

Performance of Insured Bonds after the Insurers' Downgrades: Some Preliminary Results

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ABSTRACT

Financial guaranty insurance played an important role in the municipal bond market during the years up to the financial crisis, covering over 50% of new issuance at its peak in 2005. During the financial crisis, the seven AAA/Aaa financial guaranty insurers which dominated this industry all lost their AAA/Aaa status. We study the effect these downgrades had on yields in the municipal bond market, both on insured debt and uninsured debt, by analyzing market prices around the dates of significant events. We also examine changing patterns in issuance in the municipal bond market which may be attributable to the lack of AAA insurance.

Preliminary findings are that yields were volatile on both insured and uninsured municipal bonds during the height of the crisis, driven more by wholesale reaction to market events than nuanced responses to specific news about certain insurers or municipalities. Since the insurers' financial strength fell as the markets weakened, the insurance did not protect insured bond investors from market turmoil. Since the crisis, data compiled suggests insured bonds have been trading at discounts to uninsured bonds.

INTRODUCTION

Financial guaranty insurance played an important role in the municipal bond market during the years up to the financial crisis, covering over 50% of new issuance at its peak in 2005. The par value of municipal bonds insured declined from \$201 billion in 2007 to just over \$15 billion in 2011 (Marte, 2012).

Prior research (Lau, 2012), has shown that on average bond insurance reduced issuance cost for municipalities. During the financial crisis, the seven AAA/Aaa financial guaranty insurers which dominated this industry all lost their AAA/Aaa status. We study the effect these downgrades had on yields in the municipal bond market, both on insured debt and uninsured debt, by analyzing market prices around the dates of significant events and over time. We also examine changing patterns in issuance in the municipal bond market which may be attributable to the lack of AAA insurance.

Preliminary findings are that market volatility after certain events of 2007 and 2008 affected both insured and uninsured bonds similarly. Yield movements during the crisis seem to be driven more by wholesale reaction to negative news than nuanced responses to specific news about certain insurers or municipalities. Since the insurers' financial strength fell as the markets weakened, the insurance did not protect insured bond investors from market turmoil.

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Insured bonds traded wider than uninsured AAA/Aaa bonds even before the financial crisis and widened even further during and after the crisis. AA municipal bonds historically demanded a premium over insured bonds. However, this situation reversed during the financial crisis; on average yields on insured bonds are now higher than on uninsured bonds. This paper details that inversion and explores explanations for insurance being given a negative value by the market.

This research is of importance both for investors and municipalities. Municipal bonds have traditionally been viewed as safe investments, with insurance enhancing their liquidity. The downgrade/bankruptcy of the insurers means that this is no longer true and investors need to adjust their portfolios accordingly. Municipalities can no longer raise debt as easily and cheaply as before the crisis and therefore have to adjust their financial plans. Less complex instruments may be called for; size of issuance may need to be adjusted downward for the larger issuers and upwards for the smaller to enhance liquidity. This paper will proceed as follows: after a brief review of other literature, we discuss effects on general obligation bonds, hospital bonds, reasons for the trade movements, then conclude.

LITERATURE REVIEW

Published research on this topic appears non-existent, but we did find two relevant working papers which examine the relationship between insurance and municipal bond yields. Gao Liu's (2011) work is possibly the most insightful vis-à-vis our work, while Bergstresser et al. (Bergstresser, Cohen, & Shenai, 2010), similar to our paper, examine the effect of the financial crisis on insured bonds.

Liu (2011) finds a positive relationship between the bond insurance premium charged and the probability of a downward rating migration on the underlying bond. He concludes that the insurance therefore benefitted the market by providing information. If Liu's results are correct then the insurers may have been insuring lower quality bonds within the same rating category.

Bergstresser et al. look at trades of municipal bonds with underlying A ratings and find that A-rated bonds with insurance traded at yields close to 3 basis points lower on average than similar bonds without insurance from 2000 to 2007. In 2008 and 2009, yields on the insured bonds were 14 basis points higher. (Bergstresser, Cohen, & Shenai, 2010). They attribute this phenomenon mainly to illiquidity of these bonds.

Our work looks for jumps in yields at different significant dates to gain insight into market reaction to financial news. We use a large set of bonds in an attempt to smooth any results from a specific municipality that might have had negative financial results of its own around the same dates. We look at the data and attempt to fit a story to it, rather than the more traditional research style of establishing a hypothesis and then finding the appropriate data to test it.

