Using interest rate stories for country analysis

By better understanding the causes of high real interest rates, the Bank's country economists can develop a better feel for the economy and, in the process, use interest rate analysis as a leading indicator of the performance of the domestic banking system.

High interest rates place banking systems under stress and create the potential for crisis by squeezing firms' profits and encouraging banks to undertake riskier projects than they otherwise would. Because episodes of high real interest rates occur rather frequently, country economists should examine the magnitudes and components of different interest rate spreads to better understand the interplay between the macroeconomic and microeconomic forces in an economy.

Two kinds of spread

There are two primary interest rate spreads. The first is the deposit rate spread, which is the difference between the nominal deposit rate and the sum of the relevant nominal international rate (usually the three-month U.S. Treasury bill rate) and the actual change in the exchange rate. Macroeconomic factors—including monetary policy, fiscal policy, and country risk—help determine the deposit rate spread (box 1). The second interest rate spread is the lending rate spread, which is the difference between the lending rate and the deposit rate. Microeconomic factors—including the structure of the domestic banking system, the credit risk of borrowers, and the quasi-taxes (such as reserve requirements) faced by banks—affect the lending rate spread.

Expectations of exchange rate depreciation typically are the largest component of a high deposit rate spread. In many countries that undertake exchange rate–based inflation stabilization programs, for example, inflation falls but the public continues to believe that stabilization will only be temporary. Because people lack confidence that exchange rate policies will be maintained, they demand a rate of return on domestic currency–denominated deposits that compensates them for the expected devaluation (the so-called peso problem). As a result ex post real interest rates rise, placing greater strain on firms and banks, slowing growth, and reinforcing expectations of a depreciation.

The other factors that raise the deposit rate spread can be considered deviations from interest rate parity. These deviations can be caused by exchange rate risk or by imperfect capital mobility. In addition, the risk that the government may not honor its implicit—or even explicit—guarantees to the banking system will increase the spread between the domestic deposit rate and the international interest rate.

The lending rate spread is determined by two components: the prime rate spread and
Box 1. What causes high deposit and lending rate spreads?

Components of the deposit rate spread
- Expected depreciation
- Deviations from interest rate parity

Components of the lending rate spread
- Prime rate spread
- Credit risk spread

Macroeconomic determinants
- Lack of monetary and exchange rate credibility
- Exchange rate risk or country premium
- Imperfect capital mobility
- Default risk of government debt and guarantor risk associated with the banking system

Microeconomic determinants
- Fiscal quasi-taxes
- Industry structure
- Default risk
- Industry structure

Separating the deposit and lending rate spreads into their component parts makes it easier to understand an episode of high real interest rates.

The credit risk premium. These two spreads are influenced by the banking system—its structure, its costs, and its information and incentive structure. The prime rate spread is the difference between the lending rate for prime borrowers and the deposit rate. The credit risk spread is the premium nonprime borrowers must pay over the prime lending rate.

The credit risk premium makes up most of the lending rate spread. It is not surprising that riskier borrowers are forced to pay higher interest rates. Asymmetric information and the imperfect enforcement of contracts increase bank risk and thus the costs of banking. To circumvent these problems banks must increase lending rates or ration loans to their best borrowers. Collateral (such as property, equipment, and inventories) mitigates the negative effects of information asymmetries. As long as bank loans are fully collateralized, banks do not face much risk. But any negative macroeconomic shock that reduces firms' collateralizable net worth will cause the credit risk premium to rise, to cover the growing risk of firms defaulting on their loans. An increase in the credit risk premium frequently indicates financial distress and may signal that banks and their debtors anticipate a generalized bailout of the banking system.

The structure of the banking industry also may contribute to the spread between the lending rate and the deposit rate. During the early stages of its development, the banking system may be smaller than is optimal and thus have higher costs. To recoup these costs, banks may increase the spread between the lending rate and deposit rate. Spreads also may be high if one large bank dominates the banking system. In many countries the economy is dominated by large conglomerates of firms and banks. Although conglomerates can mitigate the negative effects of asymmetric information—thereby lowering the credit risk spread to firms within the same conglomerate—banks may widen the credit risk spread to firms outside the conglomerates.

Quasi-taxes imposed by the government also can increase the lending rate spread. Quasi-taxes include deposit rate ceilings, non-interest bearing reserve requirements, required purchase of government debt, and forced investment in (or preferential lending rates for) specific industries. To the extent that these policies increase costs, banks will increase lending spreads to remain profitable.

Separating the deposit and lending rate spreads into their component parts makes it easier to understand an episode of high real interest rates. Empirical studies have shown that during episodes of high real interest rates expectations of depreciation account for much of the deposit rate spread and a large credit risk premium makes up much of the lending rate spread. There may be other important factors, however, depending on the degree of capital mobility or the structure of the banking system. Both the lending and the deposit spreads may be affected by a single linked set of problems. For example, government guarantees of the banking system may prompt bank managers to take excessive risks, making a takeover of the banking system more likely. And if a government bailout seems imminent, and
people know that the government does not have the necessary funds, they will expect an exchange rate depreciation and a higher domestic inflation rate. In this way government guarantees can increase both the lending and the deposit rate spreads. By better understanding the causes of high real interest rates, country economists can develop a better feel for the economy and, in the process, use interest rate analysis as a leading indicator of the performance of the domestic banking system.

An illustration of spreads analysis

The behavior of interest rates during Chile’s transition to democracy in 1989–90 can be used to illustrate the analysis of interest rate spreads. In December 1989 an alliance of opposition parties was elected over a candidate approved by the military. The alliance took power in March 1990. Between March 1989 and February 1990 the nominal deposit rate rose from 13 percent to 45 percent (on an annualized basis), following and then exceeding the rate of inflation (figure 1). During the same period the nominal loan rate rose from 20 percent to 57 percent. The rapid rise in interest rates reflected concerns over inflation as a result of expansionary macroeconomic policies during 1989 as well as uncertainty over the economic policies of the new government.

Interest rates remained high throughout most of 1990 until the beginning of 1991. In the period up to March 1990 depositors became increasingly concerned about their local currency investments in the domestic banking system—as reflected in the steady rise in the ex post real interest rate (suggesting that investors had negative expectations about inflation) and in the ex ante real interest rate on fully indexed deposits (figure 2). As would be expected, the deposit rate spread on nonindexed deposits rose during the same period, jumping to significantly positive levels (during July 1989–June 1991 it averaged 19 percent while the deposit rate averaged 35 percent, the U.S. T-bill rate averaged 8 percent, and the nominal depreciation rate averaged 9 percent). It reached a level well above the ex ante rate on indexed deposits and stayed ahead of that rate through November 1990.

During this period the Central Bank of Chile was attempting an uneasy tradeoff between fighting inflation and preventing an appreciation of the real exchange rate. This tradeoff was especially marked at the beginning of 1990, when the Central Bank raised interest rates on its long-term indexed debt from 6.9 percent to 9.7 percent to dampen aggregate spending. The increase in interest rates produced an immediate appreciation of the currency (to the bottom of the Central Bank’s preestablished exchange rate band) and generated sizable short-term capital inflows that the Central Bank sterilized (thereby accumulating large amounts of reserves).

The spread between the expected change in the exchange rate (calculated from the peso and dollar deposit rates) and the actual change in the exchange rate is shown in figure 3. Between August 1989 and October 1990 the expected change in the exchange rate exceeded the actual change in the exchange rate (calculated from the peso and dollar deposit rates). The spread between the expected change in the exchange rate and the actual change in the exchange rate is shown in figure 3.