MNC Dividends, Tax Holidays and the Burden of the Repatriation Tax: Recent Evidence

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Recent Evidence

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Abstract

We address two issues:

1.   Do dividends from foreign subsidiaries depend on the residual home country tax, and can this be reconciled with existing models? The evidence seems to be inconsistent with both the Hartman-Sinn 'New View' and the Weichenreider and Altshuler-Grubert repatriation avoidance models.

2.   Does the huge inflow of dividends in response to the 2005 repatriation tax holiday suggest that the burden of the repatriation tax in a worldwide-credit system is very significant?

We review the evidence on the negative relationship between dividends and repatriation taxes including new results for the relationship between total foreign dividends and average foreign tax rates at the parent level. The explanation for the negative impact of the repatriation tax seems to be that tax avoidance strategies are not costless, as was assumed by the earlier models, and that the marginal costs rise as the pool of accumulated financial assets grows relative to the subsidiary's real assets. Subsidiaries in low-tax locations refrain from repatriating longer as the marginal cost of additional deferrals rises to equal the repatriation tax. A recent paper by Grubert and Altshuler suggests that the impact of tax differences on repatriations declines over time and disappears after 25 years. The 'immature' stage seems to last a long time.

Analysis of 2004 repatriations at the subsidiary level indicates that the parent's average foreign tax rate is most important to its decision, not the subsidiary's own effective tax rate or the average effective tax rate in its country of incorporation. Tax planning has made the country of incorporation less significant.

The burden of the repatriation tax is a particularly significant issue because it bears on the comparison of exemption versus worldwide credit systems. Past estimates of the burden, including both actual payments and the 'implicit' cost of avoiding repatriations, have been modest. Furthermore, it is difficult to identify any effect of the potential repatriation tax on companies' investment decisions. But this insignificant importance of the repatriation tax has been called into question by the huge repatriations (of almost $400 billion) under the 2005 tax holiday in which companies could repatriate and pay a 5.25 percent tax net of a scaled down foreign tax credit. The paper therefore examines the Treasury company level data for companies' participation in the tax holiday.

There is, however, no necessary conceptual link between participation in the tax holiday and the burden of the dividend tax. The measure of the tax relevant for real investment decisions is the present value of the direct and implicit taxes relative to the returns. Even if that burden is low a mature company with large accumulations may well choose to pay the tax holiday price because of the rising costs of deferrals. Even in a Sinn steady state 'new view' equilibrium, a repatriation tax holiday would trigger asset liquidations and large repatriations.

A company will repatriate to where the marginal cost of further accumulations is *below* the 5.25 percent tax price. The reason is the 'fresh start' which permits it to save costs on future deferrals. Some of the participants in the tax holiday had very low *current* repatriation avoidance costs as evidenced by the fact that many had substantial accumulations of 'previously taxed income' (PTI) under the CFC rules that they could have chosen to repatriate tax free.

As expected, a company's tax holiday repatriations are a positive function of its accumulated untaxed income and foreign profit margin, and a negative function of its average foreign tax rate, the ratio of its real capital to sales and its accumulated PTI.

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Introduction

The 'New View' on subsidiary dividends proposed by Hartman (1985) and Sinn (1993) suggests that repatriations by a 'mature subsidiary' are unrelated to the potential repatriation tax. On the other hand, the evidence indicates that the dividend behavior of U.S. corporations abroad is strongly influenced by the potential repatriation tax (Grubert and Mutti (2001) and Desai, Foley and Hines (2001)). But the theoretical alternatives to Hartman and Sinn, offered by Weichenrieder (1996) and Altshuler and Grubert (2002), which add financial assets and debt to the all equity, real capital Sinn model, also do not fit the data. They predict that companies will never repatriate if they face a positive repatriation tax. Subsidiaries just engage in various strategies such as accumulating passive assets that can be used as the basis for parent borrowing. The question is how to reconcile the theory and the facts.

A major reason for being interested in repatriation behavior is to evaluate the burden of the repatriation tax. This is important in comparing the impact of worldwide and territorial systems. In other words, is deferral as good as exemption from the companies' point of view? Both Grubert and Mutti (2001) and Desai et al. (2001) have made estimates of the burden, using repatriation equations to measure both the tax cost of actual repatriations, which are very low, and the 'implicit cost' attributable to the avoidance of repatriations. Both sets of researchers find the sum of the direct actual burden and the 'implicit' burden due to the cost of avoiding repatriations to be rather small, about 3 to 4 percentage points of pre-tax income in low-tax countries.

