STATE TAX CUTS AND DEBT MARKET OUTCOMES

An Empirical Analysis of the Kansas Tax Reform

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Municipal Finance Conference, Brookings Institution, Washington DC, July 16-17, 2018
Tax Cuts in the News

- The impact of tax cuts on economic growth has received significant attention recently:
  - Federal tax reform efforts have centered public attention on the links between ‘Tax Cuts’ and ‘Jobs’.
  - Tax cuts have dominated State news too!
Wisconsin:
Gov. Scott Walker enacted major tax cuts since taking office in 2011. Tax cuts during his tenure are estimated to have a cumulative revenue implication $8 billion.

Kansas:
Empirical evidence on the economic impacts of state tax cuts is mixed at best\(^1\) (Ljungqvist & Smolyansky 2016; Alm & Rogers 2011; Gale, et al. 2015)

Some recent studies have shed more light on the Kansas tax cuts:
- find a negative impact on economic growth (Rickman & Wang 2018)
- show no impact on private sector employment (Turner & Blagg 2018)

However, little is known about the impacts of state tax cuts on debt market outcomes.

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\(^1\) Municipal Finance Conference July 16-17, 2018
Research Questions

• What is the impact of major state tax cuts on municipal market outcomes, such as state borrowing costs?

• Is there evidence of spillover effects of state tax cuts on local debt markets:
  o specifically, what is the impact of state tax cuts on interest costs and credit ratings of local government bonds?
Theoretical Rationale

- Municipal debt markets might anticipate a decline in government fiscal health following a major state tax cut.
  
  Tax cut signals a potential decline in tax revenue and greater risk of the government not meeting its interest obligations (see Poterba & Rueben 2001).

- Consequently, a major state tax cut might be associated with lower credit ratings and higher interest costs on state debt.

- Also, state fiscal decisions affect local governments, and can result in state fiscal spillovers in local debt markets (see Brennan & Buchanan 1980; Oates & Schwab 1988).
Hypotheses

• Hypothesis 1:
  Borrowing costs on state government bonds are higher in the period after a major state tax cut compared to the period preceding the tax cut.

• Hypothesis 2:
  Local government bonds have higher interest costs and lower ratings in the period after a major state tax cut compared to the period preceding the tax cut.
The Kansas Tax Cuts Experience

• Kansas enacted major tax cuts in 2012:
  o reduced the number of individual income tax brackets and lowered the top income tax rate
  o eliminated taxes on income for some businesses.

• The tax cuts as a whole constitute the largest in the state’s history (Blagg 2018)
  o It gained national attention as a test case for supply side economics (King & Peters 2013)
  o The tax cuts were reversed in June 2017.
Data

• Data spans 2005 to 2015:
  o pre reform (2010 to 2012) and post reform (2013 to 2015)
  o pre recession (2005 to 2007) and recession (2008 to 2009)

• Data are from Ipreo, Mergent, Bloomberg, and Bond Buyer
  o sourced from the Municipal Securities Lab at Georgia State Univ.
  o give details on issuer and issue characteristics and market indicators

• Sample also covers bonds issued in Kansas’ neighbor states: Colorado, Missouri, Nebraska, and Oklahoma.
  o state government sub-sample = 163 issues
  o local government sub-sample = 3,470 issues
Some Empirical Challenges

• Unit of analysis is the ‘issue’ rather than a maturity or ‘CUSIP’ since TIC is calculated for an entire issue:
  o Consequently, the state bonds sub-sample is small because there are not many state issues in a single year.

• Kansas does not issue state general obligation debt directly, and Colorado and Oklahoma require voter approval for state issuance of general obligation debt:
  o Therefore, we Identify state issuers and use these issues as a proxy

• Also, the problem with aggregating interest costs at the state-level constraints the range of estimation methods to use.
Method
[State tax cuts and borrowing costs]

- A simple difference-in-difference estimation technique.

\[ y_i = \alpha_1 D_1 + \alpha_2 D_2 + \gamma D_1 \times D_2 + x_{it}\beta + \varepsilon \]  

- \( y_i \): True interest costs (TIC)
- \( D_1 \): propensity-to-treat measure, identifies Kansas bonds (KANSAS)
- \( D_2 \): categorical variable, distinguishes pre-treatment (until 2012) from post-treatment (POST) observations.
- \( \gamma \): main parameter, measures the differential effect of tax cuts on interest costs of Kansas bonds vis-à-vis bonds from neighbor states.
- \( x_{it} \) shows covariates, \( \beta \) lists covariate coefficients, \( \varepsilon_{it} \) is error term.
Method

[State tax cuts and credit ratings]

• Credit rating is measured as an ordinal variable indicating high, medium, and low rating.
  o therefore, we use generalized ordered logit techniques to estimate a difference-in-difference model of credit ratings:

\[
y_i = \alpha_1 D_1 + \alpha_2 D_2 + \gamma D_1 \times D_2 + x_{it}\beta + \varepsilon
\]  \hspace{1cm} (2)

- \( y_i \): Credit rating
- \( D_1, D_2, x_{it}, \beta \) and \( \varepsilon_{it} \) are similar to the definitions in Equation 1
- \( \gamma \): measures the differential effect of tax reform on credit ratings of bonds issued in Kansas vis-à-vis bonds from neighbor states.
Results
[State tax cuts and state borrowing costs]

• Results show mixed impacts of the Kansas tax cuts on state government borrowing costs.
  
  o The base model results showed no significant impact of state tax cuts on state government borrowing costs.
  
  o However, an expanded model with more covariates showed marginally significant impacts:

    - on average, state bond issues in Kansas during the post-reform years paid a 43 basis point higher interest cost than issues in the pre-reform years, vis a vis neighboring states.
Results
[State tax cuts and local debt markets]

• Results give consistent estimates of the adverse impact of state tax cuts on local government issuers:
  
  o On average, local issuers in Kansas experienced a 34-basis point higher borrowing cost in the post reform period than the pre-reform period, compared to local issuers in neighboring states.
  
  o Also, local issuers in Kansas faced a lower probability of receiving high credit ratings on their bonds in the post reform period than in the pre-reform period, vis a vis local issuers in neighboring states.
Policy Implications

• The empirical findings raise two important issues in state and local fiscal policymaking.

• First, the pursuit of tax cuts using the rationale of economic development should be analyzed by including the budgetary costs of indirect outcomes such as higher borrowing costs and debt service.

• Second, if state tax actions have such significant impacts on local government debt market outcomes and budgets, it raises important concerns about whether local government policymakers should have a more prominent voice in state tax policymaking.
THANK YOU

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