

POLITICAL ECONOMY FIELD EXAM

August 10, 2015

Please answer all questions. Each question will be graded equally. You have three hours to complete the exam.

1. Consider a society with three distinct groups of voters, denoted $J = 1, 2, 3$. Each group has a continuum of voters with unit mass. Preferences over

$$W^J = u(c^J) + H(g) = u(1 - \tau + f^J) + H(g).$$

Here, c^J is the private consumption of the average individual in group J , τ is a common tax rate, f^J is a transfer targeted to individuals in group J , and g is the supply of a public good, evaluated by the concave and monotonically increasing function $H(g)$. Assume $u(\cdot)$ to be concave as well. The public policy vector q is defined by

$$q = [\tau, g, r, \{f^J\}] \geq 0,$$

where all components are constrained to be non-negative. Any feasible policy must satisfy the government balanced budget constraint

$$3\tau = \sum_J f^J + g + r.$$

The component r reflects rents to the politicians and is a deliberate object of choice. Rent extraction is associated with some transaction cost $1 - \gamma$, such that only γr benefit the politician.

Before the elections, two parties or candidates (A and B) commit to policy platforms q_A and q_B . They act simultaneously and do not cooperate. The winning platform is implemented. Party P maximizes the expected value of rents,

$$E(v_P) = p_P \cdot (R + \gamma r),$$

where R denotes the ego rents associated with winning the elections, and p_P denotes the probability that P wins the right to set policy, given q_A and q_B .

We assume probabilistic voting. Let $W^J(q)$ denote the preferences of voters in group J over government policy, and let $\delta + \sigma^{iJ}$ denote voter i 's ideological preference for party B . Assume that δ is uniformly distributed on $\left[-\frac{1}{2\psi}, \frac{1}{2\psi}\right]$ and σ^{iJ} differs across groups J and is uniformly distributed on $\left[-\frac{1}{2\phi} + \bar{\sigma}^J, \frac{1}{2\phi} + \bar{\sigma}^J\right]$, $J = 1, 2, 3$. Assume further that $\bar{\sigma}^1 < \bar{\sigma}^2 = 0 < \bar{\sigma}^3$, $\phi^2 > \phi^1, \phi^3$, and $\bar{\sigma}^1\phi^1 + \bar{\sigma}^3\phi^3 = 0$.

- (a) Compute the social planner's policy choice.
 - (b) How do transfers in the election model compare with the social optimum?
 - (c) Write down the condition for the choice of rents, r , in equilibrium.
 - (d) Derive two testable implications from this model.
2. Discuss two implications of the pivotal-voter model of turnout? Has the literature found much support for these predictions? Discuss an alternative theory for why voters turnout in large elections? What does the empirical evidence say about this theory? For one empirical paper, describe the data, research design, main findings, robustness, and any concerns with interpretation.
3. Campaign contributions appear small relative to the benefits they are about to bring, leading some to conclude that they are not as important as one often assumes. How has the literature on the topic evolved and is it possible to explain why apparently small contributions may have a large impact?
4. Take a society with a population of 1 where the rich have income $y^r = \frac{\theta \bar{y}}{\delta}$ where δ is the proportion of rich in the population, θ is a measure of income inequality and \bar{y} is average income. Similarly, the income of the poor is defined by $\frac{(1-\theta)\bar{y}}{1-\delta}$. Assume a linear tax rate τ with convex distortionary cost $C(\tau)$. Assume an initial situation of non democracy. Assume that with probability q the cost of revolution is $\mu^H = \mu < 1$ and with probability $(1 - q)$ it is $\mu^L = 1$. If there is a revolution, the rich are expropriated and the poor get $(1 - \mu)\bar{y}$ each period forever (assume an infinite horizon framework with discount rate β).
- (a) Derive the Markov perfect equilibrium in a situation where in each stage game, μ is revealed first, elites set the tax rate afterwards and the poor finally decide whether or not to stage a revolution and derive the different parameter conditions under which either a) there is never a revolution or redistribution, b) revolution is unavoidable c) a revolution can be averted via redistribution. Derive these different conditions by developing value functions for the poor and the rich in different states μ^H, μ^L . Explain the intuition for the results.
 - (b) Explain what would change in the analysis if we drop the assumption of Markov perfection. Do not necessarily develop the formal analysis of this case.