But the repatriations of almost $400 billion in response to the one year repatriation tax holiday in 2005 suggest that the burden of the tax may have been underestimated. Companies could bring accumulated earnings back home for a 5.25 percentage point tax, net of proportionately scaled down foreign tax credits. Thus companies were willing to bring back a large pool of deferred income abroad at a net tax cost of perhaps 4.0 percentage points.

Incidentally, in considering the actual and implicit tax burden on dividends, we are referring only to those potential dividends that are taxable by the United States on the margin. Dividends from countries with a tax rate above the U.S. rate produce excess flow over credits that can shield low-tax income such as royalties as well as dividends from low tax countries. If these are included, the overall burden of the repatriation tax compared to an exemption system would be much lower and could even be negative.

The papers cited above that estimated the burden of the repatriation tax each used a one period estimated repatriation equation which might be justified as a steady state relationship. But the time dimension of the burden has to be clarified in order to understand the significance of the tax holiday repatriations. First, the meaning of the 'burden' of course has to be precisely explained. It presumably refers to the tax impact on a particular decision, for example on the cost of capital or effective tax rate for investment. But the measure relevant for investment decisions may not be the same as the one relevant for income shifting decisions.

Accordingly, this paper reviews the recent literature and evaluates companies' response to the repatriation tax holiday to address the following issues:

1. What explains the relationship between dividends and repatriation taxes? Is it merely the substitution among different means of getting cash back to the parent such as royalties and interest as suggested by Grubert (1998)?

2. What does the response to the repatriation tax holiday in 2005 reveal about the burden of the repatriation tax?

As noted, both Weichenrieder (1996) and Altshuler and Grubert (2002) outlined strategies that companies could use to permanently avoid the repatriation tax. Weichenrieder had the subsidiary investing all of its operating income in passive assets like bonds, the income on which was taxed currently under the home country's CFC rules. Under his assumption of corporate level arbitrage to establish the relationship between debt and equity returns, the after-tax return on the financial assets was equivalent to the return on real investment in the Sinn steady state when all income is repatriated and investment bears the 'new view' tax cost. The pool of retained operating earnings (after foreign tax) is never repatriated. No Sinn-type 'underinvestment period is necessary because companies always have the option on earning a 'normal' after tax return by investing in passive assets.

Altshuler and Grubert (2002) showed that a variety of strategies could have the same result even if the standard arbitrage assumption did not hold. One simple strategy is to have the parent borrow against the passive assets held by the subsidiary. If the interest rate on the parent borrowing is the same as the interest earned on the passive assets abroad, this is also equivalent to repatriation with no tax cost. The current home country tax on the passive income is just equal the tax saving from the interest deduction at home. Altshuler and Grubert also outlined several 'triangular' in

which low tax subsidiaries in effect borrowed the foreign tax credits of their high tax siblings.

Contrary to what was assumed in these papers, however, these strategies are probably not costless. For example, parent borrowing against affiliate passive assets abroad may incur the cost an intermediation spread between borrowing and lending rates. Furthermore, the cost of deferring income permanently could be expected to depend mainly on the *stock* of accumulated financial assets relative to the real size of the foreign operations in terms of sales and tangible assets. The marginal penalty that the MNC suffers from greater debt on its balance sheet probably increases with the size of the debt in relation to its assets.

We would therefore expect zero or very low dividend repatriations early in a subsidiary's lifetime. Eventually, the marginal cost of increasing the stock of deferrals, i.e., the present value of the costs of permanently adding a dollar of financial assets, equals the repatriation tax. At that point the stock of assets used in the repatriation avoidance strategies stops rising and the company enters the Hartman-Sinn mature state. But a pool of passive financial assets, representing accumulated active business earnings, is never repatriated.

The observed relationship between repatriation taxes and dividend repatriations may therefore simply reflect a mix of 'immature' and 'mature' subsidiaries. The low tax subsidiaries are immature longer because the stock of deferrals has to rise further before its marginal costs outweighs the higher U.S. residual repatriation tax.

