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International Dividend Repatriations

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Abstract

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Income earned by the branches and subsidiaries of multinational firms can be either reinvested in the host country or repatriated as dividends to the firms' headquarters. Despite the rapid growth of foreign direct investment in the 1990s, there has been relatively limited analysis of the dividend behavior of multinationals. We find that investors in multinationals from the two largest foreign-investing countries—the United Kingdom and the United States—require a steady flow of dividends, consistent with a view that such regular dividend payments are a mechanism through which to discipline host-country managers. In contrast, German investors, who tend to invest in riskier countries, do not appear to demand persistent dividend payments. Changes in income also influence dividends. This payout ratio from income appears, for example, to be lower for less risky countries. Finally, the evidence suggests that dividend payments do not necessarily aggravate the balance of payments position during crises.

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I. INTRODUCTION

Starting in the late 1980s, foreign direct investment (FDI) flows surged in an unprecedented manner, benefiting not only the long-established developed country recipients of such flows but also a large number of developing nations. As a consequence, in an increasing number of countries, a substantial stock of corporate assets is now in the hands of nonresident investors, to whom considerable income flows accrue. How is this income allocated? Nonresident investors control the allocation of such income between reinvestment in the host country and repatriation of dividend payments to the parent company in the home country. There are two aspects of this allocation decision that are of interest. On the one hand, the reinvested amount adds to the level of foreign investment—a welcome outcome, especially for many developing countries. On the other hand, the pattern of dividend repatriation provides insights into the governance mechanisms adopted by multinational corporations. When both aspects are considered, a question of interest is whether the dividend-repatriation decision acts to stabilize or destabilize investment in developing economies.

In this paper, we characterize the dividends repatriated from developing host countries to multinational investors in the United Kingdom, the United States, and Germany. First, we seek to identify the degree of persistence of dividend payments as an indicator of their use for controlling managers of foreign affiliates. In this context, we also examine whether dividends respond asymmetrically to an equal rise and decline in income. Second, we explore the factors that determine the “payout” ratio, that is, the ratio of dividends to net income earned in the host country. In particular, since the observed persistence in dividends increases the volatility of reinvested earnings in the host economy, we examine whether the dividend payout ratio increases at times of crises to aggravate the host country’s balance of payments. In the concluding section, we speculate about whether observed dividend payments are related to systems of corporate governance in the investors’ economies.

The literature on dividend payments has had two broad streams, which have recently begun to converge. In the international context, the analysis of dividend payments has been motivated primarily by the objective of assessing the implications of tax regimes, with much of the focus on the tax treatment of U.S. multinational firms (see, for example, Hines and Hubbard, 1989; Grubert, 1998; Desai, Foley, and Hines, 2001; and Altshuler and Grubert, 2001 among a very large literature). However, in a longer-standing tradition, the pattern of dividend payments has been of scholarly interest as a means of inferring mechanisms of domestic corporate governance (for a recent example, see Dewenter and Warther, 1998). Lintner (1956) proposed that firms have “desired” dividend-to-earnings payout ratios but dividends remain stable from one year to the next, adjusting only slowly to the desired levels. Steady dividend flows are thought to be a disciplining device on managers who may otherwise be tempted to misuse “free” cash flows. Almost half a century after Lintner proposed his model of dividend payments, the characterization remains remarkably robust. Based on U.S. domestic data, Benartzi, Michaely, and Thaler (1997, p. 1032) concluded that “Lintner’s model of dividends remains the best description of the dividend setting process available.” At the same time, following Alworth (1988), the Lintner model has been applied in an international setting in recent papers by Desai, Foley, and Hines (2001 and 2002).

Especially in their 2002 paper, Desai, Foley, and Hines emphasize the governance implications of the dividend repatriation decisions of U.S. multinational firms and suggest that the analysis of tax considerations should be embedded in this overarching framework.

To our knowledge, this paper represents the first attempt to cast dividend repatriation in an international macroeconomic context. Staying within the Lintner framework and identifying, in particular, the dynamics of international dividend repatriations, we extend the literature in two directions. First, we focus on aggregate dividend flows from a country, since we are interested in their macroeconomic effects. Second, we broaden the analysis beyond the United States, which has been the focus of the vast majority of studies on international dividend repatriations. Indeed, even comparative studies of domestic dividend payment patterns are rare. (An exception is Dewenter and Warther, 1998). Income and dividend data for the United Kingdom, the United States, and Germany by partner country open up a rich empirical resource that can be used to conduct a macroeconomic analysis of dividend remittances and, ultimately, of FDI itself.

Our main results can be briefly summarized. Dividends tend to persist from one year to the next. This, as noted, is widely interpreted as reflecting a common device used for disciplining managers in host countries. Important differences exist, however, between the investor nations, with persistence being strongest for the United Kingdom, followed by the United States, and then by Germany. At the same time, U.K. investing firms raise their dividends when income rises but reduce them to a much smaller extent when income falls; in contrast, U.S. and German dividend flows are more “symmetric.” The U.K. investors also have the highest average payout ratios. In turn, the payout ratio from incremental income depends on a variety of factors. We investigated the role of political risk, tax rates, country growth rates, and currency crises. We find that the payout ratio declines as countries become politically safer, though this effect is significant only for the U.K. dividend flows. Higher host-country tax rates raise the payout ratios for U.K. and German investors, though, surprisingly, this is not so for U.S. investors. With respect to domestic growth rates, U.K. investors stand out once again, *raising* dividends when growth is high, possibly to restrict cash in the hands of managers of subsidiaries, while U.S. and German investors appear to view growth as an opportunity to retain earnings for further investment in the host country. Finally, of considerable policy interest is the behavior of dividends in times of crises. The question is whether dividend payments increase when crises occur, thereby aggravating the crises. We find that dividend flows can act as a stabilizing force, though under different conditions for different investor nations. This is consistent with the literature on FDI, more generally, that finds such flows to be the least volatile of foreign capital flows (see Sarno and Taylor, 2001). However, the result is not unambiguous, and under certain circumstances the outflow of dividends can increase during a crisis, placing further pressure on the balance of payments.

