Fiscal Rules, Bailouts, and Reputation in Federal Governments
by
Dovis and Kirpalani

Discussion by Sushant Acharya

December 2018

Question

Do fiscal rules always promote discipline?

Answer

Not necessarily; depends on commitment to impose the rules ex-post

Environment

- Stylized 3 game between local governments (LG) and central government (CG)
- LG's can borrow from ROW to provide public goods locally
- CG's can:
  - penalize them for "over-borrowing" (*fiscal rule*)
  - equalize resources between LG's (*bailout*)
- All LG's have Y in periods 1 and 2.
  In period 0: "South" LG's only have $Y - \Delta$, "North" LG's have $Y + \Delta$

Environment

- Objective of LG i:

$$\max u(G_{i,0}) + \beta u(G_{i,1}) + \beta^2 u(G_{i,2})$$

s.t.

$$\begin{aligned} G_{i,0} &= Y_i + qb_{i,1} \\ G_{i,1} &= Y + qb_{i,2} - b_{i,1} + T_{i,1}(\mathbf{b}_1) \\ G_{i,2} &= Y - b_{i,2} + T_{i,2}(\mathbf{b}_2) \end{aligned}$$

- Assume $q = \beta$ from now on

Efficient Allocation

$$u'(G_{i,0}) = u'(G_{i,1}) = u'(G_{i,2}) \text{ for all } i$$

- All LG's provide the same level of public goods at all dates regardless of Y_0.

$$G_{i,t} = Y \text{ for all } i, t$$

The commitment type CG

- $T_{i,1}(\mathbf{b}_1) = T_{i,2}(\mathbf{b}_2) = 0$ for all i

The commitment type CG

- $T_{i,1}(\mathbf{b}_1) = T_{i,2}(\mathbf{b}_2) = 0$ for all i
- LG's left on their own, borrow from ROW to smooth public good provision:

$$u'(G_{i,0}) = u'(G_{i,1}) = u'(G_{i,2})$$

The commitment type CG

- $T_{i,1}(\mathbf{b}_1) = T_{i,2}(\mathbf{b}_2) = 0$ for all i
- LG's left on their own, borrow from ROW to smooth public good provision:

$$u'(G_{i,0}) = u'(G_{i,1}) = u'(G_{i,2})$$

- Looks efficient, but isn't unless $\Delta = 0$

$$G_{S,t} = Y - \frac{\Delta}{3} \leq G_{N,t} = Y + \frac{\Delta}{3}$$

The commitment type CG

- $T_{i,1}(\mathbf{b}_1) = T_{i,2}(\mathbf{b}_2) = 0$ for all i
- LG's left on their own, borrow from ROW to smooth public good provision:

$$u'(G_{i,0}) = u'(G_{i,1}) = u'(G_{i,2})$$

- Looks efficient, but isn't unless $\Delta = 0$

$$G_{S,t} = Y - \frac{\Delta}{3} \leq G_{N,t} = Y + \frac{\Delta}{3}$$

- S has lower G provision since they have fewer lifetime resources.

The no commitment CG

- Cannot commit to $T_i(\mathbf{b}_t) = 0$. CG will ex-post redistribute to make G for all LG's

$$T_i(\mathbf{b}_t) = b_{i,t} - \overline{b}_t$$

where $\overline{b}_t = \sum b_{i,t}/n$

The no commitment CG

- Cannot commit to $T_i(\mathbf{b}_t) = 0$. CG will ex-post redistribute to make G for all LG's

$$T_i(\mathbf{b}_t) = b_{i,t} - \overline{b}_t$$

- Incentivizes each LG to borrow too much

$$u'(G_{i,0}) = \delta u'(G_{i,1}) = \delta^2 u'(G_{i,2}) \qquad \Rightarrow \qquad G_{i,0} \geq G_{i,1} \geq G_{i,2}$$

