

How Large Should State Rainy Day Funds Be? The Case of New England States

Presented at the Lincoln Institute of Land Policy
Economic Perspectives of State and Local Taxes
January 23, 2015

Bo Zhao
New England Public Policy Center
Federal Reserve Bank of Boston



Disclaimer: The views expressed here are those of the author and do not necessarily represent the views of the Federal Reserve Bank of Boston or the Federal Reserve System.



Why do states need rainy day funds?



- State revenue is cyclical. Revenue cyclicalities have increased since 2000.
- Purposes of rainy day funds:
 - Address revenue shortfalls associated with economic downturns
 - Smooth state budgets over the business cycle
- States face tradeoffs in setting the size of their rainy day funds.
- Question: How large should state rainy day funds be?

Rules of thumb



- Rules of thumb: relative to annual general fund
 - 5% (National Conference of State Legislatures 1983)
 - 15% (Center on Budget and Policy Priorities 2011)
 - 17% (Government Finance Officers Association 2009)
- Criticisms:
 - Arbitrary
 - One-size-fits-all
 - Ignore states having different degrees of revenue cyclicity and different desires for tax rate and spending stability

Preview of main findings



- There is no “one-size-fits-all” optimal rainy day fund size.
- We develop each state’s target rainy day fund level based on:
 - magnitude of its revenue dips below trend
 - its preference for having stable tax rate and spending.
- Except for Massachusetts, New England states’ rainy day fund caps are low relative to the needed rainy day funds.
- New England states frequently lacked sufficient rainy day funds over the past 25 years.

Data and methodology



- Data for FY 1988-FY 2012:
 - Census Bureau
 - National Association of State Budget Officers

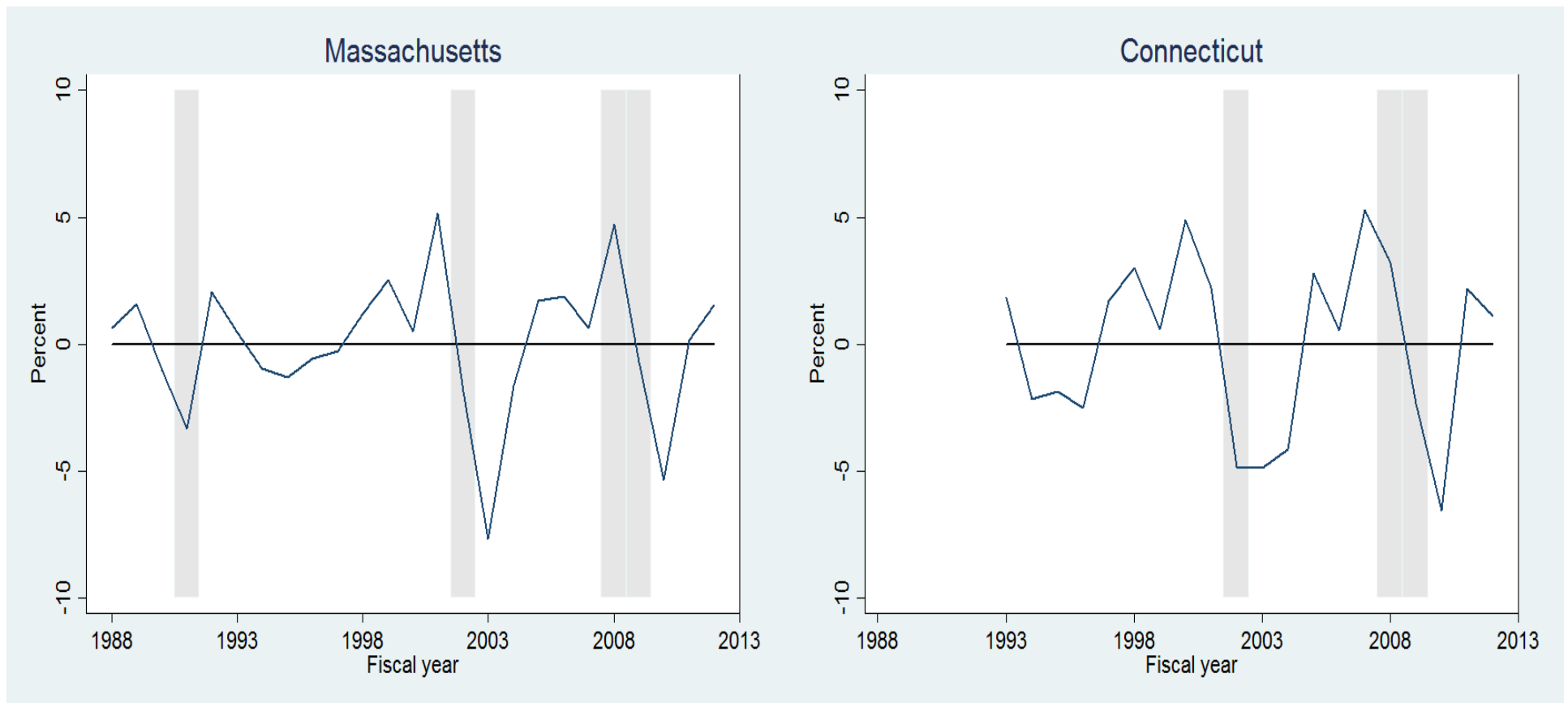
- Methodology:

