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Subnational Credit Ratings

A Comparative Review

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Abstract

This paper surveys methodological issues in subnational credit ratings and highlights key challenges for developing countries. Subnational borrowing from capital markets has been on the rise owing to fiscal decentralization and demand for infrastructure investments. A prerequisite for accessing capital markets, subnational credit ratings have also emerged as a part of broader reform for fiscal sustainability. They facilitate a more transparent budgetary and financial management system. The global financial crisis makes subnational credit ratings more relevant, as they contribute to fiscal risk evaluations and fiscal adjustment.

In addition to subnationals' own credit strength, the creditworthiness of the sovereign and the intergovernmental fiscal system are among the most critical rating criteria. Implicit and contingent liabilities are integral to the rating process. Indirect debt instruments including off-balance-sheet financing create fiscal risks. The ongoing financial crisis has reinforced the rating focus on the management of liquidity, debt structure, and off-balance-sheet liabilities.

This paper—a product of the Economic Policy and Debt Department, Poverty Reduction and Economic Management Network—is part of a larger effort in the department to develop knowledge products on subnational finance and fiscal reforms. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at lliu@worldbank.org.

Subnational Credit Ratings: A Comparative Review

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Subnational Credit Ratings: A Comparative Review

1. Introduction

Subnational credit ratings are a prerequisite for subnational governments to access the capital market, particularly the international capital market to finance infrastructure investments.[2] Developing countries are increasingly engaging international rating agencies to rate the creditworthiness of their subnational governments. As part of broad fiscal reform, subnational credit ratings also help enhance fiscal transparency, price risks and returns, and facilitate capital market participation in fiscal monitoring and surveillance. Although the ongoing global financial crisis has strained the subnational capital market, subnational governments have continued their demand for capital market financing in many emerging economies.[3] In this context, subnational credit ratings become more relevant, as they contribute to fiscal risk evaluations and fiscal adjustment. The crisis has further differentiated the fiscal capacity of subnational governments. The evaluation of financial risks, including contingent liabilities, in all sectors – be it corporate, household, financial or the public sector – has become an even more important requirement for adjustment.

Since 1996, the number of subnational entities rated by Standard & Poor's (S&P) and Moody's rose by over 250 percent.[4] For Moody's alone, over the ten year period from 1998 to 2008, the number of subnational governments rated tripled. The most rapid increase outside the US and Western Europe is in Eastern Europe – from zero in 1998 to the ratings of 64 subnational governments in 2008, followed by Latin America. Even Africa has seen its ratings of subnational governments increased from zero in 1998 to 10 in 2008 (Moody's 2008a)[5].

The increased coverage of subnational credit ratings by rating agencies, to some extent, may also be seen as a natural outcome of the increased coverage of sovereign ratings.[6] The former tends to follow in the footsteps of the latter. In the late 1980s and early 1990s, rating agencies stepped up their activities in the emerging economies, with Latin America being the primary target. By 1990, S&P and Moody's had rated 35 and 33 sovereigns respectively; among them were Argentina, Brazil and Venezuela. In the early 1990s, rating agencies began to make their forays into sub-sovereign ratings in the emerging economies.

[2] The term subnational refers to those public entities in the tiers of government lower than the federal or central government. Subnational entities include states/provinces, counties, cities, towns, public utility companies, school districts and other special purpose governments which have the capacity to incur debt.

[3] For example, the city of Warsaw and its infrastructure municipal companies plan to issue bonds in 2009 (Warsaw City Debt Strategy, 2009), including in foreign markets. China plans to issue $200 billion yuan sub-sovereign bonds in 2009, as part of the fiscal stimulus package to finance infrastructure (the Ministry of Finance news conference on March 17, 2009).

[4] As of March, 2008, Moody's rated 306 regional and local governments in 35 countries outside the United States. S&P rates subnational governments in more than 30 countries outside the United States. See Moody's (2008a), S&P (2009), Gallard (2006).

[5] Much of the growth came with the acquisition of domestic rating agencies and the subsequent assumption – with some modifications – of the predecessor agency's portfolio of ratings. Moody's for example acquired agencies in the Czech Republic and in South Africa.

[6] The history of sovereign ratings itself dates back to the early 1900s. Moody's issued its first sovereign rating well before World War I. But modern sovereign ratings began to grow steadily only in the 1980s.

Since the early 2000s, subnational credit ratings in emerging economies have surged. During the same period, many emerging economies such as Colombia, India, Mexico, Peru, Russia, and South Africa have moved toward establishing a regulatory framework for subnational borrowing and debt management (Liu and Waibel, 2008a). The new borrowing framework aims at addressing problems that had led to subnational debt crisis or fiscal stress in these countries in the 1990s. In some countries such as Mexico, subnational credit ratings have become an essential element of the new borrowing framework. In other countries such as Russia, the reemergence of the subnational bond market since 2001 explains the rise of subnational credit ratings.

Mexico introduced a credit rating system for subnational governments as part of its new subnational borrowing framework. Although subnational participation in the credit ratings is voluntary, the requirements of the capital-risk weighting of bank loans introduced in 2000 and of loss provisions introduced in 2004 aim at imposing subnational fiscal discipline through the market pricing of subnational credit. China is piloting an experiment with S&P credit ratings of municipal infrastructure investment companies owned by Chongqing municipality (population 31 million) to help establish a benchmark for market-based monitoring of municipal companies which have become the pillar of infrastructure-led growth in China. The significant increase in subnational credit ratings is largely driven by the increasing subnational borrowing from the capital market around the world.

The increasing subnational borrowing is driven by large infrastructure investment needs in developing countries. A large share of infrastructure investments has been decentralized to the subnational level. With 60 million people moving to cities per year, rapid urbanization will require large-scale public investment ranging from mass urban transit and electric power to water and sanitation. Although the pace of rural-urban migration is slowing down during the current global economic downturn, the long-term structural trend of rural-urban migration continues.

Subnational governments with fiscal strength in emerging economies are increasingly looking to capital markets to fund large infrastructure projects.[7] Borrowing enables local government to capture the benefits of major capital investments immediately, rather than having to wait until sufficient savings from current income can be accumulated to finance them. Debt financing provides a better matching of maturity terms with the asset life of the infrastructure, so that the cost of financing is shared across the present and future generations of beneficiaries of the infrastructure being debt financed.

The emergence of subnational credit ratings could have implications for public finance in developing countries. It calls for fiscal transparency and greater disclosure of independently audited financial accounts. Subnational credit markets are expected to deepen and broaden over time as an economy develops and matures. Indeed, in most developed economies, the

[7] Subnational governments can utilize a variety of financing instruments, including issuing bonds and borrowing from banks. Top-tier subnational governments with credit strength are going beyond traditional bank financing and issuing bonds in countries such as Colombia, Mexico, Russia, South Africa, and Turkey. Smaller local governments tend to rely on bank lending and fiscal transfers. Banks as lenders usually carry out their own credit analyses. Subnational governments have also formed public private partnerships for infrastructure financing in countries such as Brazil, China, India and Russia.

subnational debt market constitutes a key component of the capital markets.[8] It is important therefore for potential lenders and investors such as multilateral agencies, commercial banks and private sector participants in the international capital market to understand how the rating agencies conduct their subnational creditworthiness analysis. At the policy level, such understanding helps contribute to policymakers' broader fiscal reform programs.

This paper attempts to provide an understanding of the methodologies used by the three major international rating agencies (S&P, Moody's and Fitch) in assessing the creditworthiness of subnational governments.[9] All three rating agencies share the general approach of deriving the final score for rating from a matrix of quantitative and qualitative factors covering economic, fiscal, financial and institutional factors. Understanding how these variables are used and how they may differ among the agencies allows us to better appreciate what constitutes a sound subnational credit standing. It also contributes to the development of a comparative database for fiscal monitoring. This paper will also discuss other major issues and challenges related to subnational credit ratings, such as the importance of sovereign factor as a determinant of subnational credit ratings, changes in the methodologies as a result of risks from indirect debt and off-balance-sheet financing, and the required governance and institutional reforms for a robust rating system and fiscal monitoring.

The paper is organized as follows. In section 2 we review and compare the rating process for subnational governments, the key variables considered when assigning a subnational rating, and the similarities and differences among the rating approaches used by the three major rating agencies. Section 3 analyzes the benefits and limitations of subnational credit ratings. Section 4 looks at the interaction between sovereign and sub-sovereign ratings and the binding impact of the sovereign rating on the ratings of sub-sovereign credits. Section 5 discusses important changes in subnational rating methodology that took place in the last decade and the reinforced focus on debt profile and contingent liabilities following the financial crisis. Section 6 discusses challenges of subnational credit ratings in developing countries. Section 7 concludes the paper.

2. The Rating Process and Criteria

The credit rating of a subnational government represents a formal opinion of the subnational government's capacity and willingness to repay commercial debt obligations in full and on time. Each rating agency follows a certain procedure in deriving the final rating for the subnational government being rated.[10] The key forum for decision making is the rating committee, which is made up of a group of experienced analysts who are familiar with the creditworthiness conditions in the rated entity. The rating is decided by votes after the deliberation of the committee.

At the core of the rating analysis is a matrix of political, economic, budgetary, financial and institutional variables deemed relevant to the subnational government's creditworthiness. All

[8] For example, in the United State, sub-sovereign bond accounts for 26 percent of public sector debt and 10 percent of total public and corporate debt (Liu and Waibel 2008a).
[9] The World Bank (1999) provided some information on, but not a comparative review of, the subnational credit ratings. Since 1999, rating methodologies have gone through significant changes.
[10] See Bhatia (2002), Hilderman (1999), S&P (2009), Moody's (2008a), Fitch (2008b).

rating agencies analyze a range of qualitative and quantitative variables to derive a final rating score. For example, Moody's has used the following methodology since 2006: Each variable is given a numerical score. A weighted average of all the individual scores is then used to derive the final score. Each final score corresponds to a specific letter-based rating. The higher the letter grade, the smaller the probability of default. Typically, the ratings are categorized into "investment-grade" and "speculative" ratings. Table 1 in Annex lists the comparable ratings for the three agencies.

2.1 What Factors Determine a Rating?

A limited set of variables lies at the heart of the subnational credit rating process. Although specific emphases may vary among the three rating agencies, the substantive criteria they use do not differ very much. Broadly speaking, the variables or factors that go into the ratings analysis may be divided into the following five categories: (i) the subnational economic conditions; (ii) the fiscal performance of the subnational government; (iii) the financial and debt position of the subnational government; (iv) the management quality and institutional strengths of subnational institutions; and (v) the influence of sovereign factors, intergovernmental relationships and fiscal arrangements. In what follows, we look into the details of these five categories of factors that all three agencies consider.[11]

2.1.1 Subnational Economy

The key question here is to what extent is the subnational government's fiscal position (and hence creditworthiness) affected by conditions in the local economy. Subnational governments receive their income from two sources: (i) "transfers" and "grants" from the national, or other higher levels of, government; and (ii) "own-source revenue" collected from the local economy. The former are usually fixed by some intergovernmental fiscal arrangements (formula-based or otherwise) and thus may not be too sensitive to the performance of the local economy.[12] The latter – which typically comprises items like sales and property taxes, stamp duties, business-related fees and charges and in some cases, certain income taxes as well – is likely to be affected by local economic conditions.

Similarly there are two types of expenditures that the subnational government has to provide for: obligatory and discretionary. The obligatory spending is typically covered by transfers from the national government and thus will not be too sensitive to the local economic conditions. However, whether the spending is obligatory or discretionary, it will be more vulnerable to the business cycles in the local economy if it is of a safety-net type (e.g., unemployment benefits).

In general, rating agencies view fiscal solvency as being linked to economic strength. This subnational economy component of the rating analysis covers at least three aspects of the local economy.

(1) <u>The growth prospects of the subnational economy</u>. This is used as a proxy of the subnational government's future revenue base. Generally this may be captured in some trend analysis of

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[11] See S&P (2009), Moody (2008a) and Fitch (2008b). Some of the differences among the three rating agencies are highlighted in Section 2.3.