The rest of the paper is structured as follows. In the next section, we briefly review the importance of dividend flows in the 1990s and examine some correlates of these flows. Section III presents an analytical framework that draws up, on the literature on domestic and international dividend payments. In Section IV, we present our empirical results. Section V concludes.

II. DIVIDEND REPATRIATIONS IN THE 1990S

Foreign direct investment grew at unprecedented rates in the 1990s and, despite the slowdown in FDI going to developing countries following the East Asian and Russian crises in the second half of the decade, was at historically high levels at the turn of the century (see World Bank (2001)). Column 1 of Table 1 shows that the world's leading investor nations invested about \$400 billion dollars overseas in the form of direct investment in 2001. A consequence of the growth of foreign direct investment has been a corresponding rise in income generated from these overseas ventures. Column 2 of Table 1 shows that income flows at about US\$300 billion had reached levels comparable to the investment flows themselves. The importance of these income flows is that they form a large pool that can, through the mechanism of reinvested earnings, bolster foreign direct investment on an ongoing basis. Alternatively, the earnings can be repatriated as dividends to the parent company in the home country. During the 1990s, major foreign investors repatriated between one-third and three-quarters of their income earned in their foreign operations (Table 1, column 6).

In our analysis, we focus on the United Kingdom, the United States, and Germany. The United Kingdom and the United States are, by far, the two largest foreign investing nations. Germany invests significantly less (and earns less) but is in a group of countries that contends for third place in the league of foreign investors. A practical reason for choosing Germany is the availability of a time series of dividend repatriations by host country. Of the three investing countries we focus on, the United Kingdom appears especially risk averse (Table 2). Only 9 percent of its FDI goes to developing countries and within developing countries, almost three-quarters goes to the top one-third of countries with the lowest political risk. The U.S. investors take on somewhat greater risks: the share of developing country investment is larger, and the share of investment in the riskiest developing country category is larger. German investors have a relatively high share of their investment in industrialized economies (lower than the United Kingdom but higher than that of the United States), but within developing countries, they have the highest risk composition with only half of their investment in the safest developing countries and almost a quarter of their investment in the riskiest.

The dividend repatriation ratio appears to rise with country risk. This is clearest for the United Kingdom: foreign affiliates in developing countries repatriate more than those in industrialized nations; and within developing countries, the payout ratio rises with country risk. The pattern for the United States is similar, though the safest developing countries repatriate a somewhat smaller amount than industrialized nations and the repatriation ratio is high mainly for the riskier two-thirds of the developing country FDI recipients. Finally, the German repatriation ratio for developing countries is higher than that for industrialized economies when total dividends over 1991 through 1997 are divided by total income over the same period. However, the repatriation ratio from developing countries has been very erratic, as seen by the big differences in these average ratios, depending on whether they are estimated as the average of annual payout ratios or as the sum of all dividend payments over the period divided by the sum of income over the same period. In particular, the negative

ratio for the “safe” developing countries arises from large losses incurred during in East Asia in 1997.

III. ANALYTICAL BACKGROUND

In the absence of information asymmetries, agency conflicts, transactions costs, and tax considerations, the form in which owners are compensated has no bearing on the value of the firm and hence dividend payments would not be expected to follow any particular pattern. Modigliani and Miller (1958, p. 226) noted: “...as long as management is presumed to be acting in the best interests of the stockholders, retained earnings can be regarded as equivalent to a fully subscribed, pre-emptive issue of common stock. Hence, for the present purposes, the division of the (earnings) stream between cash dividends and retained earnings is a mere detail.”

However, in the presence of information asymmetries and monitoring constraints, dividend payments are no longer a detail. Lintner (1956, p. 98) found that dividends were highly persistent and, combined with evidence of target payout ratios (of dividends to earnings), he concluded that the allocation of earnings matters and, moreover, in that allocation dividends, rather than retained earnings and savings, were “the primary and active decision variable in most situations.”

We use the Lintner equation as the starting point to examine several alternative empirical specifications.² Following Desai, Foley, and Hines (2002), who have successfully used this approach to explain the dividend payments by foreign affiliates to their parent U.S. multinational firms, the Lintner equation for the dividend payout D_t can be motivated by and derived from minimizing the following loss function.

$$\Psi = \gamma_1 (D_t - k_t Y_t)^2 + \gamma_2 (D_t - D_{t-1})^2 \quad (1)$$

“ k_t ” is the target payout ratio and “ Y_t ” is the income earned. The payout ratio, “ k_t ,” depends on a number of factors, which we discuss below. The two terms on the right-hand side of the loss function reflect Lintner’s observation that firms view it as costly to deviate from their target payout (the first term) but, in addition, they are also concerned about deviating from dividends paid out in the recent past (the second term). γ_1 and γ_2 are the weights accorded to these two objectives. This preference structure leads to persistent dividends that slowly move

² Kopits (1972) proposed that, since earnings are a source of investment funds, dividends should be treated as a residual once capital financing requirements were satisfied. In practice, the reduced form equation that Kopits (1972) estimates is very similar to the one that emerges from the Lintner model, though he leaves out the key lagged dividend variable term. Kopits notes the importance of growth prospects in the country as driving the incentive to invest domestically and hence repatriate less. We consider that in our estimates as influencing the desired payout ratio.

towards targeted dividends. Lintner (1956, p. 100) notes: "...a practice or policy of changing dividends in any given year by only part of the amounts which were indicated by changes in current financial figures."