This process can easily be formulated in a simple model. For simplicity we assume a fixed, indivisible investment that yields an annual return after foreign tax of Y per period. The repatriation tax if Y is repatriated is TY. The cost of avoiding repatriation in any period is a function of total accumulated retentions A up to that point, or F(A), with F'(A) a rising function of A. The point at which the company stops retaining earnings and starts repatriating its income is time period D. The firm chooses D to minimize the present value of the cost of its repatriation strategy.

The present discounted value of these costs is:

$$TC = \int_0^D F(tY)e^{-rt}dt + \int_D^\infty F(DY)e^{-rt}dt + \int_D^\infty YTe^{-rt}dt$$, where r is the company's required

rate of return. The first term is the cost of retentions until D, the second term is the discounted cost of retaining the fixed accumulation DY after D and the third term is

the present value of future repatriations taxes after they begin at D. Minimizing TC with respect to D, we get: $\int_D^\infty F'(DY)Ye^{-rt}dt = TYe^{-rD}$ which is equivalent to $\int_0^\infty F'(DY)e^{-rt}dt. = T$. The left hand side is just the marginal cost of further retentions of earnings at D. D is optimal when this marginal cost is equal to the repatriation tax T.

We have assumed a fixed indivisible investment for simplicity to avoid any 'underinvestment' issues. The model could be extended to include both initial very high return infra-marginal investments and subsequent lower return investments as the subsidiary reaches its optimal capital stock. Then we would expect that the costs of avoiding the repatriation tax bear most heavily on the 'infra-marginal' investments with above normal returns. For these very profitable investments, the future financial deferrals are large in relationship to the real investment. The company therefore has to pay a higher tax avoidance penalty. But the relative tax avoidance costs decline as the above normal profits disappear and investment reaches its profit maximizing level. As we will see, high profit margins had a very significant impact on a company's repatriations under the tax holiday.

The results in a more recent paper by Grubert and Altshuler (2008) are consistent with this type of model in which the costs of avoiding the repatriation tax rises as the stock of accumulated financial assets increases relative operating assets. Starting with a standard subsidiary repatriation equation it added the amount of potential accumulated deferred income, namely annual profits multiplied by the age of the subsidiary, which was in turn interacted with the potential repatriation tax on dividends from that country. The latter was based on the average effective tax rate in the country to reflect the 'permanent' residual U.S. tax on dividends. A measure of whether the company could expect to be in excess credit was also included as a variable.

The results indicated that the potential repatriation tax was a significant deterrent to subsidiary dividends, but the effect of the repatriation tax declined as the stock of potential deferred income grew. The negative impact of the repatriation tax disappears after about 25 years, which suggests that the cost of avoiding the tax increases rather gradually over time.

The importance of the repatriation tax can also be assessed indirectly from its effect on real investment behavior. In their earlier paper Altshuler and Grubert (2003) found no evidence of any Sinn type 'underinvestment' effect in which companies attempt to prolong the benefits of deferral by delaying the time at which they become 'mature'. The relationship between a subsidiary's age and the amount of its real capital was not affected by the potential U.S. repatriation tax.

In addition, neither Grubert and Mutti (2001) nor Altshuler and Grubert (2001) were able to identify any impact of repatriation taxes on investment location. Grubert and Mutti (2001) used the host country dividend withholding tax as a measure of the potential repatriation tax. It applies if the parent expects to be in an excess foreign tax credit position. Altshuler and Grubert (2001) use the extent to which a taxpayer is persistently in an excess foreign tax credit position. If the company expects to have excess foreign tax credits, it has no potential residual U.S. tax on any subsidiary dividends. Grubert and Mutti could also not find any impact of the repatriation tax on the extent to which income is shifted from high-tax to low tax countries. All of this evidence suggests a rather modest burden of repatriation taxes.

This paper takes another look at the issue, in particular using the Treasury files for Form 8895, which companies had to file if they took advantage of the 2005 tax holiday. These files are linked with companies' tax returns for 2004, including the Form 1120, the basic corporate return, Form 1118 on which foreign tax credits are claimed, and the Form 5471s which describe the activities of each of the MNC's controlled foreign corporations (CFCs). The 5471s describe each CFC's earnings, transactions with related parties and it accumulated deferred income. Knowing which companies participated in the tax holiday and how much they brought back will help identify the cost of deferral and the burden of the repatriation tax.