[12] This assumes that the subnational economy is not dominant in the national economy.

macro-variables such as local production/income growth (or gross regional domestic product), inflation, employment, and retail sales. To gauge the growth potential of the subnational economy, critical factors include natural endowments, strategic location or assets that the subnational economy enjoys, educational and skill levels of the workforce, quality of the business infrastructure, level of entrepreneurial and innovation activities and competence of the local leaders. Just as important is the subnational government's demonstrated ability to initiate policies to enhance its economic competitiveness such as industrial restructuring to move into high value added sectors, and promotion of innovation and creativity.

(2) The structure of the subnational economy. This will indicate how stable the local income growth is. A diversified production structure is important in ensuring such stability. If subnational regions are "assigned" a certain production function by the national government, based on its perceived comparative advantage, this could add to the volatility of growth in the local economy especially if the production activities are pro-cyclical in nature. Also affecting the stability of the growth base of the subnational economy are variables such as the severity of unemployment problem.

(3) The demographic variable. This has a strong bearing on the demand for public services that the subnational government has to provide. For example, the population size could affect the amount of transfers and grants from the central government, as they are often computed based on the number of residents in the local economy. The growth rate, the density and the age distribution of the population, on the other hand, point to the subnational economy's income generating capacity and demand for public services in the future. For instance, a rapidly aging population may point to declining income generation power and rising demands for social services while high population growth due to the influx of young immigrant workers could have a very positive implication. An important indicator here is the overall ratio of dependent to total population. It captures in a nutshell the burden that population may impose on the subnational budget in future.

2.1.2 Subnational Fiscal Performance

This component of the rating analysis concerns the subnational government's capacity to manage its fiscal position sustainably. The assessment takes into account not only a government's track record but also the flexibility it enjoys in adjusting its future revenues and expenditures, as well as its ability to manage potential fiscal imbalance. The ability of the subnational government to adjust both revenue and expenditures to improve its fiscal strength will be a boost to its creditworthiness. The rating agencies examine the fiscal position in the following three areas.

(1) Revenue flexibility. Increased revenue could come from either a higher income-base for revenue collection or a change in the revenue base itself. The former depends largely on the local economic conditions (which the subnational government could try to influence) while the latter calls for strong fiscal management capacity within the taxation power granted to the subnational governments. The proportion of revenue that is "modifiable" i.e., over which the subnational government has the power to change either by increasing the rates or expanding the base, gives an indication of its flexibility in improving fiscal position. It is possible for instance for the subnational government to increase its revenue by being more efficient in the way it

manages the local economy. Subnational governments can also improve the tax system such as the property tax within its purview.

In countries where fiscal transfers account for the majority share of subnational governments' revenue stream (such as in Colombia, Mexico, and Turkey), the revenue flexibility is constrained. The transfer systems are established through a framework or formula for a fixed period of time, and the subnational government has to manage its fiscal flexibility within the existing intergovernmental arrangements.

(2) Expenditure flexibility. A subnational government's expenditure flexibility depends firstly on the proportion of total spending that is considered "discretionary," i.e., the non-essential capital and current expenditures. Essential capital expenditure is generally taken as the minimum needed to maintain the existing infrastructure and to complete important and urgent new projects while essential operating spending typically includes personnel costs, interest payments and services mandated by the national (or higher level) government. On the latter, the national government typically takes care of spending related to defense, security, justice, foreign affairs, national economic policy matters and other nation-wide functions, leaving the subnational government to pay for expenditures connected with the provision of local services.

Within the discretionary spending, the subnational government's flexibility in spending depends on its ability to manage expenses. This in turn depends on its operational efficiency and the political will to do the unpopular. Personnel costs typically account for the bulk of the subnational spending and a reduction in such spending has considerable political repercussions. The subnational government's track record in expenditure cutting, especially during economic downturns when revenue declines, provides an indication of the flexibility it has in managing expenditures.

(3) Capacity and flexibility in managing budget deficits. Projection of revenue and expenditure trends does not represent the whole picture of the subnational government's fiscal position and flexibility. Just as important are the quality of its projection and its ability and flexibility in managing a fiscal imbalance when confronted with one. Persistent deficits in operating balance in particular should be carefully scrutinized to see if there is any mismatch between recurring income and expenses and hence a need to adjust either or both of them. Continued reliance on borrowing to make up for the operating budget shortfalls, instead of an ability to reverse the imbalance trend either through raising revenue or cutting expenditures, undermines the subnational government's credibility in fiscal management.

In many countries, both the national government and the subnational governments are subject to constraints over the size of the budget deficit they each can incur. Often, there are also constraints on the overall consolidated budget deficit of all public sectors in the country, which include all national and subnational budgets. Indeed, there are times when subnationals have to trim their budget deficits or raise their budget surpluses to help meet certain national targets. Such inter-governmental fiscal arrangements may hinder the subnational's ability to carry out certain economic activities that are deemed beneficial to its own economy. The subnational government's ability to provide effective solutions to overcome these constraints will help improve its credit standing.

2.1.3 Financial and Debt Position of Subnational Government

Fiscal surpluses or deficits are “flow” items that could change the subnational government’s annual financial position. But the subnational government’s creditworthiness also depends on how it manages its existing balance sheet and improves its debt servicing and repayment capacity. As in any commercial organization, various financial ratios are used to assess the soundness of a subnational government’s financial position. A number of issues are considered important in this regard, as examined below.

(1) Liquidity and debt management. The analysis tracks how well the government’s internal liquidity and investment policies are matched by the seasonality of its revenue and expenditure. The analysis factors in any outstanding short-term or variable-rate debt with bullet maturities. Some measures of liquidity adequacy ratio (e.g., the ratio of debt service to recurring revenue or other measures of payment capacity) are usually used to project the subnational’s debt servicing capacity. They are also used by the national governments to establish the borrowing ceilings for local governments.

A liquidity concern is on the potential mismatch between cash inflows and outflows in relationship to operating expenses, debt service, seasonality of cash flow, and financing of capital expenditure programs. The level of reserves and cash balance that the government maintains is important. Refinancing risk is another consideration with balloon or bullet maturities or a large portion of short-term debt. Also important are the credit and market risks that the subnational may be exposed to, including maturity structure risk, interest rate risk, and foreign currency risk. The actual risks may be mitigated by a well-structured debt profile, although this is often difficult to achieve because of the lack of financial sophistication in many developing economies, especially at the subnational level.

(2) Managing debt burden. Typically, the rating agencies will use several measures of debt burden to assess the degree to which a subnational government’s financial flexibility is constrained by fixed debt-service costs and the revenue raising ability to meet these costs. Emphasis is often placed on the ratios of direct debt to discretionary operating revenue and on tax-supported public sector debt relative to subnational GDP and on a per capita basis. Debt service is only one of many potential fixed costs and limitations on financial flexibility and it is possible for some highly indebted subnational governments to enjoy high credit ratings.

As Fitch (2008a) noted, common debt burden measures include: debt principal relative to local gross product; debt principal per capita; debt principal relative to estimated market value of taxable property (for debt issues relying heavily on property taxes to finance operations an debt service); debt service as a percentage of current revenue and annual operating expenses; and annual pension liabilities as a percentage of current operating expenses, debt to current balance, and direct risk (direct debt plus other Fitch classified debt) to current revenue. Some of these measures may be less informative because of the problems of availability or quality of the financial information required.

(3) Managing off-balance-sheet liabilities. There is increasing recognition of off-balance-sheet liabilities as a source of fiscal risks at all levels of government. Like the national government, subnational governments are often called upon to provide guarantee to public sector entities and

enterprises under their charge. They also face various contingent liabilities such as pension liabilities. Liu and Waibel (2008a) classified types of hidden and contingent liabilities for subnational governments. These liabilities are difficult to estimate and yet could deal a severe blow to the subnational's fiscal and financial health when they are "recognized". Provisioning for off-balance-sheet liabilities is a complex but a necessary part of sound financial management. Prudent management requires the subnational government to monitor closely the credit quality of the public sector entities and enterprises for which it is expected to provide assistance or even bail out in times of failure. Doing so helps to provide clarity to the likelihood and potential magnitude of any potential governmental intervention.

Rating agencies examine off-balance-sheet liabilities involving debt-like instruments or commitments such as leases, majority ownership of enterprises even without explicit guarantees, public-private partnerships and securitizations for which the subnational government is or may become responsible. These may represent efforts by the subnational governments to circumvent debt limits imposed on them.

(4) Credibility in debt management. Just like credibility in fiscal management, the subnational government's credibility in financial management is an important consideration in credit ratings. It is crucial that the subnational government consistently maintain a low arrears ratio and a zero default record. Having the capacity to repay is not the same as having the willingness to repay. In some cases, subnational governments have refused to pay back the loans they took from the central government despite their having the necessary resources.[13] While such defaults may only be a matter of financial transfer between the two levels of government, they nevertheless tarnish the subnational government's creditworthiness records, making it difficult for them to access the capital market in future.

2.1.4 Strengths of Institutions and Quality of Management

The reliability of the fiscal and financial performance measures depends crucially on the quality of the reporting system. Maintaining a credible reporting and monitoring system is a big challenge faced by subnational governments in many developing economies. A sound financial reporting system should address issues such as the rigor of the budgeting and financial reporting process (e.g., sound and separate treatments for different expenditure items in the budget such as recurring and capital expenditures); the timeliness and comprehensiveness of the reports; the appropriateness of the accounting system (e.g., accrual- or cash-base accounting); and the quality of internal and external auditing. The rating agencies do not audit the financial reports in the rating process. They rely on the subnational government to provide reliable reports, preferably certified by independent public accountants, in accordance with the country's generally accepted accounting standards, if not the standards of international best practice.

More broadly, the subnational government should demonstrate an ability to address the issue of governance standards and maintain a certain quality in the entire financial system. For example, is there sufficient transparency and accountability in the budgeting process? Are there clear rules about the treatment of subnational debt vis-à-vis debts issued by other levels of government?

[13] This was the case in Indonesia for example (Tan 2005).

Are the creditors able to enforce the covenants in the case of disputes? Is there a rigorous risk management system in place?

The existence of institutionalized rules and legal requirements governing subnational debt issuance is considered a strength for subnational creditworthiness. However such institutionalization may not be widely practiced among the developing economies. In their absence, policy guidelines and the management's compliance with them will be evaluated. The credibility of the sub-government is a key issue here. Its attitude towards maintaining a sound fiscal position, the budgetary control matters and its ability to limit budget variances are among important considerations in the rating process.

2.1.5 Sovereign Factors

Sovereign factors strongly influence the credit ratings of subnational governments, as will be detailed in Section 4, and all rating agencies analyze subnational credit within the sovereign framework. As argued by Ianchovichina, Liu and Nagarajan (2007), subnational fiscal sustainability is complicated by the respective legislative mandates of central vis-à-vis subnational governments and the intergovernmental finance system. Unable to issue their own currency, subnationals cannot use seigniorage finance. Subnationals cannot freely adjust their primary balance due to legal constraints on own revenue and, in many countries, their dependence on central government transfers. The central government can also influence key expenditure items such as wages and pensions. Many policies that affect the economic growth and the fiscal health of the subnational economy are designed to varying degree by the central government.

They also note that subnational borrowing behavior is influenced by the intergovernmental fiscal system and the structure of financial markets. Paradoxally, a high rating of a subnational government's credit can be consistent with unsustainable subnational fiscal policies. Market participants may tolerate unsustainable fiscal policy of a subnational government if past history backs their perception that the central government implicitly guarantees the debt service of the subnational government. The soft budget constraint, a key aspect of fiscal incentives, allows subnational governments to live beyond their means, negating competitive incentives and fostering corruption and rent seeking.

2.2 Examples of Rating Changes

The range of credit ratings that subnational governments receive reflects differences in their performance and circumstances, as measured by the variables considered by the rating agencies. A change in rating for the same subnational government reflects improvement or deterioration of the government's performance or circumstances.