What are the motivations underlying this preference structure? Two possibilities exist: dividends may be a signal of profitability and/or they may be a governance instrument. While raising dividends may signal improved profitability, Lintner's findings also suggest that firms are reluctant to commit themselves prematurely to the higher payout for fear that they may have to cut back, which could send a negative signal and be particularly harmful if there is an asymmetric reaction on the downside. In the domestic U.S. context, Benartzi, Michaely, and Thaler (1997) conclude that dividends payments do not signal future prospects; instead, as a gradual response to a permanent increase in income, dividend changes are a reflection of "what *has* happened." This conclusion is consistent with the use of dividends to manage the potential conflict between owners and managers of affiliate firms. Following a permanent rise in income, a higher level of dividends limits the additional free cash flow that becomes available to managers.

Do dividends serve a similar control function within multinational firms? Kopits (1972), for example, has questioned whether dividends payments could have any role in governing the affiliates of multinational firms. The headquarters of a multinational firm has, in principle, better access to information with regard to its foreign affiliate than do the dispersed shareholders of a publicly traded firm and, as such, the use of dividends for signaling is not warranted. Could the monitoring role be more salient? Both Alworth (1988) and Desai, Foley, and Hines (2002) find a high degree of dividend persistence within the multinational firm. Desai, Foley, and Hines (2002) conclude that though the dividend policies of foreign affiliates reflect transactions internal to the firm and hence "convey no signals to public capital markets," they "nevertheless resemble those used by publicly held companies in paying dividends to diffuse shareholders." They find strong support for Lintner's conclusion that dividends are a primary decision variable, with their results suggesting that dividends are paid out even when it is costly for the firm to do so in light of tax considerations and funding requirements for investment in the host country. The implication is that multinational parent firms require steady dividend payments to impose discipline on their foreign affiliates.

Minimization of the loss function (1) with respect to D_t results in the first order condition, which will also forms the basis of our empirical specification below.

$$D_t = \frac{\gamma_2}{\gamma_1 + \gamma_2} D_{t-1} + \frac{\gamma_1}{\gamma_1 + \gamma_2} k_t Y_t \quad (2)$$

While the Lintner equation has been estimated in this form, there is no reason to assume that the influence of past dividends is restricted to one lag. Our estimations below suggest that two lags may be more appropriate, at least in some instances, in which case the equation to be estimated becomes:

$$D_t = \frac{\gamma_2}{\gamma_1 + \gamma_2} \alpha D_{t-1} + \frac{\gamma_2}{\gamma_1 + \gamma_2} \beta D_{t-2} + \frac{\gamma_1}{\gamma_1 + \gamma_2} k_t Y_t \quad (3)$$

Here α and β are the weights accorded respectively to the first and second lag of dividends and we assume that these add up to one.

A further extension of this specification is to consider the possibility that dividends respond asymmetrically to positive and negative income changes. Following a rise in income, free cash flow is soaked up by a (gradual) increase in dividend payments. However, following a decline in income, affiliate managers have less flexibility in reducing dividends. A negative shock is likely to raise concerns that low returns may persist and, hence, where dividend payments are a measure of earnings potential, affiliate managers may seek ways to maintain dividends for fear of being penalized. There is a counterpart to such a possibility in the stock returns to shocks in foreign earnings. Christophe (2002) concludes that stock returns respond asymmetrically to positive and negative foreign shocks. While a positive shock does raise stock returns, a similar negative shock lowers returns to a much larger extent. Foreign investment, Christophe notes, is more risky, more difficult to control, and, because entry costs are high, investors may be reluctant to pull back their investment even when prospects are poor. As such, negative shocks are liable to higher penalties. At the same time, keeping a cushion for a rainy day would further limit discretion on the use of free cash flows. The dividend payout specification reflecting the possibility of asymmetry would be:

$$D_t = \frac{\gamma_2}{\gamma_1 + \gamma_2} \alpha D_{t-1} + \frac{\gamma_2}{\gamma_1 + \gamma_2} \beta D_{t-2} + \frac{\gamma_1}{\gamma_1 + \gamma_2} k_t Y_t^+ + \frac{\gamma_1}{\gamma_1 + \gamma_2} k_t Y_t^- \quad (4)$$

Y^+ denotes income that has increased over that in the last period, with Y^- equal to zero in that period, and conversely for Y^- .

Finally, we consider the possibility that the payout ratio itself may be influenced by several country characteristics (the vector X), which include such factors as political risk, tax rates, GDP growth, and whether the country is in a crisis or not. The specification in that case would be:

$$D_t = \frac{\gamma_2}{\gamma_1 + \gamma_2} \alpha D_{t-1} + \frac{\gamma_2}{\gamma_1 + \gamma_2} \beta D_{t-2} + \frac{\gamma_1}{\gamma_1 + \gamma_2} k_t (X_t) Y_t \quad (5)$$

We implement this specification by interacting the country characteristics with the net income variable.

For each investor country, we have a panel of annual dividend payments for several recipient countries. Table 3 summarizes the information on the host countries and the time periods covered for each investor nation. As is well-known, panel data techniques need to be employed with care when a lagged dependent variable is also on the right-hand side of the equation. We use the Arellano-Bond procedure, which begins by first-differencing the

variables to remove country-fixed effects, i.e., those influences that are invariant over time. However, because of the lagged dependent variable on the right-hand side, there is still a problem of endogeneity on account of the correlation between the error term and the first-differenced lagged dependent variable. To deal with this endogeneity, the Arellano-Bond procedure uses past levels of lagged dependent variables as instruments. To be valid, however, there must be no second-order correlation in the error terms.³

IV. RESULTS

We present the results in three parts. First, the basic Lintner model is discussed, with extensions to include two lags rather than one lag and allowance for the possibility of asymmetric response to increase and decrease of net income. Second, we consider the factors that alter the payout ratio: these include political risk, tax rates, and country growth rates. And, finally, we examine if crises increase dividends and, by reducing the availability of earnings that can be reinvested in the country, contribute to instability in FDI.

