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Currency Risk and Country Risk in International Banking

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ABSTRACT

This paper focuses on the conditions under which banks are subject to currency and country risks on their dollar-denominated loans to foreign firms and governments. We conclude that currency risk is a function of the rates of domestic and foreign inflation, deviations from purchasing power parity, and the effect of these deviations on the firm's and the nation's dollar-equivalent cash flows. Country risk is largely determined by the variability of the nation's terms of trade and the government's willingness to allow the national economy to adjust rapidly to changing economic fortunes.

BANKS TYPICALLY TRY TO cope with currency risk when lending to foreign firms and governments either by both denominating and funding their loans in the foreign currency or, failing that, by denominating their foreign loans in dollars. The latter practice appears to protect the banks by shifting any risk associated with exchange rate fluctuations to the borrowers. Yet to the extent that changes in currency values affected the ability and/or willingness of foreign borrowers to repay their dollar loans, the exchange risk on these loans is converted into credit risk. This is the element of "currency risk" referred to in the paper's title.[1] When the government is the borrower, credit risk becomes "country risk."

The objective of this paper is to explore the conditions under which banks are subject to currency and country risks on their dollar-denominated foreign loans. Section I analyzes the sources of currency risk for firms, while Section II extends the analysis to study the riskiness of dollar loans to foreign firms under several currency scenarios. The political/economic circumstances under which dollar loans to foreign governments could be subject to currency and country risk are the subject of Section III. Section IV discusses in more detail the various political and economic indicators of country risk. Section V summarizes the paper's key points.

I. Currency Risk and the Firm

We use a one-period model to analyze the impact of currency changes on a foreign firm. The initial assumption is that the U.S. and the foreign country both have 0 rates of inflation. Let p be the stochastic operating profit of the firm expressed in nominal dollars (with the assumption of 0 inflation in both countries,

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[1] Many of these issues are discussed by Wihlborg (1978), although from a somewhat different perspective.

nominal and real cash flows are identical), N its contractual dollar cash flows, and N^* its contractual local currency (LC) cash flows. The latter two cash flows—each of which can be positive or negative—arise from such fixed nominal commitments as debt, long-term leases, rents, labor contracts, and accounts payable and receivable. An addition LC cash flow fixed in nominal terms is the depreciation tax shield. All cash flows are expected to occur at the end of the period. Then the nominal dollar value of the firm's end-of-period cash flow is

$$V = p + N + N^*e \tag{1}$$

where e is the end-of-period spot rate (dollar value of LC1).

The firm bears exchange rate to the extent that $\text{cov}(V, e) \neq 0$.[2] The value of $\text{cov}(V, e)$ can be modified to reflect the stochastic version of the law of one price and purchasing power parity (PPP) developed by Roll (1979): $e(1 + i^*)/(1 + i) = e_0 + u$, where e_0 is the current spot rate, i is the stochastic rate of U.S. inflation, i^* is the stochastic rate of foreign inflation, and u is an error term with mean 0. If purchasing power parity (PPP) holds exactly $u = 0$. Thus, u can be considered the random deviation from PPP. Since we are initially assuming that $i = i^* = 0$, $e = e_0 + u$.

Expanding terms, we get

$$\begin{aligned}\text{cov}(V, e) &= \text{cov}(p + N, e + u) + \text{cov}(N^*e, e)\\ &= \text{cov}(p, u) + N^* \text{ var}(e).\end{aligned} \tag{2}$$

One implication of (2) is that if PPP holds, nominal dollar operating profits are unaffected by nominal exchange rate changes. As noted above, this is strictly true only if the U.S. price level does not vary. In the general case, with nonzero inflation rates, u could be nonzero even if $e = e_0$. One example of this would be different inflation rates in the two countries combined with a fixed nominal exchange rate (e.g., under a fixed exchange rate regime).

Alternatively, u could be nonzero because the law of one price does not hold. Roll (1979) points out that even if goods and exchange markets are efficient, the existence of a lag between buying goods in one country and selling them at a profit in another country will result in deviations from the law of one price. The efficient markets hypothesis constrains these deviations to follow a random walk. Otherwise, arbitrage profits would exist. A number of economists (e.g., Isard (1977)) argue that for various reasons—primarily transaction costs—serially correlated deviations can persist over long periods of time. In either event, it is generally agreed that deviations from the law of one price and, thus, from PPP do exist.[3]

But even if the law of one price holds for all traded goods, PPP is not guaranteed. Stockman (1980) has shown that as long as traded—and, hence, the price indices used to measure inflation—differ between countries, relative price

[2] From the standpoint of any individual firm, the direction of causation runs from the exchange rate change to the nominal value of the firm's end-of-period cash flows. From the standpoint of the economy as a whole, however, it is the relative price change that caused the exchange rate to change, not vice versa.

