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Under the pressure of rising market expectations implicit in today's bull market, companies now face unprecedented demands for profitable, long-term growth. Despite the impact of last year's emerging market turmoil on the stock performance of household names like Coca-Cola, the pursuit of global growth remains an essential part of the strategy of most large companies today.

A second benefit of direct foreign investment is to provide companies with a "natural" hedge against product market and currency exposures. For firms with a significant proportion of revenues or costs in overseas markets, the hedging accomplished by locating operations in such markets often proves to be more cost-effective than financial hedging with currency derivatives.

Besides furnishing attractive growth opportunities and natural hedges, foreign direct investment also enables such companies to provide their investors with diversification benefits that the integration of world financial markets was supposed to eliminate, but has not. Because investors continue to behave as if there are substantial costs to foreign portfolio investment, corporate overseas investments offer them a degree of international diversification that they appear unable or unwilling to accomplish on their own.

However, today's corporate financial management practices are decidedly at odds with this strategic case for global investment. Indeed, there may be no other area where corporate practice diverges so far from finance theory. At most large U.S. multinational corporations (MNCs), the stan-

dard practice for estimating hurdle rates on overseas investments is to add a foreign risk premium to the firm's domestic cost of capital to reflect the added political and economic risks associated with operating in an unfamiliar environment. But finance theory, as embodied in the Capital Asset Pricing Model (CAPM), suggests that such a practice could result in a significant overstatement of the cost of capital and, as a result, underinvestment in overseas projects. As world capital markets become progressively more integrated, the logic of the CAPM suggests that many, if not most, of the "foreign" risks encountered by MNCs when investing abroad are effectively eliminated by investors at the portfolio level. What's more, because the fortunes of developing economies are less closely tied to the global business cycle, corporate investments in emerging market economies may actually be *less risky* from an MNC's vantage point than from the perspective of a local company in the same market. For corporate capital budgeting purposes, this global application of the CAPM implies that many of the foreign risks should be reflected *not* by increasing the investment hurdle rate, but instead by making downward adjustments of the levels of projected cash flows.

But why this gap between theory and practice? The prevalence of the high risk premiums cannot be blamed solely on a failure of the practitioners to grasp the theory. For one thing, it may be difficult for financial analysts to come up with reliable estimates of the likely effect of foreign risks on cash flows—and so raising the discount rate becomes a matter of convenience.¹ But there may be another important

*The authors thank Bartow Jones and Gabe Bodhi for their analytical support, and Don Chew for patient editorial guidance.

1. This explanation is offered by Roger Kuebel, a financial executive of GTE Corp., in a letter to the editor that appeared at the beginning of Vol. 11 No. 4, *Journal of Applied Corporate Finance*.

explanation. Despite a large and growing body of academic studies on global capital costs, financial economists have provided little guidance on how to apply their capital market insights in specific corporate settings. For example, take the case of a U.S. multinational food company that wishes to evaluate a possible investment in Brazil, or to measure the periodic performance of an already established Brazilian operation. What hurdle rate, or cost of capital, should be used? This can be a contentious issue because a Brazilian firm raising U.S. dollar debt faces a higher cost of debt than, say, a Canadian company doing the same. So, if the U.S. multinational receives capital investment proposals from both its Brazilian and Canadian business units, how should the proposals be compared? And, once the Brazilian investment is made and the operation is up and running, what cost of capital should be used in evaluating the performance of the local managers? Should it be the same as the cost of capital used to evaluate the firm's Canadian operation?

As suggested, the theory offers little guidance in these matters. In this article, we modify the global CAPM framework (described in several articles in this issue)² to provide a practical method for estimating an MNC's corporate capital costs by country. Consistent with the global CAPM, our method recognizes differences in systematic risk across a global corporate portfolio.³ But, in so doing, our approach takes account of corporate executives' concerns about the unfamiliar risks of global investing as well as the theorist's reliance on capital market information and portfolio perspective. Specifically, our framework draws information from capital markets to determine the appropriate risk premiums for currency and sovereign risks, while also factoring in any diversification benefits, associated with each country in an MNC's portfolio. At the same time, we suggest that other unsystematic international risks and costs are best analyzed through adjustments of the cash flow scenarios. The method for calculating global capital costs described in these pages has been implemented by Bestfoods, a Fortune 200 company with extensive overseas operations.

RETURNS FROM GLOBAL INVESTING

Foreign direct investment by MNCs offers valuable growth opportunities. In addition to the possibility of growth, there can be other strategic benefits to global investing. For example, today's global food companies, such as Bestfoods, are rumored to be very attractive partners for many domestic competitors that missed their chances to "go global"—in part because of their use of inflated international hurdle rates. The same is true of many Japanese multinationals that, in the mid to late '80s, chose to build plants in the U.S. With the unexpected strengthening of the yen against the dollar at the end of the '80s, the Japanese "transplants" remained low cost manufacturers. Had production instead remained in Japan, exports to the large U.S. market would have been uncompetitive.

There are also second-order benefits to global investing that work to reduce the corporate cost of capital—the rate of return required by investors for holding the company's stock. Consider the case of a U.S. multinational whose stock is held mainly by U.S. investors. Even though large, sophisticated U.S. investors tend to reduce the risk of their portfolios by diversifying across different industries, they have been less quick to take advantage of opportunities for international diversification.⁴ This means that the U.S. multinational, by virtue of its own overseas investments, has the potential to reduce its own cost of capital by reducing the systematic risk of their U.S. investors' portfolios (Figure 1).

