

# A characterization of the dynamics of optimal growth model with delay

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## **Abstract**

In this paper, we consider the continuous time one sector optimal growth model in which the capital stock participates in production after a certain time delay from the investment. The principal feature of the model is that the Euler condition can be represented by the form of the Volterra integral equation. We show that the introduction of the time lag allows nonsmooth optimal paths that are indeterminate in contrast to the standard model.