



TelSoc

Telecommunications & the Digital Economy

Published on *TelSoc* (<https://telsoc.org>)

[Home](#) > Volatility Behaviour of Bitcoin as a Digital Asset

Volatility Behaviour of Bitcoin as a Digital Asset

[Thabo J. Gopane](#) ^[1]

University of Johannesburg, South Africa

JTDE - Vol 10, No 2 - June 2022 ^[2]

^[3]

★ 25 ^[4]

Evidence of Shock Transmission Dynamics from the South African Financial Markets

Abstract

The objective of this study is to use the South African financial markets (Johannesburg Stock Exchange or JSE and USD/ZAR) as a case study to understand the volatility spillover dynamics of Bitcoin as a digital asset. Methodologically, the study applies the exponential generalized autoregressive conditional heteroskedastic (EGARCH) model, followed by a robustness check by applying the time-varying conditional correlation multivariate GARCH (VCC-MGARCH) model. The study utilizes the data set for the period 2011 to 2019, a period before the COVID-19 pandemic. The research outcome revealed three interesting observations. First, Bitcoin and the South African stock market are independent of each other. Second, there is a bidirectional shock transmission between Bitcoin and USD/ZAR in the mean returns only, but not variance. Lastly, results confirm the existence of a bidirectional volatility

spillover in both the mean and variance between the JSE stock market and the USD/ZAR market. The study outcome should enlighten investors who may want to consider Bitcoin as a diversifier in their investment and portfolio strategies.

Please refer to the PDF download for the full paper.

Article PDF:

510-gopane-article-v10n2pp195-213.pdf ^[5]

Copyright notice:

Copyright is held by the Authors subject to the Journal Copyright notice. ^[6]

Cite this article as:

Thabo J. Gopane. 2022. *Volatility Behaviour of Bitcoin as a Digital Asset* JTDE, Vol 10, No 2, Article 510. <http://doi.org/10.18080/JTDE.v10n2.510> ^[7]. Published by Telecommunications Association Inc. ABN 34 732 327 053. <https://telsoc.org> ^[8]

Source URL:<https://telsoc.org/journal/jtde-v10-n2/a510>

Links

[1] <https://telsoc.org/journal/author/thabo-j-gopane> [2] <https://telsoc.org/journal/jtde-v10-n2> [3]

<https://www.addtoany.com/share?url=https%3A%2F%2Ftelsoc.org%2Fjournal%2Fjtde-v10-n2%2Fa510&title=Volatility%20Behaviour%20of%20Bitcoin%20as%20a%20Digital%20Asset> [4]

<https://telsoc.org/printpdf/3630?rate=b5kYUPUsWRcKX7QqFDjUdZSGnXQeBO-wRXNwPZaTfdc> [5]

https://telsoc.org/sites/default/files/journal_article/510-gopane-article-v10n2pp195-213.pdf [6] <https://telsoc.org/copyright> [7]
<http://doi.org/10.18080/jtde.v10n2.510> [8] <https://telsoc.org>