BancoBM

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Country and Currency Risks in Brazil

Interest rates are higher in Brazil than in the US due basically to two sources of risk: currency and country risks. The **currency risk** accounts for both the expected devaluation of the BRL and the risk premium associated with the possibility that actual depreciation may be higher than expected depreciation. The **country risk** accounts for the possibility of a default on public debt, the imposition of higher taxes on remittances abroad, exchange rate controls or any other events that may preclude the foreign investor from freely converting the future value of a bond paid in BRL into foreign currency at the prevailing exchange rate.

Currency risk is a market risk, while country risk is a credit risk. As it is well known from the literature on commercial bonds, credit and market risks are positively correlated: bonds with higher credit risk tend to display more volatile prices. This positive correlation is possibly created by more basic or primitive risk factors, which account for both market and credit risks.

We shall use the prices of some derivative contracts traded at the BM&F (The Commodities and Futures Exchange, in São Paulo) to allow us to decompose the domestic interest rate (denominated in BRL) in a very enlightening way. The basic decomposition of the domestic interest rate is the following:

Foreign Interest Rate +
Country Risk Premium +
Expected Depreciation +
Currency Risk Premium

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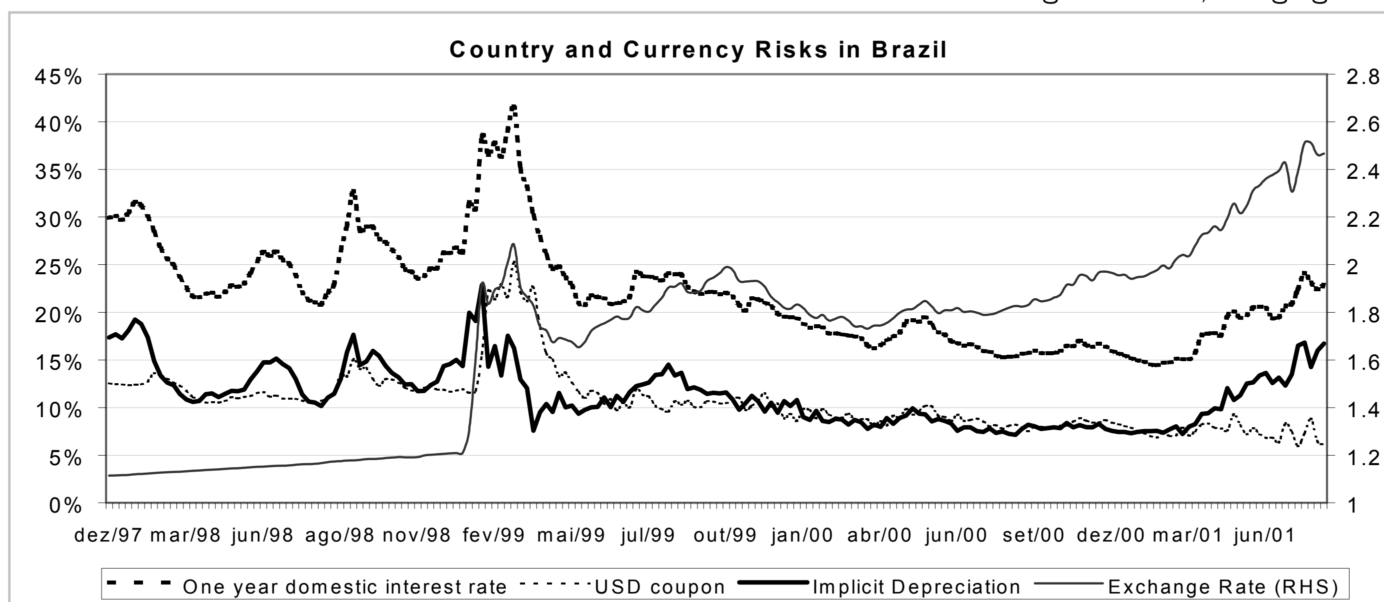
= Domestic Interest Rate

The first two components—the foreign interest rate plus the country risk premium—form the so called USD coupon, in the traders´ parlance. It is akin to a deposit rate in USD-denominated accounts in Brazil. (In Brazil banks can not offer deposit accounts in foreign currency.) I.e., one can avoid the effect of the depreciation of the BRL by going long on this USD coupon (we will abstract from tax effects on trading/hedge strategies). The swap markets provide us with both the domestic interest rate (the interest rate in BRL in Brazil) and the coupon rate (the interest rate in USD in Brazil). The difference between the two rates is the implicit depreciation (the expected depreciation plus the currency risk premium).

The Chart shows the behavior of these series.[1] The series on the top of the Chart is the one-year domestic interest rate. It starts around 0.30 (which approximately corresponds to 35% a year[2] by the end of 1997); reaches a peak above 0.40 during the aftermath of the BRL devaluation of January, 1999; declines substantially to 0.15 until March, 2001; and has been increasing ever since, bringing the



[1] We use here continuous compounding, so that rates can be added up.

[2] Ln(1.35)=0.30.

(continuously compounded) interest rate back to the lower twenties.
The fourth line in the Chart (see RHS scale) is the spot USD/BRL exchange rate, i.e., the price in BRL of one USD. Since early March, 2001, the highly positive correlations between the exchange rate, the domestic interest rate and the implicit depreciation are quite obvious.
The decomposition of the domestic interest rate makes it clear why the interest rate has been rising recently. It is clear from the Chart that the USD coupon has not risen since the interest rate reversed its downward trend on March, 2001. The main culprit for the recent interest rate rise has been the implicit depreciation. That means that the country risk has not moved much, while expected depreciation plus currency risk have increased substantially.
To identify the primitive risk factors that were responsible for the deterioration of expectations that since March 2001 reversed the decline of nominal interest rates is a more difficult task. Three main factors, however, are usually cited: the contagion from Argentina, the political problems faced by the government, and the energy crisis. It is interesting to note that none of these factors affected much the country's risk premium, while they affected a lot the implicit depreciation. One may suppose that these factors did not increase the default probability (measured by the country risk in the USD coupon), notwithstanding the deterioration of the price (the rise in the implicit depreciation).
This stands in marked contrast with the pre-devaluation period. Note that the recent rise in the implicit depreciation embedded in domestic interest rates brought its level back to the very high levels that prevailed before the January's 1999 devaluation. Back then, however, the USD coupon was much higher, which means (after accounting for changes in the US interest rate) that country risk was then much higher. Moreover, the high implicit depreciation that prevailed during the pre-devaluation period was a sign that the market did not trust the sustainability of the then prevailing crawling peg, which in fact eventually collapsed. Under the current floating regime, the comparable high level of implicit depreciation reflects the fear that the current upward trend in the exchange rate may not subsume soon.
Therefore, the comparison between the difficult periods faced before and after the devaluation shows us that country and currency risks, while still positively correlated, are no longer connected in the same way. This change was probably brought about by the changes in the exchange rate regime, and in the fiscal stance that coincided with the IMF agreement of late 1998. Amidst all the current difficulties, this is good news.

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