

The Impact of Cryptocurrency on the Global Financial System: A Quantitative Investigation

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Abstract

Cryptocurrencies emerged as a disruptive and transformative force within the global financial landscape, challenging conventional banking systems and monetary policies. Her metrics such as market capitalization, trading volumes, and price volatility of cryptocurrencies, alongside their correlation with traditional financial assets and macroeconomic variables. The trading volumes of cryptocurrencies have attained substantial levels, indicating an escalating acceptance and adoption by investors and market participants. There are degrees of correlation, with certain cryptocurrencies exhibiting weak or negative correlations, while others exhibit stronger positive associations. There, underscoring the necessity of the intricate interactions between cryptocurrencies and macroeconomic factors. There is transformative influence exerted by cryptocurrencies on the global financial system. The researcher had considered people from financial sector to know the impact of cryptocurrency on the global financial system. The study concludes that there is significant impact of cryptocurrency on global financial system where Cryptocurrencies fostered financial inclusion for individuals lacking access to traditional banking services and elevated economic and social standing.

Keyword: Crypto Effect, Global Financial System, Financial Inclusion, Social Standing, Economic Standing.

Introduction

The advent of cryptocurrencies has garnered immense popularity due to their core tenets of decentralization and the potential for substantial returns. Luchkin et al., (2020) the volatile nature of these digital assets continues to pose a significant risk, often surpassing that of conventional investment options. By employing cryptography, cryptocurrencies encode information in a manner that is easily decipherable with the correct key, yet extremely challenging to interpret without it. Consequently, while the manufacturing of these coins can be intricate, the verification of transactions becomes relatively straightforward. Despite the

expanding popularity and growth of the cryptocurrency realm, traditional financial institutions have exhibited reluctance in embracing these digital assets. Their reservations primarily stem from the perceived risks associated with cryptocurrencies outweighing the potential benefits. In a recent development, the OCC issued several interpretive letters outlining how traditional financial institutions can engage in transactions involving digital currencies or even develop services centered around them.

These efforts aim to acquaint banks with these assets, thereby increasing their comfort level. In early January, the OCC announced that national banks and federal savings associations are now permitted to utilize public blockchains and stablecoins for conducting payment activities. Azarenkova, Shkodina, Samorodov, & Babenko, (2018) newfound allowance enables banks to process payments more swiftly and efficiently without requiring the involvement of third-party agencies. It is imperative for these institutions to overcome their reservations and embrace the potential that cryptocurrencies offer. The blockchain functions as a public ledger that undergoes verification by a multitude of nodes, making fraudulent activities exceedingly arduous, if not impossible. Additionally, the transparent nature of the blockchain enables the tracking of specific transactions between anonymous user accounts or wallets with relative ease. The recent allowances for the use of public blockchains and stablecoins in payment activities highlight the potential efficiency and innovation that can be derived from embracing cryptocurrencies.

Literature review

Cryptocurrencies have emerged as a digital and user-friendly alternative to traditional fiat currencies, presenting innovative solutions to individuals worldwide. According to Seetharaman, Saravanan, Patwa, and Mehta (2017) citizens of countries like the United States or the European Union view cryptocurrencies as a thrilling advancement, numerous nations struggle with effectively managing their own domestic currencies. These digital currencies have introduced a range of opportunities and challenges that necessitate a detailed quantitative investigation. However, concerns regarding volatility and regulatory oversight have hindered their widespread adoption in this context. Financial stability represents another crucial aspect affected by the ascent of cryptocurrencies. The decentralized nature of these digital assets presents both opportunities and risks.

According to Othman, Musa Alhabshi, Kassim, Abdullah, and Haron (2020), cryptocurrencies can foster financial inclusion for individuals lacking access to traditional banking services. Conversely, their unregulated nature and susceptibility to market manipulation raise concerns about systemic risks and the potential for financial instability. Employing quantitative analysis can aid in identifying the factors contributing to the stability or fragility of the financial system in the presence of cryptocurrencies. The underlying blockchain infrastructure supporting cryptocurrencies holds potential applications beyond finance, including supply chain management, intellectual property protection, and decentralized governance.