The Repatriation Tax Holiday and the Burden of the Dividend Tax

The American Jobs Creation Act of 2004 introduced a one year repatriation tax holiday. Companies could repatriate accumulated earnings from abroad above a historical base level of dividends and pay only a 5.25 percent tax net of a proportionately scaled down foreign tax credit. These repatriations could be the greater of $500 million or the amount that had been listed as 'permanently reinvestment' on the company's financial statement. Almost $400 billion was repatriated under this provision. What does that tell us about the importance of the

repatriation tax? If a company repatriated a large amount of deferred income, does that mean that the burden of the repatriation tax exceeded the approximately 4.0 percentage point net tax cost of tax holiday repatriations.

The tax burden that is relevant for areal investment in a location is the present value of all direct and implicit repatriation taxes in relation to the present value of the investment's pre-tax returns. As we have noted, it is likely that the marginal cost of avoiding the direct repatriation tax rises as the pool of accumulated deferrals invested in passive assets rises relative to the size of the real investment. The evidence is that it is very low in the first ten years of the life of an investment. For example, Grubert and Mutti (2001) found that there were virtually no repatriations from low tax subsidiaries in the first 10 years after being incorporated. Therefore, even if the tax burden on a new investment is very low in present value terms, a 'mature' subsidiary with a large pool of accumulated financial assets may well repatriate a large part of the pool if the then marginal costs of further deferrals is above the holiday tax price.

The error of linking the tax burden of the dividend tax and the tax holiday can be seen even in the all equity, real capital only, Sinn steady state equilibrium. In the steady state, the repatriation tax has no effect on the optimal level of real capital. But if a temporary repatriation tax holiday were enacted, the subsidiary would sell part of its capital and repatriate the proceeds because the after-tax returns would be higher at home. After the higher repatriation tax applies again the subsidiary will start the Sinn process over. If the tax holiday rate is zero, the subsidiary will just go back to its initial equity injection point.

Returning to the simple, generalized tax avoidance model, we can look somewhat more precisely at the tax holiday decision. How much will the subsidiary repatriate? It will pay the company to reduce its accumulated pool of retained earnings to levels at which the marginal cost of additional retentions is *below* the tax holiday price. The reason is that it saves *both* the current cost of avoiding the tax on the amount they repatriate *and also* some of the cost of future deferrals. It delays the onset of higher marginal costs of future deferrals and also the time at which it would start repatriating at the 'normal' high tax price. It can start over deferring income at initial volumes with lower marginal costs. Indeed, a company may repatriate under the holiday even if it has relatively low current accumulated deferrals because of the 'fresh start' that saves future costs if it anticipates large high cost accumulations in the future.

This can be expressed more precisely using the model above and the example of the subsidiary with a permanent earning rate of Y per period and an optimal date D at which it begins actual repatriations at the normal tax rate T. Assume that the subsidiary has accumulated an amount A and is deciding how much to retain, R, after taking advantage of the tax holiday. The temporary holiday tax rate is H. If the company keeps R after tax holiday repatriations, it will retain income for D-R/Y periods and then start repatriating again at the normal repatriation tax T. Total repatriation costs therefore are: H(A-R) +

$\int_0^{D-R/Y} F(R+Yt)e^{-rt}dt + \int_{D-R/y}^{\infty} F(DY)e^{-rt}dt + \int_{D-R/Y}^{\infty} TYe^{-rt}dt$. The first term is the tax cost of tax holiday repatriations and the second term is the cost of accumulating earnings until D, when repatriations begin under the normal tax T. The third term is the cost of permanent retentions DY and the fourth term is the cost of future repatriations at the normal repatriation tax T.

Minimizing these costs with respect to R yields:

$H=\int_0^{D-R/Y} F'(R+tY)e^{-rt}dt + Te^{-r(D-R/Y)}$. At the optimal amount R retained after the tax holiday, the saving in holiday tax from increasing R is equal to the two fresh start terms, the reduction in the cost of accumulations until D resulting from the marginal increase in R, and the benefit of the later payment of the normal repatriation tax T.

