Bernd Schnatz*

Sovereign Credit Ratings, Emerging Market Risk and Financial Market Volatility: A Commentary

Writing a commentary invariably means choosing between two basic alternatives. One is to attempt to approach the topic of the paper from a slightly different angle, which is often done uncritically. Usually this type of procedure neither sparks debate nor generates stimulating ideas. Due to the coherent and concise nature of the very informative paper by Helmut Reisen and Julia von Maltzan as well as the solid empirical basis on which the study is founded, this approach would probably not work. Their paper was so fruitful that I was left with the other choice, which, to put it briefly, was to track down the few remaining inconsistencies and to scrutinise the authors' findings critically.

At the core of the paper by Reisen and von Maltzan is an empirical analysis of an issue which is of major relevance to economic policymakers: are the sovereign credit rating agencies (CRA) - in accordance with their self-identity - capable of diagnosing an increase in sovereign risk before it becomes visible in the international financial markets, or do these agencies merely follow the assessments already visible in the market? In the latter case - and this is one of the authors' central hypotheses - these institutions' behaviour could generate significant negative wealth effects, as they would reinforce conventional market wisdom, and hence the cyclical character of international capital flows. Considering the sharp increase in demand for the services of the CRA over the past few years, such a result would be somewhat surprising, since it would call into question the economic justification for the CRA.

In the opinion of the authors, the behaviour of the CRA during the Mexican peso crisis supports this hypothesis to a certain extent. However, at the time, Standard & Poor's (S&P) was not the only market player which seemed to assess the situation in Mexico much too favourably. Other influential financial market players came to the same conclusion. Until just before the currency crisis, the Chemical Bank, JP Morgan and the Swiss Bank Corporation also advocated upgrading the country rating of Mexico as a reward for its making tremendous economic progress in the recent past.[1] Therefore, it seems that the speculative attack on the Mexican peso in December 1994 contained an element of surprise not only for the CRA, but also for many other players in the international financial markets.[2]

Moreover, the speed at which the crisis evolved is also evinced by the interest rate differential between dollar-denominated Mexican bonds (Tesobonos) and US bonds with comparable maturities. This differential shot up in March 1994 after the assassination of the Mexican presidential candidate Colosio; it subsequently decreased continuously over the year and leaped again only immediately before the crisis. Sachs et al.[3] considered this behaviour to be a sign

* Deutsche Bundesbank, Frankfurt am Main, Germany. The views expressed in this paper are those of the author and do not necessarily reflect those of the institution to which he is affiliated.

[1] Cf. Sebastian Edwards, Roberto Steiner, Fernando Losada: Capital Inflows, the Real Exchange Rate and the Mexican Crisis of 1994, in: H. Sautter, R. Schinke (eds.): Stabilization and Reform in Latin America: Where Do We Stand?, Frankfurt, Madrid 1996, pp. 69-118, here p. 74.

[2] However, Dornbusch and Werner cautioned as early as the beginning of 1994 that the situation in Mexico was more fragile than generally believed. Cf. Rudiger Dornbusch, Alejandro Werner: Mexico, Stabilization, Reform, and No Growth; in: Brookings Papers on Economic Activity, 1994, No. 1, pp. 253-297.

[3] Jeffrey D. Sachs, Aaron Tornell, Andres Velasco: The Mexican Peso Crisis: Sudden Death or Death Foretold?, in: Journal of International Economics, Vol. 41, 1996, pp. 265-283.

that the Mexican currency crisis was the result of a self-fulfilling speculative attack. According to the multiple equilibria approach, on which the theory of self-fulfilling speculative attacks is founded, only minor changes in the sentiment of market participants - in the literature such events are usually called sunspots - are needed to propel the economy from a stable equilibrium at a given exchange rate into a new equilibrium at a substantially higher (devalued) exchange rate.[4]

This line of argument has two important implications for the analysis. Firstly, it must be questioned whether it is indeed appropriate to base the analysis on the example of the Mexican peso crisis, since it must be very difficult for the CRA to identify ex *ante* the emergence of sunspots. Secondly, this may also lead to repercussions on the behaviour of the CRA: if the CRA neglected to downgrade a country once in the past, revising that rating might represent precisely such a sunspot. If the CRA are aware of the consequences of their decisions, then it becomes questionable whether they always immediately downgrade the rating of their customers, knowing this may lead to a speculative attack. The possibility thus cannot be ruled out that current rating decisions depend on past rating decisions and would therefore not be independent over time; this might also have repercussions on the validity of the empirical findings, a point I will return to later.

