

國立中山大學應用數學系

學術演講

講者：Prof. Wolfgang Karl Härdle (Humboldt-Universität zu Berlin)

講題：Cryptos Have Rough Volatility and Correlated Jumps

時間：2024/11/21(Thursday) 14:10~15:00

地點：理 SC 4009-1 教室

茶會：13:45

Abstract

Contrary to expectations some years ago, the crypto market has matured and gives the impression of an established financial eco system. Certainly, some deviations from robustness, typically reflected in event related volatility bursts and spikes, are observed, but a liquid derivatives market has been established, at least for the dominant digital assets. It is therefore not only necessary for pricing contingent claims to understand the stochastic dynamics via a solid data analysis but also to provide instruments identifying volatility patterns and their dynamic evolvement. Using the Bitcoin as a representative instrument, we ventured to model this particular crypto coin dynamics via a combination of roughness in volatility and jumps in the underlying crypto currency. Findings on the roughness, e.g. the size of the Hurst exponent for the volatility dynamics, revealed remarkable differences when compared to corresponding estimates for equities and fixed income funds. Through a parametric bootstrap we give evidence that both roughness and jumps are crucial for predicting the range of next-day returns in terms of a simulated confidence interval. By scaling up the jump sizes we obtained a nicely working combination of volatility roughness and jumps (of the underlying) resulting in precise coverage levels. All calculations may be redone on quantlet.com and courselets are in quantinar.com

敬請公告！歡迎參加！

應用數學系：<http://math.nsysu.edu.tw>

校園地圖：http://math.nsysu.edu.tw/var/file/183/1183/img/779/nsysu_math_map.jpg

交通資訊：<https://www.nsysu.edu.tw/p/412-1000-4132.php?Lang=zh-tw>



應用數學系



校園地圖



交通資訊