A. Lintner Model and Extensions

The basic Lintner model with some extensions is presented in Table 4. Several features of the results may be noted. Consider, first, the degree of persistence. Dividends paid from U.K. subsidiaries to their parents appear the most persistent: about half the dividend payments from the previous year tend to continue into the current year. Notice, when only one lag of the dividends is considered, the test-statistic, “m,” suggests that second-order serial correlation is a concern for the U.S. and German regressions. The introduction of a second lag of dividends overcomes this concern and indicates that while dividends persist into the next year, they reverse thereafter. In the German case, the reversal more than offsets the initial persistence. Thus, U.S. subsidiaries pay more persistent dividends than their German counterparts, but U.K. subsidiaries remain subject to the most persistent dividends.

The relative ranking of the payout ratios also follows the same order, with the U.K. subsidiaries paying the highest ratio, followed by the United States and then by Germany. This ratio can be derived by substituting the estimated coefficients in equation (3) and solving for the steady state. Thus, in addition to their persistent payments, U.K. subsidiaries pay about a quarter of their incremental income to their parents ($0.16/[1-0.52+0.12]$). The ratio for the United States is about 16 percent ($0.14/[1-0.42+0.31]$). And, for Germany, the low persistence is accompanied by a payout ratio that is close to zero. This does not, of course, imply that German subsidiaries do not pay dividends to their parents. What it does imply is that German subsidiaries have a dividend payment pattern that is not captured by the

³ We present the one-step estimates. The Sargan test from these one-step estimates is prone to reject the null of over identifying restrictions and hence it is recommended that the two-step estimates of the relevant test statistic be used, in which case we always find the null is not rejected.

considerations that go into the specification of the Lintner equation. In other words, the timing of German dividend payments is governed possibly by a broader set of resource allocation considerations across the subsidiaries and parent firms and not by the type of agency factors that generate persistence of dividends or by a targeted payout ratio.

Finally, consider the possibility of asymmetry in dividend payments. The assumption of symmetry imposed thus far implies that dividends will be reduced when income falls to the same extent as the increase in dividends following an equal rise in income. Under a conservative dividend policy, however, dividend levels would tend to be maintained and, as such, the decline in dividends following a decline in income would be smaller than the rise following an equal increase in income. This is the case for the U.K. subsidiaries. The coefficient on a positive income change is 0.15 whereas on a negative income change is considerably smaller at 0.07, implying that the marginal impact of an income change is higher when income rises than when it falls. In contrast, there is less evidence of asymmetry for the United States and Germany. For the United States, the coefficient on the negative income change is actually slightly higher, suggesting a dampening effect, but the differences are marginal. For Germany, the coefficients on both positive and negative income changes are small.

The chart below summarizes the findings. By all measures, U.K. investors are the most aggressive in their dividend payments policy. They seek highly persistent payments, their payout ratios are the highest, and the pronounced asymmetry in the dividend payments is such that dividends are cut to a much smaller extent when subsidiaries' incomes fall than the rise in dividends following the same increase in income. The U.S. investors are in the middle, with moderate persistence and payout ratios, and low asymmetry. And German investors have low persistence, low payout ratios and low asymmetry.

	Persistence	Payout Ratio	Asymmetry
United Kingdom	High	0.26	High, amplifying
United States	Medium	0.16	Low, dampening
Germany	Low	-0.01	Low, dampening

B. Factors That Influence the Payout Ratio

The estimations presented in Table 4 assume that the payout ratios are the same across host countries. To test for possible sources of differences, we interacted country characteristics with net income and included the characteristics themselves and the interaction as additional variables in the regression. Consider, first, the role of political risk. We used the International Country Risk Guide's index of political risk, running from zero (high risk) to 100 (low risk). For our sample of countries, the index varies from about 30 to 90. For the United Kingdom, political risk by itself does not have a statistically significant influence on dividend payments. However, the interaction of political risk and net income is negative and highly

significant. The implication is that as a country becomes less risky (as the ICRG measure rises), the payout ratio becomes smaller. Thus, a country with a political risk index of 86 has a payout ratio close to zero. In contrast, a political risk index of 36 leads to a payout ratio of 0.5. The sign on the interaction between political risk and income is also negative for the United States and Germany; however, the coefficients are much smaller and their statistical significance is much weaker.

We next considered the implications of the domestic tax rate in the host country on dividend repatriations. Indeed, as noted in the introduction, the dividend repatriation behavior of multinational companies has traditionally been studied primarily in the context of the taxation of foreign corporate income. The incentive to repatriate dividends is a function of its treatment under the tax regimes of both the host and home countries. Specifically, the tax price of dividends remitted from the affiliate to its parent depends on corporate income and withholding taxes in the host country and also on the form in which foreign taxes paid are credited against tax liabilities in the investor's home country. Only very few investor countries—among them Germany—exempt foreign source income from taxation in the multinational's home base. In such a system, tax considerations do not apply from the point of view of shifting income to more favorable tax jurisdictions. However, they continue to apply in as much as high domestic tax rates deter future investment in the country and make repatriation through dividends more attractive (Kopits, 1972). The so-called “partial credit with deferral” system is the more common prevailing system and reflects the essential features of the other two investor countries in our sample, the United Kingdom and the United States. Here, home country taxes on foreign subsidiary income are only payable on dividends repatriated, and charged on the income underlying this distribution. Taxes deemed to have been paid in the host country are credited to the home country liability, though no refunds are paid.⁴ Where a firm has paid more taxes in its foreign operations than it would have paid on the equivalent income in its home base it is said to be in a situation of “excess credits.” The United Kingdom essentially applies such a crediting system, on a country-by-country basis. The United States goes one step further and allows credits in one country to be consolidated with excess deficits from other jurisdictions. For both the United Kingdom and the United States, higher host country taxes should in principle reduce the tax price, and hence raise dividend repatriations.

