Part IV

Evaluating, Monitoring, and Assisting Subnational Governments

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Chapter 10

Credit Analysis and Credit Ratings

Credit analysis is a demand-side activity. Investors and their advisers examine information on issuers and their obligations and make judgments on the rewards and risks of investments. Credit risk, typically taken to mean the economic, legal, and political risk inherent in a particular obligation, ultimately boils down to default risk.[1] Information used in credit analysis can be garnered from a variety of sources, such as government statistical data or the local newspapers, as well as issuers and borrowers.

Credit analysis demands resources and analytical skills that many investors, especially individuals and smaller institutions, lack. Thus most investors rely on the opinions of experts (box 10.1). An independent, objective system of credit ratings of high quality is an essential component of the development of a vibrant capital market. It is especially important for security markets, with numerous investors that must rely on information provided by issuers and others. If the ratings are respected and used, the rating companies have the clout to demand full disclosure by issuers. To the degree that these companies are successful in obtaining data and that their ratings reflect legitimate risk indices, the entire market is aided by the categorization of debt and the monitoring of performance.

The role of credit ratings is not without controversy. For emerging market economies, with their chronic shortage of trained analytical staff, rating agencies offer a pool of skilled analysts who can assess credit quality on behalf of all investors, using a standard methodology (at least standard to each agency). On the negative side this concentration of opinion, using methods that are proprietary and not fully disclosed, can lead to a dangerous dependence on a handful of experts who can influence the market without an effective check.[2]

International rating agencies are sensitive about their impact on the markets. They have had considerable difficulty with "regulatory rating" (a requirement that bonds be rated before they can be listed on the exchanges or sold to the investing public), which can lead to "shopping" for the highest rating or an acceptable rating at the lowest cost. Requirements for mandatory ratings can lead to the creation of national agencies that are not technically competent and can be politically influenced. The major agencies prefer a free market for their opinions, with investors deciding which agencies' opinions are worthwhile;the agencies themselves are leery of being regulated by anyone other than the market.

The development of credit ratings in emerging markets has followed two often overlapping tracks. Along one track are various market participants who create a domestic rating agency, sometimes in alliance with an established international rating agency. The focus of these homegrown agencies has been on meeting domestic regulatory requirements. Generally, the opinions of these domestic agencies have carried little weight internationally. Along the second, more common, track are the major international rating agencies that have opened national offices or acquired local rating firms.

Subsovereign Ratings

The appeal of credit ratings is clear: they provide a third-party opinion by experts that informs investors without the skills or resources to carry out their own investigations of the relative creditworthiness of competing investment opportunities. Their appeal is especially strong to investors that have a diverse portfolio of securities, where each represents only a small part of the total holdings. Furthermore, credit ratings have positive effects on the working of subnational governments. Preparing the data for ratings and undergoing review help instill discipline in subnational government officials and staff. The rating agencies' demands for continual updating (with the threat of a down-grading if a government's performance is subpar or the required information is not provided) can strongly encourage good behavior. The rating agencies, for good reason, place considerable emphasis on governments keeping them well informed as a measure of good financial management.

The concept of creditworthiness is important. It measures the comparative risk of "payments difficulties." Rating agencies do not rate the comparative market values of securities or general market risks *per se*. Each agency

Box 10.1. Emerging Market Ratings and Bond Insurance

International credit ratings began in the 1980s with Western European countries and corporations that were active in the Euromarket. There were very few subsovereign credits to rate, since most subnational governments relied exclusively on bank lending and sovereign guarantees.

The rating agencies later entered the emerging markets by first rating sovereign borrowing in hard currencies and then the public or private corporations that seemed likely to generate hard currency to pay back international bondholders. The next instrument to be developed was the asset-backed security (ABS), which is secured by pools of underlying loans aggregated by the issuer. The ABSs started off with car loans, credit card accounts, and mortgages. These markets soon were flooded at the higher end, mainly by U.S. and Western European issuers, and margins were very thin. Attention again turned to emerging markets.

The assets that back ABSs are typically dollar-denominated securities consisting of export receivables, credit cards, and telephone receivables. The ABS approach allowed issuers to borrow at much lower rates than in the domestic markets. However, access to these markets requires having a credit rating, and getting a rating has usually required obtaining credit enhancements from third parties. The need for enhancements in turn stimulated the growth of bond insurance.

This was accomplished by structuring the debt through an offshore origination and securing the debt by receivables gathered through a trust. The future receivables are held by an offshore trust, and obligors are required to make payments to the trust. Payments never enter the country of the issuer, thereby avoiding problems of convertibility and mitigating sovereign risk. These obligations thus are not constrained by the sovereign rating of the borrower's country. The device has been used successfully by Argentine provinces that were able to pledge offshore oil revenues to repay bonds sold internationally. The funds were received offshore and so escaped the convertibility restrictions imposed by the Argentine national government in late 2001.

