

Transmission of Social Capital: An Agent-Based Analysis

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Abstract

A large literature emphasizes the role of social capital for national economic performance and institutional building. Recent empirical evidence shows that informal institutions, developing from the sedimentation of values and beliefs of individuals and communities, are key to explaining regional economic differences. Hence, understanding how social capital is accumulated is of critical importance. Social capital is clearly distinct from human capital because it is the result of a social process of investment and requires individual values and beliefs to be shared by other members of the community. Furthermore, it is influenced by the interpersonal distribution of external values and beliefs and by the process of cultural transmission. In order to better understand the accumulation of social capital, we developed a theoretical agent-based model. Our model analyses the horizontal transmission of social capital (e.g., its transmission among peers), within the context of the so-called threshold models. These are a class of models aimed at representing collective actions in which I) individuals have a binary choice; and II) an individual chooses a certain action if the fraction of individuals in society, or in a relevant sub-group of the same, choosing the same action is above an (individual-specific) threshold. In our model, agents have to choose whether to cooperate or not, while social capital affects the distribution of thresholds: the higher the social capital in society, the higher the propensity to cooperate, and the lower the individuals' thresholds. Spatial interaction is also a distinctive feature of the model. Agents are located on a grid, and initial thresholds are randomly assigned. Space matters for two reasons. First, as we said, the agents' behaviour is based on their personal values and on their expectations of what others will do. These 'others' can be society as a whole or however defined neighbours. In addition, neighbours can affect personal values as well, through their influence on an individual's threshold. In other terms, it is not an actual behaviour which diffuses, but rather beliefs and values, which in turn determine, mediated by individual interaction, cooperative behaviour at the social level. In our analytical and simulation exercises, we monitor the average level of cooperation in society in equilibrium (when behaviour does not change anymore), and its spatial distribution. These, in turn, will depend on the initial distribution of thresholds, and on the level to which neighbours affect behaviour and values.

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