where $\delta(n) = \frac{d\overline{b}_t}{db_{i,t}} \in [0, \frac{1}{2}]$

The no commitment CG

- Cannot commit to $T_i(\mathbf{b}_t) = 0$. CG will ex-post redistribute to make G for all LG's

$$T_i(\mathbf{b}_t) = b_{i,t} - \overline{b}_t$$

- Incentivizes each LG to borrow too much

$$u'(G_{i,0}) = \delta u'(G_{i,1}) = \delta^2 u'(G_{i,2}) \qquad \Rightarrow \qquad G_{i,0} \geq G_{i,1} \geq G_{i,2}$$

where $\delta(n) = \frac{d\overline{b}_t}{db_{i,t}} \in [0, \frac{1}{2}]$

- As $n \to \infty \Rightarrow \delta \to 0$. With $u(c) = c^{1-\gamma}/(1-\gamma)$ and $\gamma < 1$: Extreme tilting!

$$G_{i,0} = (1 + q + q^2)Y \qquad G_{i,1} = G_{i,2} = 0$$

The no commitment CG

- Cannot commit to $T_i(\mathbf{b}_t) = 0$. CG will ex-post redistribute to make G for all LG's

$$T_i(\mathbf{b}_t) = b_{i,t} - \overline{b}_t$$

- Incentivizes each LG to borrow too much

$$u'(G_{i,0}) = \delta u'(G_{i,1}) = \delta^2 u'(G_{i,2}) \qquad \Rightarrow \qquad G_{i,0} \geq G_{i,1} \geq G_{i,2}$$

where $\delta(n) = \frac{d\overline{b}_t}{db_{i,t}} \in [0, \frac{1}{2}]$

- As $n \to \infty \Rightarrow \delta \to 0$. With $u(c) = c^{1-\gamma}/(1-\gamma)$ and $\gamma < 1$: Extreme tilting!

$$G_{i,0} = (1 + q + q^2)Y \qquad G_{i,1} = G_{i,2} = 0$$

- problem persists even if $\Delta = 0$

What can CG do in this case?

- If CG cannot commit to ex-post redistribution $\Rightarrow$ over-borrowing
- Try imposing penalties on over-borrowing (*fiscal rules*)?
- Threat to ex-post penalize over-borrowing is not credible for the same reasons
  - ex-post penalties would make G lower in areas where penalties apply.
  - But CG wants to equalize G across areas ex-post
  - Thus, penalty not imposed ex-post
- **If LG's know that CG is no commitment-type, then fiscal rules are ineffective.**

If LG's unsure about type of CG

- If LG's unsure about whether CG is commitment or no commitment type, CG might be able to discipline LG's
- If LG's attribute large probability (high π) to CG being commitment type:
  - low probability of ex-post re-distribution
  - forces LG's to "internalize" the cost of issuing additional debt

$$u'(\underbrace{Y_i + qb_{i,1}}_{G_{i,1}}) = \pi u'(\underbrace{Y + qb_{i,2} - b_{i,1}}_{G_{i,1} \text{ with no re-dist}}) + (1-\pi)\delta u'(\underbrace{Y - \overline{b}_1 + qb_{i,2}}_{G_{i,1} \text{ with re-dist}})$$

- If CG redistributes in period 1, then over-borrowing between periods 1 and 2. Otherwise over-borrowing reduced.
- With high enough initial reputation, no-commitment type can mimic commitment type.

