ISBN: 978-81-974990-7-4

12. Cryptocurrency and Financial Markets

Dr. Vimmi Behal

Assistant Professor,
Atal Bihari Vajpayee Hindi Vishwavidyalaya,
Bhopal (M.A).

Abstract:

In respect to traditional finance and alternative investments, this special collection seeks to address theoretical and empirical issues surrounding cryptocurrencies, as well as their risk and financial management elements. This is a trending topic because financial markets, politicians, and the general public are all paying close attention to cryptocurrencies on a global scale. The study's recommendations may help interested parties take advantage of cryptocurrencies' rising popularity to improve stock market performance and spur economic expansion. The idea of cryptocurrency is no longer foreign.

As the digital economy has grown, certain uses for traditional currency have been progressively displaced by cryptocurrencies. The purpose of this study is to quantify and assess the effects of cryptocurrencies on financial markets by looking at how they affect stock indexes, gold, oil, and exchange rates. We shall talk about financial markets and cryptocurrency in this essay.

Keywords:

Cryptocurrency, Financial Markets, Stock Market, Economic Growth, Exchange Rates, Gold Prices, Bitcoin, Ethereum.

12.1 Introduction:

In the world of finance, the emergence of cryptocurrencies signifies a paradigm shift. With the rise of cryptocurrencies like Bitcoin and Ethereum, investors have been enthralled with them and have begun to reassess their place in the larger financial system. Questions about digital currencies' effects on and integration with traditional financial markets have grown more important as they continue to develop and carve out a space for themselves as an asset class. With an eye on the past, present, and future of cryptocurrencies' role in the financial system, this investigation delves into the complex interactions that exist between these two realms. [1]

12.2 Cryptocurrency:

Crypto is a digital currency protected by encryption that runs on a decentralized network called the blockchain. Since cryptocurrency doesn't rely on a central authority like traditional money does, it's becoming a more and more popular option for investments and online transactions.

Cryptocurrency is a type of virtual or digital money that is secured by encryption. The system is decentralized and runs without interference from the government or a central bank.

A blockchain is a type of public ledger that records cryptocurrency transactions and guarantees their integrity and openness. Since its creation in 2009, Bitcoin has grown to become the most popular cryptocurrency. However, dozens of other cryptocurrencies have also been developed, such as Ethereum, Litecoin, and Ripple.

The Benefits of Cryptocurrencies:

The financial environment has changed due to the rise of cryptocurrencies, ushering in a new era of digital assets that offer investors both opportunities and challenges.

Three main benefits that highlight why cryptocurrency is becoming more and more popular are as follows:

- Without intervention from a central authority, decentralized finance allows for control and privacy.
- Peer-to-peer transactions are made possible by lower transaction costs, which also frequently result in shorter processing times and fees.
- A diversified investment portfolio has the potential to yield high returns due to its capacity for expansion. [2]

The Evolution of Cryptocurrency:

Bitcoin, in particular, has proven its worth in recent years, as evidenced by the 14 million coins that are currently in circulation. Most of the current market capitalization has come from investors speculating on the potential applications of this new technology, and this is probably going to continue until some level of price stability and market acceptability is attained.

Those who invest in cryptocurrencies seem to be depending on something called the "inherent value" of the asset in addition to its stated price. This covers the decentralized network, the technology and network itself, and the reliability of the cryptographic code.

In addition to the conventional payment system, a wide range of transactions could be disrupted by the blockchain public ledger technology that powers cryptocurrencies. These consist of stocks, bonds, and other financial assets for which digital records are kept and for which transaction verification is still now required from a reliable third party.

The Impact of Cryptocurrencies on the Financial Markets:

The financial and banking systems, as well as the management of central bank monetary policies intended to control macroeconomic variables like inflation, interest rates, and exchange rates, face challenges as a result of the notable increase in the number and value of cryptocurrencies.

