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WHAT IS THE MARGINAL SOURCE OF FUNDS FOR FOREIGN INVESTMENT?

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ABSTRACT

This paper analyzes the marginal source of funds for foreign investment using both aggregate and micro data on the intrafirm transactions of U.S. international firms. Tax arbitrage regarding the form and timing of transactions, combined with risks involved with foreign operations and the desire of the parent to control subsidiaries, suggests that parent transfers provide the marginal source of funds for most foreign investment. Our conclusion is consistent with the seemingly puzzling evidence that some subsidiaries have positive dividends and transfers simultaneously despite the associated tax penalties, and others neither pay dividends nor receive transfers. Our analysis and empirical evidence are in sharp conflict with the widely-held tax capitalization view that retained subsidiary earnings are the marginal source of financing foreign investment.

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1. Introduction

The foreign source income of international firms is subject to complicated tax procedures because of overlapping tax jurisdictions and the consequent possibility of double taxation. A central issue in evaluating tax policy towards foreign source income is the method of financing marginal foreign investment. By retaining earnings for reinvestment, a foreign subsidiary can defer home country taxes on those earnings and thus reduce the effective tax rate. On the other hand, the subsidiary may want to repatriate earnings despite the associated tax penalties and draw transfers from the parent to finance the marginal investment.

In addition to the effect of the domestic corporate rate on the subsidiary's cost of capital, the question of the marginal source of financing foreign investment is central to evaluating major policy options regarding foreign source income. If retained subsidiary earnings are the primary source of funds at the margin, repealing tax deferral may have much stronger effects on foreign investment than a change in the foreign tax credit system. On the other hand, if parent transfers are the major financing source at the margin, both instruments can be important and must be combined carefully. For example, a restriction on the foreign tax credit aimed at discouraging foreign investment could backfire since subsidiaries may retain more earnings to avoid double taxation.[1]

[1] Jun (1989) provides a theoretical discussion of this issue.

This paper analyzes the marginal source of funds for foreign investment by U.S. corporations. Despite the need to properly understand the marginal source of funds, most previous analyses have not paid due attention to the factors which can influence the international firm's financial decisions at the margin.[2] Many traditional researchers either have ignored the subsidiary's retained earnings or have assumed a fixed dividend payout ratio so that they can regard parent transfers as the marginal source of funds.[3] They justify their stable-dividends assumption with explanations similar to ones used to explain the financial behavior of the domestic firm, such as signalling or the need to maintain an optimal debt-capital ratio. However, since the subsidiary's dividend payment is an intrafirm transaction, dividend-paying motives employed in the context of the domestic firm-shareholder relationship may not be readily applied.

Noticing the lack of a good theory to explain intrafirm dividends, other researchers [e.g., Hartman (1985), Koptis (1980)] argue that a subsidiary should finance its operations by retaining earnings to the greatest extent possible since drawing transfers may incur an avoidable tax liability. Deferred home country taxes on retained earnings are capitalized in the market value of the subsidiary when the home country corporate rate is greater than the host country rate and when the subsidiary cannot find tax-free channels for transferring income to the parent. The equilibrium marginal q is less than one. Hence, under this tax capitalization view, retained earnings, which is a cheaper source of funds than transfers, are the marginal source of investment funds for mature subsidiaries with after-host-country-tax profits in excess of their desired investment expenditures. Dividends are determined simply as a residual after profitable investments are undertaken.

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[2] Since the first draft of this paper was written, Hines (1988a) and Hines and Hubbard (1989) have made an important contribution to understanding the tax effects on dividend payments within multinational corporations.

[3] Caves (1982) provides a summary of traditional studies on these issues.

This discussion of the subsidiary's financial policy strikingly resembles the well known debate over the domestic firm's dividend payment behavior. However, while the tax capitalization views in the domestic context has been thoroughly investigated, the tax capitalization view of the subsidiary's financial behavior has been seldom disputed during the last decade. Proponents of the traditional view have not provided convincing explanations for the exogenous benefits associated with intrafirm dividends, nor has micro evidence been developed against which the propositions of the tax capitalization view can be tested. Although previous studies try to justify their dividend assumptions using the trends in aggregate dividends, these aggregate data do not offer conclusive support for either view, as admitted by several authors [e.g., Hartman (1985)]. One major goal of this paper is to provide micro evidence against which to test the propositions of the tax capitalization view.

