JCRs Sovereign Rating Methodology : Multi-Stage Evaluation System

Importance of credit rating which is internationally accepted and highly relied on in the bond markets as a basis for investment decision-making has been increasing, along with the rapid progress of globalization and blurring of state borders of financial markets. Against this backdrop, JCR intends to contribute not only to the development of the yen-denominated bond markets but also to further international use of the yen, through an aggressive expansion in the internationally recognized and correct rating activities. It would be indispensable to establish a systematic rating methodology in order to make credit ratings reliable and correct. JCR adopts the self-developed "multi-stage evaluation system for sovereign ratings" in assessing the debt-service capacity of a sovereign government.

1. Characteristics of Multi-Stage Evaluation System

The system has two salient features: first, a risk factor called foreign currency illiquidity highlighted on the occasion of the Asian currency crisis can be properly evaluated and reflected in a rating under the system; and second, the evaluation process is orderly classified into five steps, as the name of the system implies. Thereby, JCR aims at establishing a consistent and sophisticated system for credit rating. A brief explanation on the two characteristics of the system will be made in the following sections.

2. Evaluation of Foreign Currency Liquidity Crisis

2.1 Lessons from East Asia Currency Crisis and Responses

The East Asian currency crisis which had started in Thailand in July 1997 revealed the unexpectedly rapid emergence of a serious liquidity crisis, Broadly speaking, two intrinsic causes of crisis can be pointed out: one is attributable to poor fundamentals of the East Asian countries, and the other to dramatic outflows of short-term international capital from them. We will not probe the intrinsic cause of the crisis here. But it can be safely said from broad perspective that the interaction between the above-mentioned two

causes brought about the crisis.

Since the 1980s, the international financial system has rapidly developed, boosted by the progress of information technology. In the course of the 1990s, this system has become further sophisticated and complicated, involving developing countries with huge flows of international capital. The current economic situation under the highly developed international financial system is likely the one depicted by the late professor Giichi Miyazaki in his book titled "The Twilight of the National Economy". That is the global economy driven mainly by capital movements rather than by trade of goods and services, or to put it another way, the world economy under the "casino capitalism". Effectiveness of macro economic policy of a country has become apt to be negatively influenced by unexpected fluctuations in interest rates and exchange rates caused by international capital movements. Besides, the possibility has gotten higher nowadays that a country with latent economic problems like weak industrial structure is easily targeted by speculators, making them emergent at once, though in the past these problems came to the fore by degrees. Speculative capital movements have been more frequently taken place recently, taking into account such factors as the financial situation or levels of foreign exchange and disregarding the economic fundamentals of a country. As a result, once a crisis happens in a country, this brings about a contagion effect, spreading risk of the crisis rapidly to other countries. This makes the current international financial system extremely unstable, thus leading to increased instability in macro economic management of each country. Such changes in the international economic environment, therefore, should be taken into account in analyzing sovereign risk. The East Asian currency crisis implies that factors which prompt emergence of foreign currency liquidity crisis have become more complicated. A sovereign credit rating should properly reflect this.

JCR has made efforts to improve correctness of its sovereign risk assessment with an awareness of those issues. The establishment of the "multi-stage evaluation system for sovereign ratings" reflects its efforts. Systems for credit risk evaluation in a longer perspective and for liquidity risk assessment are set up in it. In addition, the evaluation system is designed to properly respond to complicated events possible to happen by crosschecking the longer term credit risk evaluation and the liquidity risk assessment.

2.2 Major Risk Factors Evaluated

Liquidity risk factors out of the major risk factors incorporated in the evaluation system which were formulated taking into account lessons from the East Asian currency crisis are: first, the authorities' capability to appropriately respond to crisis; and second, risk factors which may induce a currency crisis.

The first should include the following:

- The authorities' capability of appropriate response

  It is important to see whether the government and central bank can take quick measures to avoid a currency crisis when that occurs. Accurate macro economic data must be provided to the financial authorities so that they can do so,

- Management of foreign exchange reserves

  An appropriate level of foreign exchange reserves is needed to cope with a risk of rapid outflow of capital from a country. Under the Bretton Woods (fixed exchange rate) regime, a level of exchange reserves covering three months of imports was considered appropriate. But this does not make much sense under the present economic circumstance where international capital flows into and out of the country freely. Appropriateness of exchange reserves should be assessed against the expected size of volatile money in the country.

The second risk factors inducing a currency crisis are itemized as follows:

- Foreign exchange-rate policy

  A country which adopts the pegged exchange-rate system with its currency value fixed with the key currency is prone to overvaluation of its currency leading to a fall in export competitiveness and an expansion in trade deficit. In addition, given that the country can keep the level of interest rates low under that exchange-rate system, there is a possibility that it will induce a rapid rise in short-term external debt of the private sector (dependence on short-term debt is particularly a matter for deep concern), resulting in disturbances in its banking system. Consequently,

the country could be forced to depreciate its currency and face serious problems to be arisen in its real economy.