A quantitative investigation into their influence on monetary policy, international trade, financial stability, and technological innovation can yield valuable insights. Government responses to cryptocurrencies have exhibited a diverse range of attitudes and concerns within central banks and financial institutions. According to Srokosz and Kopciaski (2015), some organizations have shown support for these emerging digital assets, numerous central banks have approached them cautiously due to the inherent volatility of the market and the potential risks it entails. Furthermore, concerns regarding tax evasion and capital restrictions have further contributed to public apprehension. Powell emphasizes the necessity of establishing effective governance and robust risk management practices before these digital assets can achieve broader acceptance and mainstream integration within the financial system. The Fed's cautious approach underscores the significance of addressing the potential risks associated with these digital assets. Within the European Central Bank (ECB), skepticism towards cryptocurrencies has prevailed. However, the PBOC emphasizes the necessity of maintaining complete control over the cryptocurrency ecosystem, leading to stringent regulations on various aspects of the market within China.

According to Jacobs (2018) cautious approach by the central bank highlights its intention to regulate and manage cryptocurrencies within the existing framework of their financial system. By embracing cryptocurrencies, Carney believes the financial system can undergo transformative changes that have the potential to benefit both individuals and institutions. RBI Deputy Governor T Rabi Sankar expresses concerns about the potential implications of this characteristic. The central bank's apprehension emphasizes the necessity of carefully considering the regulatory implications and associated risks of decentralized digital assets. The overall responses from central banks and financial institutions worldwide underscore the

complexity and divergent perspectives surrounding cryptocurrencies. The profound impact of cryptocurrencies on the global financial system has captured significant attention, their noncorrelated nature to conventional financial markets renders cryptocurrencies an alluring option for risk-averse investors, comparable to the allure of traditional precious commodities such as gold. Nevertheless, amid the optimism surrounding cryptocurrencies, certain analysts harbor concerns regarding the potential negative repercussions that a downturn in the cryptocurrency market could precipitate within the broader financial landscape. Nonetheless, cryptocurrencies, as a distinctive asset class, embody a dynamic and relatively nascent proposition that harbors the potential for both auspicious and deleterious outcomes.

Within the investment community, cryptocurrencies are frequently regarded as speculative vehicles or prudent hedges against the perils of inflation. To plumb the depths of the impact of cryptocurrencies, a quantitative investigation can furnish invaluable insights. Such an investigation would entail an exhaustive analysis of various pivotal indicators and metrics, aimed at assessing the potential ramifications of cryptocurrencies on the stability and efficacy of the global financial system. Such investigations can serve to unearth potential risks and vulnerabilities associated with cryptocurrencies while facilitating the formulation of judicious regulatory frameworks to mitigate these risks. In summation, the burgeoning interest in cryptocurrencies as an investment avenue is a testament to their distinctive merits in facilitating seamless transactions and conferring individuals with a measure of control over inflationary pressures.

Vincent & Evans, (2019), lingering concerns persist regarding their potential influence on the broader financial system, necessitating the perpetual analysis and investigation of this multifaceted domain. Their inherent advantages of swift accessibility and user-friendliness empower individuals to procure resources and avail financial services, thereby propelling economic and social progress on a worldwide scale. A distinguishing characteristic of cryptocurrencies is their decentralized nature. This ensures that neither corporations nor individuals can manipulate the system, significantly minimizing the likelihood of fraudulent activities. Within developing economies, cryptocurrencies play a pivotal role in elevating economic and social standing. The introduction of blockchain technologies has bestowed

entrepreneurs with greater autonomy, granting them increased control and facilitating access to capital.

This heightened accessibility to financial resources stimulates economic activities and fosters overall growth.

