THE ECONOMIC VALUE OF RATING OUTLOOKS IN THE MUNICIPAL SECURITIES MARKET

Dr. Sharon N. Kioko – Evans School of Public Policy and Governance, University of Washington (skioko@uw.edu)

Dr. Craig L. Johnson – School of Public and Environmental Affairs, Indiana University (crljohns@Indiana.edu)

Dr. Tima T. Moldogaziev – School of Public and International Affairs, University Of Georgia (timatm@uga.edu)

OUTLOOKS AND CREDITWATCH

CRAs supplement ratings with outlook and credit watch event signals

- Outlooks are a medium-term refinement to the current rating. They are either
  - *Positive* – rating may be raised
  - *Negative* – rating may be lowered
  - *Stable* – rating is not likely to change
  - *Developing* – rating may be raised or lowered (rare)

- Credit watches (e.g., *CreditWatch* by S&P, *Watchlist* by Moody's, or *Rating Watch* by Fitch), are a short-term refinement to the current rating and often indicators of heightened surveillance where a material change is imminent, usually within 90 days
  - *Positive* – rating may be raised
  - *Negative* – rating may be lowered

FOCUS ON THE MUNICIPAL SECURITIES MARKET

- This segment of the financial market has more than 40,000 issuer, more than 1 million in municipal securities, and approximately $3.7 trillion in principal outstanding.

- Debt of municipal governments is issued within layers of statutory and constitutional prescriptions and prohibitions that add to the complexity of issuers and the strength of their security pledge.

- The market has not been subject to the same level of financial disclosure regulation as other sectors of the U.S. capital markets.

- Financial reporting by municipal governments is frequently delayed and timeliness and completeness of disclosures remains a challenge.

RESEARCH QUESTION(S) AND CONTRIBUTION

- Are CRA Outlook and CreditWatch events a source of signaling information in the municipal securities market
  - Primary market (or at issuance).
    - are yields *lower (higher)* if the issue occurred in a *positive (negative)* outlook window
    - are TICs *lower (higher)* if the issue occurred in a *positive (negative)* outlook
  - Secondary Market
    - Are prices *higher (lower)* if the issue occurred in a *positive (negative)* outlook window.
- Are there differences in how the market prices signaling information across CRAs? (i.e., Moody's vs. S&P)
  - Criteria?
  - Reputation?

- Key difference: Our analysis is focused on whether a bond deal/serial bond issue/bond transaction incorporates existing CRA signals
  - The existing literature largely focuses on whether new information elicits any reaction in the market
  - Because the municipal securities market is illiquid market, there is limited or no secondary market trading beyond the initial 90 days.

DATA

- Sample

  - Fixed rate general obligation (GO) bonds issued by 39 of the 50 states that have the authority to issue GO debt.

  - Sample period -- Jan. 31st, 2005 but before Dec. 31st, 2010.

  - 900 bond deals (16 were dropped due to missing data)

- Each bond deal was assigned ratings and outlooks from S&P and Moody's using

  - S&P's "*History of U.S. State Ratings*" report

  - Moody's "*Rating Changes for the 50 States from 1973*" report

  - Unfortunately Fitch outlook data was incomplete

RatingsDirect®

History Of U.S. State Ratings

MOODY'S INVESTORS SERVICE

SPECIAL COMMENT   Rating Changes for the 50 States from 1973

OUTCOME VARIABLE

- Primary Market
  - Initial Offering Yield
    - 12, 923 serial bond deals (from 884 unique bond deals)
  - True Interest Costs
    - 403 competitively issued bond deals
- Secondary Market
  - Average Weekly Price
    - Followed 884 bond deals (12, 923 serial bond issues) for 150 days following issuance
    - 600,000+ transactions

TEST VARIABLE
884 MUNICIPAL BOND DEALS (JAN 2005 – DEC 2010)

Moody's

	Positive	Stable	Negative
Aaa	--	154	23
Aa1	9	184	54
Aa2	2	155	25
Aa3	4	161	26
A1	6	50	0
A2	9	3	2
A3	7	0	0
Baa1	0	10	0
Total	37	717	130
% of Total	4%	81%	15%

Standard and Poor's

	Positive	Stable	Negative
AAA	--	143	8
AA+	0	174	26
AA	22	339	11
AA-	19	62	1
A+	6	34	4
A	0	19	7
A-	0	0	9
BBB	0	0	0
Total	47	771	66
% of Total	5%	87%	7%

IMPACT OF OUTLOOKS ON MUNICIPAL BOND YIELDS
(12,923 SERIAL BOND ISSUES)

	Model I (Full Sample)	Model II (Non-Callable)
Positive Outlook=1 otherwise 0	-0.1137	-0.0676
Negative Outlook=1 otherwise 0	**0.1789***	**0.2245*****
R-Squared	0.7289	0.7737
N	12,923	7,730

