

**Fiscal Rules and Discretion under Persistent Shocks**  
**Halac and Yared - WP 2014**

- Fiscal rule: a mechanism where government reports the shock in every period and is assigned a policy as a function of the reports.
  - Ex-ante optimal fiscal rule (mechanism): maximizes welfare at  $t = 0$ , subject to **incentive compatibility**, **promise keeping** and **threat keeping** constraints for every period  $t$ . (Restrict attention to public strategies only.)
  - Sequentially optimal fiscal rule (mechanism): chosen by gov at each period, taking into account future gov's will do the same.

• **Optimal fiscal rules**

- Sequentially optimal: given types are close enough, savings rate  $s_t(\theta^t)$  is independent of the type  $\theta_t$  (pooling), and depends only on  $\theta_{t-1}$ .

$$E[\theta_t | \theta_{t-1}] U'(1 - s_t(\theta^t)) = E[\tilde{\theta} | \theta_{t-1}] U'(s_t(\theta^t)). \quad (1)$$

If  $\theta_{t-1} = \theta^H$ , debt is higher (spending is higher).

It can be implemented with a history-independent debt limit,  $\bar{b}(\theta_{t-1}, b_t(\theta^{t-1}))$ .

Since both types want to spend/borrow more, both types choose the debt limit.

- Ex-ante optimal: if shocks are iid, it coincides with the sequentially optimal fiscal rule.
  - It is LAX in the future if spending needs today are high: cost of lax rules tomorrow is higher if spending needs are low today, as spending needs are then likely to be low tomorrow.
  - High shocks lead to erosion of future fiscal discipline.
  - Low shocks reinstate discipline → continuation payoff is the "resetting" result, which comes from fiscal discipline.
  - Dynamic incentives are suboptimal because perturbations of the ex-post optimal rule (the sequential optimum) affect continuation welfare on and off the equilibrium path equally (in iid case!).
  - If shocks are persistent:

- (Resetting) If low type is realized at time  $t$ ,  $V^{L*}(\theta^i, V) = \bar{V}^L$ . → Leads to history dependence.
- (Monotonicity of threats)
- (Monotonicity of saving rates)
- Savings rate following  $\theta^H$  is lower if type was really  $\theta^L$  than if it was  $\theta^H$ .
- Threat used in the ex-ante optimum to induce the low type to report truthfully is more severe if he is  $\theta^L$ .

- Threat: relaxing the low type's incentive constraint and curbing his spending. The cost from a more severe threat is reducing the high type continuation welfare.
- Savings rate is lower if  $\theta^i = \theta^H$  (more spending).
- $\eta_t(\theta^{t-1})$  : number of periods since last  $\theta^L$  was realized.
- How can we punish the low type without hurting the high type too much? TWO ways
- (1) spending today given a "low" report can be made higher (and further away from 1st best)
- (2) expected continuation value given a "low" report can be made lower.
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- Long run: first best: assets  $\rightarrow \infty$  (self insurance);
- full discretion case: debt goes to maximum.
- sequential optimum (persist shocks): assets  $\rightarrow \infty$  : when  $\theta^L$  gov predicts low spending needs in the future, and therefore saves for insuring itself for the future.
- ex-ante rule may induce to accumulate maximal debt and become immiserated in the long run.