U.S. corporations and investors, at least in theory, have a major incentive to diversify their portfolios globally. Our own research suggests, for example, that the standard deviation of a diversified portfolio of U.S. stocks ranges from at least 5% to as much as 33% higher than the volatility of an internationally diversified portfolio.⁵ But, as suggested above and discussed at greater length later, investors have been slower than companies to respond to such opportunities.

According to the CAPM, systematic risk is the only risk that matters to investors when setting the

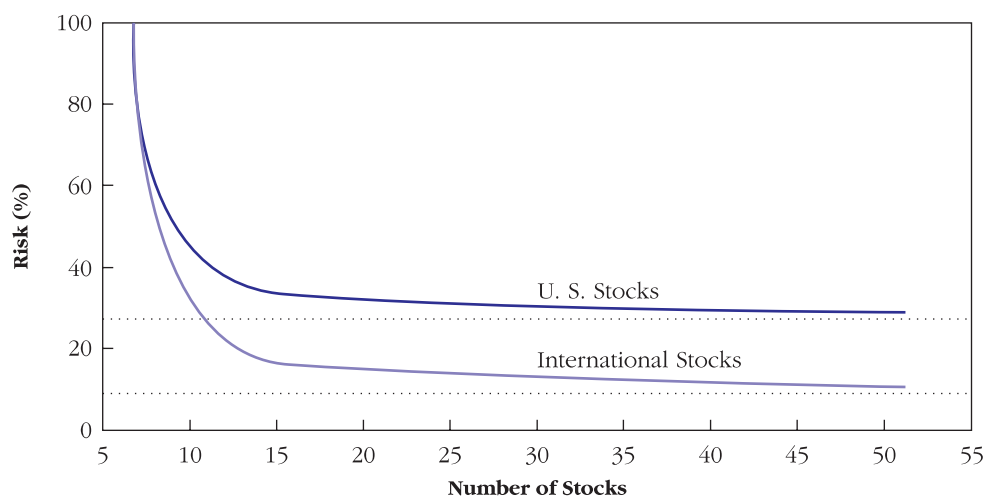
2. See, all in this issue, René Stulz, "Globalization, Corporate Finance, and the Cost of Capital"; Ronald Schramm and Henry Wang, "Measuring the Cost of Capital in an International CAPM Framework"; and Thomas O'Brien, "The Global CAPM and the Firm's Cost of Capital in Different Currencies."

3. A practitioner's cost of capital perspective is put forward by Justin Pettit, "Corporate Capital Costs: A Practitioners Guide," *Journal of Applied Corporate Finance*, Volume 12 Number 1 (Spring 1999).

4. Corporations pursuing global diversification accomplish something their investors seem either unwilling or unable to do themselves. Ian Cooper and Evi Kaplanis, "Home Bias in Equity Portfolios and the Cost of Capital for Multinational Firms," *Journal of Applied Corporate Finance*, Volume 8 Number 3 (Fall 1995).

5. For the past 60, 120, and 180 months, the standard deviation of monthly returns for the S&P500, TSE300 and FTSE100 has ranged from 5-14%, 5-33% and 5-17% respectively, above the standard deviation of monthly returns for the MSCI.

FIGURE 1
REDUCING RISK THROUGH
INTERNATIONAL
DIVERSIFICATION



required rate of return on a company's stock. Sometimes also referred to as "market" risk, systematic risk is the tendency for a company's profits and value to be correlated with broad market movements. Much of the systematic or general market risk that affects the pricing of a company's stock is thus caused by the cyclical nature of the national economy in which the company is operating.

A multinational corporation, by having operations in a number of countries whose economic cycles are not perfectly in phase, reduces the volatility of its own profits and cash flows. (But, according to the CAPM, whether this reduction in volatility benefits the MNC's shareholders will depend mainly on whether it is accompanied by a reduction in the company's systematic risk—that is, in the extent of the correlation of firm's stock price with broad market movements.) The ability of an MNC to provide investors with such an indirect means of international diversification could be a significant source of value to the firm if such investors are unable or unwilling to invest in international markets on their own.⁶

RISKS OF GLOBAL INVESTING

Of course, the returns of global investment cannot be realized without risk—and global investing involves risks that are both similar to and

different from domestic investing. We now provide a practical framework to measure and manage international risks.⁷

International Costs and Unsystematic Risks

Foreign direct investment brings with it incremental costs (foreign legal and tax, currency repatriation and hedging, insurance, and other transaction costs) and risks (heightened project uncertainty over issues such as product acceptance or labor strife, or other operational challenges) that are specific to the business or project. Our experience has shown that the potential *costs* associated with such risks are frequently excluded from the cash flow projections of international investment decisions altogether. Furthermore, they are often treated as "below-the-line" items in the performance evaluation of international business units.

Project *uncertainty* and the recognition that many of the costs associated with international risks are ignored is often cited as a reason for raising the hurdle rates for these investments. But managers typically have the best information about the potential impact of these risks on the expected stream of operating cash flows, both in terms of probability and cost in the event they occur. These same managers will not have any objective way to quantify the effect (if there is any) of such risks on sharehold-

6. Global diversification has become a strategy to cope with economic exposures that market integration and risk management were supposed to eliminate, but did not. Dennis E. Logue, "When Theory Fails: Globalization as a Response to the (Hostile) Market for Foreign Exchange," *Journal of Applied Corporate Finance*, Volume 8 Number 3 (Fall 1995).

