Credit Ratings – An Introduction (and the Case of Sub-sovereign Ratings)

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INTRODUCTION

1. In providing independent opinions to investors as to the credit quality of debt issuers, credit ratings have become important parameters in market acceptance and pricing of debt. Ratings are now viewed as easily usable tools for differentiating credit quality by both individual investors ill-equipped to assess credit risk, and institutional investors often required to hold instruments of given credit categories in their portfolio. This introductory note reviews the key definitions and features of credit ratings and the bases on which ratings are assigned. It briefly addresses the correlation between credit quality and default rates, and outlines some of the criteria underpinning sub-sovereign credit assessments in emerging and developing economies.

DEFINITIONS AND FEATURES

2. Definition. Credit ratings are “opinions” as to the creditworthiness of an obligor (debt issuer) with respect to a specific financial obligation, a specific class of financial obligations or a specific financial program such as commercial paper. Ratings are based on the likelihood of default and reflect both “capacity and willingness” of obligors as to the timely payment of interest and principal in accordance with the terms of their obligations. A rating is not a general purpose evaluation of an issuer as it may also be predicated on the credit enhancement provided by a third party such as a guarantor, insurer or lessee. (Moody’s and Standard and Poor’s credit rating scales and definitions are given in Annex.)

3. Features and criteria. Credit ratings are analyses based on current information obtained from the obligors and other sources that rating agencies consider reliable. The agencies are unambiguous in their disclaimer that “a rating is not a recommendation to buy, sell or hold a debt security... as it performs the isolated function of credit risk evaluation, which is only one element of the entire investment decision-making process”. Moreover, despite the thorough rating process, rating agencies conduct no audit of the information supplied by the issuer, that which forms the basis upon which ratings are assigned. Rating agencies have no fiduciary responsibility vis-à-vis investors. Therefore while ratings are important elements of disclosure, they should not be outright substitutes for credible reporting by issuers as far as investors are concerned.

4. Change in rating of outstanding debt. The financial condition of a rated entity may change, sometimes rapidly. This may be due to intrinsic reasons that alter the price structure of a product line, or erodes the competitiveness of a business concern. It may result from a lapse in the risk management and control systems of an obligor (e.g., California’s Orange County which despite its high quality rating had to file for bankruptcy protection in 1994 after sustaining large losses in its liquidity portfolio). It may also result from a macroeconomic downturn or financial shocks (e.g., current financial crises in East Asia) that deflate asset prices, reduce demand for companies’ output or contract the revenue base of public entities. As a result, credit ratings on outstanding debt obligations may be subject to downgrade or upgrade should a rating agency consider that material changes in the financial condition of an issuing entity do warrant a rating review. The issuer’s rating may be put under credit “watch” with positive or negative “outlook” until such time as a revised rating is assigned. The timeliness of rating reviews is critical to investors who view ratings as leading indicators of credit quality. In this regard, the speed in which rating agencies recognize—and reflect through credit downgrade—the on-set of a financial crisis for instance, might be viewed by investors as a performance indicator of the agencies’ role as “early warning system” for the financial markets. Rating agencies walk a fine line and argue that a precipitous action of downgrade, in restricting or increasing the cost of access to credit markets in time of crises, can further compound borrowers’ ills.

5. Ratings as a relative measure of creditworthiness. Credit ratings provide a relative ranking of issuers’ creditworthiness under similar “stress” conditions. As such
they offer a vehicle for the relative pricing of debt securities where yield spreads among debt issues with different credit ratings reflect the credit risk premium required to invest in the riskier issues. The benchmark reference for the pricing of corporate and sub-sovereign debt would normally be set by the debt securities of even maturity issued by the sovereign government in the currency of which the debt issue is denominated; the interest spread would compensate for the credit (and liquidity) risk of the debt issue vis-à-vis the so-called “risk-free” sovereign debt obligation. (For instance the US Treasury securities set the benchmark off which all US$ denominated debt issues would be priced.)