It is also important to note at the outset that while the analogy between the international and domestic versions of the tax capitalization view is useful, it can be misleading for our purposes. When we isolate the subsidiary's maximization as an independent problem, transfers by the parent can be treated as "external funds" as are domestic corporations' new equity issues. Once we recognize, however, that the subsidiary's behavior should be consistent with the international firm's overall profit maximization, parent transfers must be regarded as funds internal to the entire firm. In this case, only unaffiliated financing sources either at home or abroad represent external funds to the international firm.[4]

Thus, in addition to transfers and its earnings, a subsidiary may have a third possible source of financing their operations -- unaffiliated sources of funds available in the host

[4] For a detailed discussion of an integrated firm problem, see Jun (1988).

country. In reality, local borrowing is a major source of funds for the operations of many subsidiaries.[5] Furthermore, shared ownership of a subsidiary between the parent in the home country and local residents in the host country may hold significant implications for the firm's financing and dividend payment decisions.

The other important point to notice about the overall maximization objective of international firms is that these firms typically have a large incentive to allocate their global income and expenses among the parent and subsidiaries, especially as a means of minimizing the firm's total tax liability. A variety of tax-minimizing activities may significantly affect the subsidiary's financing and dividend decisions. These tax considerations, combined with other non-tax considerations described below, suggest a need for a complete reexamination of the question of what is the marginal source of funds for foreign investment.

We begin in section 2 with a discussion of the evidence based both on aggregate and individual firm data. In sections 3 and 4, various tax and non-tax considerations regarding the subsidiary's financing and dividend decisions are explored to find explanations consistent with the evidence. The intrafirm nature of financial transactions is stressed to distinguish the present case from the discussion of the purely domestic firm's financial policy. A brief conclusion follows.

2. The Evidence

In the absence of individual firm data, previous researchers have often cited trends in aggregate data to support their views. The basic data summarizing the trends in direct

[5] See Table 4 in section 2. Jun (1989b) deals with related issues.

investment flows and the accompanying earnings and dividends are presented in Tables 1 and 2. Table 1 shows that retained earnings have emerged as an important source of funds for U.S. investment abroad while parent transfers have recently become the major financing source for foreign investment in the U.S. The big drop in U.S. direct investment abroad in the early 1980s can be attributed to changes in both retained earnings and parent transfers (Columns (2) and (3)). On the other hand, the surge in foreign direct investment in the U.S. during the same period was primarily due to movements in parent transfers. Note that during the past few years direct investment in both directions have been quite sizable. These trends suggest a potential correlation between the tax reform acts and direct investment capital flows. For example, one may suspect that U.S. direct investment abroad has responded to the changes in U.S. domestic investment incentives as if investment abroad were a substitute for domestic investment. Foreign direct investment in the U.S also seems to have been sensitive to U.S. tax provisions in the 1980s. The increase in foreign investment in 1986 can be attributed to foreign investors' efforts to exploit favorable incentive provisions before expiration.

Columns (2) and (4) of Table 2 show that dividend payments have been sizable and stable in most years from 1960 to 1986. Traditional researchers have based their fixed dividend assumption on this trend of stable aggregate dividends. On the other hand, researchers supporting the tax capitalization view have cited the rising share of retained earnings out of U.S. direct investment abroad (Column (3) of Table 1) as indirect evidence of their claim that retained earnings provide the marginal source of funds for most foreign investment. However, these trends in aggregate financial data may have implications for the average source of internal funds, but they do not support any reliable behavioral pattern at individual firm level. For example, aggregate dividends might be stable even though individual firms regard dividends as a residual. For firms with a large amount of retained earnings, parent transfers can still be the marginal source of funds.

In order to shed light on the debate regarding the marginal source of funds, this paper makes a first step towards testing the predictions of competing views using unpublished individual firm data supplied by the U.S. Department of Commerce. The Bureau of Economic Analysis occasionally conducts benchmark surveys of U.S. direct investment abroad and foreign direct investment in the U.S.[6] The most recent surveys of U.S. direct investment abroad were conducted in 1977 and 1982. From the 1982 survey, we took 538 U.S. foreign affiliates with international investment positions larger than seventy-five million dollars as our sample. Based on the relevant information about each firm in the sample, we construct Table 3, which breaks down the total sample by the presence of dividends and positive parent transfers.

Forty six percent of the firms in the sample drew positive parent transfers and about the same proportion of the sample paid dividends to their parents. According to the tax-capitalization view, a subsidiary must have either positive dividends and zero or negative parent transfers (mature firms) or zero dividends and positive transfers (immature firms). However, these two cases explain the financial behavior of only forty percent of the total sample. Strikingly, more than one-half of the dividend-paying firms also had transfers from the parents, an observation which is sharply inconsistent with the predictions of the tax-capitalization view. This "dividend puzzle" is similar to the familiar domestic financial policy conundrum. Another important finding is that a significant portion of the sample firms (thirty-four percent) neither paid dividends nor received positive parent transfers.

[6] The collected data are fairly comprehensive and detailed enough to be interesting in themselves. They, combined with annual sample surveys, are also used to update various aggregate time series regarding direct investment.

