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Auteurs : Barthelemy F (CEMOTEV)., Amédée-Manesme C-O., Prigent J-L

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Abstract

This paper deals with real estate portfolio optimization when investors are risk averse. In this framework, we examine an important decision making problem, namely the determination of the optimal time to sell a diversified real estate portfolio. The optimization problem corresponds to the maximization of a concave utility function defined on both the free cash flows and the terminal value of the portfolio. We determine several types of optimal times to sell and analyze their properties. We extend previous results, established for the quasi linear utility case, where investors are risk neutral. We consider four cases. In the first one, the investor knows the probability distribution of the real estate index. In the second one, the investor is perfectly informed about the real estate market dynamics. In the third case, the investor uses an intertemporal optimization approach which looks like an American option problem. Finally, the buy-and-hold strategy is considered. For these four cases, we analyze in particular how the solutions depend on the market volatility and we compare them with those of the quasi linear case. We show that the introduction of risk aversion allows to better account for the real estate market volatility. We also introduce the notion of compensating variation to better measure the impacts of both the risk aversion and the volatility.

Keywords

Real estate portfolio; Optimal holding period; Risk aversion; Real estate market volatility

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