6. **Sovereign ceilings for foreign currency ratings.** “Country risk” considerations form an integral part of the credit analysis of debt issuers as credit ratings take into account the currency in which a debt obligation is denominated. To this end, rating agencies assign sovereign ratings for countries. These ratings generally set a “ceiling” for the foreign currency denominated debt of domestic entities including sub-sovereign governments. The rationale for the sovereign rating ceiling is that domestic entities might eventually have to rely on central governments/central banks to secure the foreign exchange required for external debt service. However, it would not be inconceivable for a domestic entity to qualify for a foreign currency debt rating higher than the sovereign’s—in the case, for instance, where debt securitization is taking place backed by export trade receivables or using other forms of credit enhancement such as insurance.

7. **Project-specific ratings.** Rating agencies provide credit assessment of project finance deals. Project finance deals would normally be capped by, and not necessarily qualify for, the sovereign rating of the country in which the project is located. Regardless of country ceiling however, some projects—typically exports with structured financings—may exceptionally claim a rating higher than the sovereign’s. Moreover a project-specific rating based on secured or structured debt for instance, might be different from, and superior to, the rating of the company issuing the project debt.

8. **Short-term ratings.** Credit ratings reflect the issuers’ ability to meet their debt obligations as they come due over the contractual term of the borrowings. In this regard, debt with long-term maturity would be assigned a “long-term” rating. Rating agencies assign “short-term” ratings to debt obligations that have original maturities of one year or less, such as commercial paper. A short-term rating may also be used to indicate the credit standing of an issuer with respect to a “put” feature on a long-term debt obligation (where the “put” gives investors the right to sell back the debt obligation to the issuer at an agreed price within a specified period). In this case a dual rating may be published with the short-term rating relative to the put feature and the long-term rating to the underlying long-term security.

**Credit Quality and Default Rates**

9. **Default rates and economic environment.** Statistical analyses correlate on a historical basis credit quality and default rates. For instance, analyses can quantify the occurrences of default $x_{aa} \%, x_{aa} \%$ and $x_{aa} \%$ over a specified holding period for entities which had been rated respectively AAA, AA and A at period-start. Analyses confirm that $x_{aa}$ is lower than $x_{aa}$ which is in turn lower than $x_{aa}$. Yet absolute default probabilities may not be inferred from the credit rating categories as default occurrences $x_{aa} \%, x_{aa} \%$ and $x_{aa} \%$ are period dependent (with higher concentration of defaults in periods of economic depression). For instance, analyses of corporate debt defaults during the US Great Depression show that, of all corporate issuers rated (by Moody’s) as of July 1932, almost one in ten defaulted within one year. Of the US municipal debt issues that were rated in 1929 and went into default in 1932, 78% had been rated AA or better, and 48% had been rated AAA. Reflecting the severity of the depression, such default occurrences, over relatively short holding periods, of highly rated municipal entities are unlikely to be matched in other times.

10. **Default occurrence and credit quality.** Among the studies correlating default rates and credit rating categories are Moody’s analyses of “Historical Default Rates of Corporate Bond Issuers” initiated in 1987. The recent 1997 update of the research covers the 77-year period 1920-1996, over which Moody’s had rated the debt of some 14,000 corporate and sovereign issuers. (Recent studies of municipal default rates might be less representative than for corporate defaults, as the majority of US sub-sovereign issuers are in the middle-to-high end of the investment grade spectrum, with most recent debt issues covered by bond insurance. Claims against municipal bond insurance show insignificant levels of default.) In Moody’s studies, default is defined as “any missed or delayed disbursement of interest and/or principal”. Default also includes “distressed exchanges where bondholders are offered packages of securities with diminished financial obligation such as preferred stock...”. The studies show the inverse relationship between default rates and rating categories, with a clear pattern of higher risk of default for the speculative grade rating categories. For instance, over the 27-year segment 1970-96, average one-year default rates were 0.01% for A-rated issuers; 0.12% for Baa-rated issuers; 1.36% for Ba-rated issuers; and 7.27% for B-rated issuers. Over the extended 77-year period 1920-96, one-year default rates were 0.08% for A-rated issuers; 0.30% for Baa-rated issuers; 1.48% for Ba-rated issuers; and 4.47% for B-rated issuers. For defaults over holding periods exceeding one year, the studies also show a significant jump in default frequency for progressively lower ratings. Indeed, during 1920-96, (cumulative) default rates over a 10-year holding period averaged 8% for issuers rated Baa, against 18% for Ba, and 31% for B-rated credits. A similar pattern of increasing average default rates for lower-rated issues also prevails over 5, 15 and 20-year holding periods.
11. **Volatility of default occurrences and credit category.** The studies also show that the volatility of default rates increases with lower credit rating (for instance, default rates within one-year for B-rated issues reached 22% in 1970 with no such default in 1971). Volatilities of one-year default rates (expressed by the standard deviation over the study period 1920-96) range from 0.1% for Aa credits to 0.3% for A credits, 0.4% for Baa, 1.7% for Ba and 4.5% for B. The lower predictability of default rates also explains the significantly higher risk premia required by investors in lower-rated issues.

