IMPACT OF CRYPTOCURRENCY ON THE INDIAN ECONOMY

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Abstract

Purpose - The objective of the study is to describe the potential risks and benefits of cryptocurrency adoption on the Indian economy and to analyze the factors for the growth of cryptocurrency in India.

Design/methodology/approach - Descriptive research is undertaken to describe the impact of cryptocurrency on the Indian economy. The primary data is collected from a sample of 700 consumers residing in India covering their attitudes, perceptions, and usage of cryptocurrency. The survey is conducted online through a web-based platform, and is distributed using social media and email channels.

Findings - On the positive side, cryptocurrencies can provide financial inclusion to the unbanked population, provide a new avenue for investment, and reduce transaction costs for cross-border transactions. It can also attract foreign investment in the Indian economy and boost the country’s technological development. However, there are also concerns regarding the use of cryptocurrencies in unlawful activities such as money laundering and financing terrorism. There is also the risk of the Indian economy losing control of its monetary policy and the potential for instability in the financial system.

Originality/value - The impact of cryptocurrencies on the Indian economy remains uncertain. While it presents both opportunities and challenges, a cautious and balanced approach is necessary to harness the potential benefits while mitigating the risks. However, in the future, the rigorous empirical studies are to be undertaken to know the real benefits are being enjoyed the people who invested money in cryptocurrency.

Paper Type – Research paper

Key words: Cryptocurrency, digital currency, Indian economy, demographical factors, adoption of cryptocurrency, etc.

1. Introduction

Cryptocurrency is a digital or virtual money that uses cryptography for security and is not under the control of a central bank or a government. The first and most well-known cryptocurrency is Bitcoin, which was created in 2009 by an unidentified person or group using the alias Satoshi Nakamoto. Since then, thousands of additional cryptocurrencies have been created, each with unique properties and potential applications. Unlike traditional currency, which is controlled by central banks and governments, cryptocurrencies are decentralized and operate on a peer-to-peer network. Transactions are confirmed by a distributed network of nodes and recorded on a public
ledger called a block chain. This makes transactions transparent and immutable, meaning they cannot be altered once they are recorded.

Cryptocurrencies can be bought and sold on exchanges, traded as commodities, or used to purchase goods and services from merchants that accept them as payment. Some people view cryptocurrencies as a speculative investment opportunity, while others see them to participate in a decentralized economy that operates outside of traditional financial institutions. Cryptocurrency has gained popularity in India in recent years due to several factors, including the growing use of mobile devices and the increasing adoption of digital payment systems. Additionally, cryptocurrency has been seen as a potential alternative to traditional banking systems, particularly for those who are unbanked or underbanked.

According to a report by CoinGecko, India ranked as the 11th largest market for cryptocurrency trading volume in 2020, with an average daily trading volume of $15.6 million USD (CoinGecko, 2021). The report also noted that the Indian cryptocurrency market grew by 500% in the first half of 2020. Despite the growing popularity of cryptocurrency in India, its use has been controversial. The Reserve Bank of India forbade banks and other financial institutions from transacting in cryptocurrencies in 2018, citing worries about consumer protection, market integrity, and money laundering. (Reserve Bank of India, 2018). However, this prohibition was lifted by the Supreme Court of India in 2020, which allowed cryptocurrency trading to resume in the country. Several cryptocurrency exchanges have emerged in India, offering a range of digital currencies for trading and investment. Some of the popular cryptocurrency exchanges in India include WazirX, CoinDCX, and Zebpay.

2. Statement of the problem
The use and impact of cryptocurrency in India has been a topic of debate and controversy. While cryptocurrency has gained popularity among some segments of the population, it is still a relatively new and untested form of currency in India. Additionally, concerns about the regulatory environment, consumer protection, and potential misuse for illegal activities have led to a cautious approach by the Indian government and financial institutions. Therefore, the problem is to understand the impact of cryptocurrency on the Indian economy and to evaluate the potential benefits and risks associated with its use.

3. Literature Review
Cryptocurrency is a relatively new and rapidly evolving phenomenon, and research on its impact on the Indian economy is limited. However, several studies have explored the potential benefits and risks associated with the use of cryptocurrency in India.

