeed, the Internal Revenue Code specifies that the payment be “commensurate with the income attributable to the intangible.” The tax regulations provide a detailed description of the methods to be used in applying the arm’s length standard. However, several studies have indicated that companies can take advantage of the range of uncertainty in the application of the transfer pricing rules and shift income to low-tax jurisdictions (see, for example, Grubert and Mutti, 1991 and Hines and Rice, 1994). Dividend exemption may greatly alter the tax benefits of certain types of payments, particularly royalties.

Under current law, it is advantageous for MNCs with excess credits to have their CFCs abroad pay them additional royalties, which can be shielded by excess credits at home while being deductible abroad. This incentive will disappear under dividend exemption. In response, companies whose royalties become fully taxable may attempt to lower their royalty payments by using inappropriate transfer prices or other devices. However, there are companies that are in a position under current law that is similar to all companies under dividend exemption in that their royalties are fully taxed. These companies are ones that would be in excess limit even before they received lightly taxed royalties.

Another tax consideration under the current system for deciding how large a CFC’s royalty payments should be, apart from the parent’s excess credits, is the local statutory tax rate. If the CFC is in a location with a statutory tax rate above 35 percent (the current U.S. statutory corporate tax rate), it might choose to pay greater royalties than a CFC sibling in a low-tax country because of the higher value of the deduction in the host country. The low-tax CFC would have the option to retain equity income abroad rather than pay the 35 percent U.S. tax on the royalty.

As far as royalty payments are concerned, companies with excess credits under current law would become like excess limit companies with comparable local statutory tax rates. We compare the royalty payments of these various groups of CFCs, classified by parent excess credit status and local statutory tax rates, to gauge how royalty payments may change under dividend exemption.

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5 There may be some offset from the credits lost if a dividend were paid instead. See Grubert (1998) for a fuller discussion of the various incentives.
As is discussed more fully below, these behavioral changes are the focus of our analysis because of the very large potential change in tax rate (from zero to 35 percent) that would apply to any adjustments to royalties and expense allocations on the margin. On other behavioral margins, such as investment in low tax locations, a much smaller change can be expected since the present deferral system provides almost all the benefits of exemption.

The empirical results suggest that the behavioral reactions to the implementation of dividend exemption are potentially very large, but they act to offset each other. On the one hand, it appears that there would be a significant decline in overhead expense on the U.S. parent’s books that would dominate any tendency to understate what share of overhead expenses is allocated to foreign income. But counteracting this is a possibly significant drop in royalty payments.

THE STATIC REVENUE GAIN AND IT COMPONENTS

All of the data used in our revenue estimates refer to the “other” or general non-financial active basket of foreign income, which accounts for about 70 percent of the net repatriated foreign income reported by U.S. corporations. The only other basket that would be significant in this context is “financial services income.”

The 1996 Treasury data file, the latest available for this paper, did not yet reflect the enactment of the “active finance” exception to the taxation of financial income on an accrual basis, which allows companies to defer tax on income derived in the active conduct of a financial business such as a bank or an insurance company. If exemption is extended to this type of active financial income, it does not appear that the basic conclusions in this paper would be affected. The parent interest expense that would potentially have to be allocated to the exempt financial business would generally be very significant, and it is unlikely that much of the income is repatriated under current law.

As shown in Table 1, the “no behavioral change” revenue gain from the full adoption of the dividend exemption scheme described above is $9.7 billion using 1996 data. The revenue loss from the exemption of active dividend and branch income that actually pays a residual U.S. tax under current law is relatively small compared to the revenue gain from the full taxation of royalty and export sales income as well as the loss of overhead deductions at the U.S. tax rate by MNCs now in excess limit. To put the potential revenue gain under dividend exemption in perspective, note that $5.2 billion was collected on foreign income from non-financial business in 1996. However, this includes the tax on royalties, interest and

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>STATIC “NO BEHAVIORAL CHANGE” REVENUE GAIN UNDER DIVIDEND EXEMPTION*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(BILLIONS OF DOLLARS)</td>
</tr>
<tr>
<td>Full dividend exemption proposal including allocation of overhead expenses to exempt income</td>
<td>9.7</td>
</tr>
<tr>
<td>No allocation of interest expense to exempt income(^1)</td>
<td>6.2</td>
</tr>
<tr>
<td>No allocation of other “not directly allocable” expenses to exempt income(^2)</td>
<td>5.1</td>
</tr>
<tr>
<td>No allocation of any overhead “not directly allocable” expense to exempt income</td>
<td>1.7</td>
</tr>
</tbody>
</table>

\(^*\)All data refer to the active non-financial “general” basket of foreign income.
\(^1\)Based on the current “water’s edge” system for interest allocations.
\(^2\)These expenses refer to overhead allocations that are neither for interest nor R&D. R&D is allocated to taxable royalties.

