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Analyzing Risk and Expected Return of Lenders in the Shared Mortgage Program of Korea

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Abstract : The paper analyzes risk and expected return of lenders who provide mortgage loans to households in the shared mortgage program of Korea. In 2013, the Korean government introduced the mortgage program to help low income householders to convert their renting into purchasing houses. The financial source for the mortgage program is the Urban Housing Fund set up by the Korean government. Through the program, low income households can borrow money from lenders to buy a house at a very low interest rate (e.g. 1 % per year) for a long time. The motivation of adopting this mortgage program by the Korean government is that the cost of renting houses has been rapidly increased especially in large urban areas during the past decade, which became financial difficulties to low income households who do not have their own houses. As the analysis methodology, the paper uses a spread sheet model for projecting cash flows of the mortgage product over the period of loan contract. It also employs Monte Carlo simulation method to analyze the risk and expected yield of the lenders with assumption that the future housing price and market rate of interest follow a stochastic process. The study results will give valuable implications to the Korean government and lenders who want to stabilize the mortgage program and innovate the related loan products.

Keywords : expected return, Monte Carlo simulation, risk, shared mortgage program
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