Take the example of subnational governments in France. S&P has rated 17 French local and regional governments. Since February 2006, two ratings were lowered. One of the downgrades concerned Polynesia. Polynesia has undergone several downgrades, from A-/Positive in August 2004, to A-/Watch negative in May 2005 and BBB+/Negative in January 2008. The investment grade rating in 2008 reflects strong financial support from the national government, strong revenue autonomy, satisfactory financial performance, and moderate debt by international standards. However, the downgrading is influenced by the persistence of an uncertain political situation and subsequent absence of visibility on the country's finances; Polynesia's structurally dependent and vulnerable economy; growing rigidities on operating costs; and significant off-balance-sheet risks.

Another French subnational government provides a good example of how local governments' sound fiscal management can improve ratings. City of Avignon's tight grip on spending, consistently strong operating performance, and further debt reduction resulted in consistent rating upgrades and stable outlook: from BBB/Positive in February 2005, to BBB+/Positive in May 2005 and to A-/Stable in January 2008.

As noted by S&P, Spain provides another interesting example of how, within a single institutional framework and economic context, the varying levels of fiscal flexibility among different types of regional government contribute to ratings differentiation. Spain's special status regions such as Navarre and Basque Country are both rated 'AAA', which is above the 'AA' average for Spain's normal-status regions. This is in part because the special status regions benefit from a specific and highly beneficial financing system, which provides them with significant revenue flexibility in terms of tax regulation, collection, and tax management. Spain's special status regions also have relatively greater protection against unilateral decisions from the central government involving unfunded expenditure responsibilities.

The ongoing global financial crisis is affecting the credit strength of subnational governments. Fitch for example undertook negative rating actions for some European subnational governments in December 2008, although to a more moderate extent than the other sectors. However, downgrading pressure is expected to increase in 2009 (Fitch, 2008b). The economic downturn is slowing growth in fiscal revenues, and higher capital expenditure is expected as the central and subnational governments plan to increase infrastructure spending as part of fiscal stimulus. Access to capital market has become more difficult, which may lead to liquidity problems. Part of the downgrading pressure for subnational credit quality is expected to come from declines in sovereign credit strengths.

2.3 Comparing the Rating Criteria of Major Rating Agencies

The approaches to subnational ratings among the three major rating agencies are strikingly similar. Not only do they adopt a similar rating process, they also share similar rating criteria. What could differentiate one rating agency from another is the relative weight they assign to each rating variable, the importance they attach to the qualitative variables, and how the relative weights of these variables change over time.

There have been few published studies offering direct comparison of the rating processes and methodologies used by the three agencies, especially for subnational ratings. Most studies have instead focused on comparing the rating outcomes of the agencies. To some extent, having comparable rating outcomes may be taken as indirect evidence of the comparability of the rating approaches and criteria used (to derive the outcomes). Gaillard (2006) shows that the subnational ratings of Moody's and S&P are very similar in most cases. One could argue that since the rating outcomes among the rating agencies are so close, the underlying rating methodologies and criteria could not have differed very widely.

2.3.1 Rating Criteria

The broad rating criteria of these agencies are essentially set up to capture the information of the subnational entity in the following areas: local economic conditions; fiscal position; financial and debt position; the strength of the institutions and the quality of the management; and the influence of the sovereign factors and intergovernmental fiscal arrangements. These criteria are publicly available and known to all rating agencies. Thus, while each rating agency may have some preferences on what specific variables to use within each of the five main categories (e.g., they may differ on the exact debt service ratios to adopt and the denominators to be used in such debt service ratios), they do not differ on the major important rating variables. Over the last decade, there appears to be an even greater tendency for the methodologies to converge among the three agencies as they now pay more attention to common issues such as the quality of management, the strength of institutions, corporate governance and liquidity and risk management. The current financial crisis has further consolidated the emphasis on debt and liquidity management.

The differences that an outside observer may detect among the three rating agencies are likely to be of a formatting rather than fundamental nature. The three agencies may place a certain variable under different categories, reflecting the different philosophical approaches they adopt in treating the variable. Take the example of financial and debt positions. All three rating agencies consider the following issues important under this category: management of liquidity and debt positions, management of debt burden, and management of off-balance-sheet liabilities. All agree that indirect debt (mainly off-balance-sheet and contingent liabilities) need to be treated separately from direct debt and that details of the indirect debts deserve to be carefully scrutinized. All rating agencies are also paying greater attention to the subnational government's exposure to short-term debt and variable interest rate and currency risks. The ongoing global financial crisis has further consolidated the rating agencies' emphasis on explicit and implicit liabilities and liquidity management.

While Fitch (2008a) treats liquidity and debt profile including off-budget liabilities in a combined category, Moody's treats liquidity with financial position and deals with debt profile including off-budget liabilities in a separate category. While a subnational government's liquidity position is part of the fiscal position analysis in Moody's framework, S&P puts it with debt management. S&P (2009) lists liquidity and debt management, debt burden, and off-balance budget liabilities in three separate categories. In addition to the usual array of financial and debt ratios, Fitch pays attention to indirect risk of public-sector entities even though the debt of these entities is not guaranteed by a subnational government. S&P pays special attention to the use of derivative instruments and potential risks.

To take another example, all rating agencies understand the great importance of the influence of sovereign (political as well as economic) factors and the impact of intergovernmental fiscal relationships. Fitch combines the two issues under "institutional and administrative factors" and considers it critical to decide how the sub-sovereign rating relates to sovereign ratings. In Moody's the issues are evaluated under two categories, "operating environment" referring to the national economic and political context in which subnational governments function, and "institutional framework" which "determines intergovernmental relations and shape of RLGs powers and responsibilities" (Moody's 2008a). In the S&P model, the sovereign factor is treated in the category of "system support and predictability", which focuses on the intergovernmental fiscal system and the legal framework for subnational debt, and in the category of "financial flexibility", which discusses political influence, and the degree of flexibility a subnational government has in managing its fiscal affairs within the parameters set by the intergovernmental system.

2.3.2 Rating Process

The three rating agencies follow a similar rating procedure. The key forum of the process is the Rating Committee. Upon request for a subnational rating, an agency typically will assign various analysts to review the performance of the subnational government in different areas in accordance with its rating criteria. A lead analyst is also appointed. The analysis will cover not only all the statistics and other quantitative information that the rated entity provides, it will also include an assessment of the qualitative elements such as the strength of the institutions, the quality of the management system, the credibility of the policies, the stability of the political and economic environments, etc. A good understanding of the qualitative aspects of the rating process is vital as it provides insights into the subnational government's credit quality that published information may not offer. This is especially so in developing countries where the accuracy and quality of the quantitative data are often questionable. In some cases, the quantitative data are not even available.

After the analysts have analyzed and reviewed the relevant information, the rating committee will then convene to deliberate on the analysis. Benchmarking with similar subnational governments that the agency has rated will be undertaken before a rating is assigned. This outcome is then conveyed to the rated subnational government and feedback and comments from the latter will be taken. The rating agency may amend its rating decision if substantial and material new information is presented by the subnational government. The final rating decision is then made and the result disseminated to the public.[14]

Recently, Moody's has tried to introduce a more quantitative, model-driven approach to subnational ratings, in order to provide a more systematic basis to rate factors which are difficult to model because they are qualitative in nature (Moody's 2008a). The Baseline Credit Assessment (BCA) analyzes a subnational government's intrinsic strength and the default analysis examines the likelihood of extraordinary support from another entity to prevent a default. Both analyses become a part of Joint Default Analysis. The BCA scorecard uses a set of quantitative and qualitative credit metrics and statistically gauges stand-alone strength. As rating agencies seek to improve on the consistency of their creditworthiness evaluation, it is inevitable that they would try to provide a quantified measure of more qualitative factors over time.

3. Benefits and Limitations of Subnational Credit Ratings

While more national governments in developing countries view subnational credit ratings as an essential element of broad reform to promote capital market development and enhance fiscal

[14] See S&P (2004, 2007b), Fitch (2002) and Moody's (1998).

transparency, there are two direct benefits for subnational governments to utilize independent credit ratings – a good track record of creditworthiness allows subnational governments to raise funds in the capital market and to reduce the cost of capital. However, there are also limitations on the effective interpretation and use of credit ratings. Below we summarize both the benefits and the limitations.

3.1 Accessing Capital Markets

The main reason for subnational governments wanting to seek a formal rating is the ability to raise funds directly in capital markets. If the experience of sovereign ratings is anything to go by, the ability to establish a good track record in creditworthiness could indeed affect the pattern of capital flows to and the dynamics of economic growth in developing countries. In many emerging East Asian countries, for example, the fast pace of economic development before the 1997 financial crisis was in no small measure attributed to the vast inflows of foreign capital inflows. The credit ratings that many of these economies obtained, with a number of them being rated investment-grade and above (e.g., Malaysia, South Korea, Thailand and Indonesia), were a key contributor to such capital flows.

Securing a formal investment-grade rating could help attract capital inflows and substantially lower borrowing costs as the ratings have a major impact on yield spreads. Having a sound rating expands the range of institutional investors available to the subnational borrower. With the financial crisis, investors are likely to prefer to invest in instruments with substantially lower risks.

While credit ratings are required to access the international capital market, the reasons for getting a credit rating vary based on the rules of each domestic market. In Colombia, ratings are necessary for regulatory purposes. In Argentina, ratings are voluntary and are used as a disclosure gesture to inform investors.[15] In Mexico, although subnational participation in the credit ratings is voluntary, the requirements of the capital-risk weighting of bank loans introduced in 2000 and of loss provisions introduced in 2004 aim at imposing subnational fiscal discipline through the market. China is piloting S&P's credit ratings of municipal investment companies owned by Chongqing municipality (population 31 million), to establish a benchmark for market-based monitoring of municipal companies.

Major investment banks in the world makes regular assessment of a country's sovereign risks but it does not translate such risk assessment into a rating that can be used for cross-country comparison. Neither does it provide similar risk assessments for subnational governments. Moreover, to meet market demands, most of them focus on short-term analysis, with relatively little attention being given to medium- and long-term risk assessment. A major problem with these risk assessments is their perceived bias, i.e., they are not seen to be independent of the commercial interests of the banks.

The outcome of the rating agencies' assessment of a country's sovereign risks, on the other hand, is translated to a specific rating which allows investors to make comparisons across countries and over time. Such comparisons are essential in pricing the debt. The ratings are updated regularly

[15] World Bank (1999), chapter 6.

to incorporate the changing risk situations, allowing investors to revise their investment plans. Obviously the usefulness of these ratings depends on the comprehensiveness of the analysis and the timeliness of the updates. As discussed later in the paper, factors contributing to the failure of ratings are broadly the same whether it is sovereign or sub-sovereign.

3.2 Credit Ratings and Spread

Good credit ratings can translate into lower borrowing cost as reflected in the lower spread of the debt instrument. Various studies have shown the negative relationship between credit ratings and spreads by using benchmark sovereign bonds (say 10 years) of various countries (both developed and emerging) against credit ratings.

Sy (2002) uses panel data estimation (1994-2001) of secondary market sovereign bond spreads and ratings in seventeen emerging market economies using EMBI+[16]for calculated spreads and S&P and Moody's announced country credit ratings. The study finds a negative correlation between the sovereign spreads and assigned ratings, i.e., higher ratings are associated with lower spreads and vice versa. It also finds that dispersion of spreads increased during the financial crises of 1998, demonstrating that there is increased discrimination among the countries during a crisis and that spreads are not fully based on the assigned countries ratings. The findings suggest that the market participants rely on additional explanatory variables (e.g., trading strategies, volume or bid ask spreads and other market factors) in addition to ratings.[17] Using unbalanced panel data, the same study finds that a one-notch upgrade by rating agencies reduces sovereign spreads on average by 14 percent (or 70 basis points for an initial spread of 500 basis points). The findings are confirmed by Rowland (2005).

Reisen and Maltzan (1999) examine the links between sovereign credit ratings and dollar bond yield spreads over the period from 1989 to 1997. This study follows the market trends for 30 days before and after rating announcements and uses the Granger causality test (which corrects for joint determinants of ratings and yield spreads). They conclude that changes in sovereign ratings are mutually interdependent with changes in bond yields and that the risk assessment by the three leading rating agencies is preceded by a similar change in the market assessment of sovereign risk.