Cryptocurrencies have the power to alter the amount of money in circulation. Prices of products and consumption are impacted when there is a shift in the total value of money in relation to the total value of items available in the market. Governments typically control inflation by either raising prices to restore output or lowering output to stabilize prices. The demand for the national currency will decline if people begin utilizing cryptocurrencies in place of the currency, which will cause it to lose value. Even people who reject cryptocurrency are impacted by rising national currency inflation.

12.3 Traditional Finance Market:

The term "traditional finance" describes the long-standing financial system that is built on centralized organizations like banks, governments, and regulatory agencies. These organizations, which are frequently subject to government regulation, offer financial services like banking, investing, and insurance. Along with stock markets and other financial exchanges, the traditional financial system also consists of financial intermediaries like asset managers and brokerage firms. Traditional fiat currencies are usually used for transactions and payments, and the records of those transactions are kept in centralized ledgers under the supervision of central entities and not open to the public or anonymity.

Challenges of Cryptocurrency in Traditional Financial Markets: In traditional financial markets, cryptocurrency poses a variety of security and regulatory challenges. Among the principal difficulties are:

- Security risks
- Money laundering and terrorist financing
- Volatility
- Lack of regulation
- Consumer Protection [3]

12.4 Review of Literature:

Despite their extreme volatility, cryptocurrencies are growing in popularity in the world's financial markets (Kim et al., 2021). Because they offer such large rewards, cryptocurrency prices fluctuate a lot. Bitcoin can be used as a hedge against a wide range of risks, such as those related to commodities, foreign exchange, and the stock market. Stocks might be significantly impacted by cryptocurrency as well. [4]

According to Böhme et al. (2020), cryptocurrency is a significant fintech invention that facilitates transaction processing and serves as a widely used means of exchange worldwide. Due to its quick expansion, it has drawn the attention of venture capitalists, the general public, the media, and financial and governmental entities that hold a particular position in the global finance markets. In particular, the market value of cryptocurrencies increased to $139 billion in 2018 and there were an astounding 250,000 transactions every day. A number of noteworthy research on Bitcoin have been carried out since its initial proposal by Nakamoto (2008), with particular attention paid to market efficiency, transaction costs, price volatility, speculation, blockchain, and price clustering. [5]

12.5 Objectives:

- Integration/segmentation of cryptocurrencies with the financial markets;
- Price formation and predictability;
- Substitution effect between cryptocurrencies and some commodities like metals and energy commodities;
- Role of cryptocurrency mining in the integration of cryptocurrencies with tech stocks and energy commodities.

12.6 Research Methodology:

This study's overall design was exploratory. The research paper is an endeavor that is founded on secondary data that was obtained from reliable online resources, newspapers, textbooks, journals, and publications. The research design of the study is mostly descriptive in nature.

12.7 Result and Discussion:

Cryptocurrencies:

Nowadays, people all over the world are talking about cryptocurrencies: in the media, among venture capitalists, in banks, on the stock market, in political groups, etc. The emergence of cryptocurrencies as a new class of financial assets offers an opportunity to study their as-yet-undiscovered characteristics. Virtual currencies, such as cryptocurrencies, have made a name for themselves in the global financial markets, especially in light of their explosive rise. The market value of cryptocurrencies peaked in November 2021 at 783 billion dollars (refer to Figure 12.1), having barely dropped to $1 billion in 2013. Simultaneously with this, the impact of cryptocurrency markets on empirical finance has grown dramatically in recent years, garnering substantial attention from academics, the media, government agencies, the financial sector, etc.