RESULTS OF ADVERSE ACTIONS ON G.O. BOND YIELDS

We first looked at the response of general obligation bonds to negative events in the market, using information downloaded from Bloomberg. General obligation bonds are the plain vanilla bonds in the

municipal world and therefore often the basis of research. It is easier to compare G.O. bonds against each other since they all have similar backing: full taxing power of the issuing municipality. We attempt to isolate insured from uninsured bonds, but have encountered some data gathering/cleaning issues. Figure 1 therefore must be viewed with a large caveat: the insured bonds category may not be capturing all insured bonds.

When we examined trading results, we realized that the data did not necessarily match the dates we thought significant and hence let the dates and jumps in the data tell their own story. The solid lines in Figure 1 show the average bond yield difference between the previous 30 days and following 30 days for each group. Gaps in the data appear when trading volume was too low to produce significant results.

Movements in insured bond prices closely track movements of all municipal bonds. Large movements occur first when Northern Rock foundered, then again when negative subprime news came out, and when Lehman went bankrupt. The market also reacted when the insurers' started to be downgraded. These results highlight that the municipal market as a whole reacted negatively to the financial troubles of the financial guaranty industry. The market seems to have realized quickly that the death or terminal illness of an industry that played such a major role would cause market dislocation.

Besides identifying jump dates during the height of the crisis, we compile available information (SIFMA) to look at how insured bonds performed in 2011 versus the municipal bond index (Figure 2). Total returns on insured bonds are higher than for the index for most of the year. We also compare yields on AA bonds to insured bonds, controlling for bond tenure (Zion's Direct). As can be seen in Figure 3, yields on insured bonds were higher than those on AA bonds, with the difference most pronounced for the short and long tenured bonds.

Then to see whether the spread inversion phenomenon has lessened as the markets have stabilized, we compare 2010, 2011, 2012. We use August data since that was the most recent available for 2012, and thought it best to compare the same month each year to adjust for any seasonal in issuance/trading patterns. Figure 5 shows that insured bonds performed worse in 2011 than 2010, but that the pattern started to reverse in 2012.

All evidence supports a hypothesis that bond insurance has become a liability. We then turn to one specific sector as a robustness check of our results.

FOCUS ON NOT-FOR-PROFIT HOSPITAL SECTOR

We decided to focus on the on Not-for-Profit Hospital Sector for a number of reasons. Firstly, to effectively isolate the effect of any event, it is better to study a sample that should react similarly to other outside stimuli. Bonds in this sector should react similarly to changes in the health care landscape (Medicaid, Medicare changes).

Secondly, this is an area of great interest, as healthcare and health care costs are an area of major concern in our economy. Additionally, previous research (Gershberg, Grossman, & Goldman, 2000) examined the cost of capital in this market. And lastly, but definitely not least, prior research provides

some of the data needed for our analysis. As pointed out by Huang et al. (Huang, Cohen, & Eappen, 2012), not-for-profit hospital bond issuance declined 17% in 2011, continuing the trend of declining issuance which began in 2009. Obviously, a portion of this can be attributed solely to the overall financial downturn, but when we look at the details as we can at least conjecture that it is in part due to the lack of bond insurance in the market. 2008 was noted for refunding into less complex, more conservative debt: the Auction Rate Securities market which supported more complex variable rate structures fell apart in February 2008 (Selinger, 2009).

In the decade leading up to 2011, there were bond issues of \$500 million or greater each year; none were this large in 2011. Bond insurance has traditionally played a role in these larger issues, providing liquidity. Lower rated hospitals, again an area that benefitted greatly from insurance, are facing wider yields relative to higher rated hospitals: the yield differential between BBB and AA averaged 52 basis points between 2002 and 2006 versus 1.15 basis points 2007 – 2011. For 2011 alone the differential was 137 basis points.

When we concentrate on the insured market versus the uninsured, our area of primary interest, we see dramatic movements. The 5 year average for 2002- 2006, insured bonds versus AA bonds, was a negative 28.26 bps while the 5 year average for 2007- 2011, insured bonds versus AA bonds was a positive 6.16 bps. For 2011, AA bonds on average had spreads that were 43.54 basis points lower than insured bonds. (Huang, Cohen, & Eappen, 2012)

REASONS FOR YIELD REVERSALS

From (Liu, 2011)'s results, the financial guarantors would have had some motivation to pick the weakest bonds among each rating category, since their capital charge would be the same for similar bonds within the same rating category, their return on capital would be higher for the riskier bonds:

$$R = \frac{p * a}{c}$$

In the above simplified equation of a financial guarantor's return model, R represents return: p is premium, a is par amount of the insured bonds and c is capital charge assessed by the rating agency. Clearly, if the insurers could get a higher p for the same c, their financial results, at least in the short term, would improve.