We repeat the same exercise with the 1977 survey data; this sample represents 589 U.S. foreign affiliates with international investment positions larger than fifty million dollars. The qualitative results are very similar to those obtained in the 1982 case. The decrease in the percentage of firms drawing parent transfers (from fifty-three percent in 1977 to forty percent in 1982) can be interpreted in several ways. This decline may indicate that some immature subsidiaries matured and thus became independent of parent transfers, or that the worldwide recession in 1982 may have led U.S. multinationals to make fewer (or even negative) new ventures abroad. The percentage of firms with both positive dividends and transfers increased from forty eight percent of all dividend paying firms in 1977 to fifty seven percent in 1982. This observation may be related to the fact that many U.S. firms made losses in domestic operations in 1982, implying a potential avenue for tax-free repatriation of foreign earnings. This point is elaborated upon in the next section.[7]

It is not surprising that there are firms with no dividends and no positive transfers, since subsidiaries can undertake financial transactions with local residents instead of making frequent intercountry intrafirm transactions. Subsidiaries can borrow locally to finance investments and spare parents frequent equity investments. Table 4 shows that, on average, subsidiaries depend heavily on local funds to finance their operations. While local funds consists primarily of debt capital, equity capital held by local residents is also significant vis-a-vis the parents' share. These statistics also raise an interesting point regarding the international firm's ability to purchase foreign financial assets with the subsidiary's retained earnings. In general, the tax law regulates such "passive" investment and treats the resulting income as taxable dividends.[8] However, the empirical significance

[7] We tried the same exercise at the industry level and obtained similar results.

[8] Ault and Bradford (1989) reviews the basic legal rules governing the taxation of international transactions.

of this no-dividends-and-no-transfers case may imply that in reality, some subsidiaries either can manage to avoid such regulation or are willing to accept the tax liability accompanying their financial transactions with local residents. Another explanation for this case is that some unprofitable subsidiaries may repatriate equity capital (negative transfers). This point may be indirectly supported by an increase in the percentage of firms making negative transfers from twenty-three percent of the sample in 1977 to thirty-four percent in 1982, the recession year.

The statistics on firms making both positive transfers and dividends are more puzzling and deserve a thorough investigation.[9] The examination of this issue makes it necessary to face three basic questions: Are the assumptions made in our basic model empirically valid? Is the subsidiary really unable to find tax free channels through which to repatriate earnings at the margin? Are there any convincing reasons for the parent to value dividends? The rest of this paper is devoted to answering these questions.

3. Taxation and Intrafirm Transactions

The international firm having both domestic and foreign operations typically has a large stake in the timing and method of allocating their income and resources among the parent and subsidiaries. In addition to the basic issue of investment location, a variety of transfer pricing issues has always been the subject of policy debates.[10] In general, for example, the firm can have some flexibility in setting the price for intrafirm trade, in

[9] For incorporated affiliates, foreign source income is taxable on an accrual basis. However, the relatively small fraction of aggregate investment undertaken by incorporated affiliates implies that branch operations do not play a significant role in the dividend puzzle seen in the data from the largest foreign operations.

[10] Literature on transfer-pricing issues have been growing in recent years [e.g., Bernard and Weiner (1989), Hines (1988b)].

choosing the composition of parent transfers, in charging interest on intrafirm loans, in allocating various expenses, or in choosing the form of income repatriation. These intrafirm issues distinguish the debate on the financial policy of the international firm from that of the domestic corporation. In this section, we concentrate on issues which are directly relevant to the first two questions raised above: the empirical validity of the assumptions underlying the model and the presence of tax-free channels for income repatriation. Section 4 presents cases where the parent may value dividends despite the associated tax penalties.

3.1 The Form of Transactions

In reality, parent transfers consist of equity investments and intercompany loans, and therefore the subsidiary pays interest as well as dividends to the parent. There is a large flow of intercompany debt between parents and subsidiaries as implied in Table 4.[11] The inclusion of loans does not alter the basic prediction of the tax capitalization view since the simultaneous transactions of dividends and loans would also incur an avoidable tax liability. One may argue that the need to maintain a optimal debt equity ratio would lead the subsidiary to draw loans regardless of its tax consequences. However, it is difficult to find convincing reasons why a multinational firm, which may be concerned about its overall debt equity ratio, also would concern itself with each subsidiary's capital structure.

