SOCIAL INSTITUTIONS AND ECONOMIC INEQUALITY: MODELING THE ONSET OF THE KUZNETS CURVE

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In 1955 Simon Kuznets hypothesized that there exists an inverse U-shaped pattern in long-run processes of economic development; that is, economic inequality increases as an economy develops, before decreasing after a certain level of income is reached. Although the hypothesis has been subjected to extensive examination, there remain many open questions in relation to this theory. In particular, these questions relate to: *i*) evidence for the theory's empirical validity; *ii*) theory explaining why the curve arises; and *iii*) shape and onset of the curve in different countries.

In their 2002 paper, Acemoglu and Robinson offer a political economy theory of the Kuznets Curve. However, they make several unrealistic assumptions in their analytical model and do not consider the dynamics of the Kuznets Curve explicitly. In this paper, we take their paper as a starting point and formalize their interpretation of the Kuznets Curve in an agent-based model. This allows us to explore the effects of relaxing some of the assumptions made on the shape and onset of the Kuznets curve and to consider the time dimension explicitly. Specifically, we extend the model to include heterogeneity in the agents (both poor and rich) by allowing for an income distribution, and we include also a mating mechanism that allows mobility between the two classes, rich and poor, via the social institution of marriage.

Thus, this paper proposes an agent-based version of Acemoglu and Robinson's model of the Kuznets Curve. In extending their analytical framework we include heterogeneity of agent's income and a mating mechanism that together represent elements of social mobility. These two simple changes proved to be enough to shed light on the length and timing before high inequality implies regime change, as predicted by Acemoglu and Robinson's theoretical framework.

The model was implemented as a discrete-time, agent-based model written in Python. The code is available at GitHub.

The sensitivity analysis showed that the model is robust to transformations in the parameters as long as they are within the constraints and conditions imposed by the construction of the model itself.

Three interesting conclusions emerge from the paper: higher assortativity in mating is associated with *i*) a later onset of the fall of Kuznets curve; *ii*) greater inequality; and *iii*) an increased persistence of poverty.

Thus, we believe this work may contribute to an effective empirical assessment of the Kuznets curve as it explicitly considers the time dimension of the process and the effects of considering social dynamics.