7. Systematic risk, or market risk, stems from economy-wide perils that affect all businesses — by definition this would include the currency and sovereign risks of the economy itself. What matters to the well-diversified corporation, and ultimately the well-diversified investor, is the incremental *contribution* to risk, *Modern Corporate Finance*, Alan C. Shapiro (1990) pp. 239-268.

Though U.S. investors reduce the risk of their portfolios by diversifying across different industries, they have been less quick to take advantage of opportunities for international diversification. Thus U.S. multinationals, by virtue of their overseas investments, have the potential to reduce their cost of capital by reducing the systematic risk of their U.S. investors' portfolios.

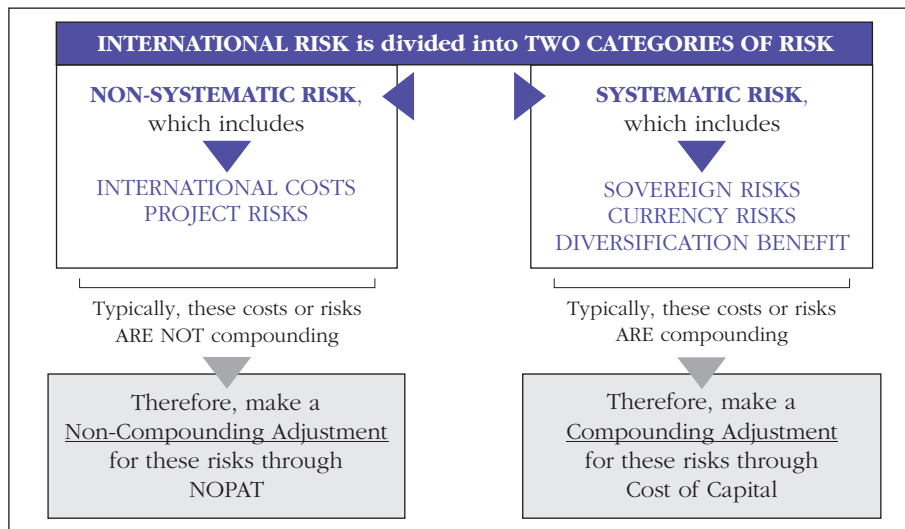
THE INTERNATIONAL RISK PREMIUM PITFALL

The practice of increasing the discount rate to reflect international risks ignores the real benefits that foreign direct investment brings to a portfolio. It is typically a knee-jerk response to an underlying problem with the projections used to justify capital investments. Increasing a project's rate of return also does not allow for adequate consideration of the time pattern and magnitude of risk being evaluated. Using a higher discount rate to reflect additional risk indiscriminately penalizes future cashflows relative to less distant ones and compounds the cost of any risk.

Instead of raising the cost of capital, project and business operating cashflows should be adjusted downward to reflect the political and

economic risks that multinational corporations face abroad (Figure 2). These adjustments are preferable on the grounds that most foreign risks are diversifiable and not compounding (indeed, most can be expected to fall with time and greater integration of markets), and thus such risks should not be viewed as raising investor's required rate of return. Such cash flow adjustments can also be defended on the grounds that, with the growing abundance of capital market information today, management now has access to more and better information about risks and can more rigorously simulate NPV behavior under such conditions, reducing any need for arbitrary adjustments to the discount rate.

FIGURE 2
COST OF CAPITAL
REFLECTS
SYSTEMATIC RISKS



ers' required rate of return. For this reason, we generally find it best to handle the incremental costs, risks, and uncertainties that are specific to an international investment by making adjustments in cash flow scenarios, or in sensitivity or simulation analysis, rather than arbitrarily inflating the hurdle rate.

Systematic Risks

We identify three systematic risks associated with foreign direct investments that can be quantified and treated within the cost of capital framework to better manage the MNC portfolio.

1. Business & Financial Risks. The inherent business and financial risk need not change for foreign direct investments because a company's core business and target capital structure does not typically depend on any particular international operations (in fact, we would typically expect these to be applicable worldwide). For example, in industries where operating profit tends to be more volatile and correlated with the market (e.g. semiconductor industry), business risk is high. These risks, measured by the company beta, are already captured in the corporate cost of capital.

2. Expected Inflation. This is the rate at which prices as a whole are expected to increase. Inflation

risk measures the relative strength of a currency in relation to inflationary pressures on foreign exchange rates. In effect, it represents the risk arising from an expected currency devaluation due to differentials in inflation expectations, where interest rate parity holds over the long run. These risks, measured by the risk-free rate of each country, can thus be captured in both the cost of debt and cost of capital calculations for each investment within the corporate portfolio. This risk should be clearly distinguished from short-run deviations from purchasing power parity, which represent unexpected devaluations of the currency—a possibility that is subsumed under sovereign risk.

