

Capital Accumulation Game with Quasi-Geometric Discounting and Consumption Externalities*

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Abstract

This study introduces quasi-geometric discounting into a simple growth model of common capital accumulation that takes consumption externalities into account. We examine how present bias affects economic growth and welfare, and we consider two equilibrium concepts: the non-cooperative Nash equilibrium (NNE) and the cooperative equilibrium (CE). We show that the growth rate in the NNE can be higher than that in the CE if individuals strongly admire the consumption of others regardless of the magnitude of present bias. Contrary to the results in the time-consistent case, we show that, when present bias is incorporated, the welfare level in the NNE can be higher than that in the CE in the initial period. However, in later periods, this relationship can be reversed depending on the difference in the speed of capital accumulation.

Keywords: Capital accumulation game, Quasi-geometric discounting, Consumption externalities

JEL classification: C73, E21, Q21

*The authors thank Hiroki Arato, Takeo Hori, Keiichi Morimoto, and participants of the 11th meeting of Association of Behavioral Economics and Finance at Doshisha University, and Economic Theory and Policy Workshop at Aoyama Gakuin University. Any errors are our responsibility.

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