[3] See Shapiro (1983) for a review of the issues surrounding purchasing power parity.

changes will cause the equilibrium exchange rate to change. The net result is a change in the exchange rate even though each nation's own rate of inflation is zero.

Regardless of the reason for the deviation from PPP, a nonzero value for u results in what is termed a *real*, or inflation-adjusted, change in the nominal, or actual, exchange rate. But do real exchange rate changes imply currency risk? That is, does correlation (i.e., $\text{cov}(p, u) \neq 0$) imply causation? Clearly not.

The question of causation has been extensively debated in the international finance literature. Many international economists believe that real exchange rate changes *cause* relative price changes, at least in the short run. An alternative view, implied by Roll's efficient markets version of PPP, is that, absent foreign exchange market intervention, the relative prices of the firm's inputs and outputs—and, hence, the dollar value of its operating cash flows—will not be affected by exchange rate changes.

To say that exchange rate changes do not *cause* prices between countries to differ does not imply that the law of one price will hold for all goods and services or that relative price changes will not be correlated with exchange rate changes. Rather, it means that causation runs from relative price changes to exchange rate changes and not vice versa. Similarly, exchange-adjusted price differentials between nations can be explained on the basis of various obstacles to trade such as transportation costs, tariffs, quotas, and uncertainty; exchange rate changes should have no independent explanatory power.

II. Currency Risks on Loans to Foreign Firms

Regardless of whether causation runs from the relative price changes to the exchange rate changes or vice versa, however, a firm borrowing dollars has a different risk profile than if it borrows LC. Deviations from PPP are associated with real exchange rate changes. These real exchange rate changes will affect firms dealing in traded and nontraded goods in predictable ways. Specifically, an increase in the real value of the local currency (i.e., $u > 0$) will increase the dollar value of operating cash flows (i.e., $dp/du > 0$) for firms that sell domestically and face minimal import competition and reduce dollar operating cash flows (i.e., $dp/du < 0$) of those firms selling abroad or competing with imports. A decrease in the real exchange rate ($u < 0$) will have the opposite effects. Banks will bear the residual currency risks associated with corporate borrowings.

As used here, the term "currency risk" refers to the possibility that exchange rate changes will alter the expected dollar amount of interest and principal the bank will collect on the loan. Specifically, there is the risk that exchange rate changes will so increase the loan's real cost to the borrower that it will default.

Consider a loan of L dollars, including principal and interest, to a foreign firm. The firm's ability to service this dollar loan turns on whether its dollar cash flow net of loan repayment, $V - L$, is positive or negative. The currency rate attached to this loan depends on the predictability of U.S. inflation and on the magnitude of $\text{cov}(V, e) = \text{cov}(p, u) + N^* \text{ var}(e)$.

The magnitude of $\text{cov}(V, e)$, in turn, depends on the magnitude of u and N^*.

Even if the real cost of repaying the dollar loan is quite predictable, and PPP holds exactly, the firm's ability to service its loan will be uncertain because of the uncertain dollar value of its contractual LC cash flow, N^*. In general, a firm with nominal assets and liabilities denominated in more than one currency will bear exchange risk. The more significant element of currency risk for the firm (and, hence, for the bank), however, will likely derive from the effect of deviations from the law of one price on the dollar value of the firm's operating cash flow. The larger these deviations, the larger the absolute values of u and $\text{cov}(p, u)$ and, thus, the more exchange risk will be borne by the firm and the bank.

But, even if both countries have 0 inflation rates and the law of one price holds for all traded goods, a dollar loan will involve exchange risk. Cornell (1979) demonstrates that because relative price changes can lead to exchange rate changes, the real cost to a foreign firm of a dollar loan, and, therefore, its ability to repay that loan, will be uncertain. From the firm's perspective, it is bearing exchange risk even though the true cause of the exchange rate change is a change in relative prices. For the loan to be free of currency risk, therefore, an unlikely set of circumstances must exist: zero inflation in the U.S. and the foreign country, no deviations from the law of one price, and no relative price changes.

