

EXAMINATION OF BUBBLES IN CRYPTOCURRENCY MARKETS USING ADVANCED UNIT ROOT TESTS

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ABSTRACT

Cryptocurrencies are attracting more investors and are reaching higher prices than ever, hence it becomes important to analyse whether the new asset class is a bubble or not. Previous literature on examination of cryptocurrency bubbles has primarily focused on Bitcoin, but the newer cryptocurrencies such as Ethereum are innovating the space with smart contracts, upstaging Bitcoin on some aspects, hence it becomes important to analyse the newer cryptocurrencies apart from Bitcoin as well for rational bubbles. The methods of recursive unit root tests suggested by Phillips, Shi and Yu (2015) has been used in this study to check for the presence of bubbles and to date stamp the periods of exuberance in three major cryptocurrencies: Bitcoin, Ethereum and Ripple from 2016 to 2021. Similarity in exuberance periods of Bitcoin and Ethereum is also detected in this research.

KEYWORDS: *Cryptocurrency, Bubbles, GSADF, SADF, Bitcoin, Ethereum, Ripple*

JEL Classification: C5, C15, C22

REFERENCES

- Craine, R. (1993). Rational Bubbles: A Test. *Journal of Economic Dynamics and Control*, 829-846.
- Diba, B. T. (1988). Explosive Rational Bubbles in Stock Prices? *American Economic Review*.
- Evans. (1991). Pitfalls in Testing for Explosive Bubbles in Asset Prices. *The American Economic Review*.
- Fama, E. F. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work. *The Journal of Finance*.
- Ghosh, B. (2016). Rational Bubble Testing: An in-depth Study on CNX. *Asian Journal of Research in Banking and Finance*.
- Giglio, S. M. (2016). No-Bubble Condition: Model-Free Tests in Housing Markets. *Econometrica*, 1047-1091.
- Homm, U. a. (2012). Testing for Speculative Bubbles in Stock Markets: A Comparison of Alternative Methods. *Journal of Financial Econometrics*, 198–231.
- Julian Geuder, H. K. (2018). Cryptocurrencies as financial bubbles: The case of Bitcoin. *Finance Research Letters*.
- Li, Z. T. (2019). Does Bitcoin bubble burst? *Qual Quant*.
- O'Hara, M. (2008). Bubbles: Some Perspectives (and Loose Talk) from History. *The Review of Financial Studies*.

Phillips PCB, S. S. (2015). Testing for multiple bubbles: Historical episodes of exuberance and collapse in S&P 500. *International Economic Review*.

Phillips PCB, W. Y. (2011). “Explosive behavior in the 1990s NASDAQ: When did exuberance escalate asset values? *International Economic Review*.

West, K. D. (1987). A Specification Test for Speculative Bubbles. *Quarterly Journal of Economics*, 553–580.

Williams, M. T. (2014). Virtual currencies—Bitcoin risk. *World Bank Conference*. Washington DC.

Cagli, E. C. (2017). Rational bubble existence in Borsa Istanbul: An analysis on sectoral indices. *Finans Politik and Ekonomik Yorumlar*.