



The Copulas Techniques And The Artificial Intelligence Algorithms in The Service Of Cryptocurrencies And Conventional Assets Relationship Specification

Ph.D. Student: Wissal KERKENI

Kerkeniwissal@gmail.com

Ph.D. Supervisor: Professor Slaheddine HELLARA

hellara.slah@gmail.com

1 Introduction

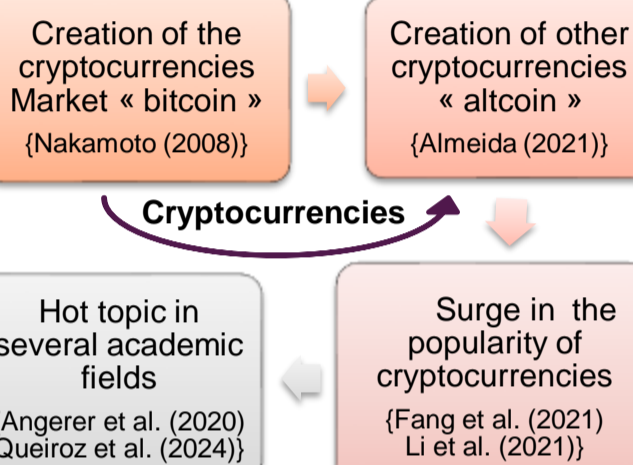


Fig. 1. Graphical Introduction

2 Abstract

We study the dependence structure between the **Crypto-Assets** and the **Conventional Assets** to detect the **Diversification**, the **Hedging** and the **Safe Haven potentials** of the crypto-assets for the latter. To do so, we examine the **Dynamic Dependence Structure** in each market, then between the two markets, we elaborate a **Bibliographic Analysis**, we examine more deeply this dependence structure using **High Frequency Data**, then for robustness check, we apply an **Artificial Intelligence Model** based on Deep Learning.

3 Methods

Step 1 : A Preliminary Market Study (Completed)

Aim	Study each market dependence structure then between the two.
Sample	15 Assets (Daily Data)
Period	10/08/2015 - 22/09/2022
Model	Bivariate Dynamic Copulas {Patton (2006)}
Litterature	Charfeddine et al. (2019); Zeng et al. (2020)

Step 2 : A Bibliometric Analysis (Completed)

Aim	Understand our field of research.
Sample	363 articles (Scopus Database)
Period	2008 - 2024
Tool	Bibliometrix R Tool {Aria & Cuccurullo (2017)}
Litterature	Zou et al. (2023); Pandey et al. (2024)

Step 3 : An Advanced Market Study (Ongoing)

Aim	Introduce the Covid-19 effect on the studied dependence structure
Sample	15 Assets (High Frequency Data)
Period	10/08/2015 - 10/01/2024
Model	Multivariate Dynamic Copulas
Litterature	Karimi et al. (2023); Queiroz et al. (2024)

Step 4 : A Robustness Analysis (Same sample)

Model	AI Model Based on DL
Litterature	Zhang et al. (2024)

4 Results

- ✓ The conventional assets are more dependent with the diffusion of good news (Weak safe haven possibilities). The crypto-assets are more dependent during crisis periods (Tether is a weak safe haven).
- ✓ Bitcoin and Ripple are two strong hedging tools, respectively, for the Taiwanese and Indian stock markets. Crypto-assets are considered as diversification tools for conventional financial assets. {Based on Baur & Lucey (2010) principles}
- ✓ An annual scientific production growth rate of 9.59% within our research field.



Fig. 2. The Most Frequent Words' Cloud

5 Conclusion

Crypto-Assets can be **Diversification Tools**, **Hedging Means** and **Safe Havens** for **Conventional Assets** according to the **Market Situation** that can be **Stable** or **in Crisis** as for the COVID 19 pandemic case, based on the studied assets **Sample** and following the explored empirical **Model**.

Our study helps investors in their portfolio selection and diversification decisions as well as market policy makers to better manage their issued decisions.

6 References

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7 Acknowledgments

I gratefully acknowledge the RAQMYAT Project for organizing this summer school and offering us an exceptional opportunity to present our research. I extend my sincere thanks to all contributors and mentors for their invaluable support and guidance.

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