Firms, however, cannot avoid currency risk by borrowing in the local currency. To see this, suppose that PPP holds continually. Then the real cost of paying off a loan will be as variable as the rate of inflation in the currency that the loan is denominated in. If real operating profits are fairly stable, then the low-risk loan from both the lender's and the borrower's standpoint will be in the currency with the most stable purchasing power.[4]

The crucial question here in determining the risk associated with borrowing in different currencies is whether shocks are likely to be greater in the real exchange rate or in inflation rates. Important evidence on this issue is provided by Roll's (1979) detailed study of 23 pairs of countries. Roll concludes that less than 10 percent of the monthly variation in any exchange rate is due to inflation. This implies that for companies located in low-inflation countries and whose operating cash flows are relatively stable in terms of their own price indices, the lowest risk financing option will typically involve borrowing their own currencies.

A. Currency Risk in a Controlled Exchange Rate System

Given the prevalence, indeed, the universality, of controlled rate systems among countries facing international debt problems, it is worth exploring the currency risks associated with such a system. For purposes of our analysis, the most relevant feature of a controlled exchange rate system—one in which the government maintains a fixed rate through mandatory currency controls—is that the local currency will likely be overvalued.

The further out of alignment the currency is, the more stringent the controls must be on flows of physical goods and capital. These restrictions can prove a costly proposition for local industries dependent on imports for spare parts, raw materials, and the like, reducing their ability to repay their dollar loans. Moreover,

[4] This point is made in Cornell (1979).

even if the dollar value (at the official exchange rate) of the firm's LC cash flows are sufficient to service its dollar debts, the firm may be unable to acquire those dollars.

There is also the probability of government-imposed price controls in a fixed rate system. These price controls are especially likely following devaluation of the local currency in an attempt by the government to moderate the resulting inevitable risk in prices. This will have the effect of removing one more degree of freedom from the firm's ability to respond to a changing economic environment.

B. The Bank's Problem

If a new loan entails no systematic risk, and its contribution to the total risk of the bank's loan portfolio is minimal, the bank's principal concern in making the loan is deciding which currency will yield it the highest expected return. Consider, for example, a firm whose dollar cash flows are positively correlated with the deviation, u, from PPP; i.e., $\text{cov}(p, u) > 0$. Then, if there is a real LC devaluation ($u < 0$), the firm's dollar cash flows will decline. This will make it more difficult for the firm to service a dollar loan. Yet the bank will still collect at least as much from the firm by lending dollars as by lending LC because the dollar value of the principal amount of the LC loan will decline following the LC devaluation. Since the sign and magnitude of u are unpredictable, its value and impact could not be reflected in the LC interest rate.

In the event of a real LC revaluation ($u > 0$), the bank would be better off lending in LC, because it would benefit from the increased dollar value of the principal amount of the LC loan. The bank's currency denomination preferences would be reversed if the firm's dollar cash flows were negatively correlated with u.

The above analysis is superficial for two basic reasons. First, since random deviations from PPP are unpredictable, it begs the question of the bank's ex ante currency preferences. Second, in an efficient market, to the extent that lending decisions are based on expected returns only, a bank cannot expect ex ante to collect more by lending in one currency rather than in the other. Competition among banks should ensure that any perceived advantage to a bank associated with lending in a particular currency will be passed along to the borrower in the form of a lower interest rate. In other words, the relative interest rates on loans in different currencies should reflect any predictable and systematic differences in default risks. Thus, in equilibrium, banks should be indifferent between lending in one currency or another. The preceding analysis, however, illustrates the currency risk considerations that should enter into a bank's corporate lending decision. Those banks that can perform superior credit analyses should earn rents from that ability.

Asset/Liability Combinations. The implicit assumption that banks must fund their assets with dollar liabilities gave them only two possible asset/liability currency denomination combinations. To the extent that banks can employ LC liabilities as well, they can double their possible asset/liability currency combinations.

Regardless of the sign of cov(p, u), the bank will prefer to lend dollars if $u < 0$ and LC if $u > 0$, assuming that u involves both a nominal and a real change in the exchange rate. In the former case, the bank's profits will be greater if it had funded its dollar loan with LC since its borrowing cost will decline with LC devaluation. On the other hand, if $u > 0$, the bank's profits would decline with LC funding because the cost of repaying LC liabilities will rise with the LC revaluation.