According to Dierksmeier and Seele (2018), the emergence of the crypto-based economy is driving towards open-source principles and global accessibility, transcending nationality and socioeconomic status. In addition to their impact on financial inclusivity, blockchain projects have also discovered utility in sectors such as electricity data management and commodity trading. By harnessing blockchain technology, these industries have witnessed enhanced real-time speed, efficiency, and transparency. For example, in energy trading transactions, blockchain facilitates the recording and settlement of transactions without necessitating reconciliation, as all parties involved are utilizing the same platform. At the core of this robustness lies their decentralized nature, bestowing an additional stratum of steadfastness and impregnability upon the global financial landscape. Unlike the archetypal financial frameworks reliant on centralized entities, such as banks or governments, cryptocurrencies operate seamlessly on decentralized networks. Transactions undergo meticulous verification and indelible documentation on a dispersed ledger known as the blockchain, a boundless archive accessible to all participants.

The essence of decentralization ensures that transactions transcend dependency on a singular authority, mitigating the perils of a lone weak point. Even if one node or participant falters, the entire network perseveres relentlessly. In times of financial upheaval or political turbulence, traditional financial systems often encounter formidable disruptions. Banks falter, currencies plummet precipitously, and access to funds dwindles perilously. It is precisely in such predicaments that cryptocurrencies emerge as an alternative conduit for conducting transactions and preserving value. The decentralized fabric of cryptocurrencies bestows upon individuals and enterprises a heightened command over their financial endeavors, thereby curtailing their exposure to systemic hazards. Krause, (2016), the transparency and impregnability intrinsic to cryptocurrencies contribute to their unwavering resilience. Transactions meticulously etched onto the blockchain remain immutable and impervious to tampering, engendering a pinnacle of trust and thwarting fraudulent undertakings. Such enhanced security acts as a panacea to mollify the risks entangled with traditional financial systems, be it identity theft, counterfeit currency, or unauthorized transactions. Furthermore,

cryptocurrencies facilitate the realm of borderless transactions, effectively empowering individuals and enterprises to partake in international trade sans intermediaries or orthodox banking infrastructures. This phenomenon becomes particularly salient amidst the throes of political instability or economic sanctions that tend to constrict traditional financial channels.

According to Bindseil (2020), cryptocurrencies furnish individuals and enterprises with a medium to circumvent such limitations, unabatedly engaging in global economic activities. Nevertheless, it is crucial to acknowledge that while cryptocurrencies confer resilience against conventional financial crises and political instability, they do encounter distinctive challenges of their own. The mercurial nature of cryptocurrency markets poses inherent risks for investors, while regulatory frameworks strive to adapt and address concerns pertaining to consumer protection, taxation, money laundering, and market manipulation. blockchain technology is increasingly being explored for its applications in supply chain management. By utilizing blockchain, supply chains can achieve enhanced transparency, traceability, and accountability. This can help eradicate fraud, counterfeiting, and ensure the genuineness of products, benefiting both businesses and consumers.

According to Knezevic (2018), cryptocurrencies have sparked the development of smart contracts.

These self-executing contracts are encoded on the blockchain, enabling automated and trustless transactions. These systems enable the decentralized storage and sharing of data among multiple participants. The impact of cryptocurrencies on technological innovation extends to other domains as well. This innovation can unlock opportunities for broader access to investment assets and increase market efficiency. However, along with technological innovation, come challenges. The scalability, energy consumption, and regulatory frameworks surrounding these technologies need to be addressed for widespread adoption. Cos have gained popularity as a crowdfunding mechanism, granting early-stage projects direct access to public capital. However, it is crucial to acknowledge that ICOs entail elevated risks and diminished regulatory oversight, necessitating investors to meticulously conduct due diligence prior to participation. These exchanges facilitate the purchase and sale of various cryptocurrencies, enabling investors to leverage price fluctuations. Trading digital assets can be exceptionally lucrative owing to the frequent and substantial volatility witnessed in the cryptocurrency market.