The presence of debt capital can have a significant bearing on the validity of the assumption that $t > t^*$ in a hundred-percent equity financing model, where t and t^* are the

[11] The choice between debt and equity can be affected by a variety of tax and non-tax considerations. In addition to the tax arbitrage reason explained here, for example, a switch from a foreign tax credit to a foreign tax deduction would encourage the firm to use more debt since interest is tax deductible in the host country. In the late 1960s when the U.S. restricted equity investment abroad for balance of payment reasons, many U.S. multinationals substituted debt for equity to meet their investment needs.

home country and the host country corporate rates, respectively. This assumption, combined with the no-tax-free-channel assumption, forms the basis of the argument for the capitalization of deferred home taxes.[12] In this simple case where parent transfers consist only of equity capital, the international firm's total tax liability on income from its foreign operations is calculated as the host country tax actually paid ($t^*[D/(1-t^*)]$) plus the home country tax due on the pre-host-country-tax equivalent of dividends ($t[D/(1-t^*)]$) minus the foreign tax credit, where D represents the subsidiary's dividend payments. The foreign tax credit is the minimum of the host country tax and the home country tax defined as above, and therefore the total tax liability is the maximum of the two. In this simple equity-only case, therefore, '$t > t^*$' means that the firm can receive a "full credit" on host country taxes paid while '$t < t^*$' means that there exists an "excess credit" which the firm is unable to claim. In the excess credit case, the foreign tax credit is allowed at the rate of t, instead of t^*.

Hence, the assumption of '$t < t^*$' implies that the simultaneous presence of transfers and dividends would not be a puzzle since dividends are not tax-penalized in this case. However, we propose three cases for the empirical relevance of assuming that $t > t^*$ in the equity-only model. First, in practice, t can be best thought of as the statutory home country corporate rate while t^* is the effective host country tax rate, since domestic investment allowance are not applied to foreign operations. The effective host country rate (t^*) is typically lower than the statutory host country rate because of investment incentives in the tax laws. Therefore, the statutory home rate can still be higher than the effective host country rate (i.e., $t > t^*$) even when the statutory host country rate is larger than the statutory home country rate.

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[12] Note that in the firm-shareholders relationship, taxes on corporate distributions will be capitalized when the effective dividend tax rate is larger than the effective capital gains tax rate.

Second, the presence of debt capital implies that the firm can still have full credit status even in the case that $t < t^*$. To elaborate this point, we write the cash flow identity for the subsidiary as:

$$(1) \qquad (1-t^*)[F^* - INT] + T = D + I$$

where F^* is the subsidiary's earnings, I is direct investment, INT is interest paid to the parent, and T represents parent transfers consisting of equity and debt. One basic difference between the treatment of debt and equity capital is the place in which taxes are actually collected. While interest is deductible from taxable income in the host country, a credit is allowed by the home government for host country taxes deemed to be paid on dividends. In the presence of debt, the host country tax ($t^*[D/(1-t^*)]$) can be smaller than the corresponding home country tax ($t[D/(1-t^*) + INT]$), even when $t < t^*$. If interest payments are sufficiently large relative to dividends, the firm would have full credit status; this is equivalent to assuming that $t > t^*$ in the reference no-debt case.

Third, even in the excess credit case, tax arbitrage regarding the form of repatriation may enable the firm to effectively remove the excess credit and therefore receive full credit. The cash flow identity (1) shows that if feasible, the subsidiary can reduce dividends by one dollar and instead pay $1/(1-t^*)$ dollars of interest without affecting I or F^*. In the full credit case, this switching activity does not change the firm's total tax liability since reduced host country taxes on dividends are exactly matched by increased home country taxes on interest. In the excess credit case, however, the firm can reduce its total tax liability by this activity since the parent's net receipt from one dollar of interest payment is $(1-t)/(1-t^*)$ dollars; this is equivalent to receiving the full credit on host country taxes on one dollar of dividends. The firm would continue this switching activity until tax payments to the host country, which is decreasing, equal those to the home

country. At this point, the firm can receive a full credit on total host country taxes paid.[13]

The empirical relevance of this arbitrage scheme hinges critically on the international firm's ability to adjust transfer prices. In practice, the distinction between different forms of repatriation can be blurred by deliberate actions by the firm; for example, the firm may adjust interest rates on intercompany loans. Parents also owe a significant amount of debt to their subsidiaries, most of which are short-term in maturity and may be related to various tax-saving transactions. Miscellaneous payments like fees or service charges can also add flexibility to such accounting manipulations. In general, the Internal Revenue Service can challenge any intrafirm transfer price or charge which does not conform to the arm's length standard. In particular, Section 861 of the Internal Revenue Code explicitly describes the rules regulating the allocation of various expenses among the parent and the subsidiaries. However, the effectiveness of such regulation has always been in question. The arm's length standard is difficult to define and therefore to administer in many cases. The fact that the expense allocation rules have been modified to allow less discretion to the U.S. multinationals may itself manifest the frequency of arbitrary transfer pricing and the need to regulate it more strictly.[14]

The full credit assumption -- or assuming 't > t*' in the simple equity-only model -- is also empirically supported by the fact that, according to actual corporate tax returns, most U.S. multinational corporations have managed to avoid the excess credit. The above discussion yields other important implications. First, the simple comparison between the

[13] Note that as a result of this transaction, the host country government would lose some tax revenues to the home country government.