Another possible reason for insured bonds trading wider than uninsured after the insurers were downgrade could be the restrictions many funds have on their holdings based on ratings: these funds would have been forced to liquidate a high proportion of their no longer AAA/Aaa insured bonds. Additionally, the control that the insurer has over the bonds it insures could be viewed negatively. While investors were protected by AAA/Aaa enhancement, and the insurers were solvent companies desirous of doing further business, the interests of the two groups should have roughly been aligned. With the insurers fighting for survival, the will in most cases make payments as far out as legally possible, which may be the exact opposite of what benefits investors.

Moody's (Pierog, 2012), stated that municipalities might be strategically defaulting on insured bonds, signaling a changing attitude towards insurers. Previously, while the insurers were strong and writing new business, municipalities might have been more willing to work with the insurers in determining solutions to problems, but this attitude may be changing. Stockton, California has publicly stated that it would not protect bondholders exclusively (Nolan & Cherney, 2012).

CONCLUSION/CAVEATS

Both other research cited and our work show that insured bonds have suffered since the crisis. The why is less clear cut, but perhaps the real question is what was/is the value of insurance. Before the crisis there clearly was value from both a trading perspective and probability of default. Post the downgrades of the insurers, those who chose insured bonds for their portfolios are not benefitting. Some funds were forced to sell into an illiquid market at undesirable prices; liquidity is still weak.

Our and others' research can only look at bonds which were traded. Results by necessity therefore only reflect a portion of the market. Many municipal bonds, especially insured bonds, were sold to retail investors and therefore the trading is limited. Many other factors were changing at the same time; parsing out causality is very difficult.

ENDNOTE

◇Special thanks to Allison Herro and Alyssa Joseph of Carthage College for their work on the graphs.

REFERENCES

- Bergstresser, D., Cohen, R., & Shenai, S. (2010). *Financial Guarantors and the 2007-2009 Credit Crisis*. Working Paper.
- Gershberg, A. I., Grossman, M., & Goldman, F. (n.d.). Competition and the Cost of Capital Revisited: Special Authorities and Underwriters in the Market for Tax-Exempt Hospital Bonds. *National Tax Journal*, LIV(2), 255-280.
- Huang, G., Cohen, N., & Eappen, R. (2012, January 9). *wellsfargo.com/research*. Retrieved February 10, 2012, from Wells Fargo:
[http://www.cdfa.net/cdfa/cdfaweb.nsf/0/38AFC256BF6702A3882579810056F69D/\\$file/2012%20NFP%20Hospital%20Bond_010912.pdf](http://www.cdfa.net/cdfa/cdfaweb.nsf/0/38AFC256BF6702A3882579810056F69D/$file/2012%20NFP%20Hospital%20Bond_010912.pdf)
- Lau, C. (2012). *And Then There Were None: History of the AAA Financial Guaranty Insurance Industry*. Working Paper.
- Liu, G. (2011). *Municipal Bond Insurance Premium, Credit Rating and Underlying Credit Risk*. Working Paper. Retrieved from <http://ssrn.com/abstract=1859660>
- Marte, J. (2012, 4 30). *WSJ online*. Retrieved from The Wall street Journal:
<http://online.wsj.com/article/SB10001424052702304723304577370321169424552.html>

Nolan, K., & Cherney, M. (2012, July 23). Stockton Bankruptcy Puts Muni Market on Edge. *WSJ Online*. Retrieved July 23, 2012, from

<http://online.wsj.com/article/SB10001424052702304141204577510571690699252.html>

Pierog, K. (2012, March 20). Muni Defaults Another Blow for Insurers. *Reuters*. Retrieved September 10, 2012, from <http://www.reuters.com/article/2012/03/20/us-municipals-default-insurance-idUSBRE82J15920120320>

Selinger, S. (2009). *Auction-Rate Securities: A Fast and Furious Fall*. North Carolina Banking Institute. SIFMA. Retrieved from <http://www.sifma.org/research/statistics.aspx>

Zion's Direct. Retrieved from [/zions-direct-municipal-bond-market-snapshot-for-week-ending-august-31-2012](#)

Zions Direct Municipal Bond Market Snapshot for Week Ending August 24, 2012. (n.d.). Retrieved September 10, 2012, from <http://finance.yahoo.com/news/zions-direct-municipal-bond-market-210200323.html>

