


Chapter 3

Dynamic Relationships Between Cryptocurrencies, Global Indexes, and Commodities: Evidence From Cointegration and Causality Tests

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ABSTRACT

This study investigates the safe haven properties of cryptocurrencies. Main contribution of the study to the literature is to reveal the relationships between cryptocurrencies and financial and commodity factors namely global indexes, gold and Brent petrol. To this end, this research aims to empirically examine the interaction between Bitcoin, Brent oil, global indexes, and gold using current cointegration and causality tests. The results of cointegration tests indicate that there is a cointegration relationship between variables. Further, the results of causality tests reveal that there is causal relationship between cryptocurrencies and financial and economic factors. The study recommends the potential investors and portfolio managers to observe the effect of financial and economic factors in making better allocation decisions

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and help policymakers and regulators in mitigating the negative effects of Bitcoin's volatility on financial system stability. This paper contributes to the current literature of Bitcoin prices with evidence from a large financial and economic factor.

INTRODUCTION

Bitcoin has been introduced as a cryptographic proof-based payment system, which enables direct transactions between parties without the need for trust-based intermediation services of third parties in an era of accelerated trading on the Internet (Nakamoto, 2008). Therefore, when it was first launched in 2009, it is assumed to have been preferred by young individuals who use technology well and integrate electronic transactions into their lives. In a study supporting this idea, Bouri et al., (2019) argued that unlike stock markets that include institutional investors, a significant portion of Bitcoin market players are young and inexperienced individual traders who are beyond rationality in terms of information processing and making commercial decisions. The main result of this situation is that pricing of digital currencies which doesn't have fundamental value (Cheah & Fry, 2015), whose relationship with the real economy are discussed (Corbet et al., 2018, p.81), and which are designed globally and independently from governments (Baur et al., 2018) becomes highly dependent on socially constructed opinions (Bouri et al., 2019).

When we analyse the price movements of cryptocurrencies in general, especially Bitcoin in the last ten years, it is observed that the volatility is very high, significant fluctuations and even bubble formations occur. Such a price formation suggests that the demand for cryptocurrencies is based on behavioral factors such as fear of missing-out (FOMO), herd behavior, media and investor sentiment rather than economic needs. Indeed, Baur & Dimpfl (2018) found for Bitcoin and Litecoin that impact of positive shocks on volatility is higher than negative shocks. This situation is explained by the herd behavior of uninformed investors facing positive shocks, that is, it has been argued that investors exhibit buying behavior with the fear of missing an opportunity (FOMO) against rising crypto currency values (Baur & Dimpfl, 2018). Smales (2022), on the other hand, found positive and significant relationships between investor interest and cryptocurrency returns and volatility, and suggested that investors may feel compelled to buy remarkable assets.

So, can cryptocurrencies be considered just a means of payment, as first proposed by Nakamoto (2008)? In various studies, it has been argued that cryptocurrencies have a number of features that traditional currencies have, but they also play the role of an investment asset depending on the rapid value increases caused by speculative demand (Baur, et al. 2018; Hui et al., 2020; Kwon, 2020; White et al., 2020). According to Bhuiyan, et al., (2021) as Bitcoin attracts more and more investors'

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