12. **Event risk.** Regardless of credit quality and rating category, defaults may be brought about by “special events” which Moody’s defines as changes in a borrower’s “prospects of financial position that result in a sudden shift in credit quality although its precise timing and nature could not have been predicted by the fundamental tools of credit analysis”. Examples would be mergers/takeovers, divestitures and filing for bankruptcy protection as a defense against litigation (e.g. the litigation-related bankruptcy filing of the Aaa-rated Texaco). Though credit evaluation is supposed to factor special events into ratings of individual issuers, the “full implications in terms of default experience of individual companies cannot be predicted in advance”. Special events are likely to have their greatest impact on default rates of higher-rated issuers as these, by definition, are more resilient to default than would be, under similar exogenous economic conditions, lower-rated issuers.

**SUB-SOVEREIGN CREDIT RATINGS**

13. Local governments in emerging and developing economies are increasingly seeking ways to raise debt on private credit markets to finance local investments. As a result, sub-sovereign credit assessment has become an important topic for investors and policy makers. In the USA most municipal debt issuers are rated. In emerging and developing economies, sub-sovereign credit evaluation, which is in its early stages, would need to respond specifically to the concerns of potential domestic and foreign lenders and investors as they evaluate credit demand and investment proposals by local governments. To this end, there would be a need to build and improve the information systems upon which ratings are predicated.

14. Credit rating systems in which creditors rely on sub-sovereign borrower’s capacity to repay—and not on explicit or implicit sovereign guarantee—analyze the assignment of responsibilities among various levels of government, the structure of local government expenditures and revenues (including own-source), and the regulatory and institutional setting within which local services are delivered. Creditworthiness, as assessed by market players including rating agencies, should reflect the local resource endowment, soundness of the local government finance framework and its capacity to withstand stress and issue debt in a way consistent with macro-economic stability. Thus, credit analyses of sub-sovereign issuers and the assessment of an issuer’s ability to service debt seek to address inter-alia the following:

   (i) **Economic and social characteristics of the jurisdiction.** This would include local resource endowment, existing stock of productive assets, level/distribution of income, level of education, quality of services, etc.

   (ii) **Sources and composition of revenues and expenditures.** This would cover the predictability of fiscal relations with, and transfers from, central government; and the local revenue base, including composition of taxes (property, business, development, sales, etc.), adequacy of tax rates and tax administration, and existence, diversification and sustainability of other revenues upon which local governments would call to meet debt service. This would be matched and assessed against the level, structure and profile of local expenditures.

   (iii) **Structure of local government financial operations.** This would include outstanding debt and other financial commitments, structure of assets/liabilities, liquidity and unencumbered cash available, etc. Also relevant would be the quality of financial controls and the transparency and credibility of budgeting, accounting and auditing systems. The issuer’s record in honoring financial commitments especially under adverse circumstances would also be assessed.

   (iv) **Regulatory and institutional setting for local service delivery.** This would include capacity and efficiency of local government institutions; quality of local asset management; degree of autonomy of utilities companies; reliability of services to consumers and recurrent income; competition and pricing policies in the provision of local services; criteria for monitoring performance of monopoly services; and processes for planning and selecting local investments (including infrastructure) that help local government expand businesses and increase employment.

