Comments

Eduardo Cavallo: This paper by Hernández-Trillo and Smith-Ramírez makes an important contribution to the credit rating literature. While a lot of attention has been paid recently to developments in the sovereign and corporate ratings markets amid the global financial crisis of 2008–09, a lot less is known about the workings of credit ratings for subnational entities (SNGs), particularly in developing countries.

Mexico provides an interesting case in point. The Mexican government introduced legislation in 1997 mandating the use of credit ratings for SNG debt as part of a broader overhaul of the regulatory framework for debt management by municipal governments. The main purpose of the legislation, as the authors explain, was to promote market discipline in SNG debt markets. A key element of the process was the commitment on the part of the federal government not to bail out SNGs that enter into solvency problems. Otherwise, in the presence of federal bailout guarantees, credit ratings assessing the likelihood of default by SNGs lack value. In light of the aforementioned, a key question today is whether the commitment by the federal government is credible. In other words, if politically important SNGs face solvency problems, will the federal government really stay on the sidelines, letting these municipalities default on their obligations?

Given that there have been no SNG defaults (and therefore bailouts) since the introduction of the legislation, the level of commitment has not yet been tested. This notwithstanding, the authors evaluate whether the commitment appears to be credible to an important group of market actors: the credit rating agencies.

The idea, in a nutshell, is to investigate what characteristics predict the probability that an SNG will opt into the rating process, and, conditional on being rated, what the factors are that rating agencies consider in determining the actual rating (that is, the perceived likelihood of default). The authors claim

that *if* the bailout guarantee is still implicit due to a noncredible government promise, then two things should be observed in the data:

—that those SNGs that opt into the rating process are those that are more likely to be bailed out, and

—that conditional on being rated, a higher rating should be assigned to SNGs that are more politically powerful.

A key assumption is that political factors are good proxies for federal bailout likelihood. In particular, the claim is that bigger municipalities (in terms of population size) as well as municipalities that are ruled by the same party that runs the federal government are more likely to be bailed out. While I find these to be entirely plausible assumptions, it would be helpful to see some evidence. That would entail a precise definition of what the authors mean by "bailout" and some historical correlations between bailouts and the aforementioned political factors.

The results reported in the paper are consistent with these two hypotheses. In particular, they find that politically powerful municipalities (measured by population size) and municipalities ruled by the same party as the national government (the conservative PAN for the time frame used in this study) are more likely to select themselves into the rating process. At the same time, political variables (population size and affinity of political parties) are important determinants of the rating that SNGs obtain conditional on being rated. These results are also novel in the credit rating literature.

One idea that is embedded in the analysis is that more politically powerful SNGs (and thus SNGs that are more likely to be bailed out) receive *better* ratings. On this issue, I have a different interpretation and would thereby propose an alternative dependent variable. In my view, if an SNG is perceived to be "too big" or "too powerful" to fail, then the rating agencies should assign to it the same rating as that of the sovereign, which is the agent that is ultimately assuming the credit risk. Thus, rather than (or in addition to) regressing the actual rating of the SNG on a series of determinants (including political factors) as the authors do, I would instead regress the *difference* between the sovereign and the SNG ratings against the same determinants. At the very least, this would be a useful robustness check.

If this interpretation is right, and, in the presence of bailout guarantees, rating agencies are more likely to assign SNGs the same rating as the federal government, then one characteristic prevalent in these markets would be the presence of a "sovereign floor"—meaning that no SNG that is likely to be bailed out is granted a rating that is *worse* than the federal government. Indeed, the evidence reported in the revised version of the paper is consistent with this

view, as in very few instances in the case of Standard and Poor's, and in no instances in the case of Moody's, is an SNG granted a rating below that of the sovereign.[1] In my view, this fact should be documented as it stands in sharp contrast to the evidence in favor of a "sovereign ceiling" prevalent for foreign currency debt in corporate debt markets of developing countries (see, for example, Durbin and Ng 2005; Borensztein, Cowan, and Valenzuela 2006; Grandes and Peter 2005; Cavallo and Valenzuela, forthcoming).[2] In turn, the connection would work as a bridge between this paper and an important strand of the broader credit ratings literature.

Another result reported in the paper is that the three main rating agencies (Standard and Poor's, Fitch, and Moody's) appear to give different weights to the factors used in assessing SNGs' creditworthiness in Mexico. The authors interpret this as evidence of "opaqueness" in the financial information reported by Mexican SNGs (see Morgan 2002). The idea is that since the financial information of Mexican SNGs has so little transparency, there is more scope for disagreement among the rating agencies, even if they were looking at the same data. While this interpretation is certainly possible, I would introduce two caveats. On the one hand, the result that rating agencies disagree more than they agree is neither new nor idiosyncratic to this market. For example, Powell and Martínez (2007) and Cavallo, Powell, and Rigobón (2008) show that even in relatively plain vanilla markets such as the sovereign rating market, credit rating agencies disagree more than they agree on actual ratings. In that case, relative "opacity" is less of a problem, and the disagreements most likely reflect the use of different information sets by the rating agencies. On the other hand, the authors do not directly control in the regressions for "opacity" of the data at the SNG level, nor do they include an SNG fixed-effect, thereby making the interpretation of this result hard to disentangle.