We can use this condition to see if the optimum R is the same as the optimal level of accumulations at which point the subsidiary would start repatriating if the tax holiday tax rate H were *permanent*. Call that time period P. Then we can test if setting R/Y =P could possibly satisfy the optimum equation for R. It is also useful to substitute for T from the optimum condition for D above where T is equal to the marginal cost of accumulations when accumulations are equal to YD. Then if R/Y=P, the optimal condition for R must satisfy:

$H=\int_0^{D-P} F'(YP+tY)e^{-rt}dt + \int_{D-P}^{\infty} F'(DY)e^{-rt}dt$.

But we can see that cannot be the case. Because the marginal cost of retentions increases as total accumulations rise, in both integrals covering the whole period after P F'( ) is greater than it is in the optimal condition for P, namely $H=\int_0^{\infty} F'(PY)e^{-rt}dt$. The only way to satisfy the condition for R under the temporary tax holiday is to lower the F'( )s at any t, which can only be done by lowering R below PY. A

temporary tax holiday can cause total retentions to fall to a very low level, much lower than the level that would trigger repatriations if the holiday tax rate were permanent.

In interpreting the large repatriations under the 2005 tax holiday, it is important to note that there are two types of accumulated earnings that foreign subsidiaries have on their books. The most important are active earnings that have not been taxed by the United States. But also significant are earnings that have already been taxed under the CFC (subpart F) rules, such as income from passive assets, which the subsidiary has chosen not to repatriate. If the subsidiary retains this previously taxed income it has a ready source of potential repatriations with a zero U.S. tax cost.

Our conjecture, based on this simple model, that many of the companies that took advantage of the tax holiday had low current costs of repatriation tax avoidance is confirmed by the fact that, of the companies that chose to repatriate under the tax holiday, 29.6 percent had previously taxed income equal to at least 20 percent of their tax holiday repatriations. Also, 20.7 percent had previously taxed income equal to at least 20 percent of their accumulated untaxed income at the end of 2004. Because the cost of retaining this previously taxed income in terms of the parent's balance sheet, etc., are similar to the costs of retaining the untaxed accumulations, these companies must have had a zero or very low current cost of avoiding repatriations.. They would not have repatriated taxable dividends anytime soon if the tax holiday had not been enacted because they could have exhausted their previously taxed income first.

Table 1 further illustrates the dynamics of companies' choice to repatriate under the repatriation tax holiday and the decision to accumulate previously taxed income. The first column of results reports on Tobit estimates for the amount, if any, of qualified repatriations under the 2005 repatriation tax holiday. The sample is restricted to companies with foreign sales greater than $500 million in 2004. The dollar values such as the amount of repatriations are all scaled (divided) by foreign sales. The independent variables are derived from the company's tax return filed for 2004. The parent level data on foreign subsidiaries in 2004 are calculated by aggregating the individual CFC data. The variables are the average foreign tax rate on foreign income, accumulated earnings at the end of 2004 not preciously taxed, the square of these untaxed accumulated earnings, accumulated earnings at the end of 2004 that *have been* previously taxed, the ratio of foreign profits to sales, the ratio of

tangible capital abroad to sales, the parent's interest expense relative sales, and the size of untaxed deferrals relative to the parent's assets.

A lower foreign tax rate would increase tax holiday repatriations because the tax saving are be greater. The size of accumulated untaxed earnings is the pool that can potentially be repatriated. The marginal tax avoidance costs are also higher as the pool grows. The square term for accumulations is included to test this possibility that marginal costs of accumulated deferrals increase as the pool gets larger. The pool of *previously taxed* income (PTI) would be expected to reduce tax holiday repatriations, which are taxed at 5.25 percent, because PTI could be repatriated tax free first. A higher foreign profit margin on sales would increase repatriations because it would be expected to create larger deferrals in the future on which costs could be reduced because of the 'fresh start'.

Greater tangible capital in relation to subsidiary sales would be expected to reduce tax holiday repatriations under our assumption that the marginal costs of additional financial accumulations depend on how big they are relative to the company's 'real' scale. Higher untaxed deferrals relative to the parent's size might be expected to increase repatriations because repatriation avoidance might be more costly. Finally, parent leverage might increase repatriations because they could be used to pay off the debt.

As expected the average foreign tax rate has a negative coefficient and it is easily significant at the 5 percent level. Lower average foreign tax rates increased tax holiday repatriations. The tax holiday savings are greater and low-tax companies expect to defer greater amounts of their income in the future.