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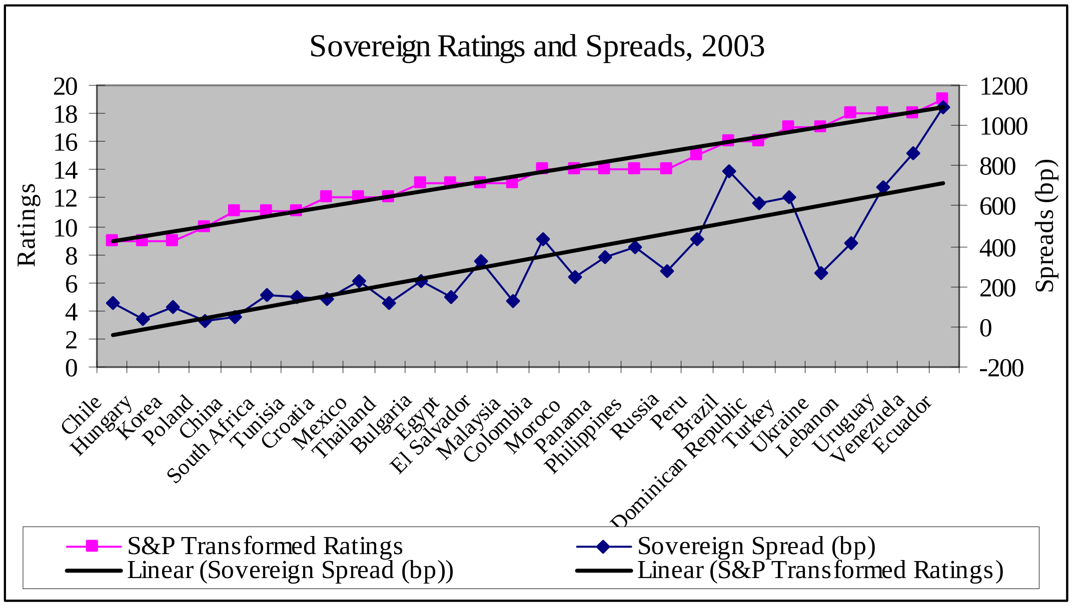
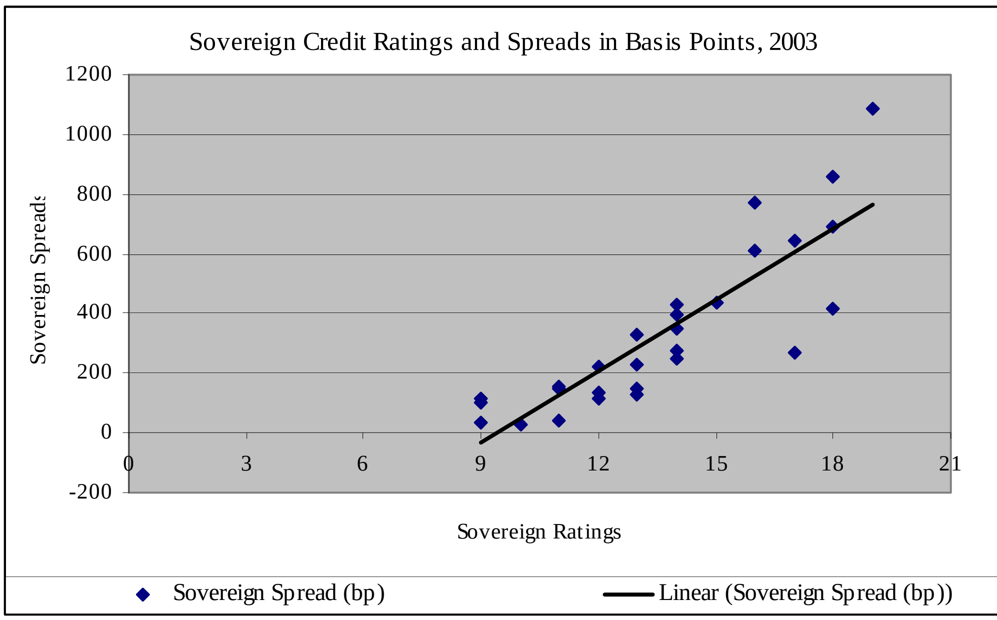
[16] EMBI+ (Emerging Market Bond Index Plus) is J.P. Morgan calculated sovereign bond spreads. These indices show countries weighted averages of all traded external currency denominated debt instruments in the emerging markets. Rather than traditional spreads over the US Treasuries, they control for floating coupons, principal collaterals, and rolling interest guarantees etc.

[17] In the Article in the Journal of Banking and Finance "An Introduction to Recent Research on Credit Ratings" 2004, it has been also mentioned that "One of the earliest branches of the literature explores the relationship between credit ratings and bond prices or spreads. That literature has generally found that ratings are strongly correlated with credit spreads, but many other factors are also important."



Data source: Rowland (2005).



Data source: Rowland (2005).

Cantor and Packer (1996) find that the market – as gauged by sovereign debt yields – broadly shares the relative ranking of sovereign credit risks made by the two rating agencies (S&P and Moody's). Their study includes cases when rating announcements led to a change in existing spreads. However on average those changes are not that significant because many rating changes are anticipated by the market. Their analyses show that sovereign ratings effectively summarize and supplement the information contained in macro indicators and are therefore strongly correlated with market–determined credit spreads. Most of the correlation appears to reflect similar interpretation of publicly available information by the rating agencies and by market participants.

3.3 Sub-sovereign Defaults

Compared with corporate bonds, subnational defaults are less frequent in the United States (Moody's 2002). Outside the United States, the overall size of the sub-sovereign sample is quite small, and sub-sovereign defaults have tended to be clustered around sovereign crisis (Moody's 2008b). Based on a sample covering 1983-2007, Moody's study (2008b) indicates that non-U.S. sub-sovereign ratings have been concentrated in the investment grade category. Rating changes for investment-grade sub-sovereign issuers have been on average less frequent than for corporate issuers and somewhat more frequent than for sovereign issuers. In contrast, Ba and B sub-sovereign ratings have been less stable than both speculative-grade sovereign and corporate ratings. However, due to the small size of the sample, conclusive evidence is absent.

According to Moody's research (2008c), historically sovereign ratings have been more stable at higher rating levels and modestly more stable than their corporate counterparts. Sovereign default rates have been generally been lower than corporate default rates. However, the differences are not likely significant as the overall size of the sovereign sample is small. As Bhatia (2002) notes, "Sovereign default probabilities will remain statistically not meaningful until more default experience has accumulated" (p. 37).

Nonetheless, Annex Table 2, which provides Moody's average cumulative default rates for corporate long-term debt instruments based on empirical evidence spanning over 85 years, illustrates what the different categories of ratings mean in practice. As we can see, at the time of issuance, the probabilities of default for speculative-grade ratings are a lot higher than those for investment-grade ratings. For example, according to Moody's, an Aaa rating carries with it, on average, only a 0.16 percent probability of default 5 years after issuance. In contrast, a B rating implies a 21.4 percent probability of default for the same duration of time.

3.4 Rating Failures

There are limited data detailing failures of sub-sovereign ratings. But factors contributing to the failure are broadly the same whether it is sovereign or sub-sovereign. The failures of all major rating agencies in anticipating the East Asia crisis are particularly illustrating.

Bhatia (2002) defines rating agencies' failure to predict a sovereign's rating accordingly if they downgrade or upgrade long term foreign currency ratings by three or more notches in aggregate during any rolling 12-month period. In the case of Thailand, S&P downgraded the sovereign's foreign currency long term rating by four notches within the four month period. This, according to Bhatia, signals inability of the credit rating agency to assign correctly a credit rating in the times of financial crises. The two tables below compare ratings before and during the crisis for sovereign foreign currency debt and local currency debt.

Overall, sovereign ratings are reliable predictors of sovereign default risk.[18] However, various authors conclude that the credit rating agencies were not able to predict and to warn the market participants of imminent default risks with the onset of financial turbulence and crisis.[19] During the Asian financial crises, Korea's rating, for example, fell on average four letter grades and ten rating notches within a three-month period; sovereign rating changes of that magnitude had never been seen before. Reinhart (2002) concludes that sovereign credit ratings systematically fail to predict currency crises but do considerably better in predicting defaults. Downgrades in credit ratings usually follow currency crises, possibly suggesting that currency instability increases the risk of default. He also finds that in emerging market economies there is a strong link between currency crises and default.

Sovereign Foreign Currency Selective Defaults

Country	Selective Default Date	Rating one year before SD	Downgrade in Notches	Time in SD	Date of Emergence	Rating at Emergence
Russia	01/27/99	BB-	(-8)	10 months	12/08/00	B-
Pakistan	01/29/99	B+	(-6)	10 months	12/21/99	B-
Indonesia	03/30/99	B-	(-5)	1 day	03/31/99	CCC+
Indonesia	04/17/00	CCC+	(-4)	4.5 months	10/02/00	B-
Indonesia	04/23/02	B-	(-5)	3.5 months	09/05/02	CCC+
Argentina	11/06/01	BB	(-9)	42 months	06/01/05	B-
Paraguay	02/13/03	B	(-6)	15.5 months	07/26/04	B-
Uruguay	05/16/03	BB-	(-8)	0.5 months	06/02/03	B-
Grenada	12/30/04	BB-	(-8)	11.5 months	11/18/05	B-
Venezuela	01/18/05	B-	(-5)	1.5 months	03/03/05	B
Dominican Rep.	02/01/05	CCC		5 months	06/29/05	B
Belize	12/07/06	CCC-			SD	

Data Source: S&P (2007b)

Sovereign Local Currency Selective Defaults

Country	Selective Default Date	Rating one year before SD	Downgrade in Notches	Time in SD	Date of Emergence	Rating at Emergence
Argentina	11/06/01	BBB-	(-11)	42 months	06/01/05	B-
Dominican Rep.	04/09/99	BB	(-9)	26 months	06/12/01	B-
Grenada	01/01/05	BB-	(-8)	10.5 months	11/18/05	B-
Cameroon	09/01/04	B	(-6)	3 months	12/03/04	B-

Data Source: S&P (2007b)

[18] According to S&P (2007a), over the last thirty years (1975-2006), on average 16.3% of 'BBB' rated sovereigns lost their position by two or more categories. And in the category 'B', approximately 1/3 of the rated sovereigns received downgrading to selected default. All of the S&P's default studies have found a clear correlation between credit quality and default remoteness: the higher the rating the lower the historic average of default, and vice versa.

[19] For example, see Reisen and Maltzan (1999) and Reihard (2002).

3.5 Problems Relating to the Rating Process

Castillo (2004) and others noted some of the shortfalls associated with using the services provided by rating agencies, with shortfalls becoming obvious in the wake of the 1997/98 Asia financial crisis.[20] First, the rating agencies are supposed to provide a signal to the market about the changing risk situations in their rated countries/companies. Yet they often follow rather than lead the market in risk assessment. The result is that the volatility of international capital flows is compounded and the economic instability exacerbated in many emerging economies. That is, as a country encounters economic, fiscal or financial difficulties, the market begins to sell off their debt instruments. The rating agencies follow by lowering the country's rating which causes further souring of investor sentiments and capital outflows, aggravating the woes in the economy.

Second, the oligopolistic nature of the rating market is seen by many to have lulled them into a state of complacency. It accounts for their slowness in responding to rapidly changing risk situation for the entities they rate. Often, the three major rating agencies appear to look at each other's actions before they adjust their own ratings. They are often reluctant to deviate from the "average" rating of the highly oligopolistic and protective industry. The failure to detect the deteriorating credit conditions in Enron and in financial institutions more recently is cited as an example of the disastrous consequences of such un-competitive behaviors.[21]

Third, there may be conflicts between providing independent risk assessment and the need to make commercial profits. Rating agencies are profit-making companies. They derive a large part of the income from rating fees paid by debt issuers. The need to maintain a good commercial relationship with the issuers points to a strong incentive to be lenient in their rating exercises. As Bhatia (2002) pointed out, the expansion of the agencies' business into consultancy and advisory work exacerbates such a problem. Faced with profit-making pressures, rating agencies often have to streamline their operations and reduce man power costs, resulting in inadequate resources for rigorous risk analysis. As Castillo (2004) noted, many analysts free-ride on the research provided by the IMF, the investment banks and even other rating agencies. Such convergence of views makes it difficult for rating agencies to detect risks that are not widely known.