[14] The Tax Reform Act of 1986 reduces the ceiling of the foreign tax credit by allocating more domestic expenses such as R&D and interest to foreign subsidiaries. The Act also reduces the statutory corporate rate (t) and thus raises the possibility of firms having the excess credit status. These factors imply that U.S. multinational firms would more likely employ tax arbitrage schemes in the face of probable double taxation.

effective tax rates on investments in different locations would be quite misleading in evaluating tax policy toward foreign source income.[15] Second, the switch from dividends to interest implies a relatively larger share of debt in parent transfers and decreasing tax revenues for the host country government.

3.2 The Timing of Transactions

The presence of potential tax free channels for income repatriation is closely related to the timing of intrafirm transactions. Since the domestic corporate tax is applied to the global income of the international firm, the timing of the repatriation of foreign source income is very likely to be affected by the tax status of the parent. If the parent is currently making losses, foreign source income can be repatriated without incurring as much tax liability in the home country as it would otherwise. Various tax saving activities may take place as a result of the asymmetric tax treatment of a corporation's gains and losses.

To obtain intuitive results, we begin with a simple reference case in which income is taxable but losses are not refundable, and there are no provisions for loss carryforwards or backwards. Suppose that a subsidiary with $1000 of initial capital and $100 of after-host-country-tax earnings is planning $100 of new investments. With 't > t*', proponents of the tax capitalization view suggest that the subsidiary should retain all after-tax earnings for reinvestment and draw no transfers from the parent. The total value of the subsidiary

[15] Such comparison is relevant only to the case where taxes affect foreign investment by influencing relative rates of returns between countries. Jun (1988) discusses various channels through which taxes can affect international investment.

would be $1100, of which $1000 represent equity capital that can be repatriated later without incurring home country taxes.

Now suppose that the parent is making losses of $100 from its domestic operations but expects positive profits in the future. The subsidiary may be indifferent between retained earnings and parent transfers as the marginal source of funds, since no home country taxes are to be paid on dividends up to $100 and therefore retained earnings are no longer a "cheaper" source of funds. However, the subsidiary can actually reduce its future tax liability by repatriating all income ($100 in our example) and financing investments through parent transfers. In this case, the value of foreign capital is still $1100, but it consists entirely of equity capital. The subsidiary can successfully change the composition of its capital by converting $100 of taxable earnings into tax-exempt equity capital. Tax saving takes place when the subsidiary's earnings escape the "tax-trap". In the process, the subsidiary pays dividends and receives transfers simultaneously. Parent transfers are the marginal source of investment funds.

The reference case can be made more realistic by including loss or credit carryforwards and backwards. According to current U.S. tax law, a firm with negative taxable income must carry the loss backward (up to the previous three years) or forward (up to the subsequent fifteen years). Carrying back allows the firm to deduct the current loss from the previous years' taxable income whereas carrying forward allows the firm to deduct the loss from future taxable income. After this stage, the firm applies credits (primarily the foreign tax credit and the investment tax credit) to further reduce taxes.

Suppose that t is forty six percent and t^* is twenty percent. For simplicity, we assume that the firm does not carry losses backward. In the previous example, if the subsidiary does not repatriate its after-tax earnings, the parent will carry the $100 of

losses forward, which amounts to $46 in terms of nominal tax benefits. Note, however, that this amount is carried with zero nominal interest and may expire before it is deducted against future taxable income. Using the transition probability model, Altshuler and Auerbach (1987) calculate the average present value of tax carryforwards, which ranges between forty one cents and forty eight cents per dollar of tax carryforwards depending on the initial state. If we assume the shadow value to be fifty cents, forty six dollars of losses carried amounts to twenty three dollars in terms of present discounted value.

On the other hand, if the subsidiary repatriates $100, the global income becomes zero and the firm still owes no domestic taxes as in the non-repatriation case. However, the parent now carries $20 of the foreign tax credit instead of $46 of loss-offset benefits. In this period, the firm can effectively convert $26 of its $46 carryforwards by adjusting the timing of repatriation of its foreign source income. In terms of present discounted value, the savings from this transaction is $13.

The potential benefits would not end there. Income repatriation could have the effect of extending the lifetime of loss carryforwards. In some cases, losses carried forward can expire before a full deduction is made. This effect of extending the lifetime of carryforwards is relevant even in the '$t < t^*$' case. These loss-offset effects, which are quite significant in reality, raise serious doubts about the assumption underlying the tax capitalization view.