See the Appendix for a description of all the data sources used in this paper.
export sales income, all of which will be taxed under exemption. As we will see, the residual tax actually paid on dividends was only about $1 billion.

Table 1 indicates the significance of our assumption of mandated allocation of overhead or "not directly allocable" expenses to exempt income (provision 4). If there are no allocations of parent MNC interest expense, the static revenue gain falls to $6.2 billion. Not having to allocate other "not directly allocable" expenses would lose even a greater share of the potential revenue gain.7 Altogether, if there is no loss of overhead deductions attributable to exempt foreign income, the static revenue gain is only $1.7 billion.

These data demonstrate how important allocations of expenses are both for revenue and, in the related paper on investment location, Altshuler and Grubert (2001), for the cost of capital for investing abroad. As far as interest allocations are concerned, the revenue gains in Table 1 are based on the current "water’s edge" system in which the parent’s interest expense is allocated to foreign source income based on net foreign assets and gross domestic assets. Under this system, debt on the books of the CFC is not taken into account so that, for example, if the parent and affiliate have the same ratio of debt to operating assets, an additional allocation of the parent MNC’s interest expense still has to be made. If, as might be deemed reasonable, dividend exemptions were combined with allocations based on "worldwide fungibility," rough calculations based on the parent and affiliate balance sheets reported in the 1994 Commerce Department Benchmark Survey of U.S. Direct Investment Abroad suggest that the $3.5 billion gain from interest allocations would be cut by almost two-thirds.8

One reason why the elimination of required expense allocations would be so significant is that it foregoes a source of revenue picked up even under current law, i.e., those allocations that increase excess credits. Parents in excess credit under current law incur greater U.S. tax liabilities due to allocations because they reduce allowable foreign tax credits. The current system would pick up much less revenue if these allocations did not have to be made.

The estimated importance of the various components of the dividend exemption system depends, of course, on how they are stacked. For example, making royalties (and rents) U.S. source, without any credits except for foreign withholding taxes, would by itself have created a static gain of about $7 billion based on 1996 data. If required expense allocations are eliminated under current law first, the gain from making royalties U.S. source would be significantly less; fewer excess credits would be left to be absorbed because of the disappearance of excess credits created by expense allocations.

Similarly, if the only change is that export sales source income becomes U.S. source and cannot absorb excess tax credits, U.S. revenues would have been $1.8 billion higher in 1996.9 Any attempt to

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7 "Other not directly allocable" expenses include all overhead expenses other than interest and R&D. These seem very large as reported by companies when claiming their foreign tax credits. It is possible that taxpayers do not specifically identify interest or R&D on their tax forms and put them instead in the "other" category.

8 The difference between the current system and worldwide fungibility can be shown in an example. Consider an MNC with gross operating assets of 100 in the United States and 100 in a CFC abroad. U.S. debt is 75 and CFC debt is 25. The interest rate is 10 percent so that 7.5 is paid by the parent and 2.5 by the CFC. Under the current system, the parent’s 7.5 percent interest expense is allocated to foreign income based on the ratio of the parent’s net equity in the CFC (100–25) to total gross domestic assets plus net foreign assets (100+75). The allocation is thus 3.21. Worldwide fungibility starts with the ratio of worldwide interest expense to gross assets of .05. Foreign assets have to bear 100 x .05 of interest expense, but they get credit for the 2.5 already paid by the CFC. The net allocation is 5–2.5 or 2.5.

9 This is before adjusting for the increased use of Foreign Sales Corporations (FSCs) that permitted about 15 percent of export income to be exempt. The shift would have cut the gain by about one-third.
make part of export income exempt is potentially very costly because it would extend to taxpayers who derive no benefit from the sales source rule under current law (those MNCs without excess credits).

