EDITORIAL

# Introduction to the special issue on FinTech

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The last 5 years have witnessed a worldwide blossoming of Fintech, which is an abbreviation of "Financial Technology" and refers to the influx of technology tools, platforms, and ecosystems that make financial services or products more accessible, efficient, and affordable. In the academic area, Fintech related papers have been published since 2015. We conducted a search of "Fintech" in Google trends and a topic search in the Web of Science search engine. Figure 1 shows the total search volume (divided by 20) of Google trends per year and the number of papers retrieved in the web of science over the past 5 years. The data was updated on November 11, 2019. We found that both the number of searches and the number of academic papers continued to increase in the past. Although the number of papers in 2019 was temporarily lower than that in the whole year of 2018, we believe that the total number of papers in 2019 will still be on the rise.

With the emergence of the term Fintech, the application, development, and impact of financial technology have always been the focus of the state, society, and academia. Fintech is not only an academic concept, but it also has become an important tool for participating in financial innovation and affecting financial markets. The financial technology industry is booming. For instance, there were more than 1700 transactions worth nearly $40 billion in 2018, as reported in" 2019 Fintech Trends to Watch" by CBInsights. The combination of technology and finance has made breakthroughs in innovative financial products and service models, improving customer experience, and reducing transaction costs. As the financial service industry is moving from the exploration phase to the application phase, the integrations of technology in the digital currency market, stock price forecast, and portfolio optimization have gained increasing attention. The eighteenth issue of Financial Innovation (FIN), Volume 5, No.5 (2019) presents ten papers studying in these areas. They are contributed by 23 authors and co-authors from six countries and areas: China, India, Italy, Iran, Turkey, and the USA.

The first paper, "Portfolio optimization by improved NSGA-II and SPEA 2 based on different risk measures", by Massimiliano Kaucic, Mojtaba Moradi and Mohmmad Mirzazadeh, analyzes three portfolio selection strategies for loss-averse investors and proposes a novel version of the non-dominated sorting genetic algorithm II and of the strength Pareto evolutionary algorithm 2 to tackle this optimization problem. The second paper, "Modeling and forecasting time series of precious metals: a new approach to multifractal data", by Emrah Oral and Gazanfer Unal, introduces a novel approach to multifractal data in order to achieve transcended modeling and forecasting performances by extracting time series out of local Hurst exponent calculations at a specified scale. The third paper, "Predicting the daily return direction of the stock market using

Fig. 1 Google trends search volume and number of academic papers on web of science
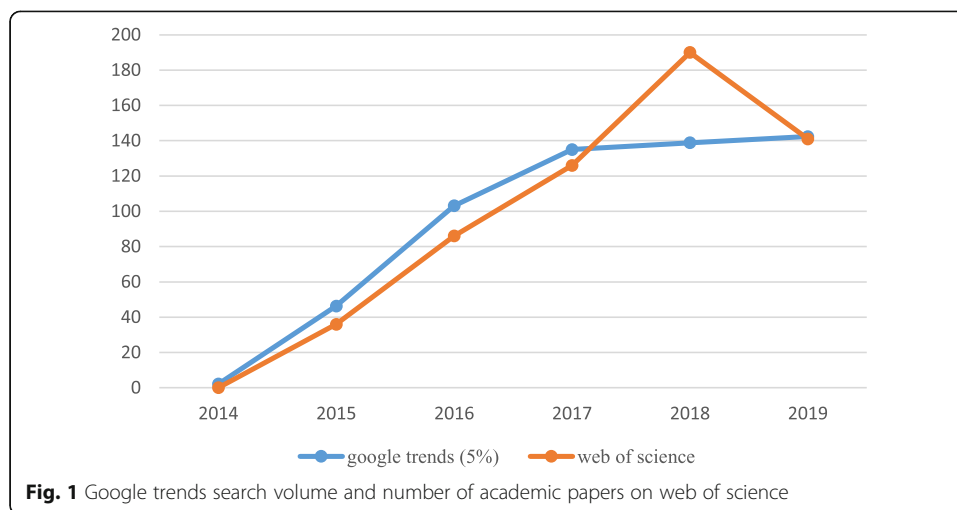
hybrid machine learning algorithms", by Xiao Zhong and David Enke, presents a comprehensive big data analytics process to predict the daily return direction of the SPDR S&P 500 ETF (ticker symbol: SPY) based on 60 financial and economic features. The fourth paper, "A systematic review of blockchain", by Min Xu, Xingtong Chen and Gang Kou, reviews the current academic research on blockchain, especially in the subject area of business and economics. The fifth paper, "A hybrid Bayesian-network proposition for forecasting the crude oil price", by Babak Fazelabdolabadi, proposes a hybrid Bayesian Network (BN) method for short-term forecasting of crude oil prices. The sixth paper, "Co-movement in crypto-currency markets: evidences from wavelet analysis", by Anoop S Kumar and Taufeeq Ajaz, suggests that constructing a portfolio based on crypto-currencies may be risky at this point of time as the other crypto-currency prices are mainly driven by Bitcoin prices, and any shocks in the latter are immediately transformed to the former. The seventh paper, "An integrated new threshold FCMs Markov chain based forecasting model for analyzing the power of stock trading trend", by Kavitha Ganesan, Udhayakumar Annamalai and Nagarajan Deivanayagampillai, explores the power of stock trading trend using an integrated New Threshold Fuzzy Cognitive Maps (NTFCMs) Markov chain model. The eighth paper, "A Chemical-Reaction-Optimization-Based Neuro-Fuzzy Hybrid Network for Stock Closing Price Prediction", by Sarat Chandra Nayak and Bijan Bihari Misra, proposes a chemical reaction optimization (CRO) based neuro-fuzzy network model for prediction of stock indices. The ninth paper, "Evaluation of Forecasting Methods from Selected Stock Market Returns", by M Mallikarjuna, R Prabhakara Rao, examines the predictive performance of linear, nonlinear, artificial intelligence, frequency domain, and hybrid models to find an appropriate model to forecast the stock returns of developed, emerging, and frontier markets. The tenth paper, "The Relative Importance of Competition to Contagion, Evidence from the Digital Currency Market", by Peng Xie, Jiming Wu and Hongwei Du, suggests that the relative importance of the competitive effect to the contagion effect in the industry depends on the category of the information.

In conclusion, the ten articles in this special issue cover many application areas of Fintech, and we hope that their findings and discussions will arouse more attention and enlighten thinking and contribute to both the industry practice and academic research on Fintech.

Author's contributions
The author read and approved the final manuscript.

Competing interests
The author declares that they have no competing interests.

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