If the bank cannot predict whether u will be positive or negative, the low-risk option is not obvious. To see this, suppose the bank selects a fraction x of the loan to be denominated in dollars and a fraction y of the loan to be funded in dollars. Then, focusing solely on the probability q of default on the dollar loan induced by the exchange rate change, the bank's expected return on the loan is

$$r = xL(1 - q) + (1 - x)L(1 + u) - [yL + (1 - y)L(1 + u)](1 - k) \quad (3)$$

where k is the bank's spread on the loan, and the exchange rate has been normalized so that u is a fractional change.

Differentiating r with respect to u to determine which lending/funding combination is least affected by a change in u yields

$$dr/du = L[xdq/du + y - x + k(1 - y)]. \quad (4)$$

Based on (4), the four possible currency combinations, and their effects on dr/du, are

	x	y	dr/du
1.	1	1	$(dq/du)L$
2.	1	0	$(dq/du - 1 + k)L$
3.	0	1	L
4.	0	0	kL

Assuming that dq/du, $k \ll 1$, combinations 1 (dollar lending and funding) and 4 (LC lending and funding) would seem to dominate the other two. The choice between combinations 1 and 4 comes down to the relative magnitudes of dq/du and k. But whether or not LC funding is available, the bank can diversify its currency risks by lending both to firms with cov(V, e) > 0 and firms with cov(V, e) < 0.

III. The Political Economy of Country Risk

Turning to a government borrower, its ability to repay a dollar loan will be determined by its capacity to extract the necessary quantity of foreign exchange from the public.[5] The government can, of course, outbid any private economic unit for dollars because it can print unlimited quantities of its own currency at close to a zero marginal cost.[6] But there are costs to doing this.

[5] Although an LC-denominated loan is default-risk free (because the government owns the printing presses), the strong element of moral hazard that implies (the government controls the real cost of loan repayment) explains why banks do not denominate loans to a government in its own currency. So, from here on we focus on dollar-denominated loans.

[6] Having its own domestic currency allows the government to tax cash balances at minimal cost,

What ultimately determines a nation's ability—and willingness—to repay foreign loans is its wealth.[7] This, in turn, is based on the nation's terms of trade—the weighted average of the nation's export prices relative to its import prices; that is, the exchange rate between exports and imports. Most economists would agree that these terms of trade are largely independent of the nominal exchange rate, unless the observed exchange rate has been affected by government intervention in the foreign exchange market.

In general, if the nation's terms of trade increase, it will be a better credit risk. Alternatively, if the nation's terms of trade decrease, it will be a poorer credit risk. Of course, these risks are a function of the nation's terms of trade; they are not currency risks. But there is a sense in which a terms-of-trade risk (which is just a relative price risk) can become a currency risk.

A. Terms-of-Trade Risk and Currency Risk

When a nation's terms of trade improve, foreign goods become relatively less expensive, the nation's standard of living rises, and consumers and businesses become more dependent on imports. But since (actual, not expected) relative price changes are unpredictable in an efficient market (otherwise, profitable arbitrage opportunities would exist), shifts in the terms of trade must also be unpredictable). When the nation's terms of trade decline, as must inevitably happen with a stochastic process, the government will likely face political pressure to maintain the nation's standard of living.

A typical response is for the government to fix the exchange rate at its former (and now overvalued) level, i.e., to subsidize the price of dollars. Loans made when the terms of trade improved are now doubly risky: first, because the terms of trade have declined and second, because the government is maintaining an overvalued currency, further reducing the nation's net inflow of dollars. This usually results in added government borrowing.

To summarize, a terms-of-trade risk can be converted into a currency risk if the government attempts to avoid the necessary drop in the standard of living when the terms of trade decline by maintaining the old exchange rate. In reality, of course, this currency risk is a political risk. The government is attempting by political means to hold off the necessary economic adjustments to the country's changed wealth position.

A key issue, therefore, in assuming currency risk is the speed with which a country adjusts to its new wealth position. In other words, how fast will the necessary austerity policy be implemented? This will be determined in part by the government's perception of the costs and benefits associated with austerity versus default.

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providing a low cost source of revenue. In the absence of a domestic currency (e.g., the case of Panama where dollars circulate in lieu of a Panamanian currency), the government's ability to extract dollars from the populace is a function of its general taxing power.

[7] As national wealth increases, the disutility associated with repaying a given loan amount should decline.