The large static revenue gain suggests that the current U.S. residual tax on U.S. dividends is relatively small. One exercise that demonstrates this is to ask how much revenue is raised from dividends that actually pay a residual U.S. tax on the margin. That is, for each parent MNC in excess limit, we compute the gross-up tax rate in each country from which it receives dividends (as listed on Form 1118, the tax form parent firms file to claim foreign tax credits). The gross-up tax rate is the underlying foreign tax rate on the repatriated equity income, i.e., the creditable foreign corporate tax paid divided by net after-tax income plus the tax paid. If the average gross-up rate for the country from which dividends are paid is less than the U.S. rate, the residual U.S. tax is computed. The company’s combined residual tax payments on dividends are then constrained to be no higher than the total U.S. tax on all foreign income. The sum of the residual tax payments on dividends turned out to be $1.1 billion in 1996 net of credits for withholding taxes. This figure, though small, is an over-estimate of the revenue raised from dividends since any current residual tax could be rebated because of carrybacks from excess credit years in the future. Under current law, excess credits can be carried back for two years.

The “static” revenue estimates make no adjustment for transition rules. As Graetz and Oosterhuis (2001) indicate, the most important transition issue is the treatment of the large existing stock of accumulated unrepatriated income. Any rule except complete forgiveness would raise revenue. One option, which would also be simple, would be a one-time charge on these accumulations at a low rate of perhaps 1 to 5 percent.

Finally, some items have been left out of the “static” revenue estimates, in part because of limitations of the data files. Under dividend exemption, active foreign losses could not be used to offset taxable income since neither positive nor negative active foreign income would be part of U.S. taxable income. Active foreign losses, however, are difficult to identify in the Treasury files because companies with these losses generally would not claim a foreign tax credit. Moreover, the $9.7 billion “static” gain assumes that all dividends in the active basket would be exempt, including income subject to current tax under the CFC anti-abuse rules. Accounting for both of these items would increase the potential revenue gain from exemption. In addition, there is the issue of dividends paid by MNCs to shareholders, although this might properly be addressed in the behavioral response section. Conceivably, if repatriations increase under exemption, companies may share some of the cash with stockholders. On the other hand, if companies’ worldwide taxes actually go up, they may have less net income to share.

**BEHAVIORAL CHANGES**

Some behavioral changes are completely predictable and require no sophisticated tax planning. For instance, since interest received from a CFC in the general active basket will remain taxable, MNCs will have a greater incentive to re-capitalize their affiliates with equity rather than debt if their interest receipts had been shielded by excess credits. Interest in the general basket is relatively small, $6.3 billion in 1996, or only 14 percent of royal-

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10 The CFC income subject to current U.S. tax in the form of deemed dividends includes income from sales routed through a tax haven, which we assume would continue to be taxed. It also includes inter-company dividends that we assume would be exempt if from active operations.
ties received. If all of the interest now received by excess credit companies disappears, revenue would go down by about $1.4 billion, but a complete switch is unlikely because a substantial part is paid by high-tax CFCs that would lose a significant deduction. Another predictable switch would have occurred if companies in 1996 would not have been able to take advantage of the sales source rule; they would have used Foreign Sales Corporations (FSCs) instead, but, as noted above, this would not have led to a huge revenue offset. This section, therefore, focuses on two areas in which behavioral changes can potentially have large revenue consequences: expense allocations and royalties.

The previous section has shown how significant expense allocations and the taxation of royalties are for the “static” revenue estimate. Taxpayers would have a strong tax incentive to respond to the new tax system if excess credits previously shielded their royalties from U.S. tax or if expense allocations had no impact because they were in excess limit. A dollar less of royalties or allocated expense would save 35 cents in U.S. tax. Compare this with the burden of the dividend repatriation tax under the current system. Grubert and Mutti (2001) estimate, using 1992 Treasury data, that firms faced a low 3.3 percent tax burden on dividend repatriations from low-tax countries—those with average effective tax rates below 10 percent. The estimated repatriation tax burden takes into account both the U.S. tax actually paid on the modest level of repatriations plus the efficiency loss from having to restrict repatriations. Although companies in these low-tax countries face the highest potential tax on repatriations they, in fact, pay very little because only about 7 percent of income is paid out in dividends. This extremely low tax burden on dividends suggests that the current deferral system is in many respects not much different from exemption. We emphasize expense allocations and royalties in our analysis because the 35 percent tax change is likely to motivate greater behavioral responses than the elimination of the 3.3 percent burden on dividend repatriations that would apply to many other types of behavior. For example, income shifting to low tax countries becomes more attractive under exemption only to the extent of the former modest burden of the repatriation tax.