3. *Sovereign Risk*. Sovereign risk is sometimes used to refer to the risk that a foreign government will default on its loan or fail to honor other business commitments because of change in national government or policy. More generally, sovereign risk is a broad category of risks that are unique to a country's political and economic environments, including losses arising from currency controls, expropriation, changes in tax or local content laws, quotas and tariffs, or environmental restrictions. The most common examples are detailed below:

- *Unexpected Devaluation/Inflation*: Sharp movements in the relative valuations of currencies, as in Mexico in 1994, and in Russia and much of Asia in 1998, can go beyond the weakness implied by expected inflation differentials. Sudden runaway inflation has also been “employed” to help satisfy debt obligations, such as in Bolivia in the 1980s.

- *Policy Risk*: A host government, due to policy or leadership changes, may renege on agreements or approvals, prevent currency conversion, or impede repatriation. Other examples include changes in tax laws, local content laws, quotas and tariffs, and environmental restrictions. For example, witness the unexpected difficulties faced by both loggers and miners in the Pacific Northwest as a result of environmental lobbying.

- *Expropriation*: Host government policy may reduce or eliminate ownership of, control over, or rights to an investment by an overseas firm. This has happened in Russia, Cuba, South America, Israel, and many other countries.

- *War/Civil Disturbance*: This includes acts of sabotage or terrorism, damage to tangible assets, or inter-

ference with the ability of the enterprise to operate. This has been particularly acute in sub-Saharan Africa.

Such risks add a premium to the required rate of return for foreign direct investment. But how much of a premium? One way of estimating such costs is to look at the “insurance premiums” charged by organizations such as the Overseas Private Investment Corporation (OPIC) and the Multilateral Investment Guarantee Agency (MIGA), which guarantee foreign investments against some of the risks cited above. But there are other market-based methods that may be more reliable. In particular, we look to Global Euro and stripped Brady sovereign debt yields—and in some cases to S&P country ratings—to derive country risk premiums.

GLOBAL COST OF CAPITAL PERSPECTIVES

A controversial issue in academic circles is the extent to which global capital markets have become truly integrated. As René Stulz points out in the first article in this issue, how one resolves this issue—that is, whether one decides that a given market is integrated or remains segmented—in turn determines whether one is justified in using a global or local version of the CAPM.⁸ But, what is to be done “below” the level of the consolidated entity? What cost of capital should be used for the business unit in Brazil versus, say, in Canada?

Segmented Markets—A Local Country Perspective

The local country perspective, illustrated in Figure 3, assumes that country managers operate and invest within local markets that are effectively isolated from world capital markets. This perspective treats each country operation as a stand-alone investment and uses a “local” version of the CAPM with local equity risk indices, local market risk premiums, and country risk premiums.⁹

While this approach reflects managers' intuition that international markets exhibit higher risk, it ignores the generally beneficial effect of the MNC portfolio. In so doing, it is likely to overstate the cost of capital, understate net present value, and so provide an unduly pessimistic view of foreign direct investments.

8. See the lead article in this issue.

9. Ibid.

Using a higher discount rate to reflect additional risk indiscriminately penalizes future cashflows relative to less distant ones and compounds the cost of any risk. Adjusting cash flows instead is preferable because most foreign risks are diversifiable and can be expected to fall with time and greater integration of markets.

FIGURE 3
SEGMENTED MARKETS: A LOCAL COUNTRY PERSPECTIVE

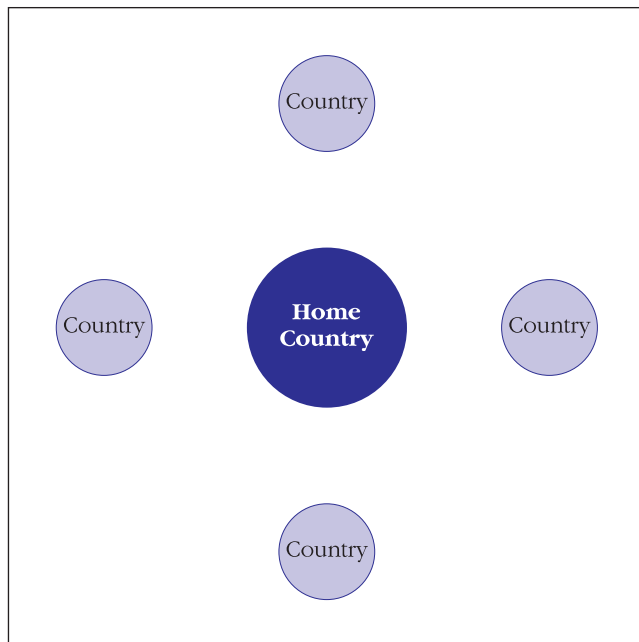
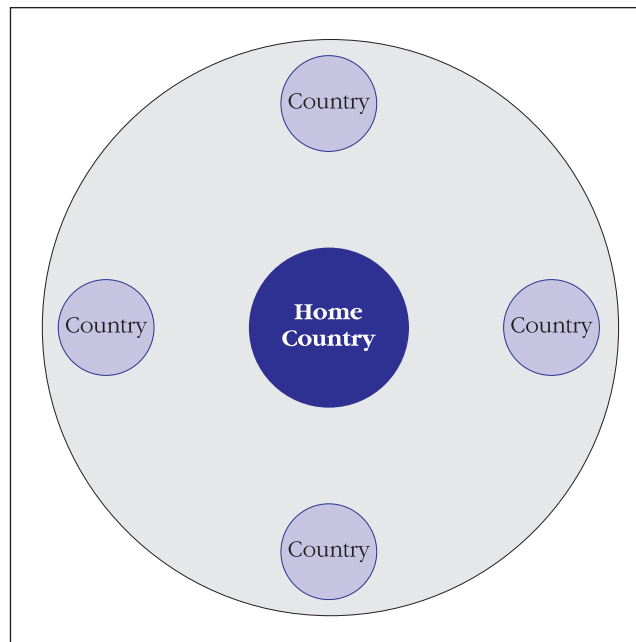