- External debt structure

  In an analysis of the external debt structure of a country, attention should be paid to that of the private sector, because the public sector may have to take over external debt held by the private sector, when the external debt position worsens. The short-term debt position should be also focused on, because short-term debt is very sensitive to risk and easily flees as well.

- Financial system

  The East Asian countries afflicted with the currency crisis obviously needed inflows of foreign capital to sustain their economic growth covering the gap between investment and saving.

  Mismatch in maturity between lending and funding of financial institutions, however, provoked a worsening of their balance sheets. Excess liquidity caused by foreign capital inflows brought about the bubble economy particularly in the property market of those countries. Poor risk management of both the monetary authorities and financial institutions caused instability to the financial system. And this made the crisis more serious. Therefore, it is important to evaluate the degree of soundness of the financial system of a country.

- Industrial structure

  The analysis should also be focused on the characteristics of the industrial structure of a country. For example, the cohesion of the government and industry or unsound financial structure of major industries, because these are likely to provoke financial disturbances, once a latent problem comes to the fore. And the structure of export industry which depends too much on imported materials, because this is prone to make the currency unstable when the balance of payments worsens. These are typically seen in Korea involving problems of conglomerates (chaebol).

3. Five-Stage Evaluation System

Another salient feature of JCR's sovereign rating evaluation system can be summarized as follows. Formulated to systematize the rating methodology, this is composed of five stages of the evaluation process. Starting with the quantitative evaluation as the first stage, the process proceeds with the synthetic analysis as the second stage, the qualitative evaluation as the third stage, then the overall evaluation as the fourth stage, and the predictive evaluation as the final stage.

- The first stage: the process of quantitative evaluation

  The rating process is basically composed of the quantitative and qualitative evaluation.

  Under JCR's evaluation system, a level of risk is first measured quantitatively. Actually, this is done using a computerized evaluation program. JCR has evaluated quantitative risks of more than 100 countries making use of outside database. The evaluation process at this stage consists of the long-term credit risk evaluation program and the foreign currency liquidity risk evaluation program. JCR evaluates the two risks separately (the liquidity risk evaluation is made only to developing countries).

- The second stage: the process of synthetic analysis

  To sum up, a credit rating is an evaluation of risks involved in debt service of an entity.

  At this stage, the underlying circumstances under which major economic indicators selected at the first stage stand as they are recognized. And then a synthetic analysis is made necessary to proceed with the next stages. Accordingly, it can be said that this stage is the most important process of the whole evaluation system. We omit detailed explanation on its contents here for want of space and outside of the purpose of this paper. Just for reference, major analytical items are cited as follows.

  - Past and present political situation

    (including foreign relations and the international political and

economic position of a country),

- Gross domestic product in terms of both supply and expenditure sides
  (including history of industrial development),
- Public finances,
- Monetary and fiscal policies,
- Financial system,
- Balance of payments,
- External debt,

- The third stage: the process of qualitative evaluation

  At this stage, the qualitative evaluation is made, based on a perception of the country under review built at the previous stage. The qualitative evaluation also consists of the credit risk evaluation in longer perspective and the liquidity risk evaluation. The separate evaluation programs are applied to each of them.

- The fourth stage: the process of overall evaluation

  The overall evaluation is made based on certain procedures, following a quantitative and a qualitative evaluation made at the first and third stages respectively. Here again, the overall evaluation of credit risk in longer perspective and that of liquidity risk are separately made. And then, both are crosschecked based on the corresponding relation between the two separate evaluation set by us. JCR's evaluation system has the mechanism that activates a warning signal to the credit risk evaluation, if the liquidity risk heightens to a certain degree.

- The fifth stage: the process of predictive evaluation

  At the final stage, a one-year predictive evaluation is made as to the same items for quantitative evaluation as applied at the first stage, based on the analyses made at the preceding steps. At the same time, a one- year prediction on qualitative evaluation is similarly conducted as well. Strictly speaking, the evaluation process from the first to fourth stages, particularly that of quality contains prospective variations in the near future. Accordingly, there may be duplication in the system. Knowing that, however, we dare to make the one-year prediction to

obtain the overall evaluation based on the previous analyses. This overall evaluation obtained under the system is used as the important tool for assessing the outlook for a credit rating. The evaluation process at the fifth stage makes it possible to conduct a scenario analysis. Developments of big events such as the chaebol reform and the financial system reform in Korea can have great influences on the outlook for a credit rating. In such a case, JCR conducts a scenario analysis to obtain a correct predictive evaluation as much as possible.

4. Conclusion

As mentioned initially, it is very important for an improvement in reliability and correctness of credit ratings to establish a systematic rating methodology. Changes in the world economic circumstances seem to gather pace increasingly. This implies that credit rating agencies are required to make incessant efforts to respond appropriately to such changes. JCR admits that its rating evaluation system as described above cannot be perfect. To respond better to the changing economic circumstance, JCR will continue to make efforts to improve the system.

The Multi-Stage Sovereign Risk Evaluation System