**Allocation of Expenses to Exempt Income**

Under current law, the extent to which companies allocate overhead expense to foreign income only affects their tax liabilities if they have excess credits. Companies without excess credits have no incentive to engage in tax planning that would lower allocations below the level indicated by a straightforward application of the tax regulations. Under dividend exemption, all allocations to exempt income will increase U.S. tax liabilities and all companies will thus have an incentive to avoid allocations. The question then is whether companies that expect to be in excess credit under current law allocate less to foreign income than other companies. The answer to this question can be used to predict how expense allocations will change under dividend exemption.

We cannot use, as a measure of expected excess credits, the simple excess credit position or even the overall foreign tax rate on distributed net income, i.e., total foreign taxes paid (including withholding taxes and gross-up taxes on dividends) divided by net foreign source income, be-

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11 Average effective tax rates are based on company information returns, the Form 5471, for each CFC. The country rate is the sum of foreign income taxes paid divided by CFC earnings and profits, defined in the tax code and intended as a measure of book income.

12 Preliminary work with the 1996 data suggests an even smaller burden.
cause the denominator itself depends on the amount of the allocations. Instead, we use a measure of excess credit expectations independent of allocations: the foreign tax rate on dividends—gross–up taxes (on the foreign equity income underlying the dividend) divided by total grossed–up dividends. The credits linked to dividends (foreign taxes deemed paid on dividends) are the source of excess credits.

As suggested above, an increased likelihood of being in excess credit has two effects on overhead expenses that tend to work in opposite directions as far as U.S. revenue is concerned. For a given level of total parent overhead expenses such as interest, the taxpayer has an incentive to engage in tax planning that will reduce the share of expenses allocated to foreign income. This would, of course, reduce U.S. revenues. But the cost of overhead allocations would also induce MNCs to lower overall overhead expenses on their U.S. books. One way would be to shift overhead expenses, such as debt, abroad where they can be deductible against host country income.

Table 2 provides regressions for these two effects. The dependent variable in the first column is the amount of “deductions not definitely allocable” that is apportioned to foreign income as a share of total foreign gross income before deductions. The main independent variable of interest is the (gross–up) tax rate on repatriated dividends, our indicator of the parent’s potential excess credit status. In addition, the ratio of parent R&D expense and interest expense to parent sales are included as independent variables because they are important overhead expenses that are allocated under current law. In other words, we attempt to hold constant two major allocable expenses on the parents’ books.

In column 1, the coefficients of the foreign tax rate on dividends and R&D are statistically significant at least at the 5 per-

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**TABLE 2**

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>Allocated overhead/ Total gross foreign income</th>
<th>Allocated interest/ Gross foreign income</th>
<th>Non-interest allocation/ Gross foreign income</th>
<th>Parent interest expense/ Parent sales</th>
<th>Parent R&amp;D/ Parent Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Variables:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign tax rate on dividends</td>
<td>–.185</td>
<td>–.177</td>
<td>–.009</td>
<td>–.0438</td>
<td>.006</td>
</tr>
<tr>
<td>R&amp;D/Sales</td>
<td>1.43</td>
<td>–.780</td>
<td>2.21</td>
<td>–.320</td>
<td></td>
</tr>
<tr>
<td>Advertising/Sales</td>
<td>.092</td>
<td>.187</td>
<td>–.096</td>
<td>.039</td>
<td>.012</td>
</tr>
<tr>
<td>Mean of dependent variables (N = 353)</td>
<td>.240</td>
<td>.102</td>
<td>.138</td>
<td>.039</td>
<td>.012</td>
</tr>
</tbody>
</table>

Notes: Coefficients are listed with t–values in parenthesis. Financial parents are excluded. Data refer to general basket allocations. The foreign tax rate on dividends is the total gross–up on dividends, indicating the underlying foreign corporate tax, divided by grossed–up dividends.

13 The other important determinants of excess credit positions are dividends as a share of gross foreign income and allocated deductions as a share of total foreign gross income.