In our empirical analysis, we used the highest prevailing domestic corporate tax rate as a measure of the tax rate faced by multinational firm. Domestic tax rates are important whether the home country exempts foreign source income or not. For the United Kingdom and the United States, on account of their partial credit systems, we also tried the difference between

⁴ Some industrialized countries—with the notable exception of the United States—have entered into so-called tax sparing treaties with developing countries. Under such treaties tax deemed to have been paid in the host country (and, hence, credited against home country liabilities) may exceed the tax actually paid, thereby preserving the benefits granted through fiscal investment incentives such as tax holidays.

host and home country rates, with very similar results. We find that U.K. investors are most sensitive to high host country tax rates, i.e., higher host country tax rates lead to higher repatriations. For U.S. investors, the sign on host countries country tax rate is negative, i.e., higher tax rates lead to lower repatriation. While this is at odds with the firm-level empirical studies cited earlier, this surprising effect of the foreign tax variable for the United States could reflect the complex incentives of the tax system. Under the U.S. system, for instance, the tax price of dividend repatriation goes up sharply once the U.S. parent moves from a situation of “excess limitation”—claiming foreign tax liabilities against domestic ones—to one of “excess credit.”⁵ German investors, as noted, are not subjected to home country taxation. Thus, they are averse to host country tax rates to the extent that those taxes reduce the rate of return to investment through reinvested earnings, though this effect is typically not significant at conventional levels.

Finally, consider the influence of domestic growth rates on dividend repatriation. Two opposing influences exist. First, if high growth rates in the host economy are accompanied by strong performance by the affiliate and, hence, by larger earnings, agency considerations may require restricting the cash flow available to managers of subsidiaries and high growth may result in more dividends being repatriated. This is the effect observed for the United Kingdom. In contrast, if the larger earnings in periods of high growth are made available for reinvestment to take advantage of higher expected growth, then dividend repatriation will decline, which is what is observed for the United States and, to a lesser extent, for Germany.

In summary, these results on the variations in the payout ratios reinforce the conclusions from the basic Lintner model that U.K. investors are most conservative in their dividend repatriation policy. They demand greater payout ratios in risky countries, are most averse to domestic tax rates, and repatriate more during periods of high growth, presumably to restrict free cash in the hands of domestic managers rather than allow them greater opportunities to reinvest. The differences between the U.S. and German investors is less clear. In general, estimates of the German equations continue to give the least precise estimates, suggesting once again that these models are not very appropriate to analyzing German dividend repatriations.

C. Do Crises Increase Dividend Payments?

Finally, a question of some policy interest is the role of balance of payments crises in influencing dividend repatriations. Do, for example, dividend payments increase in periods of crises, increasing the vulnerability that the crisis country is already experiencing? Or do

⁵ U.S. law is very complex, making its effects very non-linear as companies change over from excess credit to deficits in a particular country. A recent market commentary notes (J.P. Morgan Securities Inc., Economic and Policy Research, May 1, 2003: “To be sure, U.S. tax rules are far more complex than this short description suggests. Often they operate to create disincentives to repatriate foreign earnings even when tax rates abroad are high.”

multinational firms have a long-term view on the countries and reduce their dividend payments, helping to stabilize the crisis? We consider this question in Table 6.

For the United Kingdom, the interaction between the crisis dummy and income has a negative sign, implying that the payout ratio declines during crisis periods, thus contributing to the stabilization of the crisis. In contrast, for the United States, the interaction term is positive, suggesting that U.S. investors potentially aggravate a crisis. A closer examination, that considers the influence of asymmetries, provides additional insights. For the United Kingdom, we find that the payout ratio declines when the country faces a crisis but U.K. investors in that country nevertheless experience a rise in net income: in this, relatively favorable, situation the payout ratio falls just below zero, reducing the pressure on the balance of payments. However, when in a crisis, the firm's net income also falls, dividends do not decline significantly, i.e., dividend payments are maintained despite the fall in income. In contrast, U.S. firms do not change their payout ratio by much when their income change is positive; however, they raise their payout ratio when a country crisis and drop in investor income coincide. This rise in the payout ratio could dampen the decline in dividends if incomes (though having fallen) are in the positive range; however, if incomes not only fall but also turn negative, then dividends fall sharply and can have a stabilizing influence on the balance of payments. Thus, considerations of asymmetry lead to the conclusion that both the UK and US firms act in a potentially stabilizing manner during a crisis. The U.K. firms do so mainly when they are themselves doing well. The U.S. firms may actually raise dividends if they experience temporary income shortfalls but are willing to take a longer run view when those shortfalls drive them into negative income territory.

V. CONCLUSIONS

The pattern of dividend repatriation by subsidiaries to their parents provides insights into the governance of multinational firms while, at the same time, having implications for the volume and stability of foreign direct investment. This paper marks a first effort to undertake an analysis of dividend repatriations to three major foreign investing countries: the United Kingdom, the United States, and Germany. The different perspectives from the various empirical results all reinforce the conclusion that of the three, the U.K. investors appear the most concerned about leaving "excess cash" with their subsidiaries. As a consequence, their dividend payment stream is the most persistent, their expected payout ratio is the highest, and they are more likely to maintain dividends even when the subsidiaries' incomes decline. Dividends are also used by U.S. investors to control their subsidiaries, but the degree of persistence and the payout ratios demanded are less stringent. German investors are at the other extreme: dividends appear to play only a small role as control mechanisms for German multinationals.

