

Referee Report on MS 393 entitled "Chance of Revolts and Ability of Oppressions: A Comment on the Acemoglu-Robinson Model"

Acemoglu and Robinson (AR, 2006) have undertaken an ambiguous task to develop a dynamic game-theoretic framework that they used to study democracy and regime change. This approach has attracted a lot of attention in the political economy literature. In these types of models it is assumed that the elite group (rich citizens) in the economy controls the government under dictatorship and chooses a favorable income distribution by repressing the poor. If the rich do not repress they have to decide whether to democratize or to choose a tax rate. Under the democracy rule the median voter chooses the taxation scheme, and since there are more people representing the non-elite group (poor citizens) the elite prefers dictatorship. The non-elite group has an option to revolt against the rich. The revolution is costly which creates interesting commitment problems that drive the results.

The discussion paper under consideration is one of the attempts to extend the AR model. In particular, the author introduces a possibility of military expenditures by the government with the purpose to oppress the rebellion if it starts. In my comments to this exercise I will try to be brief and will focus on two questions: (1) Is the contribution of the paper potentially significant? (2) Is the analysis correct?

Comments:

(1) Potentially I would consider this extension as significant. By introducing the military in the model one can address many interesting questions. The interactions between the government and the army are not trivial. A larger army may help suppress the rebellion but at the same time may have incentives to overtake the power to redistribute the rents in its favor. This paper does not go that far as to introduce a possibility of a coup. It looks at the "theoretical connection between the economic variables and the demolition rate in the AR model."

Unfortunately, the author does not cite several already existing papers on the topic - the reference list is far from being complete. I would refer to at least a couple of papers by Acemoglu and coauthors (2,3) that I have come across while preparing this report. These papers study very similar questions and obtain a set of results that is richer than the one in the comment. For example, Proposition 1 and Corollary 1 in paper (2) demonstrate the connection between the size of the military and the probability of a successful repression of the non-elite and provide all relevant comparative statics including the one with respect to parameter μ (the demolition rate). Moreover, and this is my main criticism of the paper, the theoretical analysis of the paper has not been done carefully

and rigorously enough, in contrast to the papers (2) and (3) which are good examples how these dynamic problems should be presented and solved.

(2) The paper studies a dynamic framework where every details of the environment is important. In my opinion, any description of a dynamic environment of this sort deserves to satisfy a list of minimal requirements. The following objects should be described:

(i) the object that is maximized, in this case it should be an expected value of discounted utility:

$$E \sum_{t=0}^{\infty} \beta^t u(c_t), \text{ where } u(c_t) \text{ can be linear.}$$

In the comment it is the instantaneous income (money metric utility function) that is being maximized subject to constraints, even though in this case the dynamic problem is not equivalent to a sequence of instantaneous problems. The economy can move from one state to another depending on the choice variable.

(ii) description of all possible states.

The paper is not clear as to what happens to each group after the rebellion (or oppression) is successful.

(iii) timing of events.

Again, the paper is not clear about the timing and transitions between the states.

The lack of a careful description of the environment leads to the fact that the main constraint in the paper (“the revolutionary constraint”) does not make much sense, while all implications of the model are driven by this constraint.

Minor Comments:

(a) In Result 1 on page 2 the subscripts should be switched: $T_r > T_p = 0$.

(b) On the top of page 4 it should read: $\phi(0) = 0$, $\phi(\bar{M}) = 1$.

(c) Bottom of page 4: instead of *supergame perfect equilibrium* it should read *subgame prefect equilibrium*.

References:

1. Acemoglu, Daron and James A. Robinson (2006). *Economic Origins of Dictatorship and Democracy*. Cambridge University Press.

2. Acemoglu, Daron, Davide Ticchi, Andrea Vindigni (2009). “Persistence of Civil Wars.” NBER Working Paper No. 15378.

3. Acemoglu, Daron, Davide Ticchi and Andrea Vindigni (2010a). “A Theory of Military Dictatorships.” Forthcoming *American Economic Journal: Macroeconomics*.