14 Other overhead expenses potentially allocable are difficult to identify.
percent level and have the expected signs. One can see that an increased likelihood of being in an excess credit position can have a quantitatively significant effect on allocations. For example, if the foreign tax rate on repatriated equity increases from the actual 1996 mean of 29 percent to 50 percent, at which point the probability that the income would be in excess credit is very high, allocations to foreign income go down by 16.2 percent.

Columns 2 and 3 divide “not directly allocable” deductions into interest and everything else including R&D. The estimated coefficients reported in these columns indicate that the response of overhead allocations to potential excess credits is due entirely to allocated interest. Column 2 gives allocated interest in relation to gross foreign income. The coefficient for the dividend tax rate is highly significant, and as expected, so is parent interest expense. The dividend tax rate coefficient is virtually the same as the coefficient for all overhead allocations in column 1. R&D has a negative coefficient, perhaps indicating that fewer tangible assets are invested abroad if the parent has large R&D. Column 3 indicates that all remaining allocations other than interest, including R&D, are completely unresponsive to excess credit positions. The coefficient for the dividend tax rate is virtually zero.

Column 4 of Table 2 provides information on the response of total parent interest expense to expected excess credit status. The dependent variable is the ratio of interest expense to parent sales. The foreign tax rate on repatriated dividend income is again the main independent variable of interest. Parent R&D and advertising expense in relation to sales are also included as independent variables because the existence of intangible assets may reduce the need for debt financing. In fact, R&D is statistically significant with the expected negative sign. The estimated coefficient on the dividend tax rate, which is highly significant statistically, indicates that companies do reduce overhead expenses on their books when the risk of being in excess credit goes up. Indeed, the effect seems to be very large quantitatively. The increase of the dividend tax rate from the mean of 29 percent to 50 percent reduces parent interest expense by more than 20 percent.

When a company shifts debt abroad or reduces its leverage, it of course achieves a lower allocation of interest expense to foreign income. But under the current “water’s edge” system of allocation, the U.S. Treasury shares a substantial amount of the gain because the allocation goes down by less than the amount of interest taken off the parent’s books. Consider a simple example. The parent and affiliate have the same amount of gross assets but initially all of the debt is on the parent’s books. Half of the parent’s interest expense, therefore, has to be allocated to the foreign assets. The allocation will only go to zero under current law when all of the debt has been shifted to the affiliate. That is, the parent would no longer lose that half of interest deductions it had to allocate to foreign income but all of the debt would have been taken off its books. If, as would be more typical, foreign assets are smaller than domestic assets, the U.S. Treasury share is even larger.

The regression in the fourth column of Table 2 suggests that the second effect, lowering total parent overhead expenses, outweighs the first effect, the understatement of allocations to foreign income. Indeed this would be true even if the dividend tax rate coefficient in column 2 were only –0.010, or almost two standard errors below the estimated coefficient of –0.0438 in absolute value. In that case, parent interest expense would fall by 11 percent in response to the rise in the dividend tax rate from 29 percent to 50 percent. But, since less than 10 percent of total parent interest expense gets allocated to foreign income (in the general basket), the reduc-
tion in deductions against U.S. taxable income would still dominate the understatement of allocations to foreign income.

The regressions for parent R&D performed in the United States in column 5, comparable to the regression for interest in column 4, indicates no impact of expected excess credit positions on allocations. This is likely because R&D is much less mobile than debt. Also the R&D allocation regulations are probably much less burdensome than those that apply to interest expense. Allocable overhead expenses other than interest (and R&D) are probably somewhere between interest and R&D in terms of how easily they can be shifted to foreign books.15

The current “water’s edge” system of interest expense allocation gives MNCs a strong incentive to shift debt abroad. “Worldwide fungibility” on the other hand would give companies a greater tax benefit for every dollar of debt shifted abroad until the amount of debt abroad reaches the worldwide ratio. However, the shift of debt under worldwide fungibility gives all the tax benefit to the taxpayer in the form of lower foreign taxes rather than being split with the Treasury under the current “water’s edge” system. Under worldwide fungibility, the shift of debt abroad does not increase U.S. tax liability any more than the tax saving from the resulting lower required allocation. In contrast to current law, the taxpayer gets a dollar–for–dollar reduction in the required interest allocation. This difference should be kept in mind when the overall impact of behavioral responses is evaluated at the end of the paper.

