How SALT spices up municipal markets L. Bretscher, F. Brunamonti, and Norman Schürhoff

Chicago Fed

Discussion - October 2025

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This Discussion

- The effect of the SALT repeal
 - on the bond market
 - on municipalities finances and investments

SALT Deductability: Quick Algebra

Full deductibility (2016).

■ Tax paid:
$$\tau_F \cdot (I - \tau_S I) + \tau_S I$$

■ Tax rate:
$$\tau_F + \tau_S - \tau_F \tau_S$$

Capped deductibility (2018).

■ Tax paid:
$$\tau_F \cdot (I - C) + \tau_S I$$

■ Tax rate:
$$\tau_F + \tau_S - \tau_F \cdot C/I$$

Tax rate differential.

■ Pre/post-TCJA (time dimension):

$$au_{\mathsf{post}} - au_{\mathsf{pre}} = au_F \cdot \left(au_S - \frac{C}{I} \right) \simeq 40\% \cdot 10\% \simeq 4\%$$

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■ Account for lower top marginal tax rate: $\tau_{F,pre} > \tau_{F,post}$:

$$\tau_{\mathsf{post}} - \tau_{\mathsf{pre}} = \tau_{F,\mathsf{pre}} \cdot \left(\tau_S - \frac{C}{I}\right) + \left(\tau_{F,\mathsf{post}} - \tau_{F,\mathsf{pre}}\right) \cdot \left(1 - \frac{C}{I}\right) \simeq 1\%$$

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Most of the effects are in the cross-section:

$$\Delta_{\mathsf{county}} \left(\tau_{\mathsf{post}} - \tau_{\mathsf{pre}} \right) = \tau_{F,\mathsf{pre}} \cdot \Delta_{\mathsf{county}} \left(\tau_{S} - \frac{C}{I} \right)$$

■ Variation comes from local tax rate or wealth composition (C/I).

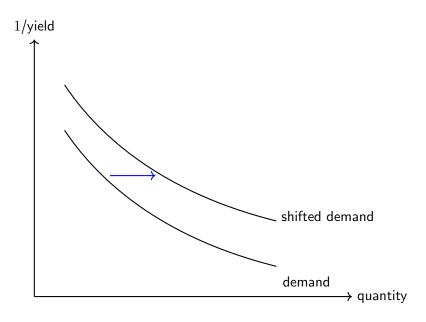
Municipal Bond Pricing

Different views: whose demand?

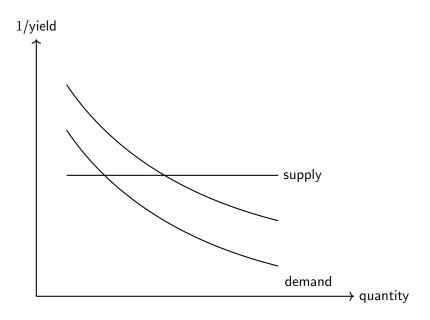
- Marginal investor (Miller)
- Local commercial or community banks: variable tax liabilities (Poterba)
- Segmented markets (Mussa-Kormendi): banks at the short-end and households at the long-end

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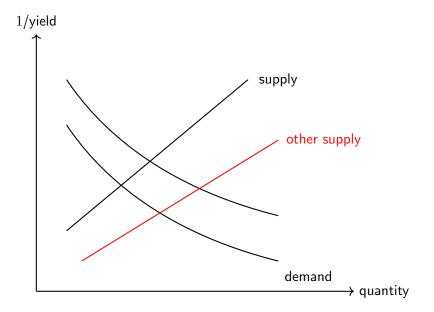
SALT Shock as a demand shift outward



Miller Hypothesis: Elastic Supply



This paper Differentiated Supply Curves



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How municipalities respond to a shift in demand?

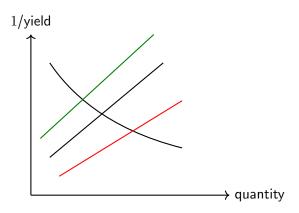
- Refinancing opportunities: callability of bonds (see Ang et al.)
- Institutional constraints on borrowing
- Need for novel capital-intensive projects

Who are the marginal bond issuers?

Learning About the Municipal Bond Market

What does the demand for munis look like?

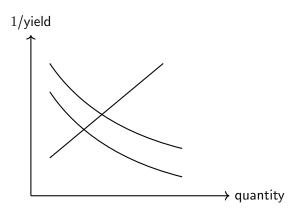
- Variation in supply: trace out the demand curve
- How much can I raise and at what price?



Learning About the Municipal Bond Market: this paper

What does the supply for munis look like?

- Shock the demand
- Look at how the we move along the supply curve



Learning About the Municipal Bond Market: this paper

What does the supply for munis look like?

- Shock the demand
- Look at how the we move along the supply curve
- What is the size of the shock in demand?
- Relative increase in tax liability: $\tau_F \cdot \tau_S$
- How does this translate into dollars flow into the municipal bond market?

$$muni-tax-elasticity = \frac{\partial muni-flow}{\partial tax-liability}$$

SALT Deductibility as a Shock

Strong exclusion restriction.

■ SALT shock only affects the yields through an increase in demand

Other potential concurrent effects.

- Migration to low-tax states (Ken Griffin)
- Pressure on state taxes:

before:
$$\frac{\partial \tau_{\text{total}}}{\tau_S} = (1 - \tau_F);$$
 after: $\frac{\partial \tau_{\text{total}}}{\tau_S} \simeq 1$

concurrent decrease of top federal tax rates

Final Thoughts

Great Paper! Worth reading.

Take away

- SALT deductibility repeal had an effect on muni bond markets
- Municipality issuance suggest that they are somewhat financially constrained