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### SOME FACTS ABOUT THE RAMSEY MODEL

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In modeling the dynamics of capital, the Ramsey equation coupled with the Cobb–Douglas production function is reduced to a linear differential equation by means of the Bernoulli substitution. This equation is used in the optimal growth problem with logarithmic preferences. The study deals with solving the corresponding infinite horizon optimal control problem. We consider a vector field of the Hamiltonian system in the Pontryagin maximum principle, taking into account control constraints. We prove the existence of two alternative steady states, depending on the constraints. This result enriches our understanding of the model analysis in the optimal control framework.

Keywords: mathematical modeling, optimal growth problem, Pontryagin maximum principle, steady states.

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