

9th General AMaMeF Conference



Book of Abstracts

Paris, 11-14 June 2019



tially less tail risk, including in crisis periods. Moreover, they outperform common higher-moment portfolio strategies as well.

Single-family houses portfolio optimization under impact of large investors in housing markets

Wednesday
June 12
16h00-16h30

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Following the 2008 financial crisis, some large investors, who are purchasing single-family houses, started creating large portfolios consisting of rental single-family houses, and securitizing these investments in capital, showed up in housing markets. This study attempts to explore a portfolio optimization to shed light on the systematic evidence of the effect of this new investor activity in housing markets. To this end, the study aims to optimize the portfolio by offering a stochastic model to

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estimate house prices by considering the influence of large investors and the state of the economy. The results indicate that the investment strategies of these investors depend on the balance among economic state, maintenance, rent income, interest rate, and investment willingness to housing.

Keywords: Portfolio Optimization, Housing market, Large investors, Regime switching processes

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AMaMeF, acronym for Advanced Mathematical Methods in Finance, is a European network of research promoting the exchange and diffusion of knowledge in the field of Mathematical Finance. A brief survey of AMaMeF is available [here](#), including a listing of the current members of its Acting Board chaired by Robert Stelzer. Under the auspices of AMaMeF numerous conferences, workshops and other scientific activities have been organized. Among these the General AMaMeF Conferences have been the biggest, and they are currently organized in a roughly two-yearly schedule.

The 9th General AMaMeF conference is organized by the [LPSM](#) (Laboratoire de Probabilités, Statistique et Modélisation) at Sorbonne University and University Paris Diderot, and [LaMME](#) (Laboratoire de Mathématiques et Modélisation d'Évry) at Evry University and [ENSIIE](#). The program consists of plenary lectures, invited and contributed sessions, and posters, addressing a full range of topics in mathematical finance and its applications including:

- Stochastic volatility modelling
- Mean-field games and stochastic control
- Machine learning in mathematical finance

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