Special Issue

Mathematical Models and Applications in Finance

Message from the Guest Editors

In financial research, mathematical modelling allows for the establishment of a functional relationship between multiple variables, thereby being an effective method with which to analyse and solve problems in financial economics. Mathematical models underpin our understanding of many problems in financial economics, ranging from Markowitz's (1952) mean-variance optimisation, which underpins modern portfolio theory (MPT), to the Black–Scholes–Merton model for option pricing and the Black–Litterman model, which incorporates investors' views of expected returns in MPT. Advancements in the fields of statistical and machine learning have led towards uses in the areas of credit risk and asset pricing. In this context, we are seeking to publish high-quality research on fund management, risk management (i.e., credit, market, and operational), portfolio optimisation, asset pricing, option pricing, volatility spillovers, and any other topics related to mathematical finance. We pay particular attention to the importance of the use of big data and AI/ML techniques in financial economics. We encourage the submission of quantitative research works.

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Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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