While these findings on the differences in the dividend patterns among these three major investors appear robust, their interpretation is more speculative. Both the persistent pattern of dividend payments by foreign affiliates and the reaction of stock returns to shocks in foreign income point to the importance of the agency problem in international operations—that is, the control of foreign managers by managers at the headquarters. The seriousness accorded to

the agency problem and the manner in which it is dealt with will depend on the nature of corporate governance to which the investing parent is subject. Although it is an oversimplification, broad differences in governance mechanisms are said to exist between the Anglo-American system and the German and Japanese approaches (Bolton and others, 2002). These systems are differentiated along many dimensions, but typically lead to similar conclusions in our context.⁶ The Anglo-American system is more market-oriented and company dividends and earnings are thus more important than in the German and Japanese systems in determining short-term changes in firm value. At the same time, the bank-dominated German and Japanese systems suffer less from information asymmetries, making dividend payments less relevant for disciplining managers. Widespread ownership in the Anglo-American systems and more concentrated ownership in the German and Japanese systems lead to similar conclusions.⁷ Available empirical evidence supports these generalizations. Compared with U.S. firms, Japanese firms require less persistent dividend payments and their stock returns are less influenced by their dividend payments (Dewenter and Warther, 1998). Finally, while it is the case that the Anglo-American system is typically regarded as one broad system, Becht, Bolton, and Roell (2002) point out that the only industrialized country in which there continues to be an active market for corporate control is the United Kingdom, thus differentiating it from the United States in an important respect. This creates the possibility that U.K. firms would be most likely to use dividend payments as a strategic management tool.

Thus, United Kingdom investors are most subject to control by dispersed shareholders and so are most liable to use dividends strategically. German investors, in contrast, have the least short-term pressure from dispersed shareholders and so are able to make dividend payment decisions based on broader resource-allocation considerations rather than use such payments to reassure their shareholders. Reflecting these differences, U.K. investors tend to invest in less risky countries and tend to demand the highest payout ratios from the risky countries in which they do invest. Again, German investors have invested in a more risky profile of countries.

⁶ Much controversy surrounds the issue of whether the two systems perform differently in terms of efficiency of investment. Our interest is limited to understanding the implications of corporate governance for dividend payments.

⁷ La Porta and others (2002) question the accuracy, as well as the analytical usefulness, of these characterizations and prefer categorization of corporate governance systems by degrees of legal protection of investors. In this respect, they argue that all these advanced country systems provide strong protections to investors. However, they do note that German corporate governance has been more bank-centered than the Anglo-American systems and, in particular, that German banks were not restricted by Glass-Steagall type restrictions on equity ownership, giving them a big role in the governance of firms.

What are the implications for stability of FDI flows to developing countries? The two largest investing countries, the United Kingdom and the United States, clearly seek persistent dividend payments and target payout ratios. Thus, they have limited their flexibility in the redirection of dividends to investment opportunities, with the U.S. investors somewhat more flexible in this respect than U.K. investors. The implication is that the burden of the fluctuations in domestic earnings falls on reinvested earnings, which are residual after the dividend commitments are met. To that extent, the use of dividend payments to control subsidiaries injects volatility into reinvested earnings and, hence, into FDI flows. However, while the results are not unambiguous, our evidence shows that during crisis periods, both U.K. and U.S. investors can, under differing circumstances, reduce their dividend outflows, thus helping to stabilize the balance of payments. Again, it is a matter of speculation why this happens. One possibility is that asymmetric information is the reason why dividends are used strategically—that is, where parent firms are not able to monitor foreign subsidiaries, they use dividends to align affiliates' incentives with their own. However, crises are visible events and therefore are less subject to asymmetry of information. In such circumstances, parent firms are more tolerant of reduced dividends.

Table 1. Income, Reinvestment, and Dividends on Outward Foreign Direct Investment (FDI) of Major Industrialized Countries

	2001			1999–2001	Average 1990–2001	
	FDI (US\$ billion)	Income (US\$ billion)	Income (percent of GDP)	Income (percent of cumulative FDI stock since 1985)	Reinvest- ment (percent of FDI)	Dividends (percent of Income)
United States	128	126	1.3	11.2	49.8	44.4
United Kingdom	68	67	4.7	6.9	30.3	42.0
Germany	43	15	0.8	3.0	5.9	53.5
Netherlands	49	15	4.0	5.1	4.5	74.3
Sweden	7	11	4.7	7.4	27.5	38.3
Canada	36	10	1.5	5.6	13.8	62.9
Japan ¹	38	17	0.3	7.6	9.6	66.7

Source: IMF, *Balance of Payments Statistics*.

¹ Japan has published reinvested earnings on outward investment only since 1996.

Table 2. Distribution by Political Risk Categories, 1991–2000¹

	Political Risk Category	Share of FDI	Dividends/Income	
			Average of annual ratios	Total dividends/ total income
United Kingdom				
Industrialized countries		0.91	0.38	0.35
Developing countries		0.09	0.47	0.45
<i>Of which:</i>				
	Safest third	0.64	0.42	0.40
	Middle third	0.26	0.54	0.51
	Riskiest third	0.10	0.69	0.61
United States				
Industrialized countries		0.75	0.50	0.45
Developing countries		0.25	0.45	0.43
<i>Of which:</i>				
	Safest third	0.72	0.38	0.37
	Middle third	0.14	0.52	0.50
	Riskiest third	0.14	0.57	0.56
Germany				
Industrialized countries		0.85	0.84	0.66
Developing countries		0.15	0.44	0.87
<i>Of which:</i>				
	Safest third	0.50	10.60	-3.59
	Middle third	0.28	0.29	0.44
	Riskiest third	0.22	-0.89	0.43

Source: See Appendix I

¹ Data for Germany are for 1991–97, and data for United States are for 1991–2001.

