

Fooling the market? Municipal yields and unfunded state pension liabilities

by

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Overview

- Link between interest rates on municipal debt and funding situation pension funds at state level U.S.
- Panel data, reduced form approach
- Extensive robustness/sensitivity analysis
- Relevance

Ad Descriptives

- Extensive description data, but mainly cross sectional
- What about (more detailed) developments over time?
 - Link Municipal Yields and Treasury Yield over time?
 - Effect Financial Crisis?
 - Effect Monetary Policy?

Ad Descriptives

Table 1: Key statistics

Statistic	N	Mean	St. Dev.	Min	Max
municipal yield (YM)	687	0.037	0.008	0.015	0.064
treasury yield (YT)	687	0.030	0.014	0.008	0.052
funding ratio (FR)	687	0.803	0.199	0.423	2.505
implicit debt ratio (IDR)	687	0.044	0.044	-0.075	0.176
explicit debt ratio (EDR)	687	0.074	0.037	0.015	0.204

Note: The statistics are calculated over all observations in the sample.

Ad Model

Baseline Model:

$$YM_{it} = \alpha_i + \beta_1 YT_{it} + \beta_2 EDR_{it} + \beta_3 FRm15_{it} + \beta_4 IDRm15_{it} + \beta_5 CONTROLS_{it} + \epsilon_{it}$$

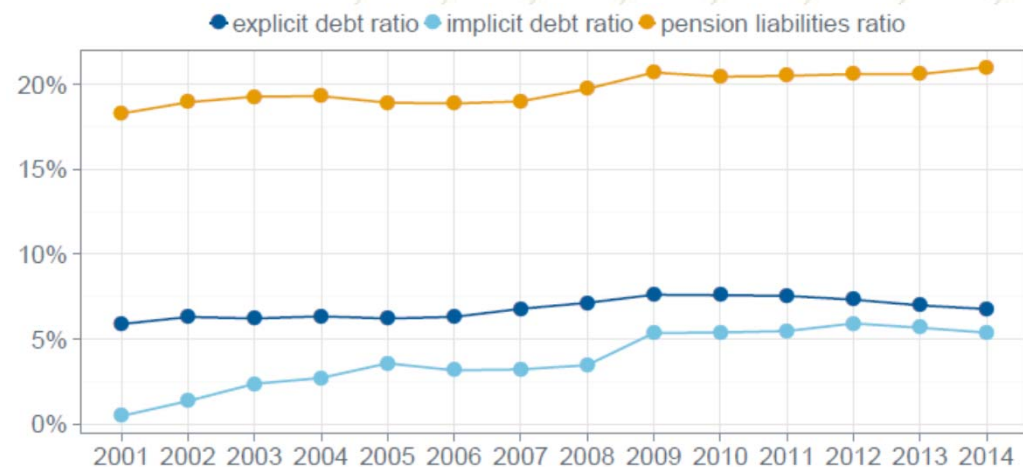
- What about taxes?
- What about liquidity?
- What about credit risk?

Ad Reduced Form Approach

- Model = Reduced Form
- What about a Structural Form?
 - Real Interest Rate & Inflation Expectations & State Effects & ...
- Interpretation parameters
 - "...because investors have become more risk averse"
- Monetary Policy (in particular since financial crisis)

Ad Econometric Specification

- Time effect seems to be captured by treasury yield
 - What about possible (remaining) cross-sectional dependence?
- Lagged dependent variable
 - What about possible (remaining) cross-sectional dependence?
- Endogeneity issues
- Regime shifting



Before and After the Crisis

	<i>Dependent variable:</i>					
	municipal yield (YM)					
	(1)	(2)	(3)	(4)	(5)	(6)
treasury yield (YT)	0.395*** (0.020)	0.400*** (0.020)	0.413*** (0.021)	0.805*** (0.023)	0.819*** (0.023)	0.818*** (0.024)
explicit debt (EDR)	-0.055 (0.037)	-0.055 (0.037)	-0.054 (0.036)	0.226*** (0.034)	0.150*** (0.027)	0.149*** (0.029)
funding ratio (FRm15)		-0.001 (0.001)			-0.018*** (0.002)	
implicit debt (IDRm15)			0.018* (0.009)			0.072*** (0.012)
Model	FE	FE	FE	FE	FE	FE
Observations	338	338	338	349	349	349
R ²	0.641	0.641	0.646	0.809	0.844	0.838
Adjusted R ²	0.542	0.541	0.544	0.688	0.716	0.711

Note:

*p<0.1; **p<0.05; ***p<0.01