Divide each state's revenue figures into two parts

- Long-term revenue trend
- Deviation from trend induced by business cycles

Estimated deviation from the revenue trend

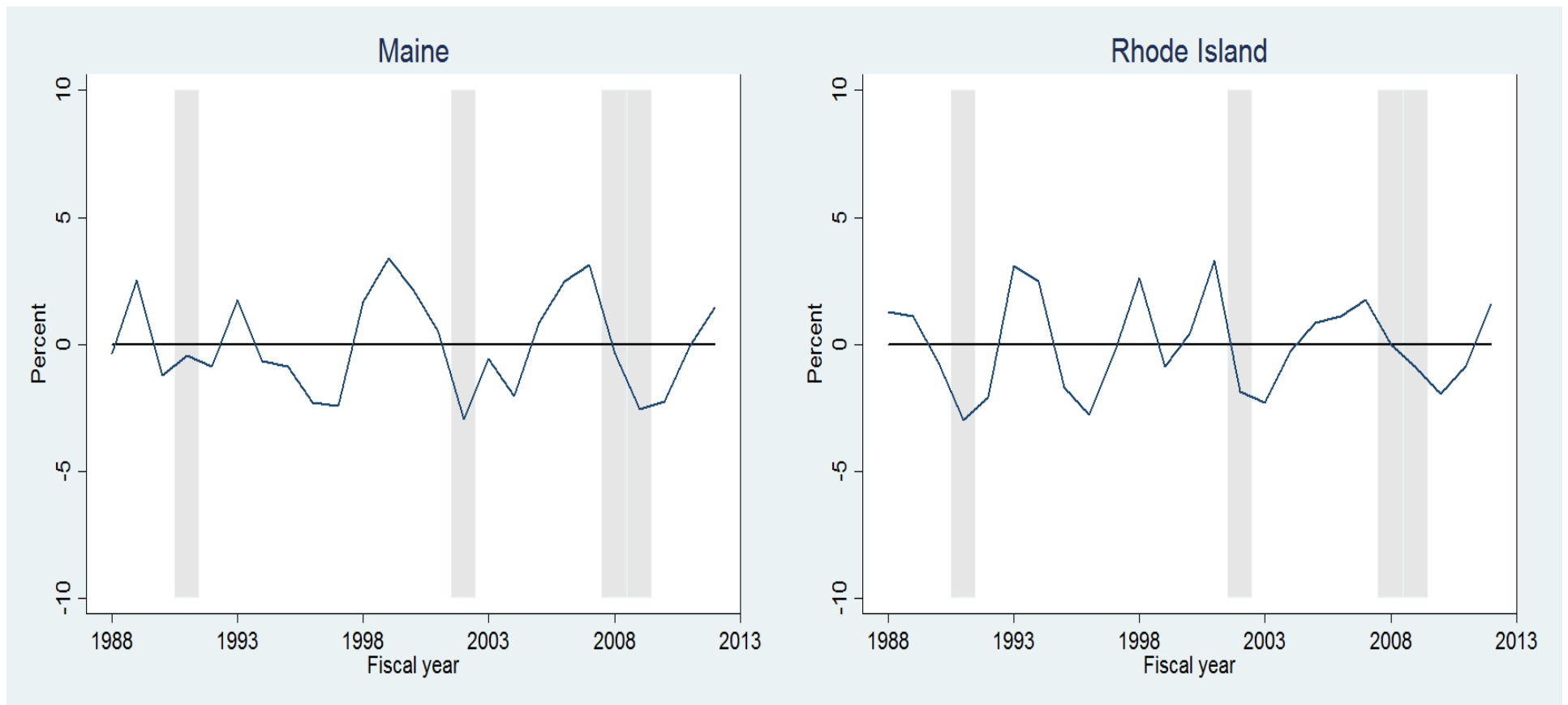
(as a % of state average general expenditure from 1988 to 2012)



Note: The shaded areas indicate national recession periods.

