Time Inconsistency of Government Policies

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May 11, 2020

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**Definition**

**Time Inconsistency.** The problem that arises when a policy maker prefers one policy in advance but a different one when the time to implement arrives. Knowing this, others will not find the commitment to the first policy credible.

- In simple words: tendency to promise one thing and deliver another.
- Time Inconsistency problem arises despite policy makers having good intentions.
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- Time Inconsistency problem arises despite policy makers having good intentions.
Teacher Exams Policy

- Policy announcement at time \( t - 1 \): "there will be exam at \( t \)."
- If students studied, optimal policy at time \( t \): cancel the exam.
  - The goal to make students study is achieved, and the teacher doesn’t like grading.
- In anticipation that exam will be canceled, students don’t study - failure to achieve Pareto Optimal outcome:
  \[ \{ \text{students study, teacher doesn’t grade} \} \]
- Q. How to achieve socially optimal outcome?
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"for their contributions to dynamic macroeconomics: the time consistency of economic policy and the driving forces behind business cycles."

Q. What would Kydland and Prescott recommend for the Teacher Exams Policy?

Set rules: the teacher commits to having exams on certain dates and puts it in writing - syllabus. This will not achieve the Pareto Optimal outcome (teacher needs to grade), but is a second best.

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Example: fiscal policy

- At $t - 1$ government promises low taxes on capital: low $\tau_{kt}$.
- Investors invest a lot (high $x_{t-1}$): $k_t = (1 - \delta)k_{t-1} + x_{t-1}$.
- At $t$, optimal policy for government is to tax $k_t$ at high rate ($\tau_{kt} = 100\%$), since $k_t$ is already determined.
- Problem: if investors at time $t - 1$ understand that it is optimal for gov. to set $\tau_{kt} = 100\%$, they will choose $x_{t-1} = 0$. 
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Example: Monetary policy

- **Private sector:**
  \[ \pi^e_t = E (\pi_t | \Omega_{t-1}) \]

- **Government:**
  \[
  \max_{u_t, \pi_t} S_t = -\frac{1}{2} (u_t - \theta u^*)^2 - \frac{1}{2} \gamma \pi_t^2
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  \[\text{s.t.}\]
  \[u_t = u^* - \alpha (\pi_t - \pi^e_t)\]
  \[\alpha, \gamma > 0, \theta \in (0, 1)\]

- **Solution:**
  \[\pi_t = \frac{\alpha (1 - \theta) u^* + \alpha^2 \pi^e_t}{\gamma + \alpha^2} > 0\]
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- $\pi^e_t = 0$ is not rational.

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  - Read Interview with Bernanke, to see the discussion on credibility and time inconsistency.

- Reforms in New Zealand, Sweden, Great Britain, and in the Euro area, passing legislation aimed at increasing independence of central bankers.

- Nations and states are moving towards Balanced Budget Rules, which prohibit running deficits, except in special cases.

- Methodological contribution - apply dynamic game theory framework to studying government policies.
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