While the above examples are simplified for illustrative purposes, the tax implications regarding the timing of intrafirm transactions have broader applicability. Since U.S. taxes are imposed on global income (the overall method), the variability of foreign and domestic income combined with differential tax rates in host countries typically creates tax arbitrage opportunities for an international firm with subsidiaries in

several countries. One often-cited example is a multinational firm's incentive to generate income in tax-heaven countries and to reallocate the income, by means of manipulating the transfer price, to high tax countries for higher foreign tax credits. In some cases, such artificially generated credit benefits may outweigh the tax penalty accompanying dividends payments. In general, subsidiaries in high-tax host countries have greater incentives to pay dividends for this credit reason.

One distinct issue related to the timing of repatriation is the dynamic consistency of tax policy. The tax capitalization view is based on the assumption that tax rates are perceived to be constant in all future periods. If tax policy is anticipated to change, the short run effects can be quite different from the long run effects. An anticipated future reduction in the home country tax rate will lead subsidiaries to defer their income repatriation. In this case, parent transfers may be reduced in the short run for a given level of desired investment expenditures. In the face of temporary investment incentives in the host country, the subsidiary may have to draw transfers to meet the increased investment expenditures. In this case, parent transfers are the marginal source of funds in the short run. Table 1 shows that U.S. tax reform legislation in 1986, which abolished existing incentive provisions, contributed to the surge of transfers by foreign corporations to their U.S. affiliates in the fourth quarter of 1986.

The preceding cases of tax arbitrage regarding the timing of intrafirm transactions suggest that the no-tax-free-channel assumption underlying the tax capitalization view may have weak empirical relevance. Once the international firm finds a tax-free way to repatriate earnings, the capitalization of deferred home taxes will not arise. Hence, the simultaneous presence of positive dividends and transfers as shown in Table 3 will be less puzzling. This result also suggests that transfers are more likely to be the marginal source of funds for foreign investment than retained subsidiary earnings.

3. Risk, Management Control, and Financing Hierarchy

The remaining question regarding the subsidiary's financial policy is whether one can find any convincing non-tax reasons for the parent to value dividends. As mentioned earlier, suggested explanations of a purely domestic firm's dividend behavior are not convincingly applied to our intrafirm case. We suggest two basic cases in which the parent values prompt repatriation of foreign source income. One case is related to the inherent risks involved with foreign operations while the other case is based on the recognition that the ownership of many foreign subsidiaries is shared between the parent and host country residents.

In general, foreign operations are perceived to be riskier than domestic operations because of various social, economic and political uncertainties facing the subsidiary in the host country. The parent may require risk premiums to compensate for such risks. Moreover, these risk factors may significantly affect the manner in which the subsidiary finances its operations and repatriates earnings. Among various types of risks related to direct investments, we discuss two typical cases facing international firms.

First, there exists the possibility of expropriation. Some host countries with a huge amount of foreigners' claims on domestic capital might find that the benefits from expropriation exceed the costs. In face of such expropriation risk, direct investors would tend to limit their reinvestment of earnings since increased accumulation of foreign assets in the host country raises their potential costs. After the initial stage of capitalization and reinvestment, a mature subsidiary may rely more heavily on local financing to fulfill its investment needs. A greater share of the subsidiary's capital provided by local funds,

accompanied by larger dividend payments to the home parent, would imply smaller expropriation risk. This argument may be indirectly supported by the fact that the average dividend payout ratio (defined in Table 2) is much higher for U.S. operations in developing countries than for those in developed countries. In 1985, the ratios are seventy-nine percent and thirty-nine percent respectively, and this trend has been quite stable.

Second, changes in exchange rates may pose a risk to the domestic currency value of foreign source income. In order to hedge against exchange risk, the firm may sell foreign currency forward. In practice, however, the use of forward contracts is a limited and costly means of protecting long-term nonfinancial investments from currency risks. More plausibly, the firm can adjust the currency composition of its foreign assets and liabilities. Instead of depending entirely on internal funds from the international firm, the subsidiary can finance its capital formation using local funds in the host country. Any change in the value of its foreign assets would be offset by an equal change in the value of its liabilities. Again, when hedging, the subsidiary would pay more dividends than in the absence of exchange risk.[16]

Thus, risk factors may provide one explanation for the benefits of dividends.[17] While this risk argument clearly discounts the validity of the tax capitalization proposition that retained earnings must be the marginal source of funds for operations by mature subsidiaries, it also argues against the use of transfers as the marginal source of

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[16] Capital control by the host country government may also raise the risks involved with converting foreign earnings into domestic currency.