Table 3. Source- and Host-Country Coverage and Time Periods

Panel A: List of Source Countries					
Germany		United Kingdom		United States	
Panel B: List of Host Countries					
For Germany		For United Kingdom		For United States	
Industrialized	Developing	Industrialized	Developing	Industrialized	Developing
Australia	Argentina	Australia	Brazil	Australia	Argentina
Austria	Brazil	Austria	Chile	Austria	Brazil
Canada	Chile	Canada	Colombia	Belgium	Chile
Denmark	China	Denmark	Hong Kong SAR	Canada	China
Finland	Colombia	Finland	India	Denmark	Colombia
France	Czech Republic	France	Indonesia	Finland	Costa Rica
Greece	Egypt	Germany	Kenya	France	Dominican Republic
Ireland	Hong Kong SAR	Greece	Korea	Germany	Ecuador
Italy	Hungary	Ireland	Malaysia	Greece	Egypt
Japan	India	Italy	Mexico	Ireland	Guatemala
Netherlands	Indonesia	Japan	Nigeria	Italy	Honduras
New Zealand	Iran	Netherlands	Panama	Japan	Hong Kong SAR
Norway	Israel	New Zealand	Russia	Netherlands	India
Portugal	Korea	Norway	Singapore	New Zealand	Indonesia
Spain	Malaysia	Portugal	South Africa	Norway	Israel
Sweden	Mexico	Spain	Thailand	Portugal	Jamaica
Switzerland	Philippines	Sweden	Zimbabwe	Spain	Korea
United Kingdom	Romania	Switzerland		Sweden	Malaysia
United States	Russia	United States		Switzerland	Mexico
	Singapore			United Kingdom	Nigeria
	Slovak Republic				Panama
	Slovenia				Peru
	South Africa				Philippines
	Thailand				Singapore
	Turkey				South Africa
	Ukraine				Thailand
	Venezuela				Trinidad and Tobago
					Turkey
					Venezuela
Panel C: Time Coverage					
For Germany		For United Kingdom		For United States	
1982–1997		1982–2000		1982–2001	

Table 4. Basic Lintner Model

	Dependent Variable Dividend(t)					m ¹
	Div(t-1)	Div(t-2)	Income(t)	Inc_ Plus(t)	Inc_ Minus(t)	
United Kingdom						
(1)	0.47 (8.42)		0.16 (5.88)			0.59
(2)	0.52 (8.02)	-0.12 (-1.95)	0.16 (5.60)			0.36
(3)	0.56 (8.46)	-0.13 (-2.02)		0.15 (5.06)	0.07 (1.45)	0.57
United States						
(1)	0.35 (5.76)		0.15 (4.59)			0.00
(2)	0.42 (6.62)	-0.31 (-6.07)	0.14 (4.06)			0.36
(3)	0.41 (6.46)	-0.32 (-6.14)		0.14 (4.02)	0.16 (3.72)	0.24
Germany						
(1)	0.20 (3.75)		0.01 (0.42)			0.00
(2)	0.25 (4.28)	-0.25 (-4.20)	-0.01 (-0.46)			0.59
(3)	0.20 (3.44)	-0.28 (-4.68)		-0.05 (-2.29)	0.04 (1.65)	0.89

Sources: Authors' calculations.

Note: Figures in parentheses below the coefficients are *t*-statistics.

¹ m refers to the *p*-value for the null hypothesis that there is no second-order autocovariance in residuals.

Table 5. Factors That Influence the Payout Ratio

	Political										GDP	
	Div (t-1)	Div (t-2)	Income (t)	Political Risk (t)	Political (t)* Income (t)	Tax Rate (t)	Tax Rate (t)* Income (t)	GDP Growth (t)	GDP Growth (t)* Income (t)	m ¹		
United Kingdom												
(1)	0.45 (6.37)	-0.12 (-1.83)	0.86 (4.79)	0.18 (0.23)	-0.01 (-3.94)					0.53		
(2)	0.43 (6.53)	-0.12 (-1.93)	-0.05 (-0.62)			-1.30 (-1.15)	0.01 (3.30)			0.13		
(3)	0.40 (5.70)	-0.12 (-1.84)	0.38 (1.55)	-0.28 (-0.36)	-0.01 (-1.98)	-1.73 (-1.36)	0.01 (2.24)			0.22		
(4)	0.56 (8.61)	-0.16 (-2.53)	0.09 (2.44)					-0.51 (-0.50)	0.01 (3.10)	0.39		
(5)	0.47 (7.22)	-0.19 (-2.95)	-0.07 (-0.88)			-0.77 (-0.69)	0.01 (2.49)	-1.41 (-1.39)	0.02 (4.05)	0.12		
United States												
(1)	0.33 (4.95)	0.04 (0.51)	0.28 (1.37)	-1.04 (-0.31)	0.00 (-0.44)					0.79		
(2)	0.33 (5.20)	-0.34 (-6.51)	0.50 (5.53)			-0.39 (-0.08)	-0.01 (-4.22)			0.32		
(3)	0.25 (3.71)	0.03 (0.45)	0.64 (2.67)	-0.20 (-0.06)	0.00 (-0.47)	0.58 (0.13)	-0.01 (-4.08)			0.77		
(4)	0.31 (4.69)	0.06 (0.78)	0.29 (5.38)					0.59 (0.12)	-0.01 (-2.21)	0.73		
(5)	0.22 (3.37)	0.05 (0.67)	0.65 (6.45)			0.64 (0.14)	-0.01 (-4.20)	2.59 (0.53)	-0.01 (-2.32)	0.80		
Germany												
(1)	0.25 (4.23)	-0.25 (-3.99)	0.07 (0.68)	0.18 (0.29)	0.00 (-0.74)					0.48		
(2)	0.24 (3.92)	-0.26 (-4.00)	-0.09 (-1.70)			-0.86 (-0.99)	0.00 (1.68)			0.56		
(3)	0.24 (3.89)	-0.25 (-3.90)	-0.05 (-0.37)	0.09 (0.14)	0.00 (-0.23)	-0.86 (-0.98)	0.00 (1.46)			0.51		
(4)	0.23 (3.73)	-0.26 (-4.18)	0.03 (0.97)					-0.07 (-0.09)	-0.01 (-1.46)	0.50		
(5)	0.23 (3.60)	-0.26 (-4.00)	-0.05 (-0.69)			-0.79 (-0.89)	0.00 (1.19)	-0.15 (-0.16)	0.00 (-0.84)	0.50		