Estimated deviation from the revenue trend

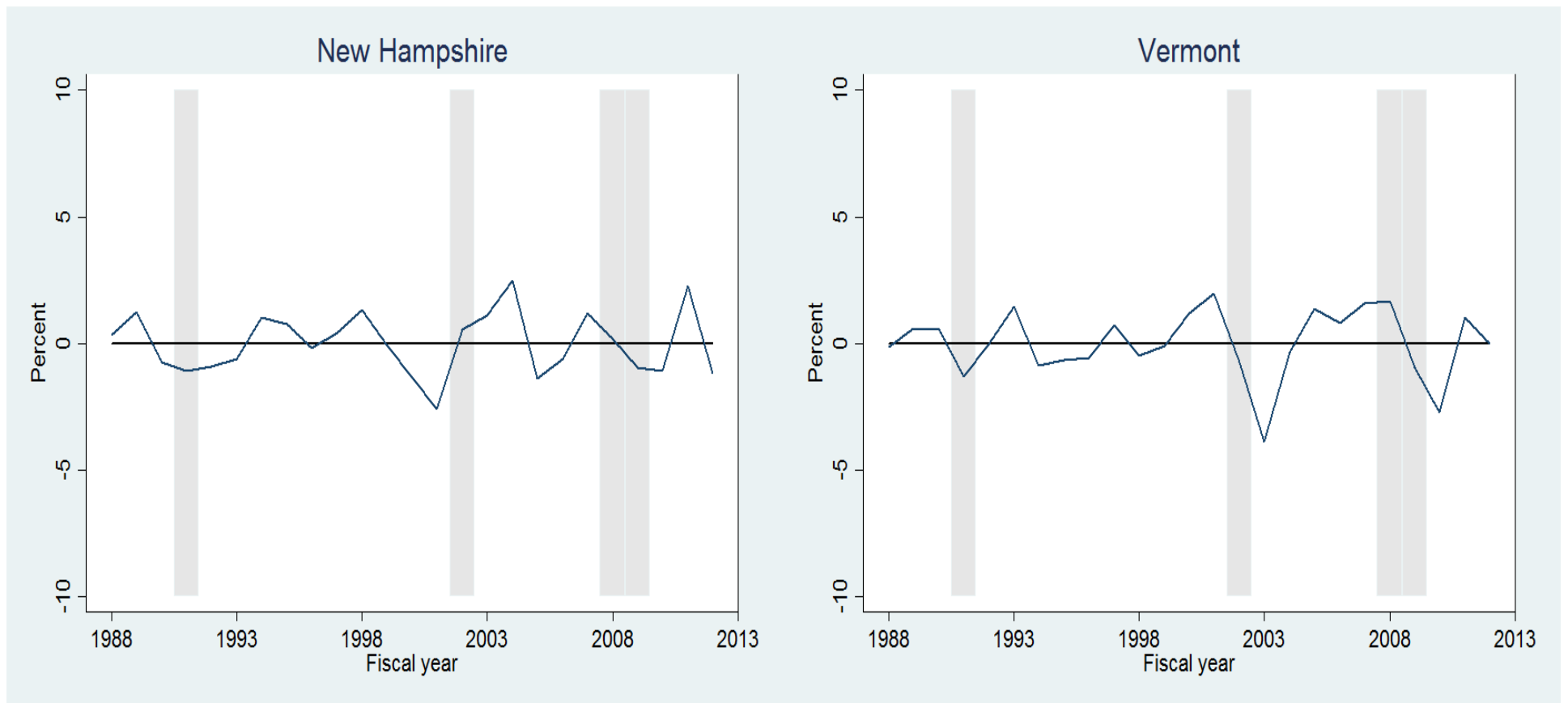
(as a % of state average general expenditure from 1988 to 2012)



Note: The shaded areas indicate national recession periods.

Estimated deviation from the revenue trend

(as a % of state average general expenditure from 1988 to 2012)



Note: The shaded areas indicate national recession periods.

Potential target rainy day fund levels

(as a % of the Census Bureau-defined state general expenditure)

State	Needed rainy day fund for the worst-case scenario	Needed rainy day fund for the middle-case scenario
Connecticut	11.9	8.4
Massachusetts	10.2	5.5
Rhode Island	7.8	4.0
Maine	6.9	4.5
New Hampshire	5.7	1.7
Vermont	4.3	2.2
U.S. as a whole	6.9	2.1

Are state rainy day fund caps high enough?

(as a % of state-reported general fund revenue or expenditure)

State	Rainy day fund cap	Needed rainy day fund for the worst-case scenario	Needed rainy day fund for the middle-case scenario
Massachusetts	15.0	14.3	7.7
Maine	12.0	14.9	9.6
New Hampshire	10.0	19.1	5.6
Connecticut	10.0	15.7	11.1
Rhode Island	5.0	14.6	7.5
Vermont	5.0	13.1	6.7

How often have states lacked sufficient rainy day funds for 1988-2012?

State	# of periods with below-trend revenue (1)	# of periods with below-trend revenue in which state rainy day funds were insufficient (2)	% of periods with below-trend revenue in which state rainy day funds were insufficient (3)=100×(2)÷(1)
Connecticut	3	3	100.0
Massachusetts	4	4	100.0
New Hampshire	6	5	83.3
Maine	5	4	80.0
Rhode Island	5	4	80.0
Vermont	7	4	57.1
U.S. as a whole	6	4	66.7

Conclusion and policy recommendations



- New England states experienced some periods with below-trend revenue in the last 25 years, especially during the 2 recent recessions.
- Needed rainy day funds differ across states.
- States might consider a target level closer to the needed rainy day fund for the worst-case scenario.
- Most New England states (especially CT, RI, and VT) have a quite low cap relative to the needed rainy day fund for the worst-case scenario and may consider raising the cap.
- New England states (especially CT and MA) often did not save enough in the last 25 years. They should consider saving more moving forward.