國立中山大學應用數學系
學術演講

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講　題：A Dynamic Network Perspective of Cryptocurrencies

時　間：2019/12/4（Wednesday）14:10 ~ 15:00

地　點：理學院四樓理 SC 4009-1 室

茶　會：16:00 於理 SC 4010 室 (系辦公室)

Abstract

Cryptocurrencies are becoming an attractive asset class and are the focus of recent quantitative research. The joint dynamics of the cryptocurrency market yields information on network risk. Utilizing the adaptive LASSO approach, we build a dynamic network of cryptocurrencies and model the latent communities with a dynamic stochastic blockmodel. We develop a dynamic covariate-assisted spectral clustering method to uniformly estimate the latent group membership of cryptocurrencies consistently. We show that return inter-predictability and crypto characteristics, including hashing algorithms and proof types, jointly determine the crypto market segmentation. Based on this classification result, it is natural to employ eigenvector centrality to identify a cryptocurrency's idiosyncratic risk. An asset pricing analysis finds that a cross-sectional portfolio with a higher centrality earns a higher risk premium. Further tests confirm that centrality serves as a risk factor well and delivers valuable information content on cryptocurrency markets.

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