Robust standard errors in parentheses. † p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

IMPACT OF OUTLOOKS ON MUNICIPAL BOND YIELDS
(12,923 SERIAL BOND ISSUES)

	Model I (Full Sample)	Model II (Non-Callable)	Model III (Full Sample)	Model IV (Non-Callable)
Positive Outlook=1 otherwise 0	-0.1137	-0.0676		
Negative Outlook=1 otherwise 0	**0.1789***	**0.2245*****		
S&P's Positive Outlook=1 otherwise 0			-0.0095	0.0368
S&P's Negative Outlook=1 otherwise 0			**0.5350****	**0.5183*****
Moody's Positive Outlook			-0.2576†	-0.1843
Moody's Negative Outlook			**0.0991†**	**0.1640****
Joint Negative Outlook			*-0.4643†*	*-0.4547**
R-Squared	**0.7289**	**0.7737**	**0.7321**	**0.7739**
N	**12,923**	**7,730**	**12,465**	**7,349**

Robust standard errors in parentheses. † p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

IMPACT OF OUTLOOKS ON TRUE INTEREST COST (TIC)
(403 COMPETITIVELY BID BOND DEALS)

	Model V
Positive Outlook=1 otherwise 0	**-0.1967********
Negative Outlook=1 otherwise 0	-0.0159
R-Squared	**0.7268**
N	**403**

Robust standard errors in parentheses. † p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

IMPACT OF OUTLOOKS ON TRUE INTEREST COST (TIC)
(403 COMPETITIVELY BID BOND DEALS)

	Model V	Model VI
Positive Outlook=1 otherwise 0	-0.1967**	
Negative Outlook=1 otherwise 0	-0.0159	
S&P's Positive Outlook=1 otherwise 0		*-0.2031†*
S&P's Negative Outlook=1 otherwise 0		*0.4845**
Moody's Positive Outlook		*-0.2198**
Moody's Negative Outlook		-0.0882
Joint Negative Outlook		-0.4376
R-Squared	0.7268	0.7333
N	403	402

Robust standard errors in parentheses. † p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

IMPACT OF OUTLOOKS ON SECONDARY MARKET PRICES
(597,989 TRANSACTIONS)

	Full Sample	Inter-Dealer Trade	Customer-Buy/Sell
	Model VII	Model VIII	Model IX
Positive Outlook=1 otherwise 0	0.3533***	0.2291***	0.3431***
Negative Outlook=1 otherwise 0	-0.3242***	-0.1662***	-0.3015***
R-Squared	0.2621	0.3146	0.2534
# Secondary Market of Transactions	597,989	192,580	405,409

Robust standard errors in parentheses. † p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

IMPACT OF OUTLOOKS ON SECONDARY MARKET PRICES
(597,989 TRANSACTIONS)

	Full Sample		Inter-Dealer Trade		Customer-Buy/Sell	
	Model VII	Model X	Model VIII	Model XI	Model IX	Model XII
Positive Outlook=1 otherwise 0	0.3533***		0.2291***		0.3431***	
Negative Outlook=1 otherwise 0	-0.3242***		-0.1662***		-0.3015***	
S&P's Positive Outlook=1 otherwise 0		0.7092***		0.8417***		0.6591***
S&P's Negative Outlook=1 otherwise 0		-0.4191***		-0.3130***		-0.3276***
Moody's Positive Outlook=1 otherwise 0		0.0953***		-0.1936***		0.1211***
Moody's Negative Outlook=1 otherwise 0		-0.0337		0.1872***		-0.0825**
Joint Negative Outlook		-0.8681***		-1.2695***		-0.8598***
R-Squared	0.2621	0.2644	0.3146	0.3179	0.2534	0.2536
# Secondary Market of Transactions	597,989	597,989	192,580	192,508	405,409	405,238

Robust standard errors in parentheses. † p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

14

CONCLUDING REMARKS

- In the primary market

  - Yields (and TICs) were higher if the issue occurred in a negative outlook window.

  - Yields (and TICs) were **significantly higher if S&P** had assigned a negative outlook.

  - S&P's negative outlook effect is moderated if Moody's simultaneously assigned a negative outlook.

- In the secondary market

  - Prices were higher (lower) if the issue occurred in a positive (negative) outlook window.

  - Prices were **significantly higher (lower) if S&P had assigned a positive (negative) outlook**.

  - Prices were significantly lower if the issue occurred in a joint negative outlook window.

  - As expected inter-dealer transactions benefit report higher average prices relative to retail investors.

CONCLUDING REMARKS

- What is happening? Both in the primary market and the secondary market?
  - Outlook Criteria? Are there differences?
    - Moody's was more likely to assign negative outlooks relative to S&P
  - CRA Reputation?
    - S&P is a leading information intermediary in the municipal securities market
- Send additional comments to skioko@uw.edu