FIGURE 4
INTEGRATED MARKETS: A GLOBAL APPROACH



Integrated Markets—A Global Approach

For multinational corporations, the assumption of integrated markets means that they should view their real investments as components of a global portfolio. Like internationally diversified investment fund managers, global companies can be thought of managing their real investment portfolios so as to achieve the highest possible combined value with the lowest combined overall risk. As illustrated in Figure 4, this approach calls for allocating the corporate portfolio's net sovereign risk, inflation risk, and diversification benefits to each country-business unit or investment.

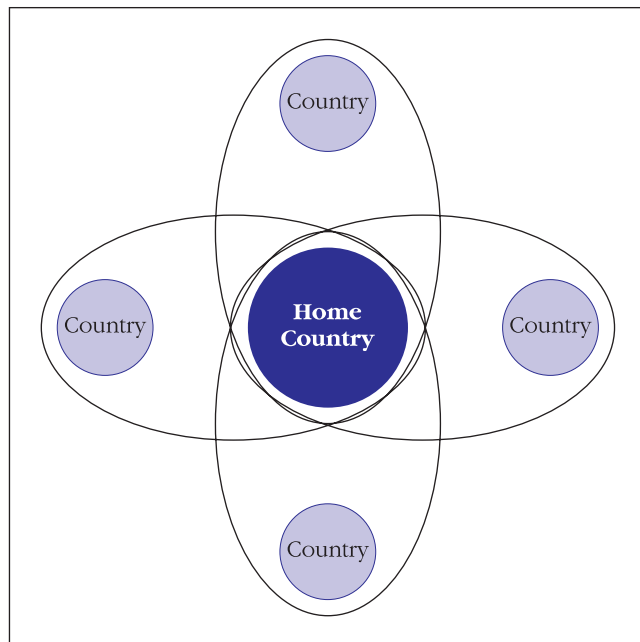
But if use of the segmented, or stand-alone, perspective understates profitability and value, the integrated perspective may overstate economic profits and value because no effort is made to isolate the marginal costs (or benefits) attributable to each country-business unit or foreign direct investment. Each element of the corporate portfolio benefits *fully* from the portfolio effect, regardless of its contribution to the systematic risk of the corporate portfolio. While this works well for the consolidated cost of capital, for country-business units we propose a hybrid approach that captures their marginal impact on the systematic risk of the corporate portfolio.

The Case For A Hybrid Approach

Although world financial markets are now generally much more integrated than they were ten years ago, we believe that several factors continue to contribute to a significant degree of market segmentation. Perhaps most important, investors in all nations are still most comfortable investing in companies in their home markets, leading to the well-documented "home bias" in investor portfolios. But there are also some legal and regulatory barriers at work here. For example, some countries place a ceiling on foreign assets in pensions and tax deferred accounts; in Canada, for instance, it is 20%. Many investors also have less information—or are less comfortable with what information they have—about foreign companies than about domestic ones. And many are reluctant to confront unfamiliar tax and currency issues. In some cases, significant government-imposed restrictions, such as currency controls, create degrees of segmentation. For example, although South Africa recently disbanded its dual-currency system and eliminated the Financial Rand, it retained restrictions on its Commercial Rand.

As a result of these and other impediments to well-functioning capital markets, many of the world's capital markets—particularly emerging markets—

FIGURE 5
MULTINATIONAL PORTFOLIO ADAPTATION



have continued to exhibit the “illiquidity” that is associated with market segmentation. But, far from discouraging foreign direct investment by corporations, such barriers in fact make the benefits of such investment even greater than they would be if markets were completely integrated. That is, in a world that remains at least partly segmented, foreign direct investment is still capable of providing the firm’s shareholders with investment opportunities and diversification benefits they cannot obtain on their own. Moreover, as global economies and financial markets continue the process of integration, this diversification benefit of foreign direct investment will gradually disappear; but other benefits—notably the reduction in sovereign and inflation risks that also come with global integration—will take its place.

The hybrid perspective (illustrated in Figure 5) assumes that a company maintains a dynamic portfolio of home and local country investments. That is, it assumes that all major operations are being continuously evaluated for possible expansion, cur-

tailment, or even sale—and, as a result, that the proportionate weightings of each real portfolio element are constantly changing. For each individual business, and for prospective acquisitions or investments as well, a country beta is determined as a proxy for the incremental risk that the investment adds to the corporate portfolio.

To extend the CAPM to the capital budgeting process for foreign direct investment, we adjust the capital budgeting model for both systematic and unsystematic risk. The approach involves the following steps:

1. The cost of capital is adjusted for sovereign risk, expected inflation, and diversification effect (an illustration of our proposed method follows);¹⁰
2. Operating cash flows must be adjusted for project-specific risks. While simple rules of thumb for increasing the discount rate are often easier to use, there is a very real danger of obsolescence and misuse, as the fundamental assumptions underlying their applicability change.

