

Hong Kong - Singapore joint Seminar Series in Financial Mathematics/Engineering

Quantitative Fundamental Theorem of Asset Pricing

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Abstract

The aim is to show how to deal with model uncertainty in finance, without imposing the no-arbitrage condition. The idea is to quantify the notion of arbitrage, and obtain a quantitative version of the Fundamental Theorem of Asset Pricing and of the Super-Replication Theorem. As a consequence we can formalize the following statements: in a market that admits "small arbitrage" the "pricing measures" are such that asset price process is "close to being a martingale", or equivalently, that hedging strategies need to cover some additional "small costs". Finally, we study robustness of the amount of arbitrage and existence of respective pricing measures, showing stability of these concepts with respect to an L-infinity version of the adapted Wasserstein distance. Based on joint work with B. Acciaio and G. Pammer.

About the speaker

Prof. Julio Backhoff obtained his Bachelor/Masters degree in Engineering Mathematics at the University of Chile. In 2015 he obtained PhD degree in Mathematics from the Humboldt-Universität zu Berlin. Afterwards he held postdoc positions at University of Vienna and Vienna University of Technology. In 2019 he moved to the University of Twente for an Assistant Professorship, and in 2021 moved to University of Vienna for an Assistant Professorship. His research results were published in leading journals including Annals of Applied Probability, Annals of Probability, Finance and Stochastics, Probability Theory and Related Fields, SICOM, SIFIN, SIOPT.

Date

Dec 1, 2022 (Thursday)
(HK Time)

Time

16:00 – 17:00
(HK Time)

Zoom

<https://polyu.zoom.us/j/94835638896?pwd=VnFvZkxzNVlKVkdDdDk0GYrdVplZTIRdz09>

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