Royalties

Under dividend exemption, royalties will be fully taxable and will not receive any cover from excess credits flowing over from dividends. Dividends will, of course, be exempt. Many companies will, therefore, have an incentive to lower royalties and increase exempt equity income that can be repatriated as dividends free from any U.S. tax. One possibility is that they will transfer less intangible assets abroad, but the more likely possibility would seem to be that they would alter their payments for intangibles by exploiting the range of uncertainty in the transfer pricing rules.16

There are currently CFCs whose royalties would not be much affected by dividend exemption—those that would have an excess limit parent even if they paid zero royalties and who are located in relatively low–tax countries where they can obtain the benefits of deferral. In this section we look at how the royalty paying behavior of this group of CFCs compares with other

15 Two earlier papers have looked at the impact of the allocation rules, Hines (1993) which examined R&D, and Froot and Hines (1995) which studied interest, each using a panel that spans the changed incentives resulting from the Tax Reform Act of 1986. Both find significant tax effects. These interesting papers differ from our analysis because of their reliance on financial reports in COMPSTAT. Hines cannot identify R&D performed in the United States, only total company R&D, and Hines and Froot cannot identify interest expense on the parent’s books, only total MNC leverage. As indicated in the appendix, our measure of R&D is qualified R&D for the purposes of the credit, which is restricted to R&D performed in the United States. In the minority (less than 20 percent) of cases in which companies do not claim a credit but are listed with R&D in COMPSTAT, the latter is used to impute R&D. In addition, the two earlier papers computed excess credit positions from COMPSTAT, not from information from tax returns. The basic information used was the average tax paid by affiliates on equity income abroad. But this could differ from the actual foreign tax rate on repatriated income because of differences in repatriation patterns. For example, more mature CFCs may distribute more of their income. The papers also had to rely on assumptions about expense allocations, which generally overstate the allocations actually made. That said, the COMPSTAT based data does have some advantages. While the R&D data may include foreign R&D, to the extent that it measures domestic R&D it may be a better indicator of the R&D subject to allocation than the narrower definition of R&D eligible for the research credit.

16 One test of the importance of each component would be to see if parent R&D makes the same contribution to CFC income (before deducting royalties) irrespective of tax incentives to pay royalties.
categories of CFCs that have a greater incentive to pay royalties under current law.

The groups of CFCs that we will examine are classified based on two considerations. One is the parent’s “first-dollar–of–royalties” tax rate on foreign income. That is, we subtract royalties from net foreign source income and re-compute the foreign tax rate on the rest of repatriated foreign income. This gives an indication of how likely the company is to be in an excess credit position before paying any royalties.

The second classifier is the local statutory tax rate in the CFC’s location. On the one hand, this indicates the benefit of paying more royalties when the parent is in excess credit. In the switch to royalties from dividends, the local deduction saves the statutory tax rate per dollar of additional royalties. On the other hand, if the parent does not have any excess credits, the saving (or loss) from paying an additional dollar of royalties to the United States is the difference between the foreign and U.S. statutory tax rates net of any effect on potential credits if dividends are reduced. Where the local statutory rate is low, the CFC will prefer to defer equity income rather than paying royalties to the United States.

The first two columns of Table 3 present the royalty regression and Tobit results for the various foreign tax rate–statutory tax rate categories. The dependent variable is the ratio of CFC royalties paid (to the United States) to CFC sales. The independent variables include both tax and non-tax characteristics of parents and CFCs. Parent R&D and advertising indicate the potential level of intangibles transferred to the CFC. The age categories indicate the CFC’s maturity. Newer CFCs may not yet have acquired many parent intangibles. Higher local GDP per capita may have an effect because it indicates a more skilled work force that can employ U.S. intangibles. Higher income countries may also demand more intangible intensive products.

The regressions also include the local statutory tax rate as a variable independent of any excess–credit categories, and surprisingly it has a negative significant coefficient. A similar result appears in Grubert (1998), where the explanation is that intangible income is shifted to low–statutory–tax CFCs that turn around and pay somewhat higher royalties to the parent.