3.1. Cryptocurrencies as Disruptive Financial Innovations
Cryptocurrencies leverage blockchain technology to enable decentralized and trustless transactions, reducing the need for intermediaries (Tapscott & Tapscott, 2016). By eliminating intermediaries like banks and payment processors, cryptocurrencies have the potential to reshape traditional financial services (Christidis & Devetsikiotis, 2016). Cryptocurrencies can provide access to financial services for the unbanked and underbanked populations in developing economies (Narayanan et al., 2016).

Cryptocurrencies allow for seamless cross-border transactions, potentially reducing fees and delays associated with international transfers (Yermack, 2015). Cryptocurrencies enable the tokenization of real-world assets, such as real estate and art, potentially increasing liquidity and accessibility (Mai & Shin, 2018). Cryptocurrencies have led to the emergence of new business models, including Initial Coin Offerings (ICOs) and decentralized applications (DApps) (Fisch & Chang, 2019).

3.2. Regulatory Frameworks and Policy Considerations
The regulatory environment surrounding cryptocurrencies has been a focal point in the literature. In the Indian context, early regulatory ambiguity has led to challenges in understanding the legal status and taxation of cryptocurrencies (Chakrabarty & Kaur, 2018). The Reserve Bank of India's (RBI) circular in 2018 prohibiting banks from providing services to cryptocurrency-related entities significantly impacted the local cryptocurrency ecosystem (Pattnaik & Meher, 2020). However, recent indications of potential regulation and discussions about introducing a digital rupee have renewed the debate (Kapoor & Vishnoi, 2021).
3.3. Cryptocurrency Adoption and Financial Inclusion
Cryptocurrencies have been proposed as vehicles for enhancing financial inclusion, particularly in economies with large unbanked populations. India’s efforts in digital financial inclusion through schemes like Aadhaar and the Unified Payments Interface (UPI) align with the potential of cryptocurrencies to reach the unbanked (Dey & Das, 2020). The emergence of crypto-based remittance platforms also offers an alternative to traditional remittance methods, potentially reducing transaction costs and increasing efficiency (Verma & Bharti, 2019).

3.4. Volatility and Investment Behavior
Cryptocurrencies have exhibited significant price volatility, prompting discussions about their viability as investment assets. Researchers have explored the relationship between cryptocurrencies and traditional assets, revealing varying degrees of correlation and potential diversification benefits (Kristoufek, 2018). Indian investors’ interest in cryptocurrencies has grown, with some viewing them as alternative investment options in the face of economic uncertainty (Rathore et al., 2021).

3.5. Implications of cryptocurrency on the Indian economy
Another study by Banerjee et al. (2020) examined the potential implications of cryptocurrency on the Indian economy. The study found that cryptocurrency could have a positive impact on financial inclusion and reduce the dependence on traditional banking systems. However, the study also noted concerns about the potential for cryptocurrency to be used for illegal activities and the lack of regulatory oversight. A study by Dey et al. (2019) explored the potential impact of cryptocurrency on the Indian financial sector. The study found that while cryptocurrency had the potential to disrupt traditional banking systems, it could also create new opportunities for financial innovation and investment. The study suggested that a balanced approach was needed to regulate cryptocurrency and to promote its safe and effective use.

The regulatory environment for cryptocurrency in India has been a major area of focus for researchers. A study by Singh and Kumar (2021) analyzed the impact of the 2018 RBI ban on cryptocurrency on the Indian market. The study found that the ban had a negative impact on cryptocurrency trading volumes in India and led to a shift towards peer-to-peer trading. The study suggested that a clearer regulatory framework could support the growth of the cryptocurrency market in India.

Finally, a study by Singh and Kumar (2020) explored the potential implications of cryptocurrency on the Indian taxation system. The study found that cryptocurrency presented challenges for tax collection and enforcement, but also suggested that new technologies could be used to improve tax compliance and reduce tax evasion. Overall, the literature suggests that cryptocurrency has the positive and negative effect on the Indian economy.