THE BESTFOODS (BFO) CASE

In what follows, we use the case of a U.S. multinational food company to demonstrate how to derive both a USD cost of capital for each foreign operation or investment, and a local currency version. The local cost of capital provides locals with a reference frame and should be used only when forecasts are based on local currency, with local inflation expectations embedded (this is typically a “compromise” approach for investment analysis by the local country operation when there is a need to use local currency). The USD version, which is most consistent with the perspective of the firm’s U.S. shareholder base, would typically be viewed as the cost of capital for real portfolio measurement and management—and thus for issues ranging from performance measurement and strategic planning to financial planning and tactical operating decisions.

Bestfoods is perhaps the most “international” U.S.-based branded foods company (as measured by percentage of sales outside the U.S.). Its basic business centers on selling high quality branded food products that are customized in ways designed to appeal to local markets. Well known brands

10. Due to the significant standard deviation of many developing market yields (several countries were downgraded in 1998, sharply increasing our measure of sovereign risk), the cost of capital might be made a point of sensitivity for major investment decisions. For example, historical distribution and standard deviation

data can support a Monte Carlo simulation, where the cost of capital is a live element in the NPV analysis to quantify the probability that this factor might drive NPV below zero, or have an otherwise significant impact on value.

If use of the segmented perspective understates value, the integrated perspective may overstate economic profits and value because no effort is made to identify the marginal costs attributable to each country-business unit or foreign direct investment. We propose a hybrid approach that captures their marginal impact on the systematic risk of the corporate portfolio.

TABLE 1 ■ SOVEREIGN RISK

	S&P Bond Rating(6/99)	Implied USD Sovereign Yield	Inflation Differential^a	Local Currency Sovereign Yield^a	Risk Free Rate at Parity^a	Sovereign Risk (bps)^a
Argentina	BB	13.5%	-1.5%	11.8%	4.5%	733 bps
Brazil	B+	14.5%	8.1%	23.8%	14.5%	935 bps
Canada	AA+	6.7%	-0.4%	6.2%	5.6%	60 bps
China	BBB+	8.2%	-1.5%	6.6%	4.5%	212 bps
France	AAA	6.5%	-1.3%	5.2%	4.7%	49 bps
:	:	:	:	:	:	:
Philippines	BB+	10.7%	6.0%	17.3%	12.3%	503 bps
Poland	BBB	7.2%	5.0%	12.6%	11.2%	133 bps
Taiwan	AA+	6.7%	-0.2%	6.4%	5.8%	61 bps
U.K.	AAA	6.5%	-0.2%	6.3%	5.8%	49 bps
U.S.	AAA	6.0%	0.0%	6.0%	6.0%	0 bps

a. Local Currency Sovereign Yield = $(1 + \text{USD Sovereign Yield}) \times (1 + \text{Inflation Differential}) - 1$. Inflation Differential = Local Inflation - US Inflation. Risk Free Rate at Parity = $([1 + \text{Real Rate}] \times [1 + \text{Local Inflation}] - 1)$. Sovereign Risk Premium = Local Currency Sovereign Yield - Risk Free Rate at Parity.

include Knorr, Hellmann's, Entenmann's, and Skippy peanut butter. Over 90 years old, Bestfoods employs 45,000 people in more than 60 countries, and sells its products in more than 110 countries. The company operates 130 plants and bakeries in five operating divisions: North America, Baking, Latin America, Europe/Africa/Middle East, and Asia.

Like most of its competitors, Bestfoods had historically evaluated overseas investments by adding subjective premiums to its domestic cost of capital. Although this practice did not appear to interfere with global expansion, it is likely that some promising projects were rejected due to forecast returns falling short of artificially inflated cost of capital rates. As a consequence, the company has since implemented a more refined and systematic approach to calculating cost of capital for its international regions and affiliates. This calculation is performed quarterly for the purpose of evaluating new projects, and annually (at the beginning of each year) for evaluating the performance of each country business unit.

Sovereign Risk

Our method begins by estimating a U.S. dollar-based risk free rate for each country in which the firm

has (or intends to have) major operations.¹¹ But, in contrast to conventional applications of the CAPM, our measure of the risk free rate effectively incorporates a considerable portion of sovereign and inflation risk. We build such risks into the risk free rate because they directly affect the cost of money. For example, the sovereign cost of money for Brazil (as reflected by the yield on its USD-denominated Global Euros) is about 875 basis points more than for Canada.

Table 1 shows capital costs for a selection of developed and developing countries in which BFO has operations. As shown in the second column of the table, Brazil's USD-denominated sovereign debt yields 14.5%. This number can be thought of as representing the required rate of return on a Brazilian investment with no systematic business risk that is necessary to compensate U.S. (or globally diversified) investors for bearing USD inflation and Brazilian sovereign risk. To determine what portion of that 14.5% represents Brazilian sovereign risk (shown in the right-hand column of Table 1), we effectively subtract the risk free rate at parity (4.5%) from the local currency sovereign yield (23.8%) to arrive at a sovereign risk premium of 935 basis points.