Source: Authors' calculations.

Note: Figures in parentheses below the coefficients are *t*-statistics.

¹ m refers to the *p*-value for the null hypothesis that there is no second-order autocovariance in residuals.

Table 6. Effect of Crises on Dividend Payments

	Div (t-1)	Div (t-2)	Income (t)	Income Plus (t)	Income Minus (t)	Crisis (t)	Crisis (t)* Income (t)	Crisis (t)* Income Plus (t)	Crisis (t)* Income Minus (t)	m ¹
United Kingdom										
(1)	0.50 (7.67)	-0.14 (-2.20)	0.17 (5.99)			3.30 (0.26)	-0.13 (-2.64)			0.20
(2)	0.54 (8.01)	-0.13 (-2.16)		0.16 (5.46)	0.08 (1.53)	-0.24 (-0.02)		-0.17 (-2.94)	0.00 (0.00)	1.00
United States										
(1)	0.41 (6.42)	-0.31 (-6.05)	0.14 (4.09)			2.92 (0.05)	0.12 (1.70)			0.60
(2)	0.40 (6.24)	-0.32 (-6.14)		0.15 (4.15)	0.16 (3.68)	-3.66 (-0.06)		0.67 (0.79)	0.17 (1.85)	0.51
Germany										
(1)	0.26 (4.37)	-0.25 (-4.08)	0.01 (0.44)			-2.31 (-0.24)	-0.05 (-1.37)			0.49
(2)	0.18 (3.16)	-0.29 (-5.02)		-0.05 (-2.31)	0.15 (4.37)	-0.50 (-0.05)		-0.14 (-0.48)	-0.18 (-4.11)	0.57

Source: Authors' calculations.

Note: Figures in parenthesis below the coefficients are *t*-statistics.

¹m refers to the *p*-value for the null hypothesis that there is no second order autocovariance in residuals.

Data

Dividends and Income

Data have been obtained from national sources, and are in national currency (D-Mark in the case of Germany). The partner countries that are available for each of the three investor countries are listed in Table [3].

United States (1982-2001). All data were obtained from the webpage of the U.S. Commerce Department (http://www.bea.doc.gov/bea/uguide.htm#_1_24). Only total FDI income and its component reinvested earnings were available. As the income on intra-company debt is normally very small (less than 2 percent of total income), dividends have been approximated as the residual between income and reinvestment.

United Kingdom (1980-2000). Data were provided by the UK's Central Statistical Office (CSO). Data only comprise "foreign subsidiaries and associates" and refer to income on equity only (i.e. income is the sum of dividends and reinvestment).

Germany (1982-1997). FDI Income and its three components by partner country were obtained from the Bundesbank. These data contained a methodological break in 1998, so that data from that year on were excluded.

International Country Risk Guide Political Risk Rating

The International Country Risk Guide (The PRS Group, Inc.) Political Risk rating is on a scale of 0–100, with a score of 100 being the lowest risk and 0 the highest risk. The overall rating is composed of 12 political risk components.

Political Risk Components		
Sequence	Component	Points (max.)
A	Government Stability	12
B	Socioeconomic Conditions	12
C	Investment Profile	12
D	Internal Conflict	12
E	External Conflict	12
F	Corruption	6
G	Military in Politics	6
H	Religion in Politics	6
I	Law and Order	6
J	Ethnic Tensions	6
K	Democratic Accountability	6
L	Bureaucracy Quality	4
Total		100

Real GDP Growth

Annual real GDP Growth in percentage. World Development Indicators (WDI), World Bank Series Code: NYGDPMKTPK_1

Corporate Income Tax Rates

Highest statutory rate, obtained from the World Tax Database at <http://wtdb.org/index.html>.

Crisis

The crisis variable takes the value 1 when there is a crisis and a zero otherwise. It is based on a study by Berg and Pattillo (1999), who define a crisis as:

“A currency crisis is defined to occur when a weighted average of monthly percentage depreciations in the exchange rate and monthly percentage declines in reserves exceeds its mean by more than three standard deviations. (Weights are calculated so that the variance of the two components of the index are equal. Weights and the mean and standard deviation of the exchange rate component of the index are calculated separately for low and high inflation periods, where the latter are defined as the collection of months for which inflation in the previous six months was greater than 150 percent.) “

Berg, Andrew and Catherine Pattillo, 1999, “Are Currency Crises Predictable? A Test,” *Staff Papers*, International Monetary Fund, Vol. 46 (2), pp. 107-138.

Data Source:

Exchange rate	IFS line ..AE..ZF
Reserves	IFS line 1L..DZF
CPI	IFS line 64...ZF

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