In addition, the results show the extreme importance of accumulated untaxed earnings, the foreign profit margin on sales, and subsidiaries use of tangible capital like plant and equipment. The significance of the profit margin, given the level of accumulated earnings, indicates the possible importance of future retentions. The results confirm the significance of not only the current cost of accumulated deferrals but also the companies expected accumulations in the future when the repatriation tax returns to it 'normal' level. The squared term for accumulations is also highly significant, suggesting that the marginal costs of deferral rise as the pool gets larger.

The ratio of accumulated previously taxed income is significant at the 5 percent level with the expected negative sign. The opportunity for tax free repatriations reduces the benefits of tax holiday repatriations. Furthermore the

availability of PTI indicates that the company has low costs of repatriation avoidance. Also, the similarity of the PTI and untaxed accumulated earnings coefficient may suggest that the two types of accumulations are close substitutes in terms of the value of their repatriations to the parent company. Finally, the remaining two independent variables, parent leverage and the ratio of accumulated income to parent assets, have no explanatory power.

The second row in Table 1 presents results for an OLS regression in which the ratio of previously taxed income to foreign sales in 2004 is the dependent variable. The profit margin on sales is highly significant. A very profitable subsidiary is more likely to invest in passive assets, the major source of previously taxed income. By the same token, if the subsidiary is highly capital intensive, profits are more likely to be invested in operating assets rather than in portfolio assets.

Greater accumulated *untaxed* earnings reduce the volume of PTI because it is more advantageous to repatriate PTI as the costs of deferral increase. This is particularly true at low foreign tax rates. Initially of course there must be a positive relationship between PTI and accumulated active earnings because it is the latter that are invested in passive assets. The negative coefficient must indicate that the companies in the sample are beyond the point where repatriation avoidance costs start to become positive. At that point further accumulations of untaxed income reduce PTI as repatriation of PTI becomes appropriate.

We can use this regression to get a rough idea about when the cost of repatriation tax avoidance tax becomes positive. For example, we can consider a hypothetical company with a zero foreign tax rate a typical profit margin of 10 percent on foreign sales. If we assume that the foreign affiliates accumulate all their active income, it would take seven years for the PTI to go to zero. At that point accumulated active untaxed income would be 70 percent of sales, or twice the level of tangible capital.

Annual Deferral and Dividends at the Parent Level

Table 2 returns to a somewhat more conventional repatriation analysis, using 2004 data, but looks at it at the parent level and all the dividends it receives from foreign subsidiaries. The dependent variable in Table 2 is the MNC's ratio of foreign dividends to its subsidiary's combined equity income. The explanatory variables are the company's average foreign tax rate, subsidiaries' aggregate subpart F (currently

taxed) income   in relation to total subsidiary income, its R&D and advertising intensity, and the tangible capital intensity of its foreign operations.

The first regression in Table 2 shows that total dividend repatriations are highly responsive to the parent company's average foreign tax rate. The coefficient is both statistically and quantitatively highly significant. For example, an increase of the average foreign tax rate from the mean of 18 percent to 30 percent would increase dividends by more than 20 percent of the mean level. As expected, the level of currently taxed subpart F income is highly significant in increasing dividends because it incurs no additional residual U.S. tax. The remaining variables are not statistically significant.

The second regression is for the mirror image of the first, the ratio of deferred income to total foreign equity income instead of the non-deferred income. The third regression tests a possibility analyzed in Grubert (1998), that dividends merely substitute for other types of repatriations such as royalties and interest when their tax price becomes relatively more favorable. Total distributions including royalties and interest may therefore follow the Hartman-Sinn pattern. The test is therefore whether the dividend tax price affects *deferred income* relative to *total potential distributable income.* The latter includes both net equity income and also total royalties and interest paid to the parent company. The ratio of deferred income to this expanded definition of income is the dependent variable in the third regression. We can see that the average foreign tax rate is still highly significant, with the coefficient just 10 percent smaller in absolute value than in the first regression..

Finally, in a linked sample of 292 large nonfinancial companies for 1996 and 2004, not shown on the tables, the change in the deferred share of foreign income was highly correlated with the parent level change in the average effective tax rate on foreign income. Furthermore, the coefficient was even somewhat greater in absolute value than the coefficient in the 2004 cross-section. This supports the strong relationship between deferral decisions and foreign tax rates.