These shortfalls of rating agencies at the sovereign level are as much if not more relevant at the subnational level. That these problems are not yet widely discussed at the subnational level may be attributed to the more recent history of sub-sovereign ratings in developing countries. However, as subnational ratings pick up momentum, one may see more rating failures at the subnational level similar to those encountered at the sovereign level. Different proposals have been made to improve the efficiency and the credibility of the rating agencies, both through legislative and market-based policy changes. Rating agencies themselves have also responded to some of these criticisms by making changes to their rating methodologies and processes.[22] The ongoing financial crisis is also expected to lead to changes in the rating system for financial

[20] Examples of shortfall of corporate ratings include the ratings of Enron and the failure of the rating agencies in assessing risks of financial institutions associated with the current financial crisis.
[21] See Castillo (2004), p. 10.
[22] See Bhatia (2002) and Castillo (2004).

institutions and financial instruments such as mortgage-backed securities. Criticism of the rating agency role in the current financial crisis relates mainly to structured finance ratings and banks, and not to subnational government ratings.

4. Sovereign Factors as a Determinant of Subnational Credit Ratings

Sovereign factors play a major role in determining subnational ratings. Not only do a country's macroeconomic management and country-wide risks affect the broader economic, fiscal and financial conditions under which a subnational entity operates, a country's overall credit rating could also place various restrictions on the subnational government's ability to raise funds and to change its credit standing. At the same time, favorable sovereign factors could be a significant boost for subnational ratings.

In a recent study, Gaillard (2006) found that only three factors have a significant influence over subnational credit ratings conducted by the major international rating agencies: sovereign default history, national GDP per capita and the ratio of net direct and guaranteed debt to operating revenue. Of the three, the subnational government could exert some control over the third variable. The other two are sovereign variables over which the subnational government, if the size of the subnational economy is non-dominant, could not exercise much influence. While questions have been raised about the robustness of Gaillard's results,[23] the findings nevertheless highlight the dominant role that sovereign factors play in subnational ratings.

4.1 Sovereign Rating as Ceiling for Subnational Ratings

Until 2001, the major rating agencies would not rate a subnational government above the sovereign rating.[24] In effect, the sovereign rating acted as "ceiling" for all subnational ratings (and for that matter, all corporate ratings within the same domicile as well). The reason for this was simple. The national government typically has a wide range of constitutional powers giving it the first claims over the country's foreign reserves and other resources. It also has the power to print national currency which the subnational governments do not (except when the country belongs to a currency union such as the European Union where the common currency is printed by a supra-national body).

Thus, in a financial crisis, the national government would likely be able to fulfill its external or domestic debt obligations ahead of the subnational government. Given that a major part of the national government's power over the subnational governments relates to its first claims on the country's foreign currency reserves, it is not surprising that the rating "ceiling" relationship applies less strongly to domestic currency debt instruments. Even in cases where the subnational government possesses foreign currency reserves that are out of reach of the national government, the latter could nevertheless impose nationwide capital or exchange controls to restrict capital

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[23] See Waibel (2006).

[24] There had been instances, before 2001, where subnational governments were rated more highly than the sovereign in terms of the domestic-currency debts they issued. In Moody's 1998 domestic currency ratings, for example, a number of Canadian municipalities enjoyed higher ratings than the Government of Canada. Similarly, in that year, the city of Bologna was rated at Aa2 whereas Italy as a whole enjoyed only an Aa3 rating. But such are more of exceptions.

outflows and thereby disallow the subnational government to repay its foreign debts. In short, the sovereign is unlikely to default before any subnational government.

Since 2001, the rating agencies have changed their policies on the binding ceiling of sovereign rating on subnational ratings. All three international rating agencies – Fitch, Moody's and S&P – allow a subnational government (and other issuers domiciled within that country including corporate issuers) to enjoy a higher rating than the sovereign provided certain conditions are fulfilled. Moody's (2005) explains this policy shift in terms of the new interpretation of "transfer risk" (i.e., the inability of a debt issuer to convert local currency into foreign currency in order to meet external payment obligations in a timely manner) that a subnational government faces when a sovereign default occurs. Prior to 2001, it was assumed that a moratorium on all foreign currency external payments (including debt servicing and repayment) of all issuers within that country would be automatically declared when a sovereign default happens. However, the broadening and deepening of the international capital markets in the last decade (which provide subnational governments with more fiscal and financial options) and the practices of most governments facing external payment difficulties to avoid a generalized moratorium suggest that the assumption of an "automatic" generalized moratorium may no longer be relevant. Instead, since June 2001, Moody's said it would look at each situation individually to determine if certain subnational securities were eligible to pierce the country ceiling.

In Moody's rating process, how likely a subnational rating might pierce the sovereign ceiling depends firstly on its fundamental credit strength (as reflected in its local currency rating) and secondly on how probable a generalized moratorium would be in the event of a sovereign default (which was taken as an automatic outcome before 2001). Thus, if the risk of a moratorium for the subnational debt following a sovereign default is near zero, then the subnational debt's rating could be determined by its own credit strength and could follow that of its local currency rating. If on the other hand, the risk of a moratorium is high (e.g., close to 100 percent), then the sovereign rating will continue to act as the ceiling. In other word, whether the sovereign rating will be a ceiling for the subnational ratings now becomes a probabilistic event.

The probability of a moratorium being declared at the subnational level is in turn determined by a number of factors such as how integrated the subnational economy is with the global economy (the more integrated it is financially and commercially – especially if such integration is backed by legally enforceable contracts – the more difficult it is for the national government to impose a moratorium on the subnational debt); how costly the national government thinks the moratorium will be, in contrast with other policy alternatives (the more costly the moratorium is perceived to be, the less likely the national government will force a moratorium); and how willing the national government is to "socialize" the cost of the moratorium (i.e., how willing it is to face the rest of the world on behalf of the subnational governments and deal with other problems such as a sharp currency devaluation).

S&P too has removed the automatic ceiling of sovereign rating for subnational ratings. In determining whether a subnational rating could pierce through the sovereign rating, it looks at the subnational's fundamental credit strength as well as the financial autonomy it enjoys and the flexibility it has in resisting potential pressures from the national government (S&P 2008).

Fitch has removed the sovereign ceiling in the Euro area (Fitch 2006a). However, its conclusions about rating subnationals above the sovereign rating are not limited to that area. The 2006 report refers to experiences in Russia and Argentina in explaining "if, and how far, a local government can be rated above its national government" (page 2), and Fitch has selectively assigned ratings to subnational issuers higher than the sovereign rating. According to Fitch, the public sector obligations should not always be expected to default upon a sovereign default especially in highly decentralized environments. Institutional recognition and fiscal/financial autonomy are the key conditions for a subnational to achieve a rating above its sovereign.

Despite the change in the rating agencies' "ceiling" policy, few subnational governments in the world are actually rated above the sovereign. Gaillard (2006) found that as of December 1, 2005, only the region of Lombardy and the Autonomous Province of Trento in Italy (both rated Aa1 by Moody's) had been able to pierce through the sovereign ceiling of Aa2. Although there are other examples (as of January 2009, the City of Buenos Aires was rated B1 by Moody's and the Province of Mendoza was B2, both ratings higher than the B3 assigned to Argentina), the sovereign rating usually acts as a ceiling on subnational ratings today.

The sovereign rating precedes the subnational ratings because the sovereign rating is needed to understand the economic, fiscal, and institutional context in which the subnational government is to be evaluated. Absent a sovereign rating, the data for rating the subnational government is incomplete. As Gaillard (2006) noted, since 1918, Moody's has never issued a subnational rating unless the sovereign is already rated. It is also not surprising then that changes in sovereign ratings are usually followed by similar adjustments in subnational ratings, especially in the emerging economies. Often the change in ratings occurs within the same day.

But even if the subnational governments are rated more highly than the sovereign, the gap is unlikely to be large as many aspects of the subnational creditworthiness are heavily influenced (and in many cases, constrained) by what happens politically and economically at the national level. The national government could also severely restrict the fiscal flexibility that the subnational government has through the intergovernmental fiscal arrangements. As Gaillard (2006) pointed out, on average, subnational ratings are only 1.65 and 2.05 notches below that of the sovereign in the Moody's and the S&P ratings respectively, although the gaps are generally wider for emerging economies.

4.2 Sovereign Influence on Subnational Borrowing

The spread of the various subnational debts depends on the creditworthiness of individual subnational entities. Nonetheless, given the "ceiling" effect noted above, the national government could enhance or reduce the subnational creditworthiness by various policies and regulations.

The central government can enhance the creditworthiness by providing guarantees to specific debts issued by subnational governments. This is usually done when a subnational's borrowing is deemed to be important and yet the subnational's credit standing is not strong enough to secure the funding or to do so with the right terms and conditions. When the guarantee is provided, rating agencies and lenders will naturally focus on the credit standing of the national government and the nature of the guarantee including its enforceability, instead of the credit quality of the subnational government. The credit strength of the subnational government becomes a secondary issue.

While a central government's guarantee of subnational debt may enhance the credit ratings of the subnational entity, this could create moral hazard, as argued by Ianchovichina, Liu and Nagarajan (2007) and Liu and Waibel (2008a, 2008b). Expected bailouts by the central government influence subnational debt dynamics. Market participants may tolerate unsustainable subnational fiscal policy if past history backs their perception that the central government implicitly guarantees the debt service of the subnational government. Many observers believe that the central government's implicit guarantees for local government bailouts contributed to the widespread subnational defaults in Russia in the late 1990s and in Mexico in the mid-1990s.

The national government could also reduce the subnational government's borrowing capacity through various controls and restrictions. Liu and Waibel (2008a) review the regulatory frameworks for subnational borrowing in several emerging countries; common elements across these countries include borrowing to finance capital investment only and quantitative limits on key fiscal variables such as debt service as a share of revenue or other measurements of capacity, primary balance, and debt stock outstanding. Foreign borrowing is either banned unless authorized by the national government (such as India and China) or carefully monitored (such as Colombia and Russia).

Such controls could prevent excessive and reckless borrowing by the subnational government. It could also indicate that the national government is willing to take strong measures to impose discipline on the subnational government to maintain certain risk management standards. Major financial crises in the 1990s and early 2000s in Latin American can be attributed in part to excessive subnational borrowing and the national government's assumption of such debt without imposing strong discipline. The application of various limits on different subnational governments would likely force the latter to compete to adopt fiscally prudent practices, in order to receive a more favorable allocation. If this is so, then the controls could potentially enhance the subnational government's creditworthiness.

However, an overly strict limit could cripple the subnational government's ability to fund critical projects and block its access to new funds in times of emergency. With the wide range of financial instruments available today, subnational governments may seek to circumvent the controls through creative ways of fund raising. But doing so could sometimes lead to imprudent, distorting and less transparent forms of borrowing.

How important the national controls and restrictions are on the subnational rating process depends on whether they translate to certain policy, institutional and management changes on the part of the subnational government. For example, if the subnational governments are willing to respond to the borrowing restrictions by improving on their own fiscal and financial profiles so as to keep the need to borrow within the limit, or if they are willing to see the oversight from the national government as a form of fiscal discipline to improve their own risk management, then the effects of the controls and restrictions on subnational ratings are likely to be positive.

4.3 Sovereign Institutions and Policies as Constraints on Subnational Ratings

The national government can directly affect the subnational ratings through the restrictions it places on the subnational government revenue and spending profiles. The national government can affect the transfers to and the mandated spending of the subnational government. It can also directly affect the economic conditions in and therefore the revenue base of the subnational economy.

As analyzed by Ianchovichina, Liu and Nagarajan (2007), subnational fiscal and debt adjustment, fundamental to maintaining creditworthiness, is complicated by the respective legislative mandates of central vis-à-vis subnational governments and the intergovernmental finance system. Such complications are manifested in a variety of ways.