B. The Government's Cost/Benefit Calculus

The cost of default is the likelihood of being cut off from international credit. This possibility brings with it its own form of austerity. Most nations will follow this path only as a last resort, preferring to stall for time in the hope that something will happen in the interim. That something could be a bailout by the IMF, the Bank for International Settlements, or the Fed (or some other major central bank). The bailout decision is largely a political decision. It depends on the willingness of citizens of another nation, usually the U.S., to tax themselves on behalf of the country involved.[8] This is a function of two factors: (1) the nation's geopolitical importance to the U.S. and (2) the probability that the necessary economic adjustments will result in unacceptable political turmoil.

The more a nation's terms of trade fluctuate, and the less stable its political system, the greater the odds the government will face a situation that will tempt it to hold off on the necessary adjustments. Terms-of-trade variability will probably be inversely correlated with the degree of product diversification in the nation's trade flows. With limited diversification (e.g., dependence on the export of one or two primary products or imports heavily weighted towards a few commodities), the nation's terms of trade are likely to be highly variable. This characterizes the situation facing most Third World countries. It also describes, in part, the situation of those OECD nations heavily dependent on oil imports.

The current account structure of the U.S. reveals that U.S. exports are much more broad-based than even the exports of Germany and Japan. The U.S. receives much more service and investment income, exports much more agricultural products, and is a major exporter of primary products. In 1982, for example, only 44% of U.S. export receipts came from manufactures, as opposed to 69 and 76%, respectively, for Germany and Japan. Similarly, U.S. imports are more diversified than are the imports of most other countries. Consequently, the terms of trade for the United States have a tendency to fluctuate less than the terms of trade for other countries.

IV. Country Risk Indicators

Fiscal irresponsibility is one sign of a problem debtor. Thus, one country risk indicator is the government deficit as a percentage of GDP. The higher the relative deficit, the more the government is promising to its citizens relative to the resources it is extracting in payment. This lowers the possibility that the government can meet its promises without foreign borrowing.

The correlation between having a controlled rate system and having foreign debt servicing problems, pointed out earlier, is not coincidental. A controlled rate system goes hand-in-hand with an overvalued local currency, which is the equivalent of taxing exports and subsidizing imports. The risk of tighter currency controls and the ever-present threat of a devaluation provide strong incentives for residents to move their funds abroad. Similarly, multinational firms will try to repatriate their local affiliates' profits rather than reinvest them. Perhaps

[8] See Agmon and Dietrich (1983) for a discussion of this point.

most importantly, a controlled exchange rate system leaves the economy with little flexibility to respond to changing relative prices and wealth positions. This will exacerbate any unfavorable trend in the nation's terms of trade.

Another indicator of potential debt-servicing problems is the degree of waste inherent in the economy. To the extent that capital from abroad is used to subsidize consumption or is wasted on showcase projects, there will be less wealth to draw on, and the country will have more difficulty repaying its debts. Additionally, funds diverted to the purchase of assets abroad (capital flight) will not add to the economy's dollar-generating capacity, unless investors feel safe in repatriating their overseas earnings.

One standard measure of the risk associated with a nation's debt burden is its coverage ratio, the ratio of exports to debt service. Ex ante, however, what matters is not just the coverage ratio but also the variability of the difference between export revenues (X) and import costs (M) relative to the nation's debt service requirements; i.e., c.v.$[(X - M)/D]$, where cov is the coefficient of variation, and D is the debt service requirement. In calculating this measure of risk, it is important to recognize that export volume is likely to be positively correlated, and import volume negatively correlated, with price. In addition, import expenditures are usually positively related to export revenues.

A. A Portfolio Perspective

Clearly, an exchange rate change that harms one nation can often be beneficial to others. For example, an overvalued South Korean won will hurt Korean industry and make South Korea a poorer credit risk. At the same time, it will help Brazil by making its manufacturing industries that compete against South Korean industry, such as shoe manufacturing, shipbuilding, and steel, more competitive overseas. Similarly, the drop in oil prices hurt OPEC and other oil-producing nations, while at the same time significantly benefiting many oil-consuming nations. By holding a diversified portfolio of loans to foreign countries, the currency risk associated with the portfolio will be less than the sum of the individual currency risks.

Yet it is important not to overestimate the benefits of portfolio diversification for international loan portfolios. For example, it is usually assumed that Brazil, a major oil importer, benefited greatly from the drop in oil prices. But Brazil is also a major exporter to OPEC nations. When oil prices dropped, Brazil's import requirements declined, but so did its OPEC exports. As a result, the net effect on Brazil of lower oil prices was much less favorable than a superficial analysis would seem to indicate.