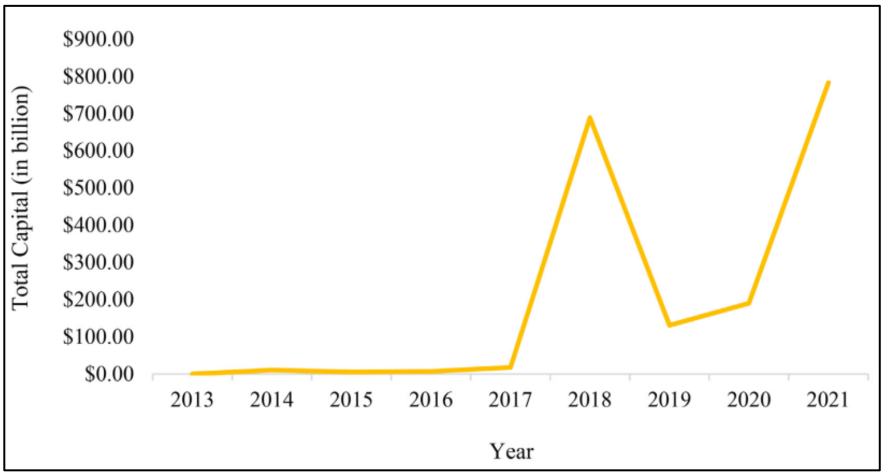

Figure 12.1: Market capital of cryptocurrencies from 2013 to 2021 [6]

While there are many different cryptocurrencies in the globe, the most well-known and well-liked ones are Ethereum and Bitcoin. Relying on blockchain technology, Ethereum and Bitcoin are valuable cryptocurrencies that support a peer-to-peer trust mechanism through majority node consensus. Libra is a noteworthy cryptocurrency that was created by Facebook with the goal of streamlining the financial infrastructure and monetary system. The non-profit organization in charge of Libra's growth is the Libra Association, which has its headquarters in Geneva, Switzerland. It controls the laws of the blockchain and guarantees Libra's value through a reserve fund of real assets. Other well-known cryptocurrencies are Litecoin and XRP, which were created by Ripple. There were 4,476 different cryptocurrency kinds as of March 3, 2021, with a $1,552 billion market capitalization. Table 12.1 displays the market values of 10 well-known cryptocurrencies.

Table 12.1: Market Value of 10 Popular Cryptocurrencies. [7]

No.	Cryptocurrencies	Signal	Current price (USD)	Total market cap (billion USD)
1	Bitcoin	BTC	50,876	949.41
2	Ethereum	ETH	1,591.8	183.10
3	Cardano	ADA	1.25272	40.17
4	Binance coin	BNB	249.63	38.89
5	Tether	USDT	1.001	35.90
6	Polkadot	DOT	38.43	35.20
7	XRP	XRP	0.45113	20.48
8	Litecoin	LTC	193.67	12.95
9	Chainlink	LINK	30.8	12.70
10	Bitcoin cash	BCH	539.27	10.10
Source: https://vn.investing.com/.				

The Future of Cryptocurrency and Financial Markets:

It's conceivable that the link between cryptocurrencies and financial markets will keep changing. This evolution will be influenced by several factors:

a. Regulatory Clarity: Governments will lessen uncertainty and promote wider use by traditional financial institutions as they create legal frameworks and greater regulatory clarity for cryptocurrencies.
b. Technological Advancements: The distinction between traditional and digital finance will become increasingly hazy as a result of ongoing developments in blockchain technology and cryptocurrency, which will spur innovation and the development of new financial products.
c. Cryptocurrency Adoption: Digital currencies will become more deeply ingrained in the established financial system as more people and companies use them for routine transactions.

