

Do Markets Learn About New Risks?

Asset pricing theories usually assume that market players are fully aware of the risk-return characteristics of the assets they trade. However, this does not always seem to be the case. Every once in a (not so long) while, a (not so) rare event comes about and bring new risks to traders' attention, correcting the previous mispricing of securities. We focus here in a sequence of episodes that started with the Asian (October, 1997) crisis.

One of the main determinants of a country's (say, Brazil) Risk is the convertibility risk, i.e., the risk associated with the possibility of not being able to convert BRLs into foreign currency. This risk encompasses the possibility that capital controls may be introduced preventing the international transfer of funds, but do not include the default risk (which is included in the country risk).

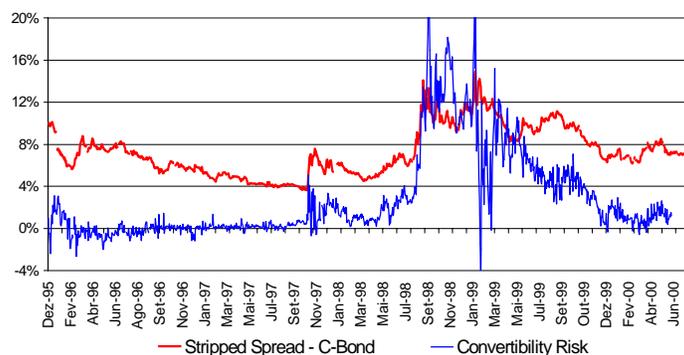
A trader willing to speculate on the devaluation of the BRL under the crawling peg regime that lasted until January 1999 could use two very similar alternatives. One was to use futures and swap markets at BM&F (The Commodities and Futures Exchange in São Paulo), and the other was to use BRLs Non Deliverable Forwards traded in the US.

Pricing Convertibility Risk

A NDF contract is essentially the same as the currency swap (or futures) contract traded in BM&F in São Paulo, except for the fact that the contract traded in NY is settled in USD and the contract traded in São Paulo is settled in BRL. For example, an investor that had bet on the BRL devaluation before January 1999 would have made a lot of money, but his gain would have been paid in USD in NY and in BRL in Brazil. Under free convertibility, both gains would be the same, because it would be possible to obtain USD with the equivalent sum of BRLs. However, if any controls on the remittance of USD to the foreign country after the devaluation were imposed, the two amounts would not be the same. The investor that traded in São Paulo would receive BRLs (nominally) equivalent to the USD, but he would not be able to receive the equivalent amount in USD. In the past, when this kind of situation happened, the so called black market of USD traded at a huge premium. It is because of this convertibility risk that the price of USD in the NDFs (measured by the inverse of the price of BRL-NDF) is higher than the USD futures traded in the BM&F in

São Paulo. The difference between prices is transformed into annual yields, with the results shown in the Chart as the "Convertibility Risk" line.

Convertibility Risk and Country Risk



In this Chart, it is possible to observe that a learning process concerning the pricing of the convertibility risk occurred. Until the Asian crisis, the convertibility risk was around zero, i.e., the markets were not pricing the convertibility risk. When the Asian crisis erupted in October 1997, the market suddenly learned that those two contracts were not equal, i.e., the contracts traded in SP had a higher risk than the NDFs traded in NY, namely - the convertibility risk. At that time, there were stories flying about arbitrageurs that sold USD futures in NY and bought them in SP, thinking that they were completely hedged in their investments. When the crisis happened, and they found out that they were carrying risks and not arbitraging, they rushed to close out their positions, selling in SP and buying in NY, which might have originated the sudden jump in the convertibility risk that is seen in the Chart.¹ Since the convertibility risk is one of the components of the country (Brazil) risk, it is interesting to compare the behavior of the two risks. In the Chart, the Brazil risk is measured through the stripped spread of the C-Bond, the most liquid Brazilian Brady Bond. Note that after the Asian crisis, the convertibility risk became closer to the country risk, but now at a positive level, in contrast with the earlier period. Thus, after the Asian crisis, convertibility risk and country risk started to move together.

¹ Brazilian tax laws could potentially have played a role, as well as fears that the possible bankruptcy of many institutions could threaten the clearinghouse solvency.

During the Russian crisis (August 1998) and the fall of LTCM, the convertibility risk jumped again, rising to extremely high levels in comparison to the preceding periods. Then, it became of similar magnitude of the country risk, and in the subsequent very turbulent periods, it became even higher than the latter.

Thus, after the Asian crisis, markets learned to price convertibility risk. It then became an important component of the country (Brazil) risk, and both risks started to exhibit similar behavior. The worse the crisis, the more important the convertibility risk became in explaining country risk.

When the economic environment improved after the devaluation, the convertibility risk started a soft fall, although it has not returned to pre-Asian crisis levels. It remains at a positive, although lower, level. Certainly, the change of the exchange rate regime played an important role in the reduction of convertibility risk, as the current spread in the Argentinean Peso NDF (around 6.3% as of 10/26/00) surely reminds us.

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