
A Note on (Dis)Investment Options and Perpetuities Under CIR Interest Rates

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Abstract

In this chapter, we discuss alternative ways of computing the options to invest in and divest from an investment project in a CIR economy (Cox et al., *Econometrica* 53(2):385–408, 1985). Moreover, different methods of determining CIR perpetuities will also be analyzed.

1 Introduction

The most realistic case of the capital theory of investment is characterized by investments with costly reversibility in which a firm can purchase capital at a given price (by paying an investment cost \bar{I}) and sell capital at a lower price (by receiving the divestment proceeds \underline{I}), i.e., there is a fraction α of the invested capital, $\alpha := \underline{I}/\bar{I}$ ($0 < \alpha < 1$), that a firm can recoup when divesting.

Decisions made under an uncertain environment where it is costly to reverse economic actions lead to an intermediate range, called the hysteretic band, where the continuation is the optimal policy until some threshold is reached.

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