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Irreversible Investment with Regime Shifts

Authors:
Xin GUO - IBM T. J. Watson Research Center
Jianjun MIAO - University of Rochester, Department of Economics
Erwan MORELLEC - HEC-University of Lausanne and FAME

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Abstract:
Under the real options approach to investment under uncertainty, agents formulate optimal policies under the assumption that firms' growth prospects do not vary over time. This paper proposes and solves a model of investment decisions in which the growth rate and volatility of the decision variable shift between different states at random times. A value-maximizing investment policy is derived such that in each regime the firm's investment policy is optimal and recognizes the possiblity of a regime shift. Under this policy, investment is intermittent and increases with marginal *q*. Moreover, the rate of investment typically is very small but exhibits some spurts of growth. Implications for marginal *q* and the user cost of capital are also examined.

INTERNATIONAL CENTER FOR FINANCIAL ASSET MANAGEMENT AND ENGINEERING
40 bd du Pont d'Arve • P.O. Box 3 • CH-1211 Geneva 4 • tel +41 22 /312 0961 • fax +41 22 /312 1026
http://www.fame.ch • e-mail: admin@fame.ch