Subnational governments generally have no power to issue their own currency. Thus, seignior age plays no role in government finance. The monetary policy of the national government also influences the base cost of borrowing for subnational governments. Foreign exchange risk may not directly affect subnational finance, as in the case of China, India, and Peru where subnational governments have been prohibited from external borrowing without approval and guarantee from the national government. However, currency risks can still indirectly impact the sustainability of subnationals' fiscal policy through real interest rate shocks as in the case of the Mexican financial crisis in the mid-1990s.

In many developing countries, subnational governments continue to depend heavily on fiscal transfers from the national government. These may take the form of operating transfers, capital grants, formula-based revenue sharing and sometimes special arrangements such as reimbursement for certain deficit items. In formula-based revenue sharing, the national government could transfer a proportion of its nationally-collected revenue (e.g., personal income tax and value-added tax) to the subnational governments. When the transfers are largely earmarked for specific expenditures, there is little that the subnational government can do to change its expenditure composition. Often, these subnational governments' fiscal positions worsen because the central transfers cannot fully cover the subnational government's mandated spending. Indeed, it is common to observe especially in emerging economies that while spending may be decentralized, the revenue source at the subnational level is not enough to fund all the services.

Subnational governments also face constraints in adjusting their own tax revenues. In many countries these constraints are set by their respective constitutions and legislation on tax policy and administration. In India, the constitution allows the states to freely determine tax policy and tax rates within certain explicitly defined areas of taxation. However, the taxation of the service sector is at within the purview of the central government, thus limiting the states' ability in tapping revenue from the largest sector in many of the states.

Furthermore, the national government can affect the fiscal sustainability of subnationals through policies which impact subnational primary balances and economic growth (these two variables together with real interest rate determine the subnational fiscal sustainability). In many countries, investment policies and labor regulation are largely or exclusively within the purview of the national government. Policies on tax concessions and repatriation of foreign earnings for example are often set at the national level and the national government may try to prevent excessive competition for foreign investment among various subnational regions.

Similarly, policy measures designed to increase the subnational economy's competitiveness such as specific incentives to promote certain industries often have to be coordinated with national industrial policies. In some countries, the distribution of production activities is planned on a nationwide basis. The subnational economy may be allocated a certain production function based on what the national government perceives to be its comparative advantage. This could limit the subnational government's ability to expand or diversify its production structure to attain greater competitiveness.

As we noted in the earlier sections, in developing countries both the national and the subnational governments are still in the process of adjusting their fiscal relationships and renegotiations on revenue base and spending obligations could be more frequent. Often, the balance in the intergovernmental relationships is driven by the relative political power between them and the strength of the political mandate that the subnational government enjoys.

In many countries, the national government faces constraints on the overall consolidated budget deficit of all public sectors in the country, which include all national and subnational budgets. Indeed, there are times when subnationals have to trim their budget deficits or raise their budget surpluses to help meet certain national targets. Such intergovernmental fiscal arrangements may hinder the subnational's ability to carry out certain economic activities that are deemed beneficial to the local economy.

4.4 Sovereign and Subnational Rating Criteria

As Gaillard (2006) noted, another way to understand the relationship between sovereign and subnational ratings is to compare the rating criteria used in the two cases. Both sovereign and subnational ratings are assessed using a framework that encompasses the political, economic, fiscal, financial and institutional factors. This is not surprising since the natures of many functions and objectives of both governments are similar, which is to deliver a wide range of public services in a satisfactory manner within the fiscal limits set by direct or indirect taxes and fees levied on the residents. Both ratings represent an opinion of the government's ability to fulfill its debt obligations fully and on time while pursuing such objectives.

Compared with the subnational rating process, however, political and economic variables play a much larger role in the sovereign process. In the S&P sovereign model, for example, 10 categories of variables are examined, of which about five are of a politico-economic nature. For S&P subnational ratings, only one variable "economy" addresses specifically the local economic conditions while the political/governance issues are subsumed under the "system structure and management" category. That this is so may be attributed to the fact that key macroeconomic variables such as foreign exchange and monetary policies are within the purview of the central government.

In both sovereign and subnational ratings, qualitative assessment plays a large role. While a large number of quantitative measures such as the various debt and financial ratios and the various economic variables can be quantified, the political, social and institutional contexts within which the economic and fiscal forces play out cannot be quantified. Yet, insights into such variables are often more important especially in gauging the government's "willingness", not just "ability", to fulfill its debt obligations. In this regard, qualitative assessment is even more important at the sovereign level than at the subnational level since the subnational governments possess far less financial flexibility than the sovereign government and as Gaillard noted, in the event of a default, they may not be in a position to call for a restructuring of debt. On the other hand, subnational governments may have greater leverage in obtaining bailouts from the national government through political negotiations. Since the late 1990s, countries such as Brazil and South Africa have been moving toward an insolvency framework imposing a hard budget constraint on subnational governments (Liu and Waibel 2008b).

5. Methodological Changes in Credit Ratings

Rating methodologies are not static; they change in scope and emphasis in response to the changing structure of the entities being rated. The main change in the last decade in subnational credit ratings is the shift toward a balance-sheet approach and the emphasis on contingent liabilities. The increased use by subnational governments of indirect debt instruments such as public-private partnerships, off-budget financing of fiscal deficit, capital leases, and securitization has led to their increased importance in the overall risk matrix of the rating agencies.

The current financial crisis has further consolidated the emphasis on the liquidity and debt management of subnational governments, including indirect debt of quasi-public companies and other implicit or contingent liabilities such as guarantees and contracts for public-private partnerships. Prior to the financial crisis, liquidity and debt profiles of subnational governments were already essential components of the rating criteria used by the rating agencies. The financial crisis has brought about an even sharper focus on these components.

5.1 Shift toward a Balance-Sheet Approach

According to Liu and Waibel (2008a), contingent liabilities were a major source of subnational fiscal deterioration in many developing countries, quietly eroding the financial health of subnational governments, thereby leading to the sudden onset of fiscal crises without warning. Among Indian states in the late 1990s, special-purpose vehicles became a convenient way of circumventing tight budgets. Guarantees by states to support market borrowing of loss-making public sector undertakings, a contingent liability, grew rapidly. In Brazil, state-owned enterprises and banks contributed to the fiscal deterioration of states in the 1990s. Though off-budget subnational borrowing through municipal infrastructure investment companies has contributed to the rapid development of urban infrastructure in China, potential implicit liabilities have become a key concern. In Poland, debt incurred by local government-owned hospitals is not counted as direct debt of local governments but according to Fitch (2008c), the financial losses of the hospitals are contingent liabilities of local governments, hence the debt is counted as the indirect debt by Fitch.

In addition to off-budget liabilities of special-purpose vehicles and opaque transactions between subnational governments and their enterprises, there are other sources of hidden or contingent liabilities that are not reported in or captured by published fiscal accounts. Growing subnational civil-servant pension liabilities under the pay-as-you-go system have been a serious and growing threat to subnational financial health in Brazil and India. Nonperforming assets of banks owned by subnational governments in Argentina and Brazil partly explained subnational debt crises in the 1990s. Furthermore, the cash-reporting system systematically underestimates the financial liabilities of subnational governments in many developing countries. The cash-accounting system does not capture arrears to suppliers, contractors, or central government agencies or delayed payments of civil-servant wages and pensions (Liu and Waibel 2008a).

Although rating agencies have shifted toward a balance-sheet approach to better capture these contingent liabilities, in general, the subnational rating criteria still encompass the same five major components mentioned earlier: sovereign factors, economic conditions, fiscal position, financial position, institutional and management matters. Instead of expansion, however, there has actually been some consolidation process. In the S&P framework, the number of category was consolidated from six to five, with "system structure and management" addressing the issues that were previously listed in two separate categories: "intergovernmental relationship" and "subnational government's administrative system". Moody's too, combined the budgetary framework and budgetary performance into one category (budgetary performance) and reduced the number of categories from six to five. At Fitch, the new rating framework is made up of five components, down from eight in the past.[25]

While the set of subnational rating criteria used may not have expanded, the relative emphasis that rating agencies place on individual variables has changed to reflect the different rating priorities in the new environment. This can be seen in the way that the variables are arranged and grouped together in the new ratings approach. For example, in the S&P rating criteria, the contingent liabilities are now given much more prominence with a separate category of off-balance-sheet liabilities. In Moody's too, contingent liabilities are now a major component under "debt profile" and are given a more detailed and careful treatment than previously. Similar, "indirect risks" (off-balance-sheet and contingent liabilities) plays a much greater role in Fitch rating now than in the past. Not only does the rating agency pay greater attention to the interpretation of these risks, it also covers a much wider set of issues.

All rating agencies have a strong emphasis on off-balance sheet. S&P defines off-balance-sheet liabilities to include the total debt from all public sector enterprises (e.g., banks, utilities, and housing companies) and other contingent obligations such as social obligations, public private partnerships and bailout of private companies. The subnational government is evaluated on its ability to continuously and carefully monitor the financial health and profitability of all public sector enterprises, as well as the clarity it provides on the likelihood that it will be called upon to honor its guarantee to these enterprises.

[25] One reason why the subnational rating criteria have not been similarly expanded as the sovereign criteria is that the newly highlighted variables post Asia crisis are seen to be more "sovereign" than subnational in nature. Their impact on subnational ratings is already captured in the existing category called "sovereign factors". Thus, if excessive private foreign debts undermine the confidence in the sovereign rating, the subnational ratings will likely be adjusted through the typical "capping" relationship. At the subnational level, even if local private enterprises encounter difficulties servicing their foreign debts, the risk to the subnational creditworthiness is limited unless the subnational government has extended implicit or explicit guarantees to these enterprises. The risk is one of contingent liability rather than exchange rate.

In Moody's methodology, contingent liabilities (known as "indirect risks") make up a distinct component of the "debt profile" in the rating criteria, separate from the "direct debt" of the subnational government. Moody's reviews those liabilities that may not be consolidated in the financial statement of a subnational government, such as guarantees issued by the subnational government, debt obligations of majority-owned enterprises even not explicitly guaranteed by the subnational government, and public private partnerships.

Fitch, too, places a lot of emphasis on the importance of managing "indirect risks". It considers lack of information on indirect risk a negative credit factor. Indeed, Fitch uses different approaches to try to gauge the seriousness of the off-balance-sheet liabilities such as off-balance-sheet project financing, lease obligations, debt guarantees, and equity interests and liabilities in utilities, businesses and banks. Fitch tracks past occurrences of the subnational government assuming the debt of agencies and companies; large unexpected transfers to companies and agencies; large transfers from companies to the subnational government (which may imply financial dependency); and the importance the services provided to the residents by certain companies.

Though we noted above that the estimate of the fiscal costs arising from a systemic distress may be more relevant to the sovereign than to the subnational government, the focus on "asset quality" that such estimates of system risks brings about is part of the rating culture at the subnational level. Subnational governments are expected to closely monitor the quality of their assets and how they may change with the market environment. The ability to maintain the asset quality through active management of its investment portfolios and assets is seen as positive for the subnational's creditworthiness.

5.2 Focus on Liquidity and Debt Profile

With the shift in the general rating orientation towards a more balance-sheet based approach, rating agencies do not assess the credit risks of a subnational government only in terms of the strength of the local economy and the flows of revenues and expenditures. An increasingly larger part of the assessment is now based on the analysis of the subnational's financial position, fiscal balance position, the structures of the debt (especially the maturity structure), and the exposures to various financial risks, interest rate risks and currency risks, and so on.

All rating agencies now pay considerable attention to the subnational's liquidity position, its cash management ability as well as the ability to service short-term debt in the context of various market risks. Indeed, the strong focus on liquidity and reserve adequacy may be seen as a direct outcome of the Asia financial crisis. The misplaced emphasis on the "months of imports", rather than debt servicing capacity, as a measure of reserve adequacy in the pre-Asia crisis days was widely seen to have contributed to the outbreak of the crisis.