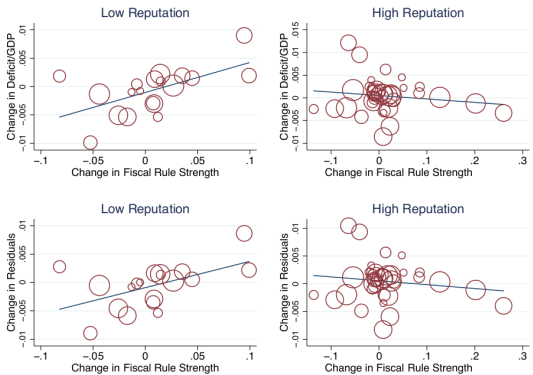
If LG's unsure about type of CG

- Easier for no-commitment CG to mimic without fiscal rules
- No fiscal rules - only way LG can find out type is if CG redistributes
- With fiscal rules, if $b_{i,t} > \overline{b}$ and LG i is not penalized, then it knows that CG is no-commitment type:
  - The tighter the fiscal rule (lower $\overline{b}$, the more likely type is revealed
  - Loose fiscal rule (high $\overline{b}$), less likely type is revealed but allows higher borrowing
- With low reputation, fiscal rules can even lead to higher borrowing than without

Strengthening Fiscal Rules with high/low reputation

Model Prediction: Strengthening Fiscal Rule **(tighter $\overline{b}$)** with low $\pi \Rightarrow \uparrow$ debt.

Figure 2: **Changes in fiscal rule strength and primary deficits**



Fiscal Rule Strength Index

Attribute 1 (a1): Statutory/legal base of the rule

4 constitutional base
3 the rule is based on a legal act (e.g., Public finance Act, Fiscal Responsibility Law)

2 the rule is based on a coalition agreement or an agreement reached by different general government tiers (and not enshrined in a legal act)
1 political commitment by a given authority (central/local government, minister of finance)

Attribute 2 (a2): Adjustment margin

3 there is no margin for adjusting objectives (they are encapsulated in the document underpinning the rule)
2 there is some but constrained margin in setting or adjusting objectives
1 there is complete freedom in setting objectives (the statutory base of the rule merely contains broad principles or the obligation for the government or the relevant authority to set targets)

Attribute 3 (a3): Nature of the body in charge of monitoring rule compliance

3 monitoring by an independent authority (Fiscal Council, Court of Auditors or any other Court) or the national Parliament
2 monitoring by the ministry of finance or any other government body
1 no regular public monitoring of the rule (there is no report systematically assessing compliance)

Attribute 4 (a4): Existence of alert mechanisms

We augmented the score of this sub-criterion by 1 if there is real-time monitoring of compliance with the rule, i.e., if alert mechanisms of the risk of non-respect exist.

Attribute 5 (a5): Nature of the body in charge of enforcing the rule

3 enforcement by an independent authority (Fiscal Council or any Court) or the national Parliament
2 enforcement by the ministry of finance or any other government body
1 no specific body in charge of enforcement

Attribute 6 (a6): Enforcement mechanisms of the rule

4 there are automatic correction and sanction mechanisms in case of non-compliance
3 there is an automatic correction mechanism in case of non-compliance and the possibility of imposing sanctions
2 the authority responsible is obliged to take corrective measures in case of non-compliance or is obliged to present corrective proposals to Parliament or the relevant authority
1 there are no ex-ante defined actions in case of non-compliance

Attribute 7 (a7): Existence of Escape Clause

We augmented the score of this variable by 1 if escape clauses are foreseen and clearly specified.

Attribute 8 (a8): Media visibility of the rule

3 observance of the rule is closely monitored by the media; non-compliance is likely to trigger public debate
2 high media interest in rule compliance but non-compliance is unlikely to invoke public debate
1 no, or modest interest of the media

- Not clear why change in this index is informative about changes in $\overline{b}$.
  - Tightening of index is at best very weakly correlated with higher $\overline{b}$.
- Given construction of index, stronger index is more reasonably interpreted as higher π.

Comments

- I'm not sure what to map a low-commitment/ high commitment CG to in reality
  - World Bank's Worldwide Governance Indicators - unsure about why this is a good measure of commitment relevant for the paper
  - Hard to find existing measures which capture "*commitment*" in a sense relevant to the model. Possibly the same issue with "*strength of fiscal rule*".
- A more structural approach is probably the most sensible way to evaluate this empirically
- Paper makes an interesting point but it isn't clear that this is the most pressing issue in thinking about fiscal rules