STATE TAX CUTS AND DEBT MARKET OUTCOMES

An Empirical Analysis of the Kansas Tax Reform

Komla Dzigbede

State University of New York at Binghamton

Rahul Pathak

City University of New York, Baruch College

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!

… Tax Cuts in the News

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:

Gov. Brownback undertook ‘drastic’ tax cuts in 2012 that lasted until June 2017.

POLITIFACT WISCONSIN IN PARTNERSHIP WITH journal sentinel

Walker: Tax cuts will exceed $8 billion if budget proposal passes

Money | Everyday Money

This State's Drastic Tax Cuts Inspired Trump. Now It Admits the Experiment Has Failed

npr

Kansas Tax Cut Experiment Comes To An End As Lawmakers Vote To Raise Taxes

June 7, 2017 · 10:37 AM ET

State Tax Cuts and Debt Markets

- Empirical evidence on the economic impacts of state tax cuts is mixed at best
  (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.

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:
  - 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:
  - reduced the number of individual income tax brackets and lowered the top income tax rate
  - eliminated taxes on income for some businesses.

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

Data

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

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

- Sample also covers bonds issued in Kansas' neighbor states: Colorado, Missouri, Nebraska, and Oklahoma.
  - state government sub-sample = 163 issues
  - 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:
  - 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:
  - 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.

$$y_i = \alpha_1 D_1 + \alpha_2 D_2 + \gamma D_1 * D_2 + \boldsymbol{x_{it}}\boldsymbol{\beta} + \varepsilon \qquad (1)$$

- 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.
- γ : main parameter, measures the differential effect of tax cuts on interest costs of Kansas bonds vis-à-vis bonds from neighbor states.
- $\boldsymbol{x}_{it}$ shows covariates, $\boldsymbol{\beta}$ lists covariate coefficients, ε_{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.
  - therefore, we use generalized ordered logit techniques to estimate a difference-in-difference model of credit ratings:

$$y_i = \alpha_1 D_1 + \alpha_2 D_2 + \gamma D_1 * D_2 + \boldsymbol{x_{it}} \boldsymbol{\beta} + \varepsilon \qquad (2)$$

- y_i : Credit rating
- D_1 , D_2 , $\boldsymbol{x}_{it}$, $\boldsymbol{\beta}$ and ε_{it} are similar to the definitions in Equation 1
- γ : 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.

- The base model results showed no significant impact of state tax cuts on state government borrowing costs.

- 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:

  - 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.

  - 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

KOMLA DZIGBEDE

dzigbede@binghamton.edu

RAHUL PATHAK

rahul.pathak@baruch.cuny.edu