   (v) **Legal and regulatory environment for local government credit.** This would include the framework for debt issuance, settlement, repayment and custody; regulations on local government bankruptcy; creditors’ rights and claims on local assets against other liabilities, etc.

   (vi) **Credit enhancement mechanisms.** This would include the assessment of features that strengthen the credit of local government debt issues in providing security collateral through dedicated streams of income, third party support such as guarantee, insurance, bank letter of credit, and derivative structures.
ANNEX—RATING SCALES AND DEFINITIONS

I- STANDARD & POOR'S LONG-TERM RATINGS

AAA Debt rated 'AAA' has the highest rating assigned by Standard & Poor's. Capacity to pay interest and repay principal is extremely strong.

AA Debt rated 'AA' has a very strong capacity to pay interest and repay principal and differs from the highest rated issues only in small degree.

A Debt rated 'A' has a strong capacity to pay interest and repay principal although it is somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than debt in higher rated categories.

BBB Debt rated 'BBB' is regarded as having an adequate capacity to pay interest and repay principal. Whereas it normally exhibits adequate protection parameters, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity to pay interest and repay principal for debt in this category than in higher rated categories.

BB, B, CCC, CC Debt rated 'BB', 'B', 'CCC', or 'CC' is regarded, on balance, as predominantly speculative with respect to capacity to pay interest and repay principal in accordance with the terms of the obligation. BB indicates the lowest degree of speculation and 'CC' the highest degree of speculation. While such debt is likely to have some quality and protective characteristics, these are outweighed by large uncertainties or major risk exposures to adverse conditions.

C The C rating is used to cover a situation where a bankruptcy petition has been filed or similar action has been taken, but payment on this obligation are being continued.

D Debt rated 'D' is in default, and payment of interest and/or of principal is in arrears.

Plus (+) or Minus (-): S&P's ratings from ‘AA’ to ‘B’ may be modified by the addition of a plus or minus sign to show relative standing within the major rating categories.

II- MOODY'S LONG-TERM RATINGS

Aaa Bonds which are rated Aaa are judged to be of the best quality. They carry the smallest degree of investment risk and are generally referred to as "gilt edge." Interest payments are protected by a large or by an exceptionally stable margin and principal is secure. While the various protective elements are likely to change such changes as can be visualized are most unlikely to impair the fundamentally strong position of such issues.

Aa Bonds which are rated Aa are judged to be of high quality by all standards. Together with the Aaa group they comprise what are generally known as high grade bonds. They are rated lower than the best bonds because margins of protection may not be as large as in Aaa securities or fluctuation of protective elements may be of greater amplitude or there may be other elements present which make the long term risks appear somewhat larger than in Aaa securities.

A Bonds which are rated A possess many favorable investment attributes and are to be considered as upper medium grade obligations. Factors giving security to principal and interest are considered adequate but elements may be present which suggest a susceptibility to impairment somewhat in the future.

Baa Bonds which are rated Baa are considered as medium grade obligations, i.e., they are neither highly protected nor poorly secured. Interest payments and principal security appear adequate for the present but certain protective elements may be lacking or may be characteristically unreliable over any great length of time. Such bonds lack outstanding investment characteristics and in fact have speculative characteristics as well.

Ba Bonds which are rated Ba are judged to have speculative elements; their future cannot be considered as well assured. Often the protection of interests and principal payments may be very moderate and thereby not well safeguarded during both good and bad times over the future. Uncertainty of position characterizes bonds in this class.

B Bonds which are rated B generally lack characteristics of the desirable investment. Assurance of interest and principal payments or of maintenance of other terms of the contract over any long period of time may be small.

Caa Bonds which are rated Caa are of poor standing. Such issues may be in default or there may be present elements of danger with respect to principal or interest.

Ca Bonds which are rated Ca represent obligations which are speculative in a high degree. Such issues are often in default or have other marked shortcomings.

C Bonds which are rated C are the lowest rated class of bonds and issues so rated can be regarded as having extremely poor prospects of ever attaining any real investment standing. Ratings from Aaa to B may be further disaggregated in numerical sub-categories (1,2,3).

TO LEARN MORE

Moody's Investors Service: Global Credit Research
Standard & Poor's: Credit Analysis Service