

Political Economics

Problem Set 3

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Note

The solution to this problem set should be uploaded to Studentportalen no later than **December 11** at 24:00. Write your individual answers on computer and put your name at the top of the document. This problem set is about Agency models, rent extraction, budget cycles and political selection. Please carefully motivate your answers. For any questions concerning the exercises, send me an e-mail at davide.cipullo@nek.uu.se. My office is **E434** at the Department of Economics. Good luck!

1. Short Essay Questions. Answer in around half page each.

- (a) Discuss the following statement. "If politicians run deficit to lower tax rates or to increase public spending before elections, voters should take into account that additional deficit implies higher tax rates or lower public spending in the future".
- (b) In theoretical models of political selection, where the scope of elections is to select the best possible politicians, high-quality politicians are supposed to generate relatively larger electoral cycles than low-quality ones. Carefully motivate and explain the economic intuition.
- (c) Rent extraction is a common ingredient of political economics models. Discuss how the equilibrium level of rent extraction depends on: 1) competitiveness of elections (share of polarized voters); 2) share of informed voters; 3) freedom of press, electoral and market incentives of mass media.

2. Agency Models. Consider an agency problem with two time periods with one election in between. Voters are homogeneous, with utility function $U_{i,t} = G_t$, where G_t is public good spending at time t . There are two types of politician: one good politician (henceforth 1) with utility function $U_{1,t} = G_t$, and one rent-seeking politician (henceforth 2) with utility function $U_{2,t} = G_t + \ln(r_t)$, where r_t represents an endogenous ego-rent that the politician may extract when in office. The government budget constraint is $\tau = G_t + \delta_t r_t$, where δ_t is a random variable (with expected value $E(\delta)$) representing the cost associated with rent extraction in time period t , and τ is exogenous tax revenue of the government. Timing is the following: Nature picks an incumbent politician from a pool of politicians. He or she is good (ρ_1) with probability μ and rent-seeker (ρ_2) with probability $1 - \mu$, where $0 < \mu < 1$. The incumbent observes his or her own type and δ_t , that are hidden from the voters, that only know the expected value $E(\delta)$. Then, the incumbent politician implements a policy according to her type. Voters observe the implemented policy and update their beliefs about the incumbent's type.

The election takes place and voters make decision according to their updated belief. After the election, δ_t for time period 2 is realized, and the winner implements a policy for the second period. Throughout the exercise, assume that politicians are risk-neutral.

- (a) Which policy will each type of politician implement in the last time period?
- (b) Assume that in the first time period the rent-seeking politician is in office, and that voters will re-elect a politician if she implements their preferred policy. Derive the value of δ_2 that makes the rent-seeking politician indifferent between extracting rents in the first period and pooling with the good politician.
- (c) During the elections, the incumbent faces an opponent drawn at random by Nature. Discuss in words under which condition voters would support the incumbent against the random challenger.
- (d) In point (b), we assumed that voters will re-elect a politician if she implements their preferred policy. Let $\theta \in [0, 1]$ the probability that the bad politician will pool with the good one in the first round. Use Bayes' rule to derive whether to support the incumbent that implemented $G_1 = \tau$ is consistent with voters' belief at the time of the elections.
- (e) Use Bayes' rule to show that to re-elect the incumbent who did not implement $G_1 = \tau$ is never consistent with voters' belief.
- (f) Comment your results for G_1 and G_2 when the rent-seeking politician is in office and pools with the good politician in light of the political budget cycle literature.
- (g) Assume instead that the good politician is drawn by Nature. Will she have the chance to reveal with certainty her type to voters? Discuss (no maths is required).
- (h) Consider an alternative version of the model. Now the government budget constraint is $\tau = \tilde{\delta}_t(G_t + r_t)$, where $\tilde{\delta}_t$ now is a random variable that represents a loss of resources that the incumbent politician has to face to finance her policies. All other assumptions are as in the text. Discuss why under this budget constraint the rent-seeking politician might potentially extract rents during both periods.