[17] Feldstein and Green (1983) offer a similar risk argument to explain the dividend behavior of the domestic firm. Two typical objections to their reasoning are the possibilities that firms internally reduce the risk of their assets by investing in safe assets and that firms borrow to finance dividend payments. One may raise similar doubts about the risk argument of this chapter. However, the investment of foreign earnings in financial assets ("passive investment") is a primary target of tax regulation. Furthermore, when the subsidiary borrows locally to finance dividend payments, interest payments to foreigners are usually subject to withholding taxes unless there is a tax treaty between the related countries.

funds. An increase in parent transfers also raises the potential costs associated with the riskiness of foreign investment. Therefore, given that such risks exist, local funds are the most likely source of funds at the margin. However, there is one fundamental difference between retained earnings and equity investments. Although both can raise the equity capital of the subsidiary, they have asymmetric effects on the ownership structure of the subsidiary unless the firm is already wholly-owned by the parent. This fact suggests another direction toward which the discussion of the marginal source of funds can be extended.

One major factor which may significantly influence the subsidiary's financing decision is the division of ownership of the subsidiary between the parent and host country residents. In general, each of these two parties can have a distinct set of interests and concerns. The subsidiary's investment and financial decisions are made in conjunction with the parent's decisions towards domestic operations to maximize the international firm's overall profits. However, local residents can adopt a different approach towards the subsidiary's operations. The intertemporal nature of long-term capital expenditures can also be a cause of conflict if these two parties do not share a common policy horizon. For example, host country residents may prefer the reinvestment of earnings, in order to build infrastructures in their country, while the parent may demand more dividend payments. Although earnings themselves are divided between the two owners in proportion to the number of shares held, possible managerial conflicts may hamper the flexibility of the subsidiary's decisions.

In response to this problem, the parent may try to increase share ownership to gain majority or complete control; in this case, equity transfers by the parent become the marginal source of funds. The combination of risk factors and the parent's need to gain greater control may lead the subsidiary to pay dividends and receive transfers

simultaneously. Note that equity transfers as well as dividends are valued by the parent in this case. According to a fairly comprehensive survey of parents which includes data on preferences toward ownership (Mikesell 1962), almost all of the respondents prefer some control over the subsidiary, and nearly two-thirds generally prefer whole ownership if feasible. It is also reported that the basic reason for whole ownership is to have complete control over firm activities and to reap the full rewards from profitable operations.

The empirical validity of what we call the 'management control hypothesis' can be challenged in several ways. First, if most subsidiaries are wholly owned by their parents now and have been in the past, the practical importance of the hypothesis can easily be nullified. However, according to the Harvard Multinational Enterprise Project, sixty-three percent of U.S. based manufacturing subsidiaries were wholly owned in 1968 while fifty percent of non-U.S. based manufacturing subsidiaries were wholly owned in 1971.[18]

Second, more importantly, while various legal and institutional restrictions in the host country may prevent the firm from increasing its shares freely at the margin. One widely observed trend in multinational operations has been the move toward shared ownership. This tendency has especially been true of multinational firms operating in developing countries. Guidelines issued by host countries or international organizations typically include a provision to promote local equity participation. However, these barriers are usually full of loopholes. In reality, ownership structure is likely to be determined through a case-by-case bargaining process between a host country government concerned with the benefits from inducing direct investments like technology transfers and a profit-maximizing multinational firm. Thus, an increase in control by equity transfers can be highly feasible at the margin for most firms, although the significance of aggregate

[18] The presence of fluctuating trends in the share of sales made by majority-owned affiliates of U.S. parents also suggests the potential importance of the control argument.

direct investments in the host country can fluctuate, depending on the government's policy.

Third, some firms may not make equity investments frequently. However, parent transfers can still be the marginal source of funds for these firms, since they can rely on either intercompany debt or on local borrowing in the interim period and then redeem the debt when they raise equity. It is a common practice for many international firms to capitalize intercompany debt as a way of raising equity capital.

There are two more reasons that this control mechanism can be operative in practice. First, the management control hypothesis also allows the case of decreasing ownership by the parent. When the subsidiary redeems equity capital (i.e. negative transfers), transfers can still be regarded as the marginal source of funds. The evidence reported in Tables 1 and 3 suggest that many firms actually do make negative parent transfers. In 1985, for example, decreases of U.S. equity capital in foreign countries exceeded increases by 2.2 billion dollars. Second, to some extent, the present hypothesis can be supported by standard cases for exogenous dividend behavior arising from the nature of the firm-shareholder relationship. Potential agency costs associated with the motives of local managers would lead the parent to demand prompt repatriation of foreign earnings.