Source: Authors.

has its own formula for weighing various factors, but the agencies typically look at the same factors in rating subsovereign credit risk.

Except in the United States and a few other developed countries, the rating of subsovereign government risk is very much in its infancy. For emerging and transitioning countries, the number of subnational bond ratings by recognized international rating agencies, while growing, is still low. Nonetheless, the rating agencies have been staking out the subsovereign government area, and many observers believe that progress in the development of subsovereign securities markets will depend on establishing a culture of ratings to guide the market. According to the rating agencies, quite a few subnational governments also are seeking ratings to bolster their overall visibility and credibility.[3]

Each rating agency has its own rating formula. Reflecting prospects for ultimate or partial repayment, ratings range from AAA for the highest category, which is usually conferred only on sovereign credits, down to C or D categories, which are assigned to bonds that are in default. While the major agencies have different ways of weighting each factor, they agree on the major analytical underpinnings for judging the creditworthiness of subsovereign credits:[4]

- *Sovereign rating ceiling:* The rating of the national government usually sets the top limit on the rating that a subsovereign government can enjoy. National governments set monetary and fiscal policy and usually have first claim on foreign exchange. They also can change the rules of the game for subnational governments. Exceptions can arise if the debt is secured by offshore assets or hard currency revenue streams.
- *Economy:* Fiscal health is usually closely linked to the health of the subnational economy. Diversification in activity, which often comes with size, helps balance the economy's performance. Demographics are important. A high dependency population (the very young and very old) and a population growing too rapidly for a country's capacity are both negatives. Higher income and more educated populations are a plus, as are an acceptable distribution and rate of growth in income.
- *Structure and management:* An assignment of functional spending responsibilities consistent with revenue resources is a positive. Intergovernmental transfers are examined for their size and predictability. The willingness and ability of the national government to detect and stem financial emergencies is a positive. The rigor and timeliness of

budgetary and financial laws are examined and can be either a positive or negative, depending on the flexibility they provide to localities. Past performance in achieving budgetary balance is important. The timeliness and comprehensiveness of financial reporting and the application of consistent standards are all positives.

- *Fiscal performance:* Revenue composition and trends are considered. The ability to set rates at the local level is a positive. Tax burdens should be in balance with those in neighboring regions. Effective use of charges and fees is viewed favorably, but large transfers of general funds to local enterprises are not. Composition and trends in expenditure are reviewed for consistency and pace: high and rising program costs are worrisome; steady shares among programs and slow growth are reassuring. Capital spending and maintenance spending are positives; a large wage bill is a negative. The ability to budget and to meet budgets is a positive. Surpluses in current operating budgets are a strong positive, as are capital budget planning and making many expenditures from current revenues.
- *Financial position:* Liquid assets and marketable real assets are favorable factors, as are healthy reserves in relation to annual expenditures. Outstanding debt is considered. Short-term debt is a concern if not periodically retired. Long-term debt and contingent debt (guarantees) is generally a negative unless used in support of productive (self-supporting) activities. Short maturity debt with principal due at term, called *bullet maturity*, is a negative because of continuing pressure to refinance and the potential burden on current revenues. Overlapping debt of other governments that relies on the same economic base is considered.
- *Legal framework:* The lack of clear laws, legal precedent, or an effective judicial system is a major impediment, especially where there are restricted revenue or enterprise-based pledges. A history of repudiations or insolvencies is a large negative. Approval of borrowings by higher level governments and other restrictions on local borrowing may be positive factors if carried out in an efficient and nonpolitical fashion, but these can be negatives if the process is complex and political.
- *Accounting and financial reporting:* The basis and quality of financial records are examined, and prompt, consistent reports are a positive. So are timely and independent audits. Cash flow information or cash basis accounting that provides reliable information on cash available to pay debt service is a positive. Evaluation of liquid assets and ac-

counts receivable can influence credit assessments because required investments in government bonds can be risky and accounts may be in arrears.

Opinions on credit quality are not static, and the relative importance of factors can change over time. A range of national policies not directly related to local debt can alter the mix and weighting of credit factors. For example, laws governing purchasing policies, public employee retirement benefits or wages, or the reassignment of functions and revenue sources all can shift the focus of analysts.