Banks try to reduce the riskiness of their international loan portfolios by lending to a broad spectrum of nations. To a certain extent this strategy works; unsystematic risks are diversified away. Unfortunately for the banks, however, the systematic component of risk turns out to be far more substantial than anticipated. External shocks—such as world recession and falling commodity prices—systematically affect the ability of borrowers to repay their debts. Similarly, the advent of unexpectedly high real interest rates showed that the use of floating-rate loans—designed to protect banks from interest rate risk—system-

atically converted this risk into country risk. Further, the jump in the real value of the dollar demonstrated that dollar-denominated loans were subject to exchange risk.

B. Country Risk and Adjustment to External Shocks

Recent history shows that the impact of external shocks is likely to vary from nation to nation, however, with some countries dealing successfully with these shocks and others succumbing to them. The evidence suggests that domestic policies play a critical role in determining how effectively a particular nation will be in dealing with external shocks. Asian nations, for example, successfully coped with falling commodity prices and rising real interest rates and exchange rates because their policies promoted timely internal and external adjustment, as is manifest in relatively low inflation rates and small current account deficits.

The opposite happened in Latin America. There, import substitution development strategies hindered the export sector, leaving the share of exports in GNP far below that of other LDCs. In addition, state expenditures on massive capital projects diverted resources from the private sector and exports. Much of the investment went to inefficient state enterprises, leading to wasted resources.

The decline in commodity prices and the simultaneous rise in real interest rates should have led to reduced domestic consumption. But fearing that spending cuts would threaten social stability, the Latin American governments delayed cutting back on projects and social expenditures. The difference between consumption and production was made up by borrowing overseas, thereby enabling their societies to temporarily enjoy artifically high standards of living.

Latin American governments also tried to stimulate their economies by increasing state spending, fueled by high rates of monetary expansion. This exacerbated their difficulties since the resulting high rates of inflation combined with their fixed exchange rates to boost real exchange rates substantially and resulted in higher imports and lower exports than otherwise. Moreover, these overvalued exchange rates, along with interest rate controls and political uncertainties, triggered massive capital flight from the region—estimated at over $60 billion from 1979 through 1982. The result was larger balance of payments deficits, necessitating more foreign borrowing and higher debt service requirements. Moreover, in an attempt to control inflation, the Latin governments imposed price and interest rate controls. These controls led to further capital flight and price rigidity. Distorted prices gave the wrong signals to the residents, sending consumption soaring and production plummeting.

The message is clear: in evaluating the riskiness of a foreign loan portfolio, it is not sufficient to identify factors—such as real interest shocks or world recession—that would systematically affect loans to all foreign countries to one extent or another. It is also necessary to determine the susceptibility of the various nations and their loans to these shocks. This requires a focus on longer term issues involving the financial policies and development strategies pursued by the different nations.

Based on the preceding discussion, some of the common characteristics of country risk include

1. A large government deficit relative to GDP.
2. A high rate of money expansion, especially if it is combined with a relatively fixed exchange rate.
3. High leverage combined with highly variable terms of trade.
4. Substantial government expenditures yielding low rates of return.
5. Price controls, interest rate ceilings, trade restrictions, and other government-imposed barriers to the smooth adjustment of the economy to changing relative prices.
6. A citizenry that demands and a political system that accepts government responsibility for maintaining and expanding the nation's standard of living through public sector spending. The less stable the political system, the more important this factor is likely to be.

V. Summary and Conclusions

To assess the risks of lending to a foreign firm or government, banks must consider the real cost of repaying the loan versus the real wealth that the firm or nation has to draw on. In making these loans, currency risk is an important consideration. From the bank's standpoint, currency risk involves the extent to which exchange rate changes, or their absence, affect the borrower's real cost and, hence, likelihood of repaying the loan. Lending dollars does not avoid exchange risk but just transforms it into credit risk.

We concluded that currency risk is a function of the rates of U.S. and foreign inflation, deviations from purchasing power parity, the effect of these deviations on the firm's, and the nation's cash flows and the extent and currency denominations of contractual cash flows. Country risk, the credit risk on government loans, is largely determined by the variability of the nation's terms of trade and the government's willingness to allow the nation's standard of living to adjust rapidly to changing economic fortunes.

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