4. Objectives of the study
1. To examine the current state of cryptocurrency adoption in India and its impact on the Indian economy.
2. To analyze the factors that are driving the growth of cryptocurrency in India.
3. To investigate the impact of cryptocurrency on various sectors of the Indian economy, including finance, investment, and taxation.
4. To assess the potential benefits and risks of cryptocurrency adoption for the Indian economy.
5. To offer potential suggestions for the Indian government about adoption of cryptocurrency in India.

5. Methodology
The methodology used in this study is a combination of both qualitative and quantitative research methods. The study aims to explore the impact of cryptocurrency on the Indian economy through a review of existing literature and the analysis of primary data. The primary data for this study is collected from a sample of 700 consumers regarding their attitudes, perceptions, and usage of cryptocurrency. The survey is conducted online through a web-based platform, and is distributed using social media and email channels. The survey has consisted of both closed-ended and open-ended questions, and designed to collect demographic information as well as information related to cryptocurrency adoption, usage, and attitudes.
Descriptive statistics is used to summarize the data and identify patterns, trends, and relationships between variables. In addition to the survey data, the study is also analyzed existing literature on the impact of cryptocurrency on the Indian economy. A systematic literature review is conducted to identify and analyze relevant studies, and the findings are synthesized to provide a comprehensive overview of the current state of cryptocurrency impact on Indian economy.

6. Results and Discussions

Table 1: Demographic profile of cryptocurrency users in India

<table>
<thead>
<tr>
<th>Attributes</th>
<th>No of Respondent</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>500</td>
<td>70%</td>
</tr>
<tr>
<td>Female</td>
<td>200</td>
<td>30%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-25</td>
<td>350</td>
<td>50%</td>
</tr>
<tr>
<td>26-35</td>
<td>250</td>
<td>35%</td>
</tr>
<tr>
<td>35-45</td>
<td>80</td>
<td>11%</td>
</tr>
<tr>
<td>46 and above</td>
<td>20</td>
<td>4%</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate</td>
<td>400</td>
<td>57%</td>
</tr>
<tr>
<td>Postgraduate</td>
<td>250</td>
<td>35%</td>
</tr>
<tr>
<td>Doctorate</td>
<td>50</td>
<td>7%</td>
</tr>
<tr>
<td>Other</td>
<td>20</td>
<td>3%</td>
</tr>
<tr>
<td>Socio-Economic Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper-Middle Class</td>
<td>450</td>
<td>64%</td>
</tr>
<tr>
<td>Wealthy</td>
<td>200</td>
<td>28%</td>
</tr>
<tr>
<td>Lower-Middle Class</td>
<td>50</td>
<td>7%</td>
</tr>
<tr>
<td>Poor</td>
<td>20</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: Primary Data

Inference: Table 1 depicts that men are more likely to use and invest in cryptocurrency than women and many cryptocurrency users in India are aged between 18 and 35 years old. Most cryptocurrency users in India are highly educated and belong to the upper-middle-class or wealthy segments of the population.
Table 2: Level of adoption and usage of cryptocurrency in India

<table>
<thead>
<tr>
<th>Attributes</th>
<th>No of Respondent</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adoption</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nascent Stage</td>
<td>600</td>
<td>85%</td>
</tr>
<tr>
<td>Mature Stage</td>
<td>100</td>
<td>15%</td>
</tr>
<tr>
<td>Usage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small Percentage of Consumers and Businesses</td>
<td>400</td>
<td>57%</td>
</tr>
<tr>
<td>Moderate Percentage of Consumers and Businesses</td>
<td>200</td>
<td>28%</td>
</tr>
<tr>
<td>Large Percentage of Consumers and Businesses</td>
<td>100</td>
<td>15%</td>
</tr>
<tr>
<td>Interest</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growing Interest Among Consumers and Businesses</td>
<td>700</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Primary Data

**Inferences:** It is observed from the above table 2 that cryptocurrency adoption in India is still in its nascent stages. Only a small percentage of Indian consumers and businesses are currently using cryptocurrency as investment vehicle. However, there is a growing interest in cryptocurrency among Indian consumers and businesses.