Dividends at the Subsidiary Level

We now go on to look at dividends at dividends at the CFC level. Table 3 presents 3 different Tobits for the share of CFC earnings distributed as dividends. They differ by using alternative measures of the potential U.S. residual tax on the CFC's dividends. One is based on the average effective tax rate of all the subsidiaries

in a country, which has been used in previous studies as a measure of the CFC's permanent tax cost. Another is the subsidiary's own effective tax rate in 2004. The final one is the parent level average effective tax rate on foreign income, which is calculated by aggregating the data for all of its subsidiaries. Other independent variables are the CFC's age in decades, the ratio of subpart F income relative to sales, the amount of accumulated earnings relative to sales, and parent R&D and advertising intensity.

What is surprising in the Table 3 results is the dominant role of the parent's average effective tax rate on foreign income. It is always highly significant. The residual tax based on the country average tax rate, which has been very significant in earlier studies, is statistically significant at the 10 percent level if it appears alone in the equation. But it fails to be significant even at that level if the parent average is included. Furthermore the CFC's own effective tax rate never has much explanatory significance.

It is not surprising that the company's average foreign tax rate should be significant in a subsidiary level repatriation analysis because it gives an indication of how likely the company is to be in an excess credit position. But additional considerations seem to be at work here. In a separate regression (not displayed) for the CFC's own average effective tax rate with the average country rate and the parent level overall rate as independent variables, each is very significant with the parent average rate being the most important. A below average tax rate parent will have below average tax rate subsidiaries in all countries. The parent's average foreign tax rate seems to give the most information on a CFC's permanent tax cost on repatriations. Companies appear to differ in their ability and willingness to lower their foreign tax rates. This seems particularly the case since the introduction of the new planning opportunities offered by 'check-the-box'.

One reason why the CFC's own tax rate in 2004 is not significant is that the foreign tax credit that a dividend would bring is based on the pool of retentions and foreign taxes since 1986, not its current tax rate. The latter may have a great deal of noise because of the timing of income and deductions.

As expected, dividends are strongly influenced by the subsidiary's age. This is consistent with both the Sinn model, and also and more general repatriation avoidance models if we assume that the marginal cost of avoidance rises as the pool of deferrals increases.

Summary and Conclusions

We attempt to address two issues:

1. Do dividends from foreign subsidiaries depend on the potential residual home country tax and can this be reconciled the existing theory?

2. What determined companies' response to the 2005 repatriation tax holiday and does that help identify the burden of the dividend tax.

We add to the repatriation literature by reporting results for dividends both at the overall parent level and the subsidiary level for 2004. Consistent with earlier findings, dividend rates are significantly related to foreign tax rates. In the case of both the parent level and subsidiary results, the parent's average foreign tax rate has the most explanatory power. Contrary to previous studies, the average effective tax rate in the subsidiary's country of incorporation is not very significant. New planning devices such as check-the-box have eroded the significance of the subsidiary's country of incorporation.

This evidence can be reconciled with the repatriation avoidance models in Weichenreider (1996) and Altshuler and Grubert (2002) by assuming that the marginal costs of avoidance rise as the pool of financial deferrals grows relative to the subsidiary's 'real' operations. High-tax subsidiary's repatriate earlier because the marginal costs of further accumulations reach the actual residual tax at an earlier point. For low-tax subsidiaries, the 'immature' stage seems to last a long time.

The fact that U.S. companies were willing to take advantage of the tax holiday rate of 5.25 percent, net of scaled down foreign tax credits, and repatriate almost $400 billion gives no information on the 'burden' of the U.S. tax on foreign dividends. The burden relevant for investment is the present value of actual and 'implicit' taxes relative to the present value of the investment's returns. A company with a low initial effective tax rate on investment might still take advantage of the holiday if it already had large accumulated deferrals on the investments made some time ago. The marginal tax avoidance costs of further accumulations can be very high at that point.

A survey of the evidence indicates that the effective burden of the repatriation tax is small, perhaps 3 to 4 percentage points in low-tax locations. This includes the actual payments and the 'implicit' costs of repatriation avoidance, and is based on estimates of the 'deadweight' efficiency loss attributable to the tax using repatriation equations. It is also difficult to detect any effect of potential repatriation taxes on real

investment abroad by U.S. companies. This is consistent with the assumption that the marginal costs of accumulating financial assets rises as they increase relative to the size of real capital. The burden of the repatriation tax avoidance is therefore much higher for high rate of return infra-marginal investments than for the marginal investment.