Thus, the country risk premiums shown in Table 1 reflect the "sovereign risk" of the local countries relative to that of the U.S. Developed

11. For the following countries, we used the stripped yield of the Brady bond as a basis for USD-based risk free rates: Argentina, Brazil, Indonesia, Korea, Mexico, Peru, Philippines, Poland, Russia, Thailand, Turkey, and Venezuela. The stripped yield is the yield on the non-collateralized portion of the bond. In some respects, Global Euros may be most representative of true sovereign risk (as Bradies near

extinction) due to better liquidity, more countries with longer tenors, non-collateralization—eliminating the need for a stripped-yield calculation, and generally, fewer anomalies. Finally, S&P sovereign bond ratings can be compared against corporate bond yields for a third market-based gauge of the cost of sovereign risk.

TABLE 2 ■ SELECTED COUNTRY-SPECIFIC BETAS

	Local Country ^a				Portfolio (US – LC) ^b			
	Std. Dev.	Coeff. of Var.	Exp. Return	Corr. Coeff.	Std. Dev.	Exp. Return	Coeff. Of Var.	Country Beta
Argentina	67.1%	1.07	62.7%	0.47	36.7%	36.9%	1.00	0.86
Brazil	63.5%	1.07	59.4%	0.32	34.1%	35.2%	0.97	0.81
Canada	12.2%	1.07	11.4%	0.69	11.0%	11.2%	0.98	0.84
China	42.5%	1.07	39.7%	0.25	23.4%	25.4%	0.92	0.73
France	17.2%	1.07	16.1%	0.58	13.0%	13.6%	0.96	0.79
:	:	:	:	:	:	:	:	:
Philippines	33.7%	1.07	31.5%	0.32	19.6%	21.3%	0.92	0.72
Poland	71.7%	1.07	67.0%	0.13	37.1%	39.0%	0.95	0.78
Taiwan	44.0%	1.07	41.2%	0.22	24.0%	26.1%	0.92	0.72
U.K.	14.5%	1.07	13.6%	0.63	11.9%	12.3%	0.97	0.81
U.S.	11.8%	1.07	11.0%	1.00	11.8%	11.0%	1.07	1.00

a. The LC coefficient of variation is determined as the U.S. standard deviation divided by the U.S. expected return and then it assumed constant across all countries. Local standard deviations are based on as much as 132 monthly returns on MSCI Local Country Indices in US\$ and S&P Actuaries Indices in US\$. Local Country expected returns are determined as the standard deviation of returns divided by the coefficient of variation. The correlation coefficient between local market index and MSCI US\$ Index uses the same time period as the measure of standard deviation.

b. Portfolio Standard Deviation = Square Root ($0.5^2 \times \text{LC Standard Deviation}^2 + 0.5^2 \times \text{US Standard Deviation}^2 + 0.5 \times \text{LC Standard Deviation} \times \text{US Standard Deviation} \times \text{Correlation Coefficient}$). Portfolio Expected Return = $0.5 \times \text{LC Expected Return} + 0.5 \times \text{US Expected Return}$. Country Beta = $(\text{Portfolio Coefficient of Variation} \div \text{US Coefficient of Variation} - 0.5) \div 0.5$.

countries possess very low risk premiums; for example, the UK and France have sovereign risk premiums of just 49 basis points. But developing markets have risk premiums that range from about 133 bps (for Poland) to Brazil's 935 bps. Again, our rationale for incorporating such measures into the risk free rate (and hence into our measure of systematic risk) is that cost of capital applications "below" the consolidated entity require a market solution to capturing the market risks such as expected inflation and sovereign risk.

Country Betas

After estimating the risk free rate for each country, the next step is to calculate a country beta that measures the systematic risk of an investment in local country operations in relation to the real global portfolio. The country beta is a function of two main factors: (1) the standard deviation of the local market portfolio relative to that of the U.S. market and (2) the extent of the correlation between local market and U.S. stock returns.

As shown in Table 2, although the standard deviations of developing economies are much higher than those for the U.S. and other developed economies, the correlation coefficients are much lower for developing economies because the latter are less

closely tied to the business cycle of industrialized economies. By contrast, the correlation among the economies of developed countries is considerably stronger and the potential diversification effects proportionately less. The net result, as shown in the right-hand column of Table 2, is that the country betas of the developing economies are largely indistinguishable from those of developed economies; the effect of higher variability in developing economies appears to be largely offset by their lower correlation coefficients.

Local and Global Capital Costs

The third and final step in the analysis is to use the risk free rates and country betas to calculate both local and global weighted average costs of capital. For each of our selected countries, Table 3 shows the local country (unlevered) betas, risk free rates, and other components necessary to calculate a local country weighted average cost of capital. For example, in the case of Brazil, with a local (after-tax) cost of debt of 16.5% and a local country cost of equity of 26.4% (and assuming that equity comprises about 80% of the average firm's capital structure), the local currency cost of capital is 24.7%.

But, for evaluating a contemplated investment or the performance of existing operations in Brazil,

As global economies and financial markets continue the process of integration, this diversification benefit of foreign direct investment will gradually disappear; but other benefits—notably the reduction in sovereign and inflation risks that also come with global integration—will take its place.