The foreign tax rate–statutory tax rate categories at the bottom of the table are in ascending order of tax incentives to pay greater royalties. The statistical results confirm this presumption. In category 1, the parent is in excess limit even with zero royalties and the local statutory tax rate is less than or equal to 35 percent. These CFCs have no tax incentive to pay royalties to the United States at the expense of local equity income. There is no gain from greater deductions abroad compared to a current inclusion in U.S. taxable income, and the equity income can be deferred abroad. The significant negative coefficient is consistent with this view. The base category, not reflected in the category dummies, but in the constant term, are those with adjusted foreign tax rate on repatriated earnings between 35 and 45 percent and local statutory tax rates less than 35 percent.

Category 4 is at the other extreme in terms of the positive tax incentive to increase royalty payments to the United States. At an adjusted tax rate on foreign income greater than 45 percent, these CFCs are associated with parents that start...
out with substantial excess credits without any royalties. The highly significant positive coefficients in Table 3 for this group indicate the importance of this tax incentive for excess credit companies to pay greater royalties.

The middle categories, 2 and 3, face tax incentives between these two extremes, and again the results are consistent with this analysis. Category 2 has pure excess limit parents but a local statutory tax rate above the U.S. rate so they have a greater incentive to pay royalties than category 1. Similarly, proceeding up the incentive ladder, category 3 can be expected to pay more royalties than category 2 because these parents do have excess credits that will absorb some royalties. The pattern of the results is fully consistent with the simple tax incentives. The Tobit

20 This deep in excess credit group is not split up into statutory tax rate categories in these results because other runs indicated that there was no significant difference for high- and low-statutory tax rate categories.

21 Including the country withholding tax rate on royalties as an independent variable does not have much effect on the other coefficients. The withholding tax rate is sometimes statistically significant itself with a negative coefficient.
results in column 2 show the same pattern, with generally more significant coefficients.

As an alternative to the “first-dollar-of royalty” foreign tax rate on distributions used in the first 2 columns, the regressions in the third column use the same indicator of expected excess credit status, the “gross-up” tax rate on dividends, as in table 2. The significant positive coefficient confirms the importance of expected excess credits in motivating royalties. We could, in principle, use the results in Table 3, combined with the distribution of royalties within categories, to estimate the effect of dividend exemption on royalty payments. For example, CFCs that currently have large excess credits would become similar to always-in-excess-limit companies with comparable statutory tax rates. In other words, companies now in category 4 would behave like category 1 or category 2 CFCs depending on whether their local statutory tax rate is above or below 35 percent. Applying this procedure suggests a substantial potential decline in royalties of perhaps 25 percent or more.

It is, however, necessary to qualify these strong conclusions based on the results in Table 3. First, the “exogenous” indicator of potential excess credits may in fact be endogenous. Companies that plan for their CFCs to make large royalty payments would concentrate their dividend repatriations in high tax CFCs. They would not use the excess credits to shield dividend repatriations from low-tax CFCs. This would increase our estimate of the “adjusted foreign tax return on net repatriated income” or the “gross-up tax rate” on dividends. In principle, it is incorrect to take one product of corporate decisions, e.g., excess credit positions, and use them as exogenous variables to explain other decisions. At some planning horizon, they are all presumably joint decisions. In the regressions we have attempted to eliminate the obvious direct sources of endogeneity, but others may remain.

In addition, some of the excess credit impact on royalties may not represent a substitution between royalties and net equity income but a substitution between royalties and other types of payments that would be taxable under dividend exemption. In particular, income from sales of computer software, if classified as royalties, can absorb more excess credits than they would if classified as export sales or services income. The possibility that some export income is classified as royalties is suggested by the contrast between recent changes in royalty income reported on tax returns and those reported to the Commerce Department for the balance of payments (BOP) data. The tax data showed a doubling of royalty income from 1994 to 1996. The Commerce BOP data on royalties and license fees, on the other hand, report an increase of only 18 percent.

The long-term trend of aggregate related party royalty payments reported in the BOP data should also be mentioned. Royalties grew very strongly after the Tax Reform Act of 1986, which greatly increased excess credits, and continued to do so through the mid-1990s, at a compound annual rate in excess of 11 percent from 1989 through 1996. From 1996 through 1999, however, this growth seems to have flattened out. Indeed there was a modest decline from 1998 to 1999. This pattern may reflect falling tax rates abroad and the fact that most MNCs have managed to eliminate excess credits. It could also be attributable to economic conditions abroad or the ability to use cost sharing arrangements as a substitute for having to pay royalties.

