Research on the Stock Correlation Network and Its Influencing Factors in China’s Green Finance Market

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June 10, 2022

Abstract

Green finance is a significant step to achieving environmentally sustainable development in the context of carbon neutrality. Based on the perspective of the stock correlation network, we select 51 green and environmental protection enterprises and construct the stock correlation network model in China’s green financial market according to the correlation of their stock price fluctuations. On this basis, it discusses its network topologies and its dynamic evolution characteristics. After that, it deeply studies its impact mechanism of systemically importance in China’s green financial market and introduces the major green financial policies for comparative analysis. In the light of empirical research, we can obtain the following results. First, the stock size distribution in China’s green financial market has a power-law tail. Second, a sharp drop in the market index will increase the aggregation of the stock correlation network in the green financial market. Third, the variables about corporate social responsibility, corporate R&D investment intensity, and corporate green innovation output play significant roles in promoting the individual companies’ systemically importance ranking in the stock correlation networks of China’s green financial market. Fourth, the implementation of major green financial policies has promoted the improvement of the systematic importance of state-owned enterprises. Finally, the research enriches the application research of complex network theory in the green financial market and provides practical guidance for regulators to strengthen the risk monitoring of the green financial market.

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