

A Tale of Two Growths: Modeling Stochastic Endogenous Growth and Growth Stocks

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This paper extends the deterministic endogenous R&D growth model in Romer (1990) and Jones (1995a) to a stochastic endogenous growth model, which is used to study growth stocks. The model provides an understanding of the links between economic growth, monopolistic competition in R&D, and the valuation of growth stocks. With the presence of stochastic shocks, the model leads to a decomposition of the value of growth stocks. The decomposition implies that the value of growth stocks should be very volatile, while the long-run average return is roughly equal to the growth rate of R&D labor. The model also explains an empirical size distribution puzzle observed for the cross-sectional study of growth stocks.