In the S&P methodology, for example, there is a strong focus on the minimum reserves that the subnational government maintains. These are defined in terms of their ability to meet not just expenditures but also debt service demands. Particular attention is given to the servicing of short-term variable-rate debts or bonds with bullet maturities. A heavy and consistent reliance on short-term debt or debt with irregular maturity is seen as a negative for the subnational's credit standing. Moody's, too, places a lot of emphasis on the subnational's ability to manage short-term debt exposures. The subnational's ability to service the debt is assessed in terms of both internal and external liquidity. Market access risk (i.e., the ability to access external liquidity in the market) is an important consideration in evaluating the subnational creditworthiness.

Debt profile analysis is also a critical part of the rating process in Fitch. Good credit standing requires a debt structure that has "moderate and predictable debt service, with minimal reliance on refinancing and no deferral of principal repayment" (Fitch, 2008a, p.5). It considers it negative for subnational creditworthiness if scheduled debt repayment could not be met within the annual budget constraints and has to rely on future revenue growth, future economic growth, nonrecurring revenues, increased taxes or future legislative actions.

The emphasis on liquidity and debt management and off-balance-sheet liabilities have been reinforced by the ongoing financial crisis. Fitch's category of "debt and indirect risk" has been expanded to become "debt, liquidity and indirect risk." It highlights that balloon or bullet maturities or a large portion of short-term debt indicates refinancing risk. Its July 2008 update included two new debt indicators compared with the October 2006 guidelines: debt to current revenue and direct risk (direct debt plus indirect debt) to current revenue.

Moody's updated rating methodology for subnational governments (2008) introduced a recalibration of the debt sub-factors. It altered the debt burden ratio to include in the numerator capital lease, debt issued by majority-owned enterprises, public-private partnerships and securitization transactions for which the government is or may become responsible. It also increased the weight assigned to this ratio and introduced a new criterion, the four-year trend, to better measure the underlying shifts in debt burden.

In its updated methodology, S&P (2009) introduced the valuation of use of derivative instruments. S&P will analyze the subnational entity's objectives in entering these contracts (hedging, trading and cost reduction), the type of risk they are designed to mitigate, the extent of their use, management's risk appetite, and the control procedures in place. In key ratios relating to liquidity and debt management, S&P also added liquid assets, in addition to cash, to measure the ability to finance debt service and other operating expenditures.

5.3 Shift in Sovereign Rating Methodology

The shift toward a balance-sheet approach in subnational rating coincided with a similar shift in sovereign rating over the same period, though the underlying risks and contingent liabilities differ. While the subnational risk lies with off-balance-sheet financing and quasi public debt, the sovereign risk relates to contingent liabilities from the corporate and financial sectors through the linkage of exchange rate, external accounts, and monetary policies.

The rating agencies shifted their sovereign rating from one that focused largely on analyzing the "macro-fundamentals" to one that is more "balance-sheet" oriented. Before the Asia crisis, sovereign rating focused largely on macroeconomic fundamentals, with limited attention given to issues such as the government's international liquidity position, its contingent liabilities and more generally the asset quality in the economy. The focal point of the external balance was the current account position, with little attention paid to capital account developments. Corporate, banking and financial sector issues were not the main concerns. Indeed, measured in terms of these macro-fundamentals, most Asian countries appeared to be exposed to only moderate risks (principally the current account deficits and the relatively low level of imports that their foreign reserves could sustain) before the crisis.

Bhatia (2002) provides an excellent account of the changes in sovereign rating methodology prompted by the Asia financial crisis. Using the sovereign rating framework of S&P as an example, he noted that the methodological changes occur on at least two fronts: firstly, a re-organization of the existing ratings framework or "ramp" as he terms it; and secondly, a shift in the basic orientation of the rating approach.

On reorganization of rating framework, the change took the form of "greater specificity in methodology to better ensure the comprehensiveness of committee deliberations; and stricter conformity with the scoring guidelines to better protect the comparability of the ramp scores".[26] For example, the number of categories used in S&P's ratings analysis was considerably expanded. An additional fiscal score was added to quantify off-budget and contingent liabilities. This new score seeks to reflect more accurately the off-budget financial support provided by the national government to various public and private sector entities.

At the same time, a combined score for external debt was split into two separate scores, for public and private sector external debt respectively. This was deemed necessary because the Asia crisis was sparked off partly by excessive off-shore borrowing in the private sector, rather than the public sector which is typically the case in other emerging economies especially Latin America. Between April 1997 and April 2002, the total number of categories considered in S&P's sovereign ratings analysis was raised from eight to ten, with the addition of public sector net external debt and bank and private sector net external debt (Bhatia 2002).

The changes in the following two areas are particularly noticeable: new and stronger focus on the sovereign international liquidity position; and heavy emphasis on corporate leverage and its linkages to financial, fiscal and external risks. Thus, while the old approach measures the adequacy of foreign reserves (international liquidity) in terms of the number of months of imports they can support, the new approach does so in terms of its relation to repayment of short-term external debt, financing gaps and money supply, etc. It also looks into questions such as how inadequacy of reserves may trigger refinancing risks.

Whereas the old approach paid scant attention to the trend in corporate leverage, the new approach tries to assess its implications for the risks in the banking and financial sector. For example, how excessive borrowing by the corporate sector may expose it to interest rate and exchange rate risks, how this could result in a sharp rise in non-performing loans, affect the asset quality in the economy, cause wide-spread bankruptcy and banking failure and ultimately call for bank recapitalization that would have to be funded in large parts through fiscal means. Massive

[26] Bhatia (2002), p.48.

bank recapitalization was a major factor that turned the fiscal surpluses in most Asian economies before the crisis to sharp fiscal deficits in the years after the crisis.[27]

6. Challenges of Subnational Ratings in Developing Countries

Developing a system of subnational credit ratings is predicated on the development of the subnational capital market. An accurate assessment of risks associated with a new type of debt requires several years of experience with a significant amount of issuance. Subnational credit ratings in developing countries have a relatively short history and in some countries have just begun. The link between ratings and spreads is not yet established in a country with a small amount of issuance.[28]

Subnational borrowing from the capital market in developing countries is in early stage of development, mainly because the supporting infrastructures are not as favorable as in developed economies. For example, a strong and credible legal and regulatory framework needed to maintain investor confidence in the repayment process is often not present. Neither is there sufficient clarity on the fiscal capacity, the liabilities and the borrowing powers of subnational governments.

Furthermore, the credibility of ratings can be assured only if certain preconditions in the political and institutional environments are already met. A subnational government may receive a favorable or unfavorable credit rating depending on its economic, fiscal and financial strengths. But whatever the strengths in these areas may be, the rating accorded to the subnational government is unlikely to be taken seriously by investors if there are considerable policy uncertainties and doubts about the strength and quality of the institutions and systems within which the credit analysis is conducted. Institutional and system credibility is a critical precondition for creditworthiness analysis. In this context, the following issues deserve to be highlighted.

6.1 Uncertainty and Risk

A main challenge for rating subnational or sovereign arises from the fact that qualitative factors and subjective judgment play an important and integral part in the rating process. These qualitative variables cannot be reduced to a set of ratios or mathematical formulas and as such may not be seen to have the same degree of 'rigor" and "objectivity' of the process. Indeed, given that the final rating accorded to a subnational entity is often a result of benchmarking (with other subnational entities with similar creditworthiness) by the rating committee, there is inevitably a large element of subjectivity in the rating process.

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[27] Another event affecting rating methodologies in recent years was the corporate frauds in the U.S. that took place in the early 2000s. The Enron scandal in particular exposed the rating agencies' failures to pay careful attention to the financial accounts of companies. The ongoing financial crisis is also expected to lead to changes in the rating system for financial institutions and financial instruments such as mortgage-backed securities. Criticism of the rating agency role in the current financial crisis relates mainly to structured finance ratings and banks, and not to subnational government ratings.

[28] This paragraph benefitted from a discussion with George Peterson.

The committee will have to ensure that the rating accorded to a subnational government fits in meaningfully with the whole universe of subnational governments that the rating agency has rated. The rating of a subnational government within Argentina, for example, will have to be consistent not only with those of other Argentine subnational governments but also subnational governments in other emerging economies that are in a similar state of development as Argentina. At the same time, the rating committee has to ensure that changing creditworthiness conditions over time in all the rated subnational entities are taken into account. As Bhatia (2002) noted, shifting peer comparison is often necessary, and "although the ratings are measured of absolute creditworthiness, in practice, the rating exercise is highly comparative in nature" (p. 12).

Qualitative factors and subjective judgment have a role in the rating process for issuers both in the developed and developing countries. The objective data are evaluated in light of the possibility that some other factor – a changed legal framework, a different revenue allocation, a new spending responsibility – may be introduced and put the past patterns at risk. Such other factors are more acute in emerging markets.

The policy making process is often less transparent and the likelihood of frequent policy changes much stronger in developing countries than in developed countries. There is a much higher degree of variability in policy outcome. Such variability is often driven by the changing balance of political power (both across regions and within the same subnational entity) and changing personalities at the policy-making scene. A good understanding of the policy-making environment and the personnel involved is therefore critical to the assessment of the subnational creditworthiness in developing countries. Because these factors add to uncertainty and risk, the rating agencies respond by assigning ratings that incorporate the added uncertainty.

Many developing countries started decentralization only in the 1990s, and the intergovernmental fiscal system is still going through adjustment, sorting out revenue allocation and spending responsibilities, and redefining the legal framework. In countries where the intergovernmental fiscal arrangements change unpredictably, where policy reversals are regular occurrences, and where the subnational government often has to contend with one-off changes in transfers and spending responsibilities, it would be difficult to make reliable medium-term forecasts of the subnational government's fiscal capacity and hence credit ratings. In some countries where the intergovernmental transfers are based on some formula, on-going periodical negotiations between the governments are a rule rather than an exception. Often, the outcome of the negotiations is driven by the relative political powers of the tiers of governments. [29]

Continuously evolving legal and regulatory frameworks create uncertainties about the binding nature of the commercial agreements and covenants of the subnational debt. Laws on subnational debt repayments are often not sufficiently clarified. In some countries, laws are changed without respect for grandfathering or protection of existing contracts signed under the previous legal framework. More generally, the irrevocability of the security pledge may be called into question when the local government faces fiscal crisis.[30]

[29] This part draws heavily from S&P (2004).
[30] For a review of cross-country experiences in subnational insolvency mechanisms, see Liu and Waibel (2008b).

Lack of management sophistication and institutional strength is another key concern. In many emerging economies, the strength of the institutions and the credibility of the management are still being developed. Frequent turnover of key policy makers and administrators following change of political powers renders it difficult to have policy continuity and the time needed to see through major reforms and other changes. The absence of checks and balances and the presence of corrupt practices can undermine the credibility of the subnational government. Lack of sophistication in financial and budgetary systems make them vulnerable to changes in external conditions.

6.2 Financial Reporting, Accounting Systems and Disclosure Standards

In many emerging economies, the financial reports of the subnational government are typically produced in a form that satisfies the requirements of the national government (or other higher levels of government like provincial government). Neither these reports nor the accounting principles and practices employed may meet the demands of the capital market for credit risk assessment purposes. For instance, one-time exceptional revenues may be treated in the same way as recurring revenues; there may not be a sufficient distinction between cash and accrual accounting principles; and capital expenditures may not be sufficiently distinguished from operating expenditures. Sometimes, new borrowing is treated as “revenue” to balance the budget. Such practices make it difficult to use these financial reports as a basis for an assessment of subnational risks and creditworthiness.

The lack of consistent historical data poses a challenge for forecasting fiscal capacity. A basic requirement in creditworthiness analysis is the availability of a five-year record of economic performance and financial reports, but resource constraints make it difficult for many subnational governments to maintain a comprehensive set of data in a consistent manner. For example, many important data such as unemployment rates and changing demographic profiles – both of which have grave implications for the subnational government’s fiscal burdens – are either not available or not collected over time in a consistent manner.

In general, but more specifically for a subnational government that is above a certain threshold size, the financial reports should be subjected to independent auditing and made available to the public. A strong culture of disclosure and transparency is necessary to maintain investor confidence in the soundness of the subnational government’s financial position. In many developing countries, the process is constrained by the absence of such an auditing culture and independent, high quality third-party auditors in these countries.

