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FINANCIAL NETWORK DYNAMICS IN MALAYSIAN MARKETS: EXPLORING BURSA INDICES INTERDEPENDENCIES FROM 2019 TO 2023

[(Dinamik Rangkaian Kewangan di Pasaran Malaysia: Meneroka Kebergantungan Indeks Bursa dari 2019 hingga 2023)]

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Abstract

This study examines the structural characteristics of financial networks within Malaysia's key indices from 2019 to 2023. It specifically analyzes returns and investigates the topological properties of these networks, focusing on how indices representing different sectors interact and evolve across time. By exploring these dynamics, the research aims to provide a deeper understanding of market behavior and the relative influence of each sector. Utilizing historical price data, the study calculates the returns for 13 distinct indices, employs the Triangulated Maximally Filtered Graph (TMFG)

method to construct the financial networks. To capture the interrelationships and overall network structure, several important metrics are examined, including degree centrality, closeness centrality, betweenness centrality, clustering coefficients, and influence strength. The findings indicate that 2020 experienced the highest volatility, primarily attributed to the economic disruptions caused by the global pandemic. Notably, indices such as .KLCM (Consumer Products & Services) and .KLIP (Industrial Products & Services) consistently emerged as highly influential and well-connected within the network, highlighting their pivotal roles. Analysis of clustering coefficients reveals fluctuating levels of cohesion among sectors, with a notable decline in 2022, suggesting shifts in inter-sector dependencies. In summary, this study highlights the dynamic and ever-changing characteristics of financial networks, demonstrating how specific indices gain prominence over time. The findings provide a deeper understanding of market behavior and sectoral relationships as well as valuable input for enhancing risk management approaches and optimizing investment strategies. © 2025, Penerbit Universiti Kebangsaan Malaysia. All rights reserved.

Author keywords

Bursa Indexes; Bursa Malaysia; financial network

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