Credit rating analysts are especially sensitive to the changing missions and roles of subnational governments, especially as part of fiscal adjustment. For example, the responsibilities of subnational governments for infrastructure provision have increased greatly in many transitioning countries. Meeting these needs has led to changing balance sheets and operating statements, as subnational governments assume more debt to meet capital spending requirements. The increasing levels of indebtedness and debt service at the subnational government level are seen as a natural development and not necessarily as indicators of deteriorating credit quality. The important issues are the purposes for which the debt is used and how surely and quickly the revenues to pay debt service are growing.

Expanding the Market for Ratings

International rating agencies have been establishing beachheads in subnational markets, both to cover the changing circumstances of subnational borrowers and in anticipation of new markets. This process is illustrated in South Africa. CA Ratings (now affiliated with Standard and Poor's), Fitch Ratings, and Duff & Phelps (absorbed by Fitch Ratings) actively promoted their products, even though the South African municipal bond market was moribund. Despite the market's small size and cloudy prospects, the agencies continued to show substantial commitment to following municipal debt.

One role for the rating agencies in South Africa was to monitor outstanding debt for banks, insurance companies, and other institutional investors that had neither the analytical capacity nor the desire to invest in any. Before 1994 South African municipal bonds carried an implicit sovereign guarantee. When that was revoked, investors suddenly had to distinguish among municipal credits that, for all intents and purposes, had been homogeneous in the presumption of carrying no default risk. The transfor-

mation into a new government structure presented new elements of risk. The rating agencies pooled the credit research for their subscribers, who had little interest in following individual credits on their own.

During the late 1990s more insurance companies were formed to handle nontraditional business, including emerging markets. These insurers handle non-investment-grade paper (rated in the fourth tier of ratings, BBB or Baa, or higher), and no longer price under the assumption of zero loss.[5] Non-investment-grade paper requires higher reserves and may have less than the highest bond rating. Insurers make money where the perception of risk exceeds the actual risk and can alter the actual risk through close monitoring and direct involvement. Risk perceptions may be institutionalized in various prudential restrictions placed on lending institutions and investors. These perceptions and restrictions cause credit spreads, that is, the differentials in interest rates, among classes of debt. The insurer, by superior access to information, deeper analysis, and ability to diversify risk, can effectively narrow these spreads by “renting out” the use of its credit rating. It charges premiums for this service, thereby enjoying a return on the capital it commits (in addition to its interest earnings).

The difficulties of the Asian financial crisis in 1997 and the Russian default of 1998 sent the international financial markets, particularly the emerging markets, into a prolonged decline, with severe effects on subnational government borrowing. Nevertheless, interest in new debt issues remains in some corners. Fitch Ratings provides ratings for the privately financed South African bond bank, Infrastructure Corporation of Africa (INCA), on its municipal investments and holdings. With the rapid change in the South African subnational government structure, investors want to stay current under the assumption that once the government structure settles down there will be a flood of new issues. Borrowers, too, are anxious to position themselves favorably and are keeping ratings up to date. Each agency has compiled data for more municipalities than it has been called on to rate, and each makes an effort to recast data reported in standard formats.

However, not all segments of the investor community are familiar with or convinced by rating resources and opinions. Some investors express reservations about the value of credit ratings in general. Once the ratings are published, all investors must be aware of them and calculate the effects into their pricing decisions. It seldom pays to bet against the rating of a respected agency.

Rating agencies suffer from inherent difficulties that go with being both financially viable and having a powerful effect on market behavior. First,

their methodologies are necessarily proprietary. If everyone could apply the rating formula, no one would pay for a rating. Second, important factors used in ratings can be largely subjective. What is the risk of political instability, including debt repudiation? (Even when the "right people" win control in a country, bondholders and creditors can lose if the terms of outstanding debt are unilaterally changed.) Third, in publishing opinions the rating organizations generally assume that certain conditions and relationships will prevail. In a rapidly changing world, the assumptions may not hold. These problems are compounded for small agencies in developing countries, where there are few users of ratings and few issues to rate. The economics do not justify retaining skilled employees, and there is too little business to sustain competition among opinions.

Credibility of Ratings

The problem of credibility arises from cases where rating agencies have failed to foresee financial disruptions or have lagged behind rapidly moving events, calling the rating process into question. Recent events in the U.S. market have shown that the rating agencies are not infallible and that investors and regulators are a goad to better performance.[6] Another example of the fallibility of ratings is the precipitous downgrading of several sovereign credits in Asia during the ongoing financial turmoil. In December 1996 all of the countries were listed as having either stable (nothing on the horizon to suggest a downgrading) or positive (indications that the rating may be upgraded) credit outlooks. Not only were the ratings reduced over the next two years, but the countries also went through a continuing period of negative outlook (indications that the rating may be reduced) on Standard & Poor's Creditwatch, which exacerbated the uncertainty about how far they would fall. The precipitous declines in the ratings of Indonesia and the Republic of Korea and the serious slides of Malaysia and Thailand caused havoc for them in the markets (table 10.1).