The last point brings me to probably my main critique of the paper, which is the lack of robustness checks and alternative model specifications. The authors run one set of baseline regressions and do not report results based on alternative specifications. In the absence of an underlying structural model that determines a single specification to be tested empirically, more robustness checks are warranted. For example, how robust are the results to the inclusion or exclusion of certain variables? What about different dependent variables, as mentioned

1. While for some reason the authors do not report the results for Fitch, they should be reported, too, or else an explanation be provided as to why such results have been omitted.

2. The idea behind the "sovereign ceiling" policy is that the risk of a government encountering difficulties in servicing its debts can be mitigated by its ability to "transfer" such problems to the domestic private sector via, for example, taxation or capital controls.

before? This critique should not detract from the merits of the paper, but it is intended to encourage the authors to probe deeper into the results.

One area for future research along the lines pioneered in this paper would be to evaluate the impact of the bailout guarantees on the perceived riskiness (that is, either credit ratings or actual bond spreads for tradable debt instruments) of the bailout agent. In the case of Mexico, this appears to be particularly relevant, as the country has been granted investment grade status by the rating agencies. The question that arises is whether the bailout guarantees that the authors claim to be implicit in the Mexican case are not so onerous to the federal government or, instead, whether the financial situation of Mexico has improved so much in recent years that it warrants investment grade status despite the onerous guarantees. Yet another possibility that would be in direct contradiction to the authors' results is that the guarantees are not really there. In any event, pursuing research along these lines would foster greater understanding on the workings of the SNG debt markets.

Tito Cordella: The interesting paper by Hernández-Trillo and Smith-Ramirez (HTSR hereafter) sheds new light on the Mexican experience of developing a market-friendly regulatory framework for subnational government (SNG) debt. The idea of asking bank regulators to use credit ratings to assign capital risk weights for loans provided to states and municipalities was innovative and created strong incentives for SNGs to be rated. However, the paper, which studies the factors that jointly determine SNGs' decisions to be rated (as well as the rating score), raises significant doubts about the effectiveness of such a model in effecting market discipline. This "negative" result may serve as a lesson for other countries in the region on what one can reasonably expect (and not) from rating agencies in the presence of implicit guarantees.

Rating agencies are not very popular these days, to say the least. The common wisdom is that they misbehaved in the buildup to the subprime disaster, and that it is very likely they would misbehave in the very same way in the future. The problem is that rating agencies' incentives to misrepresent risk follow directly from the way the industry is structured. Indeed, incentive problems are difficult to overcome as long as rating agencies' fees are paid by the "rated" entities. While HTSR do not address this important issue directly, they provide some evidence that the common wisdom may not be so distant from the truth.

The main findings of this paper are that SNG ratings are opaque because agencies disagree on the rating of states and municipalities, and that, in explaining the ratings, political affinity between subnational and federal government,

the size of the state (measured by population), the ratio of own-to-total revenue, and investment variables are the most important components.

The first result of the paper is a very interesting one that, in my view, the authors could have exploited much more. What really caught my attention was the fact that rating agencies disagree more in rating states than municipalities. This is puzzling. If "opaqueness" is driven by the murkiness of information, shouldn't one expect information to be murkier at the municipal than at the state level? Perhaps that opaqueness might not be the result of different information sets but rather be an equilibrium outcome in which rating agencies implicitly collude by specializing in determined market segments.

Assume that rating agencies compete for clients and reputation and that each rating agency decides to be more lenient toward SNGs with particular characteristics; also assume that in so doing it attains a competitive edge in acquiring this type of client. I imagine that one can build up a model in which this kind of "diversification" is an equilibrium outcome. Is this what happens in Mexico? While the paper does not address this question directly, the data seem to support such a view. Indeed, S&P's rating rules assign greater weight to population size (a too-big-to-fail variable) and to the ratio of own-to-total revenues than do the rating rules of the other agencies. Therefore it is no surprise that states with large populations and larger ratio of own revenues to total revenues are more likely to go to S&P than to other rating agencies.

This is a very interesting story, and it is somehow unfortunate that many of the variables that enter into the propensity-to-rate equations do not enter into the rating ones. This means that it is difficult to assess whether the specialization story really holds true. This could be an interesting topic for future research in which one could also look at international comparisons between rating agencies' behavior and see whether the patterns of specialization are global or just local.

Regarding the credibility of the regulatory framework, the paper is quite convincing about the fact that the Mexican market-friendly approach has not been able to remove the perception of the existence of an implicit bailout guarantee. Such an implicit guarantee is reflected in the credit rating as (in my opinion) it should be. However, a few additional checks could be useful in further convincing the reader. For instance, I would be interested in knowing how many bailouts occurred at the municipal and state level before and after the reform; whether there have been cases in which a state or municipality defaulted and was not bailed out; which risk weights have been assigned to states or municipalities that have not been rated; and how sensitive risks weights and interest rates are to rating scores. It would also

be interesting to know whether risk weights changed over time or remained pretty stable.

Last but not least, the authors show that in a few instances, SNGs are rated above the sovereign ceiling, which is really puzzling in a situation in which subnational ratings mainly reflect bailout probabilities. Unfortunately, the puzzle is not solved, and the reader remains curious about which states and municipalities are (at least apparently) doing so well, and why. It would have helped if the authors at least named these states and municipalities and showed whether such "great" performers are the same for S&P and Moody's.

Summing up, this is an interesting paper that, exploiting a nice dataset, sheds new light on the role that rating agencies play in fostering market discipline. As is often the case for interesting papers, it also raises a number of questions that one hopes will be answered by new research, either from the authors or from some of our *Economia* readers.

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