The Information Content and Redistribution Effects of State and Municipal Rating Changes in Mexico

Short Summary

The purpose of the paper is to analyze the impact of rating changes on public debt returns for securities issued by Mexican states, municipalities, and state-affiliated companies. The authors explore two conflicting hypotheses. First, according to the Information Content Signaling Hypothesis (ICSH), rating downgrades should be followed by lower bond returns. Second, according to the Wealth Redistribution Hypothesis (WRH), rating downgrades should be followed by greater bond returns.

To distinguish which effect dominates, the authors apply an EGARCH-in-mean model with a generalized error distribution to the time series of realized daily bond returns for five bond offerings . They capture the effect of rating changes within this model by including dummy variables in the mean and the conditional volatility equation (2), which equal one on the date of a rating change, and zero otherwise.

The factor loadings on the dummy variables (Table 3, page 18) imply that the neither the ICSH nor the WRH consistently dominates the other. Rating changes tend to increase the bond return and the log-volatility, pointing at a stronger impact of the ICSH, but the evidence is rather mixed across the sample. In addition to this main finding, the authors also document a negative factor loading for the variance term in the mean equation, a stronger impact of negative shocks in the variance equation, and very small mixed loadings on the market (stock) return index.

Comments

The authors focus on an interesting issue within the wider literature regarding impact of issuer rating changes on the securities prices. In particular, I found the discussion of the institutional settings and the developments of the Mexican state and municipal bond market in section 2 of the paper fascinating, and rather unique. However, I believe that there are a number of issues the authors need to address.

1. From the theoretical side, I think the authors first need to make it very clear that they are not within an asset pricing context, but concerned with pure time series analysis. This is easiest to see when discussing the coefficient sign for delta, the factor loading for the volatility, and for lambda, the "additional" effect of a negative shock. In a time series model, it is perfectly sensible that negative shocks lead to a higher variance, a smaller current price, and thus also to lower returns. In an asset pricing context, however, a negative relation between **expected** returns and volatility is rather counterintuitive. Since the authors even use CAPM as one of the key words, and mention the term "market model" to motivate their time-series model, I think that clarifying this issue would greatly benefit the reader.

2. As a second theoretical issue, I believe the authors need to distinguish between the WRH for firms, and the WRH as they transfer it to government bond markets, much more carefully. As I understand the discussion on page 8 and 9, the authors seem to have a rather specific trust fund effect in mind for the government bond market. This effect, however, appears to be different from what is generally understood by the WRH: Existing debt is "secured" via the master trust, but this securitization reduces the government's free cash flows. Rating agencies who focus on the amount of free cash flows may then come to a lower rating for newly issued debt (which should be junior to the already existing debt), or a lower issuer rating. Therefore, higher returns for already outstanding debt could be observed simultaneously with increasing bond prices, and thus increasing bond returns. I fail to understand in how far this is a wealth, it appears to be a straightforward distinction between secured and unsecured debt. In the discussion on page 19, the authors mention a different potential explanation, via asset substitution for bank debt, and public debt through bond issuance. Here, I also fail to grasp the redistribution mechanism: The authors argue that a rating upgrade, which they attribute to lower variability (and thus consistent with the ICSH), may "expand the availability of cheaper bank financing". Does this refer to more bank loans to the government? In this case, banks may substitute new loans to the government for existing bond holdings, thus increasing bond supply, and driving down prices. In which sense is this redistribution?

From the empirical point of view, I believe that the authors do a good job convincing the readers of the plausibility of their pure time-series results. The

factor loadings for lambda and delta are sensible, but I believe that the following issues should be addressed:

3. First, the authors exclude most bond issues since they do not comply with their time series model (page 12 / 13). Apart from leading to a very small sample (which makes it doubtful whether the authors identify a systematic property of the Mexican bond market), the high **fraction** which seems to still disagree with the very flexible model chosen by the authors implies that bond returns exhibit some extremely unusual properties. In this case, it would be more interesting to focus on these properties.

4. Second, the authors seem to measure both rating upgrades and downgrades via an identical value of 1 for the indicator variable. Since they observe downgrades (Table 1, page 15), even if they apply for one issuer, I do not follow how the authors draw any conclusions on whether the ICSH or the WRH dominates – should **any** rating change, regardless of its direction, lead to a specific return reaction?

5. A minor issue is that the authors use a stock market index as a proxy for the market issue. I am not sure how appropriate such a choice is when government bond returns are the dependent variable, and suggest that the authors at least discuss the theoretical link between stocks and bonds, and potential endogeneity problems.

Overall, I think that the paper focuses on an interesting and relevant topic. For this to be a viable publication, however, the authors should separate the hypotheses more clearly, both theoretically and empirically, and provide more empirical support.