Several other emerging market sovereign ratings have been downgraded in recent years. The drops were especially sharp following the Russian devaluation and default in the summer of 1998, which sent all the emerging markets into a tailspin. Prior to its currency and credit crash, Russia had investment grade sovereign ratings from both Standard & Poor's and Moody's on some of its Euromarket obligations. Governments, trying to protect currencies, depleted foreign reserves. Depletions were followed by devaluations, flights of capital, and widespread concerns over domestic firms and

Table 10.1. Credit Rating Volatility in Asia: Selected Standard and Poor's Long-Term Foreign Currency Sovereign Ratings

	December 1996	September 1997	December 1997	September 1998
India	BB+	BB+	BB+	BB+
Indonesia	BBB	BBB	BB+	CCC
Korea, Rep. of	AA-	AA-	B+	BB+
Malaysia	A+	A+	A-	BBB-
Philippines	BB+	BB+	BB+	BB+
Thailand	A	A-	BBB	BBB-

Note: The dividing line between "investment grade" and "noninvestment grade" is drawn between the BBB and BB categories, using the Standard and Poor's nomenclature. The equivalent dividing line for Moody's is between Baa and Ba. Duff & Phelps and Fitch Ratings use the same symbols and demarcation points as does Standard and Poor's.

Source: Standard and Poor's.

banks making payments in foreign currencies and, ultimately, domestic currency.

Subsovereign government credit ratings were also lowered, but selectively. Typically because of the lowered sovereign rating, the effective estimate of "macro" creditworthiness and the cap on the subsovereign ratings both fell. Between October 1997 and October 1998 Standard & Poor's lowered seven of the 18 ratings on subsovereign governments (two in Korea and five in Russia). Subnational government ratings in Central Europe and South American were not affected.

Whether changes in credit ratings anticipated, coincided with, or stimulated turmoil in the financial markets is an important question, and it is being asked with increasing frequency. Once rated, issuers run the risk that the agencies may change their minds as economic and political conditions change. Relatively well-rated Malaysia was shocked to have its rating dropped from A to BBB– just days before a large international bond offering, a move that was sure to cost the country higher interest rates. The Malaysian prime minister called for controls over the market power exerted by the rating companies. The ratings for some lower-rated Asian borrowers were not changed amid the market tumult: evidently the rating agencies got it right for India and the Philippines in the first place. Both of these on-the-fringe-of-creditworthiness countries had lagged behind the formerly high-rated "tigers" in economic growth and the pace of capital market development.

Unfortunately, neither the financial markets nor the rating agencies have enjoyed any respite from the turbulent market conditions and recur-

ring crises of the last five years. After a few years in the mid-1990s of what can best be described as euphoria in the emerging markets, growth has failed to occur.[7] The South American credits have been especially hard hit, and several subnational borrowers have defaulted. Nonetheless, there are some bright spots, with Mexico a leading recent example. Furthermore, the difficulties in the international markets have underscored the need to develop domestic markets. Without stronger domestic markets, a resumption of access to the international markets is unlikely.

Private Bond Insurance

Allied with the development of international credit ratings has been the development of commercial bond insurance. Bond insurance acts as a third-party guarantee that debt service will be paid on time. The attraction is that the insurer carries a high credit rating from the internationally recognized rating agencies. This third-party guarantee of debt with a high credit rating lowers the cost of borrowing by more than the cost of the insurance premium.

Growth of Bond Insurance

Bond insurance originated in the United States and has been tremendously successful in the municipal securities market. Insurance covers half of the dollar volume of municipal bonds. For bond insurance to catch on, investors must find value in the promise of insurers to meet the debt service payments, and investors must perceive differences in credit quality among issuers, usually expressed in different rates of interest demanded to offset the perceived differences in risk. The commercial insurer has a high rating from the recognized rating agencies that carries with it the promise of a lower interest rate for the insured borrower. While these are accepted notions in the highly developed subsovereign markets in the United States, they are still novel ideas in emerging markets. Not surprisingly, the idea of bond insurance has been most successfully applied to sales in international currency markets.

In the 1990s bond insurers underwent a transformation and began to take a much broader approach. Commercial bond insurance became an international commodity as the U.S. bond market became saturated and international markets became larger and more complicated. While all major insurers had an AAA rating and stringent reserve requirements, some of the smaller insurance firms that emerged had less than prime grade and covered

credit risks of less than investment grade. The international bond insurance market appeared promising until 1997 and the Asian financial crisis.