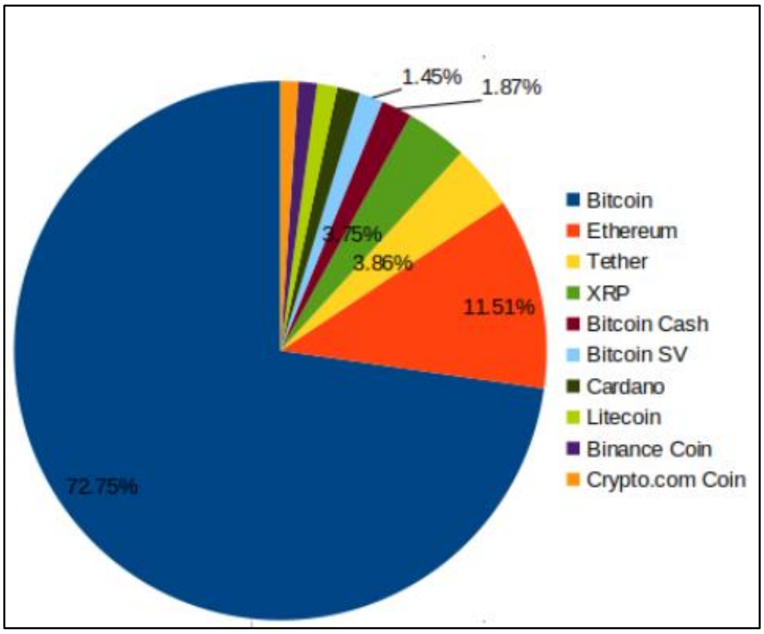

Figure 12.2: Market capitalization of cryptocurrencies as per Coin Market Cap in July 2020.

Other cryptocurrencies, or "altcoins," exist that surpass Bitcoin in terms of speed, anonymity, and other features. The first altcoin was named coin, which was developed in an effort to enhance many aspects such as DNS speed, privacy, security, and decentralization. Lite coin, Ripple, Ethereum, Z-Cash, Monero, BCH, Dash, and other examples are further examples. According to Coin Market Cap, there are currently more than 2000 cryptocurrencies.1. Nonetheless, according to market capitalizations released by Coin Market Cap in July 2020, Bitcoin leads the market with more than 70% of the market share, as seen in Figure 2. [8]

12.8 Conclusion:

Cryptocurrency has enormous potential to innovate and disrupt the financial industry in the future. Despite the fact that cryptocurrencies provide benefits like decentralization, security, and accessibility, investors need to be aware of the risks and volatility of the market. Cryptocurrency, also referred to as crypto-currency or crypto, is any virtual or digital money that employs encryption to safeguard transactions. Cryptocurrencies use a decentralized mechanism to record transactions and issue new units instead of a central body issuing or controlling them.

12.9 References:

1. Chowdhury, E.K. (2019). Transformation of Business Model through Blockchain Technology. The Cost and Management, 47(5), 4-9. The Institute of Cost and Management Accountants of Bangladesh.
2. Robinson, Joan, and Sheila Dow. Economic philosophy. Routledge, 2021.

3. Fatas, B.W. Mauro (2019), “The benefits of a global digital currency”, https://voxeu.org/article/benefits-globaldigital-currency, accessed 1 March 2021.
4. Kim, J.M., Jun, C., Lee, J., 2021. Forecasting the volatility of the cryptocurrency market by GARCH and Stochastic Volatility. Mathematics 9 (14), 1614.
5. Böhme, R., Eckey, L., Moore, T., Narula, N., Ruffing, T., & Zohar, A. (2020). Responsible vulnerability disclosure in cryptocurrencies. Communications of the ACM, 63(10), 62-71.
6. B.Y. Almansour, A.Y. Almansour, M. In’airat (2020), “The impact of exchange rates on bitcoin returns: Further evidence from a time series framework”, International Journal of Scientific and Technology Research, 9(2), pp.4577-4581.
7. L. A. Gil-Alana, E. J. A. Abakah, and M. F. R. Rojo, ‘‘Cryptocurrencies and stock market indices. Are they related?’’ Res. Int. Bus. Finance, vol. 51, Jan. 2020, Art. no. 101063.
8. P. Jay, V. Kalariya, P. Parmar, S. Tanwar, N. Kumar, and 9, ‘‘Stochastic neural networks for cryptocurrency price prediction,’’ IEEE Access, vol. 8, pp. 82804–82818, 2020