

EITM: *Macro Political Economy*, Exercises

1. Consider a political economy with three distinct groups of voters, $J=\{1,2,3\}$, each with a continuum of voters of mass 1. Every member of group J has utility:

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

That is, all voters like consumption, c , according to $u(c)$ and public goods, g , according to $H(g)$. They each have endowment of 1, pay taxes τ , and receive lump-sum transfer f^J (targeted to group J). Both $H(\cdot)$ and $u(\cdot)$ are concave and increasing. Policymakers therefore control a vector of policies

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

with the new term, r , are the rents they choose to extract. Representing transaction costs in such rent extract, every unit r taken from voters translates into only γr for policymakers. The policy vector chosen must satisfy a budget constraint

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

Two parties or candidates, A and B , who can commit fully to platforms \mathbf{q}_A and \mathbf{q}_B , compete in single-district elections for full policymaking control in this polity. They act simultaneously and cannot cooperate. Winners implement their platform. Party p maximizes the expected value of exogenous ego rents, R , and endogenous pecuniary rents, r , which depends on their endogenous probability of winning:

$$E(v_p) = p_p \cdot (R + \gamma r)$$

Assume probabilistic voting wherein voter i of group J votes for part A if

$$W^J(q_A) > W^J(q_B) + (\delta + \sigma^{ij})$$

where the $(\delta + \sigma^{ij})$ reflects i 's ideological preference for B . Note that δ is common to all voters while σ^{ij} is idiosyncratic to i . Finally, δ is uniformly distributed on $[-1/(2\psi), 1/(2\psi)]$ and the σ^{ij} , which differ by group, are distributed uniformly on $[-1/(2\varphi^J) + \mu^J, 1/(2\varphi^J) + \mu^J]$, where the μ^J are fixed means. If it helps, you may assume further that $\mu^1 < \mu^2 < 0 < \mu^3$, $\varphi^2 > \varphi^1, \varphi^3$, and $\mu^1 \varphi^1 + \mu^3 \varphi^3 = 0$.

- a. What is the traditional benevolent-social-planner's policy?
- b. Compare the party platforms to that policy. In particular, explore the various first-order conditions for
 - i) transfers: who gets more? On what does that depend?
 - ii) rents: what conditions describe equilibrium rents?
 - iii) public goods: how much in equilibrium? On what does this depend?

2. Using the *Multiple Hands on the Wheel* dataset provided, consider the possibility that trade exposure helps determine the effectiveness of exchange-rate pegs by re-estimating that model substituting $\alpha_1 + \alpha_2 \text{TE}$ for β_{sp} and $\alpha_3 + \alpha_4 \text{TE}$ for β_{mp} . Test whether that impact of trade exposure on exchange-rate-peg efficacy differs regarding single-currency and basket pegs. Using the data available, offer an alternative substantive model for the effectiveness of exchange-rate pegs and estimate it. Can you suggest a means to ensure that your peg-effectiveness estimates (and the analogous estimates on CBI and international financial exposure) remain bounded by 0 and 1? What happens if you estimate that?