In 1996, Standard & Poor's asked chief executives of the international insurance industry for their view of future international expansion. At the time, international business made up about 2 percent of the bond insurance companies' "book" (Smith 1998, p. 5). The executives estimated rapid growth to 9 percent of outstanding business in 2000 and 17 percent by 2005. The rapid expansion was expected to come in Asian markets. In 1996 a consortium of firms started up ASIA Ltd., which was to be a nonprime grade competitor for Asia business. Also, the relatively small insurer Capital Markets Assurance Company (CapMAC) reached heavily into the international markets in hopes of opening up new frontiers of profits. The Asia turmoil laid both ASIA Ltd. and CapMAC low, and CapMAC was subsequently absorbed by the bond insurance giant MBIA.

Problems in Emerging Markets

The international financial turmoil of 1997 sent a strong warning that the risks of the new emerging market frontier may not have been adequately understood. On the other hand, the slow entry of the major companies was well rewarded since they avoided large capital charges and the downgrading that crippled ASIA Ltd. The insurance industry had a bad experience once before, when it entered the real estate market. While the growth of private insurance can be expected to continue, it is likely to be much slower in the emerging market area than had originally been thought (Veno and Smith 1998).

The primary bond insurers were not too seriously affected by the 1997 and 1998 plunges. The primary companies had only 3 percent of their par exposures in foreign-based insurance policies. Municipal-type international business is about two and half times as profitable as domestic work and has been largely restricted to superior, investment-grade issuers. With somewhat less competition in the field, the possibility of higher premiums appeared to improve.

The crises in the Asian bond markets in 1997 was followed by the broadscale emerging markets crisis of the summer of 1998, precipitated by the Russian government's devaluation and default. The major insurers were spared the fallout because they had been slow to add Asian credits to their risk portfolios, but ASIA Ltd. was caught in the downdraft because of its regional concentration. Although given a respectable A rating by Standard & Poor's on its creation in 1996, ASIA's rating was lowered to BA the next year

as rating downgrades of the policies in its portfolio caused a major erosion of its capital position. Short of widespread defaults, a massive systemic downgrading of credits is the worst thing that can happen to an emerging market insurer.[8]

As with international financial markets generally, there was a sharp contraction in international private market insurance at the turn of the twenty-first century. The major insurance companies are not risk takers. They are really "rating upgraders" and "credit endorsers" rather than insurers in the classic sense. If they can avoid risk, they will. Underwriting policies and supplying enhancements on an international scale to government borrowers with less than investment grade issues is extremely costly since the rating agencies make much heavier exactions in terms of reserves that are required to be set aside to offset the higher risks. As a result, the use of insurance is likely to develop in emerging market economies as part of domestic schemes to encourage market access.

Notes

1. *Credit risk* is distinct from *market risk* or *interest rate risk*, which usually pertains to how the entire debt market (interest rates and exchange rates, in the case of foreign currency denominated debt) will perform.

2. The rating agencies have come under close examination and criticism regarding both their methods and influence on markets (see While 2001 and International Monetary Fund 1999). Liu and Ferri (2002) question the dominant influence of sovereign ratings (country ceiling effect) on the ratings of firms.

3. In addition to bond-specific purposes, governments may use credit ratings to promote general investor confidence achieve name recognition, improve communications, and strengthen their ability to negotiate lines of credit or bolster the credit capacity of enterprises they own (see Eddy 2000).

4. The rating agencies publish articles and reports that outline their rating criteria for various markets and instruments (see, for example, Moody's 1998).

5. By convention the value of this paper can be carried on the books at purchase price by financial institutions. With the emphasis on marking all securities "to market" (current prices), that practice has fallen out of favor.

6. The rating agencies missed badly on Enron, keeping its debt at investment grade until just days before its bankruptcy. In congressional hearings

the agencies maintained that they were duped along with others by the fraudulent financial information put out by the company. Nonetheless, the Securities and Exchange Commission is undertaking a study of the rating agencies and the need for more federal oversight of their activities.

7. Net long-term private sector resource (liability transactions of one-year or more original maturity) flows from capital markets to developing countries declined from approximately $160 billion in 1996 to zero in 2001. In other words, new long-term lending was completely offset by repayments of outstanding debt (see World Bank 2002a).

8. The involvement of the Asian Development Bank and other owners of ASIA Ltd. was hoped to provide a certain degree of insulation because of the "management insights" and one would suppose the political clutch that the owners represented. The tumble in Asian ratings had terrible consequences for ASIA's insured portfolio.