TABLE 3 ■ “LOCAL” COSTS OF CAPITAL

	Unlevered LC Beta	Bus. Risk Premium	LC Risk- free Rate	Cost of Equity	Tax Rate	A/T Cost of Debt	LC Cost Capital ^a
Argentina	0.54	2.7%	11.8%	14.7%	35.0%	8.3%	13.6%
Brazil	0.50	2.5%	23.8%	26.4%	37.0%	16.5%	24.7%
Canada	0.52	2.6%	6.2%	9.1%	38.0%	4.3%	8.3%
China	0.45	2.3%	6.6%	9.1%	33.0%	4.9%	8.4%
France	0.49	2.4%	5.2%	7.8%	40.0%	3.5%	7.1%
:	:	:	:	:	:	:	:
Philippines	0.45	2.2%	17.3%	19.7%	33.0%	12.6%	18.5%
Poland	0.48	2.4%	12.6%	15.2%	32.0%	9.2%	14.2%
Taiwan	0.45	2.2%	6.4%	8.9%	25.0%	5.4%	8.3%
U.K.	0.50	2.5%	6.3%	9.1%	30.0%	4.9%	8.4%
U.S.	0.62	3.1%	6.0%	9.5%	39.0%	4.1%	8.5%

a. LC Local Cost of Capital = Country Cost of Equity × (1 – Debt/Market Value) + Country Cost of Debt × (1 – Tax Rate) × Debt/Market Value. Based on a domestically focused unlevered beta of 0.62, a global market risk premium of 5% and a target capital structure of 20% debt on a market weighted basis, where the Country Unlevered Beta = Domestically Focused Beta × Country Beta.

TABLE 4 ■ REPRESENTATION OF SELECTED GLOBAL COSTS OF CAPITAL WITH RISK FACTORS

	6/99 Rating	Sovereign Risk (bps)	Expected Inflation (bps) ^a	Diversification Effect (bps)	LC Cost of Capital	US\$ Cost of Capital ^a
Argentina	BB	733 bps	–173 bps	–52 bps	13.6%	15.4%
Brazil	B+	935 bps	934 bps	–256 bps	24.7%	15.3%
Canada	AA+	60 bps	–43 bps	–44 bps	8.3%	8.7%
China	BBB+	212 bps	–165 bps	–64 bps	8.4%	10.0%
France	AAA	49 bps	–141 bps	–52 bps	7.1%	8.5%
:	:	:	:	:	:	:
Philippines	BB+	503 bps	670 bps	–183 bps	18.5%	11.7%
Poland	BBB	133 bps	544 bps	–114 bps	14.2%	8.7%
Taiwan	AA+	61 bps	–22 bps	–62 bps	8.3%	8.5%
U.K.	AAA	49 bps	–22 bps	–43 bps	8.4%	8.6%
U.S.	AAA	0 bps	0 bps	0 bps	8.5%	8.5%

a. Expected Inflation = Inflation Differential (LC Inflation – US Inflation) plus the compounding effect of translating local currency costs of capital into US dollar costs of capital. The US\$ Cost of Capital—the corporate cost of USD “denominated” capital for the global corporate—includes the base U.S. domestic cost of capital, the sovereign risk associated with the overseas direct investment, and the diversification benefit that the overseas direct investment brings to the global portfolio of the corporate parent. The Local Currency version of each country cost of capital also includes the effect of the inflation expectations implicit to the currency.

the USD cost of capital provides a better basis. As discussed earlier, a helpful way of looking at the cost of capital for foreign countries is to think in terms of the marginal impact of the two systematic risk components—sovereign and currency risk—and the offsetting portfolio diversification effect. These calculations for the same group of selected countries are shown in Table 4.

For example, BFO’s cost of capital in Brazil would be estimated by adding the company’s U.S. weighted average cost of capital (8.5%) to the sovereign risk (935 bps) and currency risk (934 bps) of Brazil. But, because BFO’s investment in Brazil is part of a multinational real portfolio that brings a diversification benefit of 256 bps,¹² the net result for Brazil is a 24.7% local country cost of capital, or 15.3% expressed in USD.

12. Anecdotal evidence, such as comparisons of the unlevered betas of domestically focused branded food companies, such as Hershey, to their global

peers, such as Nestlé, also seems to support this finding. However, it is very difficult to quantify this benefit with any precision.

CONCLUSION

The financial management practices of many multinational corporations are decidedly at odds with both financial theory and the strategic case for globalism. Despite the weight of academic literature, many financial executives still cling to ad hoc rules of thumb that discourage value-enhancing global growth. In particular, they tend to require large premiums for making foreign investments, while ignoring the diversification benefits of such investments for their shareholders. Indeed, our experience suggests that large companies tend to charge risk premiums for overseas investments that run as high as 10% per annum above their estimates of home-country cost of capital, even after accounting for expected inflation differentials. But when evaluating large, domestic acquisitions, these same companies use only “earnings accretion” as their main pricing criterion, implying a hurdle rate in many cases as low as 1-2%.

This article presents a new method designed for use by multinationals when estimating the cost of capital for purposes of evaluating overseas investments and measuring the performance of overseas operations. The method is illustrated using the case of Bestfoods, a large, globally diversified food products company. In contrast to conventional applications of the CAPM, our measure of the risk free rate effectively incorporates a considerable portion of sovereign and inflation risk. Although our method shows that Bestfoods incurs a significantly higher cost of capital in Brazil than in the U.S., that cost of capital is reduced somewhat by the opportunities for international diversification that BFO’s investment provides its investors. In a business environment where overseas investments appear to offer significant opportunities for profitable growth, achieving more reliable estimates of the cost of capital helps ensure that companies will choose to undertake all investments that promise to add value.

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