A company will take advantage of the tax holiday to save the costs not only on its current level of deferrals but also the cost of future deferrals. The marginal costs of accumulations rise as they get larger in relation to the company's 'real' operations. The 'fresh start' provided by the tax holiday repatriations delay the time at which avoiding repatriation becomes very costly. Thus, the volume of expected future deferrals is very important in the tax holiday decision.

Analysis of the company level data on tax holiday repatriations shows, as expected, that they are larger if the MNC has a greater pool of untaxed accumulations and if it has a higher profit margin on foreign sales. The latter indicates larger expected deferrals in the near future. Furthermore the tax holiday dividends are lower if the company has a higher average effective tax rate on foreign income, because potential tax savings are smaller, and if it has a greater amount of real capital abroad per unit of sales. Repatriations are also lower if the company has a larger amount of previously taxed income (PTI) that has not yet been repatriated, because it can always be repatriated free of U.S. tax.

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Table 1

Tax Holiday Repatriations and Accumulated Earnings

	Dependent Variable	
	Tax Holiday Dividend/Sales Tobit	PTI/Sales OLS
Intercept	-.0619 (.0280)	.0293 (.0088)
Average Foreign Tax Rate	-.2363 (.1085)	-.0511 (.0377)
Accumulated Active Income/Foreign Sales	.3924 (.0595)	-.0810 (.0223)
Accumulated Income Squared	.0263 (.0099)	
Accumulated PTI/Sales	-.3303 (.1502)	
Parent Interest Expense/Sales	-.0383 (.0393)	
Foreign Profit Margin On Sales	.5988 (.1128)	.2739 (.0348)
Tangible Capital/Sales	-.1393 (.0278)	-.0189 (.0084)
Accumulated Earnings/Parent Assets	-.0568 (.0415)	
Accumulated Earnings* Average Foreign Tax Rate		.4071 (.1211)
Mean of Dependent Variable	0.0987	0.0354

Notes:
Standard Errors are in Parenthesis
PTI is Accumulated Previously Taxed Income
All Dollar Values Scaled by Sales
N = 598

Table 2
Aggregated Repatriations at the Parent Level
(2004)
OLS Regressions

Independent Variables	Dependent Variable		
	Dividends/Foreign Profits	Deferred Profits/Foreign Profits	Deferred Income/Expanded Foreign Income
Average Foreign Tax Rate	.456 (.099)	-.456 (.099)	-.418 (.097)
Subpart F Income/Foreign Income	.881 (.073)	-.881 (.073)	-.763 (.072)
Parent R&D/Sales	.228 (.382)	-.228 (.382)	-.330 (.376)
Parent Advertising/Sales	.595 (.483)	-.595 (.483)	-1.24 (.475)
Tangible Capital/Sales of Foreign Subsidiaries	-.0073 (.025)	.0073 (.025)	.0298 (.024)
Mean of Dependent Variable	.270	.730	.637

Notes
Standard Errors are in Parenthesis
PTI is Accumulated Previously Taxed Income
All Dollar Values Scaled by Sales
N = 539

Table 3
Dividends at the Subsidiary Level - 2004
Dependent Variable= Dividends/Earnings
Tobits*

Independent Variables			
Subsidiary Age in Decades	.049 (.0094)	.046 (.0094)	.0458 (.0094)
Parent R&D/Sales	-.800 (.607)	-.530 (.608)	-.621 (.609)
Parent Advertising/Sales	1.68 (.618)	1.68 (.614)	1.66 (.617)
Subpart F Income/Subsidiary Sales	1.76 (.427)	1.81 (.423)	1.81 (.423)
Accumulated Deferral/Subsidiary Sales	-.0277 (.0391)	-.0169 (.0384)	-.0143 (.0382)
Residual U.S. Tax - Assuming Subs Own Tax Rate			-.003 (1.004)
Residual U.S. Tax - Using Overall Parent Average Foreign Tax Rate		-.759 (1.86)	-.761 (.186)
Residual U.S. Tax - Using Country Average Effective Rate	-.268 (.154)	-.226 (.154)	-.222 (.156)

* Standard Errors Are in Parenthesis
N = 2402

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