22 Although 38 percent of the parents in the sample are in excess credit, almost 70 percent would be without royalties. Without lightly taxed income such as royalties, most parents would be in excess credit because of the significant impact of expense allocations.
CONCLUSIONS ON BEHAVIORAL CHANGES UNDER DIVIDEND EXEMPTION

The results of our empirical analysis indicate large potential behavioral changes in response to dividend exemption; one, the decrease in total parent deductible overhead expenses that increases U.S. revenue, and the other, the switch from royalties to net equity abroad that decreases U.S. revenue. It is difficult to make any precise estimate on how these offsetting changes might balance out, but we can use the coefficients in Tables 2 and 3 to make a rough estimate of the net effect. Rather than using the foreign tax rate–statutory tax rate categories in the first two columns of Table 3, it is more direct to use the regression in the third column, which uses the overall foreign tax rate on dividends as the potential excess credit indicator, the same as in the overhead allocation regression in Table 2. As far as royalties are concerned, dividend exemption is equivalent to a reduction in expected excess credits because they become fully taxable. For interest allocation, however, dividend exemption is equivalent to a move to an excess credit position because any allocation increases U.S. tax liabilities. If we assume a given absolute change in the dividend tax rate from the mean, the coefficients in Tables 2 and 3 suggest that, at least under the current system of interest allocations, the two offsetting effects would be approximately equal in magnitude. If allocations of interest to exempt income were not required, both the static revenue gains given in Table 1 and the predicted behavioral revenue gains would, of course, be lost.

Finally, we have not considered various other potential behavioral changes, which, however, seem to be second order compared to the ones discussed. Dividend exemption might affect the location of investment and, in particular, investment in the United States. But, if as suggested by Grubert and Mutti (2001) and the related paper by Altshuler and Grubert (2001), the effective tax rate on foreign investment actually goes up, this may lead to a revenue gain. Another important possibility is for companies to more aggressively classify passive income as active income. But again, because of the very modest burden of repatriation taxes from low–tax countries indicated by Grubert and Mutti (2001), virtually the same pressures exist under current law for companies to disguise passive income as active and retain it in tax havens. Companies may also be encouraged to shift more income out of the United States into low–tax locations. Again, almost the identical incentives already exist today because companies can take advantage of deferral. As suggested above, the elimination of the repatriation tax by itself does not seem to be a major motivation for behavioral changes apart from its effect on excess credits and expense allocations.

CONCLUDING REMARKS

Implementing dividend exemption for foreign business income has the potential for raising U.S. tax revenue. However, both the “static” revenue estimates and the analysis of possible behavioral responses demonstrated that the potential revenue gain depends critically on the specific features of the actual plan adopted. In particular, requiring the allocation of parent interest expense to exempt income is very important because both the “static” and “dynamic” revenue changes are in the same direction. The allocations would make MNCs reduce the debt on the parent’s books, and the resulting smaller deductions against U.S. taxable income would tend to offset the potential fall in royalties.

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REFERENCES


APPENDIX

DATA SOURCES

The basic source for the revenue estimates and information on MNC behavior are the linked Forms 1120, 1118, and 5471 Treasury files provided by the Statistics of Income Division of the Internal Revenue Service. The Form 1120 is the basic corporate return giving the parent’s income and deductions. (We make rather modest use of the balance sheet on the 1120, the Schedule L, because for items such as debt it is not clear whether foreign affiliate liabilities are included.) Corporations use the Form 1118 to claim a foreign tax credit and report all repatriated income as well as deductions. MNCs file a Form 5471 for each of their controlled foreign corporations. This form gives the CFC’s income, foreign taxes paid and transactions with related parties including the parent.

Information on the parent’s R&D was taken from the qualified R&D given as the basis for the R&D, more properly R&E (research and experimentation), tax credit. Only R&E performed in the United States qualifies. In the minority of cases (less than 20 percent) in which the parent does not claim an R&E credit but is recorded as performing R&D in COMPUSTAT, the latter is used to impute qualified R&E.

While we refer to “royalties” in the text, the categories actually found on the Form 1118 and Form 5471 is “rents, royalties and license fees.” It could, therefore, include items such as rents for computers and other equipment. For our present purposes, this is not much of a problem because rents (after deductions) should also be taxable under exemption. In any case, the evidence in Grubert (1998) indicates that royalties and license fees dominate the grouping.
