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

Referee Report 2

First of all we thank the time devoted by the revisor to comment our paper. His/her suggestions are deeply acknowledged and are certainly improving the new version of the paper.

Answers to Comments

Comment 1.

The author acknowledges indeed that a negative association between volatility and return is counterintuitive. This has been explained and clarified in note 15 of the new paper.

Comment 2.

The WRH effect is different to the Trust Fund Effect, which in fact is introduced in the paper as an alternative hypothesis. The redistribution of wealth in the firms goes from the demand made by bondholders versus stockholders as it is also explained in Zaima and McCarthy (1988). In the case of local governments this WRH does not apply directly and instead we should focus in the agency conflict between lenders and bondholders. In this case, a greater variance of public investments and cash flows might lead to a lower credit rating. A lower credit rating in turn constrains the amount of low cost investment-debt a local government can raise with banks in the form of direct credit. Instead of commercial debt offerings, creditors and investors in local governments could opt for safer lending instruments such as bond certificates. Here lies the redistribution of wealth. An increase in the demand of local government bond certificates should then be observed pushing up prices and returns. Overall, bond certificates value increases while stock value (the local treasury) decreases.

The referee is right in pointing out that the WRH and the Trust Fund Effect are not the same and a much greater effort has been placed in explaining this effect in the empirical part of the paper (see section 5.3 iii). In fact we believe that the Trust Fund Effect is a more plausible explanation to the negative association between ratings and returns in local governments so a greater emphasis has been given in

section 3 and section 5.3.iii of the paper. We hope we have made such distinction clearer.

Comment 3

The aim of the paper is not to select the best stochastic process to model the behavior of bond market returns in Mexico but in fact *to investigate the effect of rating changes on returns*. We also believe it is not our aim to identify the behavioral properties of the bond market and clearly our paper would have a long way to achieve this. It is acknowledged in the paper however that given the very small sample presented here the results can hardly be generalized to the market of bonds. This argument and further description is included in the new version of the paper in footnote 13.

It is a very good recommendation to focus on the properties that have been unusual in this market. We would need to conduct a more deep and extensive search to confirm such properties but this could be the aim of another paper. It is useful to note however that in this paper we have made an exhaustive preliminary search that consisted in contrasting the model presented in the paper with many other different univariate GARCH models among them: GARCH(1,1) of Bollerslev (1986); Garch in Mean Models by Engle (2001) with different variables in variance such as standard deviation, variance and the log of variance; EGARCH in Mean models. From all these specifications and using different conditional distributions (normal, t-student, double exponential and GED distribution) we found that the models presented in the paper are the ones that give the best empirical fit and are free from violations to serial correlation in the residuals and in the squared residuals.

Comment 4

The signed in the parameter γ_e indicates the effect of rating changes on returns. As noted by the referee most of the rating actions except for one issuer are related to upgrades. This way it is relatively easy to verify the Information Content Hypothesis (ICSH) for most of the issuers by just observing the sign associated to this parameter. For the ratings provided by Moody's we have two cases: one confirming the Trust Fund Effect (the case of HGO-32) and another confirming the WRH (the case of TLAL-03)—see table 4. For this last one we know the indicator variable takes a value of one for rating downgrades. In fact the dummy variable integrated in this

case consists only of rating downgrades and does not mix downgrades or upgrades. In fact none of the dummy variables created in all cases mix downgrades and upgrades which makes it easier to separate the effects.

In a more general note, it is acknowledged however that the whole study is not based on a sufficiently large sample that in fact allows us to reach the conclusion that the ICSH dominates either the WRH or the Trust Fund Effect jointly or individually. The conclusion on this has been rearranged in the new version of the paper both in section 5.3.iii and in the conclusions to the paper.

Comment 5

We agree with the referee that the market index used in the model is imperfect. In fact the discussion on the use of the market index as the rational and efficient portfolio of risky assets is abundant as well as the criticisms on the estimation of beta and alpha. The proxy of the market portfolio should be comprehensive in nature as the market index represents traded financial assets (bonds included), real state and even human capital. Hence indeed, the proxy extensively used in the empirical literature is not a very good one to capture the market behavior. This has been explained among many others by Fama and French (2004). It is however the most widely used and accepted proxy for the overall market performance.

On the other side, the CAPM has been estimated for corporate bond returns using aggregate bond market indices. To our knowledge however there are no references using local government bonds. What this suggests is that we should find an aggregate bond market index which unfortunately is not available for the market in this study.

References

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