Often, inadequate attention is paid to the treatment of off-balance and contingent liabilities either because the legal system is ill-equipped to deal with these liabilities or because of negligence of the subnational government. Many subnational governments do not have a clear estimate of their pension liabilities. In some emerging economies, subnational governments grant enterprises or entities it owns flexibility in providing concessions to private companies in a bid to attract investments. Or the government may undertake to guarantee concessions made to these private companies. Such undertakings could present tremendous financial burden to the government in the future.

The absence of well-trained, let alone experienced professionals in various fields such as accounting, audit, legal and finance presents a major challenge for subnational governments in developing countries that intend to tap the capital markets and comply with international best practices. These experienced professionals are needed not only to help in the preparation of the debt issuance but also to ensure that the subnational government maintains a certain level of creditworthiness over time.

The management culture and the mindset of the staff working for the subnational government are just as, if not more, important than the "hardware" of personnel and data in determining its creditworthiness. The organization must be imbued with the professionalism that is expected by the market and investors. Corrupt practices or the willingness to succumb to political and other external pressures will undermine the credibility of the rating process. The mere employment of highly experienced professional risk managers working with a comprehensive set of financial data will not guarantee financial soundness for the subnational government unless the integrity of the management team can be assured.

7. Conclusions

In developing countries, subnational borrowing from the capital market has been on the rise. With the global trend of fiscal decentralization and large demand for infrastructure investments, such borrowing, and with it the need for subnational credit ratings, is set to rise further, notwithstanding the impact of the current financial crisis on subnational credit markets. Furthermore, subnational credit ratings have been an element of broad reform toward subnational fiscal sustainability in countries such as China, Colombia, and Mexico. Yet little synthesis work has been done so far on how international rating agencies undertake the rating process. Increased awareness of the rating process among policymakers and borrowers is essential in facilitating subnational borrowing that is sustainable and a broad and diversified subnational credit market.

This paper surveys the methodological issues involved in subnational credit ratings and highlights the key challenges that could hinder the rating process, especially among developing countries. A few messages emerge from our discussion. First, improving the underlying credit conditions of the rated subnationals is of paramount importance. The ratings frameworks used by the major established rating agencies are very similar. All of them focus on the underlying fundamentals of the rated entities. It is highly unlikely for a subnational entity with poor credit conditions to be rated much higher by one rating agency relative to another.

Second, the creditworthiness of the sovereign and the fiscal and financial relationships between the central and subnational governments are among the most critical elements of the rating criteria. The sovereign conditions affect the subnational creditworthiness in many ways. It is extremely unlikely for a subnational entity to be rated highly if the sovereign conditions are weak and/or the fiscal and financial arrangements between the two levels of government are poorly constituted.

Third, implicit and contingent liabilities are integral to the rating process. Such indirect debt instruments can circumvent fiscal rules intended to promote prudent practices. The indirect debt can take a variety of forms such as public-private partnerships, off-budget financing of fiscal deficit, capital leases, and securitizations**;** it is also more difficult to establish accounting and disclosure requirements for these. The ongoing financial crisis has further reinforced the rating focus on the management of liquidity, debt structure, and off-balance-sheet liabilities.

Fourth, subnational credit ratings are predicated on the development of subnational capital markets. Such development confronts several challenges in developing countries: higher variability in policy outcomes, uncertainties in institutional and policy frameworks, and inadequate accounting, auditing and disclosure standards. Thus, subnational credit ratings are a part of broader reform – developing a transparent budgetary and financial management system, establishing standardized accounting, auditing and reporting, and improving policy frameworks and intergovernmental fiscal system.

Capital market financing of infrastructure is expected to continue to grow and compete with bank lending among the developing countries over the long term. But such growth should not be allowed to pose unnecessary risks to the international capital market and the financial health of borrowers and the lenders. In this context, there must be greater awareness of what makes sound subnational creditworthiness. Multilateral agencies such as the World Bank, the IMF and the Asia Development Bank can play a much more active role in disseminating knowledge and in raising the capacity of both lenders and borrowers to understand the rating process. The rating agencies should also make more transparent the rating criteria they use, especially on the more "qualitative" components of the rating criteria.

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ANNEXES

Table 1. Rating Scale

	S&P	Moody	Fitch
Investment Grade	AAA	Aaa	AAA
	AA+ AA AA-	Aa1 Aa2 Aa3	AA+ AA AA-
	A+ A A-	A1 A2 A3	A+ A A-
	BBB+ BBB BBB-	Baa1 Baa2 Baa3	BBB+ BBB BBB-
Speculative Grade	BB+ BB BB-	Ba1 Ba2 Ba3	BB+ BB BB-
	B+ B B-	B1 B2 B3	B+ B B-
	CCC+ CCC CCC-	Caa1 Caa2 Caa3	CCC CC C
	CC & C		
Default/ Distressed	SD & D	Ca C	DDD DD D

Source: Moody's, 2004; S&P, 2004; and Fitch, 2002.

Table 2. Average Cumulative Issuer-Weighted Global Corporate Default Rates, 1920-2007

	Percentage after …		
Rating	**5 Years**	**10 Years**	**20 Years**
Aaa	0.163	0.897	1.828
Aa	0.704	2.294	5.265
A	1.116	2.901	6.333
Baa	3.142	7.061	12.912
Ba	9.587	18.435	30.779
B	21.425	33.929	45.375
Caa-C	37.638	48.981	67.133
Investment	1.687	4.076	8.004
Speculative	16.714	26.827	39.279

Source: Moody's (2008c).

Table 3. International Rating Methodology for Local and Regional Governments
Fitch Ratings, Moody's, Standard & Poor's

FITCH RATINGS

1.	**Institutional and Administrative**	
	Amount of the transfers and their relative size in the subnational's operating revenues	
	Type of transfers	
	Revenue sources legally delegated to subnationals	
	Flexibility to adjust revenue budget to changing economic environment	
	The legal and political risks associated with any national revenue sharing system and direction of any changes	
	The size and type of mandated expenditure	
	Sources and types of expenditure finance (user charges, fees, taxes, or earmarked revenues)	
	Expenditure flexibility	
	Socio-economic trends underpinning the demand for public services (if population growth is straining the supply of public services)	
2.	**Economic and Social Profile**	
	Economic base and diversity	
	Employment type	
	Demographic profile and trends; population growth	
	Size, type, strategic location of subnational economy, its relative importance e.g., capital city, regional center etc.	
	Basic economic infrastructure	
3.	**Fiscal and Budgetary Performance**	
	Revenue flexibility; diversity, and autonomy to raise taxes	
	Financial statements and their disclosure	
	Independent audits	
	Trends for each major revenue and expenditure (over the period of five years), operating results and liquidity position and revenue structure	
	Flow to and from entity-owned enterprises, intergovernmental revenue sharing	
	Budget forecasts and macro projections	
	Subnational's budget, capital plans and funding sources	
4.	**Debt, Liquidity and Indirect Risk**	
	Debt structure (long term & short term), instruments and a purpose of the debt	
	Rollover and refinancing risks (debt service, maturity, foreign exchange, etc)	
	Overall debt burden (outstanding, proposed and future indebtedness)	
	Debt structure (off balance sheet, lease obligations, debt guarantees, equity interests and liabilities)	
	Debt Burden measures:	
		Debt principle relative to local GDP and population
		Debt to current revenue
		Direct risk (direct debt plus) to current revenues
		Debt to current balance (payback ratio)
		Debt principal relative to estimated market value of taxable property
		Debt service as a percentage of current revenues and annual operating expenses
		Debt per capita
		Annual pension liabilities as a percentage of current operating expenses
	Indirect debt risk from public enterprises (e.g., financial and liquidity risks of non-consolidated entities, large unexpected transfers from subnational and central governments, obligations to	

	offer assistance in crisis.
5.	**Management**
	Accounting policies
	Multi-year forecasting
	Debt affordability
	Debt management
	Risks disclosure practices

Source: Fitch (2008a)

MOODY'S

		Developing countries weighting
1.	**Operating environment**	**60%**
	GDP per capita USD (three years average in PPP terms)	50%
	GDP volatility (%)	25%
	Government Effectiveness Index	25%
2.	**The institutional framework that determines RLG powers and responsibilities**	**10%**
	Predictability, stability and responsiveness	50%
	Fiscal flexibility (gouging separately revenue and expenditure flexibility)	33.4%
	Fiscal adequacy	16.6%
3.	**Financial position and performance**	**7.5%**
	Interest Payments / Operating Revenues (%)	25%
	Cash Financing Surplus / Total Revenue (%)	25%
	Gross Operating Balance / Operating Revenue (%)	25%
	Net Working Capital* / Total Expenditures (%)	25%
4.	**Debt profile**	**7.5%**
	Net Direct and Indirect Debt/Operating Revenues (%)	50%
	Short Term Direct Debt /Direct Debt (%)	25%
	Four Year Trend in Net Direct and Indirect Debt / Operating Revenue (%)	25%
5.	**Governance and management practices**	**7.5%**
	Fiscal Management	40%
	Investment and Debt Management	20%
	Transparency and Disclosure – financial statement disclosure	15%
	Transparency and Disclosure -audit	15%
	Institutional Capacity	10%
6.	**Economic fundamentals**	**7.5%**
	GDP per capita (USD, PPP), Estimated	

Source: Moody's (2008a)

STANDARD & POOR'S

1.	**Economy**	
	Demographics/Population	
		(total and as a % of national population; growth rates; % of young and elderly population)
	Economic Structure	
		GDP (nominal and output)
		Employment (rate; distribution by sector; by largest employers)
		Unemployment rates
	Wealth	
		Per capita GDP and as % of national or regional average
	Growth prospects	
		Real GDP growth
		Exports as a % of GDP, and export growth
		Investment growth (year on year) %
2.	**System Support and Predictability**	
	Predictability of political and administrative system, intergovernmental relations, public sector reforms	
	Revenue/expenditure match (tax, equalization, central government financial assistance, expenditure mandates	
	Legal framework and formal/informal rules regarding transparency and accountability	
	Fiscal policy framework including legal restrictions on debt and financial policy	
	Extraordinary support from other levels of government	
3.	**Management Sophistication and Institutional Legitimacy**	
	Transparency and disclosure	
	Budgeting	
	Long term capital and financial planning	
	Revenue and expenditure management	
	Debt management	
	Reserve and liquidity management	
	Management of government related entities	
4.	**Financial Flexibility**	
	Legal limits on fiscal flexibility	
	Political and competitive limits on flexibility	
	Limits on flexibility due to future spending requirements	
	Other potential sources of pressure and one-off revenues	
		Modifiable revenues as a % of operating revenues
		Capital expenditure as a % of total expenditure
		Personnel as a % of operating expenditures
		Operating expenditure growth (%)
		Operating revenue growth (%)
5.	**Budgetary Performance**	
	Budgetary Performance	
		Operating Balance / Operating Revenues (%)
		Balance after capital expenditures/ Total Revenues (%)
		Balance after borrowing/ Total Revenues (%)
6.	**Liquidity and Debt Management**	
	Liquidity analysis	
		Free cash and liquid assets as % of debt service

		Free cash, liquid assets, committed facilities as % of debt service
		Debt maturing within 12 months as a % of self liquidity and committed facilities
		Free cash and liquid assets as % of operating expenditures
		Cash operating surplus / interest expenditures
		Payables as a % of total expenditures
		Receivables as a % of total revenues
	Debt management	
	Interest rate/ currency/ counterparty risks	
	Use of derivatives	
7.	**Debt Burden**	
		Interest payments as a % of operating revenues
		Debt service as a % of operating revenues
		Direct debt as a % of operating revenues
		Net direct debt as a% of operating revenues
		Net tax supported debt as a % of consolidated operating revenues
		Net financial liabilities as % consolidated operating revenues
		Direct debt as a % of local GDP
		Total public sector debt as a % of combined public sector revenues
		Direct debt plus guaranteed debt, as a % of operating revenues
8.	**Off balance sheet liabilities**	
	Financial health of public enterprises	
	Quasi- government programs	
	Public-private partnerships	
	Bailout of private companies	

Source: Standard & Poor’s (2009)