5. Conclusion

The management control hypothesis and the risk argument, combined with the presence of tax free channels for income repatriation, cast serious doubts about the assumption made about the marginal source of funds under the tax capitalization view. Among three possibilities -- parent transfers, retained earnings, and local funds -- retained

earnings are least likely to be the marginal source of funds for foreign investment. Although local borrowing can be an important average source of funds to avoid costs arising from risks, the desire of the parent to control the subsidiary and the possibilities for tax arbitrage together provide strong support for parent transfers as the marginal source of funds. However, the rationales for parent transfers as the marginal source of funds are quite distinct from the conventional wisdom applied to the domestic firm-shareholders relationship. In practice, each possible source of funds could be employed by some fraction of subsidiaries at the margin. The analysis in this paper suggests that parent transfers provide the marginal source of funds for most foreign investment.[19]

[19] This conclusion is also supported by the regression analysis presented in Jun (1989a).

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Table 1: International Direct Investment
(Billions of Dollars)

	U.S. Direct Investment Abroad			Foreign Direct Investment in the U.S.		
Year	Total (1)	Parent Transfers (2)	Retained Earnings (3)	Total (4)	Parent Transfers (5)	Retained Earnings (6)
60-64	3.1	1.8	1.3	0.3	0.1	0.2
65-69	5.3	3.2	2.1	0.7	0.3	0.4
70-74	8.7	3.3	5.4	2.1	1.4	0.7
75-79	15.8	5.4	10.5	6.1	3.9	2.2
80-84	5.9	-3.6	9.5	18.6	16.9	1.7
1979	25.2	6.3	19.0	11.9	7.9	4.0
1980	19.2	2.2	17.0	16.9	11.7	5.2
1981	9.6	-3.9	13.5	25.2	22.3	2.9
1982	- 2.4	-3.7	1.4	13.8	16.2	-2.4
1983	0.4	-6.8	7.1	11.9	11.9	0.1
1984	2.8	-5.7	8.4	25.4	22.5	2.9
1985	17.3	-1.1	18.4	19.0	20.4	-1.4
1986	28.0	9.1	18.9	25.1	26.4	-1.3

Note: These ratios are calculated by author based on data in U.S. Department of Commerce (1982, 1984), various issues of Survey of Current Business, and the national income and product accounts.

Table 2: Earnings and Dividend Payout Ratio
(Billions of Dollars or Ratio)

	U.S. Direct Investment Abroad		Foreign Direct Investment in the U.S.	
Year	Earnings (1)	Dividend Payout Ratio (2)	Earnings (3)	Dividend Payout Ratio (4)
60-64	4.255	0.695	0.413	0.429
65-69	6.037	0.661	0.769	0.466
70-74	12.690	0.586	1.278	0.458
75-79	22.020	0.538	3.563	0.402
80-84	26.264	0.636	4.865	1.156
1979	29.201	0.351	5.856	0.325
1980	28.780	0.409	7.730	0.330
1981	24.084	0.438	5.783	0.491
1982	25.619	0.947	0.977	3.435
1983	25.835	0.724	3.433	0.974
1984	27.003	0.689	6.404	0.548
1985	37.837	0.515	3.195	1.767
1986	41.467	0.544	2.589	1.505

Note: 1. See the note in Table 1 for sources.
2. Col (2) is the ratio of dividends to Col (1)

Table 3: Sample Data on Foreign Affiliates of U.S. Based Parents (number of firms)

(FY 1982)

	Dividends ≥ 0	Dividends = 0	Total
Transfers > 0	140(26%)	110(20%)	250(46%)
Transfers ≤ 0	105(20%)	183(34%)	288(54%)
Total	245(46%)	293(54%)	538(100%)

(FY 1977)

	Dividends ≥ 0	Dividends = 0	Total
Transfers > 0	132(22%)	181(31%)	313(53%)
Transfers ≤ 0	139(24%)	137(23%)	276(47%)
Total	271(46%)	318(54%)	589(100%)

Note: The figures in parentheses represent the percent of each category out of the total sample.

Table 4: Financial Position of U.S. Based Foreign Affiliates and Non-U.S. Based Affiliates in the U.S. (Billion of Dollars, End of FY 1985)

	U.S. Based Foreign Affiliates			Non-U.S. Based Affiliates in the U.S.		
	Total	Debt	Owner's Equity	Total	Debt	Owner's Equity
Total	453.5	323.5	130.0	626.7	494.8	131.9
Parents	170.6	69.5	101.0	185.1	80.6	104.3
Host-Country Residents	282.9	254.0	29.0	441.6	414.2	27.4

Note: 1. Data refer to majority-owned nonbank affiliates of nonbank U.S. parents and nonbank U.S. affiliates of foreign parents, respectively.
2. Owner's equity does not include retained earnings.
3. Parents include minority shareholders and creditors in the home country. Host-country residents include other foreign persons.