Possibly having this in mind, the authors do not confine their empirical analyses to such far-reaching events in the foreign exchange markets as currency crises, but instead broaden their view to'includethe sovereign risk, which the authors measure as the (relative) interest rate differential of largely homogeneous long-term bonds. Their first step is to run Granger causality tests with panel data, mentioning that they mainly apply the variables used by Cantor and Packer[5] in a cross-section analysis as additional explanatory factors. This way, they mentally form two groups of financial market institutions - the CRA and

[4] Models of speculative attacks with self-fulfilling properties were pioneered by Maurice Obstfeld. Cf. Maurice Obstfeld: Rational and Self-Fulfilling Balance of Payments Crisis; in: American Economic Review, Vol. 76, 1986, pp. 72-81; and Maurice Obstfeld: The Logic of Currency Crisis; in: Cahiers Economiques et Monetaires (Bank de France), Vol. 43, 1994, pp. 189-213. For a discussion of different approaches towards explaining the currency crisis, see Paul Krugman: Are Currency Crises Self-Fulfilling?, in: NBER Macroeconomics Annual 1996, pp. 345-378, and the comments on this paper. A good overview of the existing literature is provided in: Pierre-Richard Agenor, Jagdeep S. Bhandari, Robert P. Flood: Speculative Attacks and Models of Balance of Payments Crisis, in: IMF Staff Papers, Vol. 39, 1992, No. 2, pp. 357-395.

all other players - with the objective of finding out which of the two groups determines the other's behaviour. They capture the behaviour of the CRA by their rating decisions and summarise the actions of the players in the financial markets endogenously, as it were, in the (relative) interest rate differential. In this analysis, the authors conclude that there is a mutual influence between the players in the international financial markets and the CRA, i. e. they give each other feed-back.

However, more caution would seem to be warranted when interpreting these findings. Firstly, in my opinion it appears questionable whether the annual data used in the causality tests has a sufficient degree of frequency to analyse events which occur only in financial markets where changes in the market sentiment surface very quickly. In order to corroborate the postulated hypothesis and to increase the (rather low) number of degrees of freedom in the estimation, one might study the possibility of running additional regressions with data that is available in a higher frequency, e. g. by excluding insignificant variables.

More importantly, in my opinion a slightly more comprehensive discussion of the data characteristics seems necessary. Due to the steadily increasing market orientation of many emerging economies in the period under review, one could expect that at least between 1989 and the onset of the Mexican currency crisis the ratings of many countries would be undergoing continuous improvement. Without having analysed the data myself, I would therefore not rule out the possibility *per se* that in the sample period the ratings of many emerging markets may have improved steadily, and the interest rate differential may likewise have narrowed. This would imply that the data is not mean reverting. The study by Cantor and Packer[6] gives some measure of support to this hypothesis when the authors mention that there is strong evidence "...that rating announcements tend to be positively correlated - that is positive announcements are more likely to be followed by positive announcements than by negative announcements and vice versa." However, if the time series cited indeed reveal a trend, then the results postulated must be examined critically. Since the interest rate differential and the proxy for the ratings are in levels in the regressions, the results and the test statistics could be contaminated by spurious regressions. If this conjecture is correct, running regressions with first differences of the vectors X and Y would be preferable, since the aim of the analysis is not to explain the level of a rating, but rather to explain the reaction of the rating to a change in the sovereign risk, and vice versa.

Therefore, I find the results of the event studies presented in the paper more revealing, even though some of the conclusions are, in my opinion, also somewhat too one-sided. The authors show, for instance, that the spreads of "emerging markets"react significantly when a country's bonds are placed in the category of "review with negative outlook". However, on this point the important qualification seems to be indispensable: the result refers to only three observations (Table 3), so that this piece of very preliminary evidence must taken with a pinch of salt. Accordingly, one of the main conclusions by the authors, that "the sovereign rating industry has the potential to help dampen excessive private capital inflows into the emerging markets with negative rating announcements" is, in my opinion, a little too categorical.

Moreover, the analysis of the relationship between the decisions of the CRA and volatility in international financial markets is also interesting. In this analysis, the authors show that a downgrading of the sovereign risk is accompanied by increased volatility in the stock markets of the countries concerned. However, in my opinion further analyses seem necessary to explain why this increased volatility returns to its original level over time. I had expected the increased sovereign risk to be reflected precisely in a sustainably higher volatility in the financial markets. That is confirmed impressively by the distinction between investment-grade and non-investment-grade bonds, where the latter show a much higher volatility.

Despite these minor critical remarks, on the whole I find the results presented by the authors to be very stimulating. With the globalisation of capital markets advancing swiftly, the problem of cyclical capital flows may have an ever greater impact on many countries, especially emerging market economies. As the current liquidity crisis in Asia is revealing, many interrelationships in this area of research do not seem to be very well understood yet, neither by politicians nor by academia. Thus, it is becoming increasingly important to explore them. The study by Reisen and von Maltzan represents a constructive contribution which will certainly form the basis for further fruitful research.

[5] Richard Cantor, Frank Packer: Determinants and Impact of Sovereign Credit Ratings; in: Federal Reserve Bank of New York, Economic Policy Review, Vol. 2, 1996, No. 2, pp. 37-53.

[5] Ibid., p. 48.