

# Dynamic Game of Economic Growth with Quasi-Geometric Discounting and Consumption Externalities

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## Abstract

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

**Keywords:** Dynamic game, Quasi-geometric discounting, Consumption externalities

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