APPENDIX

SOURCE: Bloomberg data on bond trades

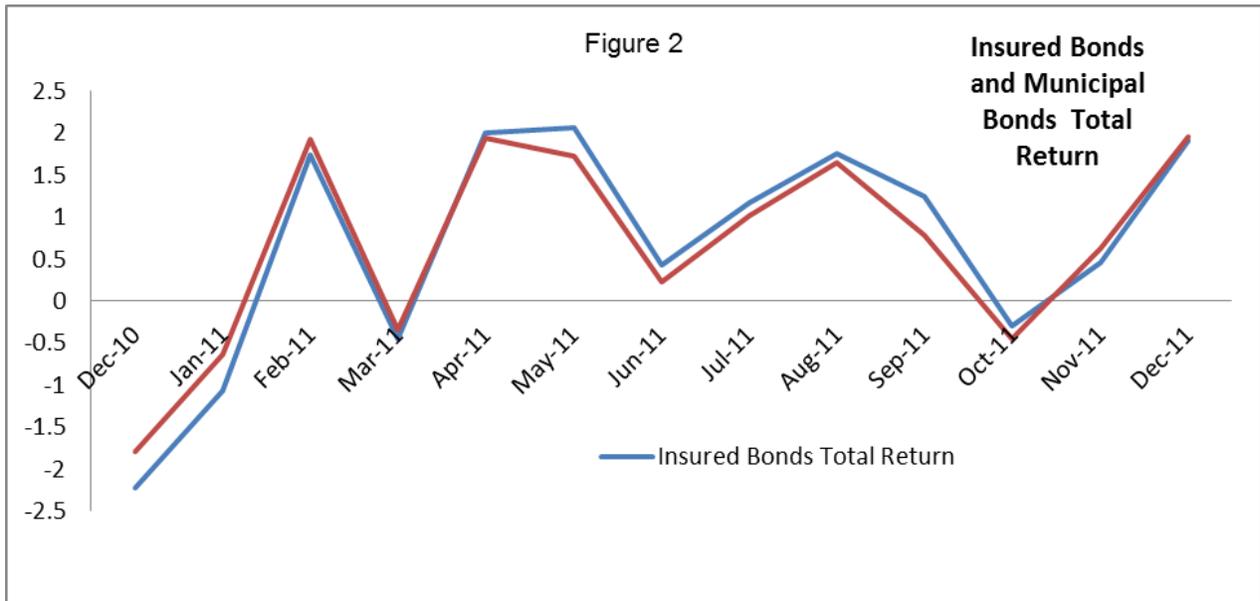
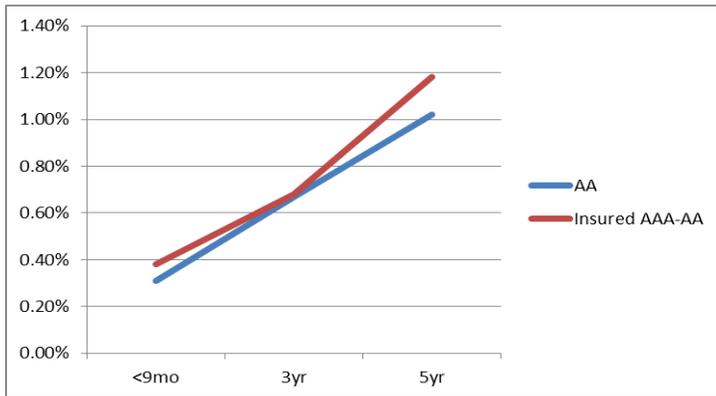
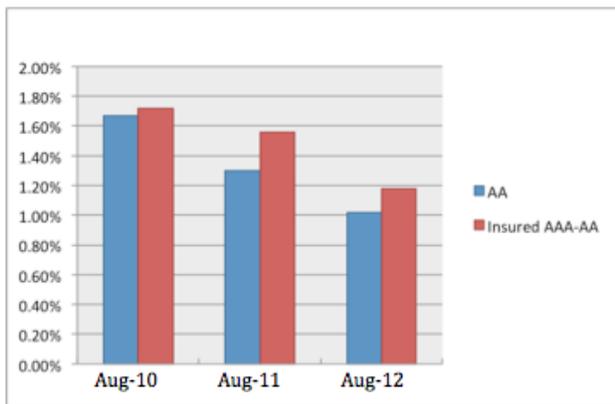


Figure 3: August 2012 Yields; AA Bonds and Insured AAA-AA Bonds



Source: Zion's Direct Auction Information

Figure 4: AA Bonds and Insured AAA-AA Bonds



Source: Zion's Direct Auction Information

Table I: Insured versus Muni Bond Index (Source: SIFMA: S&P)

Month	Insured Bonds Total Return	Municipal Bonds Total Return
Dec-11	1.906	1.959
Nov-11	0.463	0.636
Oct-11	-0.299	-0.452
Sep-11	1.251	0.789
Aug-11	1.76	1.655
Jul-11	1.165	1.009
Jun-11	0.431	0.231
May-11	2.068	1.731
Apr-11	2.003	1.939
Mar-11	-0.45	-0.349
Feb-11	1.735	1.926
Jan-11	-1.067	-0.636
Dec-10	-2.22	-1.788