

Los Andes Exam 2008

Each question was graded on a 0-5 scale with the following weights, Questions 1 and 2, Question 3. They are weighted equally. The third question is the one that Sebastian distributed. Here are the other two which should be emailed to me on Monday by 12 noon.

1 Question 1.

In the class we discussed the paper “Economic and Political Inequality in Development: The case of Cundinamarca Colombia.” Discuss the problems in giving the regression results a causal interpretation. For instance, is political concentration econometrically exogenous?

2 Question 2.

A politician, say an incumbent president of Colombia, needs to get the votes of three departments, say Magdalena, César and Córdoba to make sure he wins re-election. There are two strategies that he can use. The first is to offer redistribution to these areas which is just sufficient to guarantee that they support him rather than a rival. The other strategy is to allow local paramilitaries to simply deliver the votes to him. Paramilitaries have a strict preference for him, so he does not need to give the paramilitaries anything to get the votes. However, if he surrenders control of these areas to paramilitaries it is they who decide on the level of public goods and this can be different from the level that the president prefers.

Let’s first consider the case where the president uses redistribution to win support. Assume that the best the rival can offer is a fixed level of utility U^R and there is a representative citizen/voter in the departments with utility function $U(c)$ where c is consumption. The citizen will vote for the president if

$$U(c) \geq U^R \text{ where } c = (1 - \tau)Y(G) + R$$

$Y(G)$ is income which is an increasing and concave function of the amount of public goods the president supplies G . τ is an exogenous tax rate on income and R is the level of redistribution chosen by the president.

Subject to getting the votes, the president is trying to maximize his rents which consist of tax revenues, minus what he spends on public goods, minus what he spends on redistribution. When the president decides *not* to use the services of the paramilitaries, he has to solve the maximization problem

$$\begin{aligned} & \max_{G,R} \tau Y(G) - G - R \\ \text{subject to} & : U((1 - \tau)Y(G) + R) \geq U^R \end{aligned}$$

The paramilitaries have assets whose value depends on the supply of public goods but they cannot be taxed and they do not influence the utility of citizens so they are not part of this problem.

When the president instead uses the paramilitaries to deliver the votes he does not have to deliver redistribution, moreover he does not choose the level of public goods since this is chosen by the paramilitaries. In this case the utility level of the president is simply $\tau Y(G^P)$ where G^P is the level of public goods supplied by the paramilitaries.

The only thing then is to determine what level of public goods the paramilitaries wish to supply. Paramilitaries own assets, whose value is increased by the supply of public goods, denote these $A(G)$ where A is an increasing and concave function of G . However, the incentives of the paramilitaries to supply public goods differ from those of the president. For one, the paramilitaries do not benefit from taxing $Y(G)$. Thus the maximization problem of the paramilitaries is

$$\max_G A(G) - G$$

1. Write down the equation (first-order condition) that characterizes the optimal supply of goods that the president would like to provide when he does *not* use the paramilitaries

2. Write down the equation (first-order condition) that characterizes the optimal supply of goods that the paramilitaries would like to supply.

3. Write down the equation (first-order condition) that characterizes the socially optimal supply of public goods. Under what conditions would the president prefer a greater supply of public goods than the paramilitaries?

4. Under what circumstances would the president prefer to get his votes indirectly via the paramilitaries rather than appealing directly to them and getting their votes with income redistribution? I would like you to write down a formula for this and analyze it but also describe the incentives intuitively.

5. If the president decides to get the votes of citizens with income redistribution rather than use the paramilitaries, are the citizens in the departments better or worse off? What about the paramilitaries? Are they better or worse off?