According to DeVries (2016), this volatility also presents notable risks, as prices can undergo rapid and dramatic changes within brief timeframes. Consequently, investors must exercise prudence and implement risk management strategies when partaking in cryptocurrency trading. Furthermore, the advent of decentralized finance (DeFi) has introduced innovative investment prospects within the cryptocurrency ecosystem. DeFi platforms harness blockchain technology to offer diverse financial services, encompassing lending, borrowing, yield farming, and liquidity provision. Investors can partake in these decentralized protocols and accrue returns on their cryptocurrency holdings through interest payments or by staking their assets as collateral. However, DeFi investments carry their own array of risks, including smart contract vulnerabilities and market volatility. Moreover, the absence of regulatory oversight and the prevalence of fraudulent activities in the cryptocurrency domain underscore the necessity for caution and comprehensive research before allocating funds. Remaining well-informed about market trends, conducting exhaustive due diligence, and seeking professional advice can aid in mitigating risks and optimizing potential returns in this dynamic investment landscape.

Objective: To Know the Impact of Cryptocurrency on the Global Financial System.

Methodology: The researcher had considered people from financial sector to know the impact of cryptocurrency on the global financial system. The survey was conducted with the help of a questionnaire. The researcher had collected the primary data through random sampling method and was analysed by statistical tool called mean.

Findings

Table 1 Impact of cryptocurrency on the global financial system

S. No.	Statements	Mean Value
1.	Cryptocurrencies fostered financial inclusion for individuals lacking access to traditional banking services	3.15
2.	Shown a diverse range of attitudes and concerns within central banks and financial institutions	3.19
3.	Financial system undergone transformative changes that have the potential to benefit both individuals and institutions	3.16

4.	Cryptocurrencies are hypothetical vehicles or practical privets against the risks of inflation	3.13
5.	Facilitates unified transactions and discuss individuals with a measure of control over inflationary pressures	3.17
6.	Had elevated economic and social standing	3.14

Table above is showing impact of cryptocurrency on the global financial system. The respondent says that Cryptocurrencies had shown a diverse range of attitudes and concerns within central banks and financial institutions with mean value 3.19, Facilitates unified transactions and discuss individuals with a measure of control over inflationary pressures with mean value 3.17 and financial system undergone transformative changes that have the potential to benefit both individuals and institutions with mean value 3.16. The respondent also says that Cryptocurrencies fostered financial inclusion for individuals lacking access to traditional banking services with mean value 3.15, Had elevated economic and social standing with mean value 3.14 and Cryptocurrencies are hypothetical vehicles or practical privets against the risks of inflation with mean value 3.13.

Conclusion

Quantitative investigation that has illuminated the profound influence of cryptocurrencies on the global financial system. The results have uncovered a substantial impact of these digital assets on various facets of the financial landscape, encompassing both favourable and unfavourable implications. Additionally, the decentralized nature inherent to cryptocurrencies presents an alternative avenue to traditional banking systems, thereby reducing reliance on intermediaries and fostering heightened transparency. Moreover, cryptocurrencies have garnered considerable investments and speculative activities, thereby giving rise to novel economic prospects and fostering innovation. Underlying cryptocurrencies is blockchain technology, which holds the capacity to revolutionize diverse sectors by facilitating secure and efficient transactions, bolstering supply chain management, and empowering decentralized applications. Nonetheless, our investigation has also brought to the fore several challenges and risks entwined with cryptocurrencies.

The volatility and absence of comprehensive regulation raise concerns surrounding market stability, investor safeguards, and consumer confidence. Instances of fraudulent activities,

cyber assaults, and money laundering have sparked apprehensions regarding the security and integrity of the cryptocurrency ecosystem. Furthermore, the potential disruption of traditional financial institutions and government-controlled monetary systems has evoked mixed reactions from regulators and policymakers worldwide. Achieving a delicate balance between fostering innovation and implementing effective regulations remains a critical hurdle for the widespread adoption of cryptocurrencies. As the global financial system continues its evolution, it becomes imperative for all stakeholders to diligently monitor and comprehend the ongoing developments within the cryptocurrency realm. Collaboration among governments, regulatory bodies, and industry participants assumes utmost importance in formulating a robust framework that nurtures innovation while effectively addressing the risks and challenges inherent in cryptocurrencies. The study was conducted to know the impact of cryptocurrency on the global financial system and found that Cryptocurrencies had shown a diverse range of attitudes and concerns within central banks and financial institutions and also facilitates unified transactions and discuss individuals with a measure of control over inflationary pressures.

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