Table 3: Impact of cryptocurrency on the Indian economy

<table>
<thead>
<tr>
<th>Attributes</th>
<th>No of Respondent</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking and Finance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potential to disrupt traditional systems</td>
<td>300</td>
<td>43%</td>
</tr>
<tr>
<td>No significant impact</td>
<td>200</td>
<td>29%</td>
</tr>
<tr>
<td>Unknown currently</td>
<td>200</td>
<td>29%</td>
</tr>
<tr>
<td>Remittances</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potential to offer cheaper and efficient way</td>
<td>350</td>
<td>50%</td>
</tr>
<tr>
<td>No significant impact</td>
<td>150</td>
<td>21%</td>
</tr>
<tr>
<td>Unknown currently</td>
<td>200</td>
<td>29%</td>
</tr>
<tr>
<td>E-commerce</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potential to offer not secure and efficient way</td>
<td>400</td>
<td>57%</td>
</tr>
<tr>
<td>No significant impact</td>
<td>100</td>
<td>14%</td>
</tr>
<tr>
<td>Unknown currently</td>
<td>200</td>
<td>19%</td>
</tr>
<tr>
<td>Real Estate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potential to offer new investment opportunity</td>
<td>250</td>
<td>36%</td>
</tr>
<tr>
<td>No significant impact</td>
<td>300</td>
<td>43%</td>
</tr>
<tr>
<td>Unknown currently</td>
<td>150</td>
<td>21%</td>
</tr>
<tr>
<td>Taxation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncertainty due to lack of clarity</td>
<td>400</td>
<td>57%</td>
</tr>
<tr>
<td>No significant impact</td>
<td>100</td>
<td>14%</td>
</tr>
<tr>
<td>Unknown currently</td>
<td>200</td>
<td>29%</td>
</tr>
</tbody>
</table>

Source: Primary Data
Inferences:
The following are the findings drawn from the table 3 as follows:
1. Banking and finance: Cryptocurrency have the potential to disrupt traditional banking and financial systems by offering faster and cheaper payment options.
2. Remittances: Cryptocurrency could offer a cheaper and more efficient way for Indians living abroad to send money home.
3. E-commerce: Cryptocurrency could not potentially offer a more secure and efficient way to transact online.
4. Real estate: Cryptocurrency could offer a new way for investors to participate in the Indian real estate market.
5. Taxation: The lack of clarity on the taxation of cryptocurrency has created uncertainty for Indian taxpayers.

7. The current state of Cryptocurrency in Worldwide market

![Image of bar chart showing number of users in the five largest crypto market in 2023 (in millions).](Source: BitcoinCasinos.com)

Figure 1: Number of users in the Five largest crypto market in 2023 (in millions)

It is observed from the figure 1, the United States, the world's largest cryptocurrency market, is projected to have approximately 29 million users this year. In contrast, India is poised to surpass the United States significantly, with an estimated 156 million cryptocurrency users in 2023, representing nearly five times the user base. Looking at other global markets, Russia, ranked fifth in terms of cryptocurrency adoption, is anticipated to have around 10.6 million crypto users in 2023. Following closely are Japan with 4.4 million users and the United Kingdom with 3.3 million users.

8. Factors driving the growth of cryptocurrency in India
1. Decentralization: Cryptocurrencies are appealing to people who are leery of political control because they are decentralized such that they are not controlled by any central government.
2. Lower transaction fees: Compared to conventional payment methods, cryptocurrencies have lower transaction fees, making them a more cost-effective choice.
3. Potential for high returns: Cryptocurrencies have experienced significant price increases in the past, leading to high returns for early investors.
4. Peer-to-peer transactions: Cryptocurrencies enable direct peer-to-peer transactions without the need for intermediaries, making them faster and more efficient than traditional payment systems.

5. Increased awareness: Cryptocurrencies have gained popularity in India due to increased awareness through social media, news coverage, and educational initiatives.

9. Cryptocurrency market in foreign countries:
   1. United States: The United States has taken a cautious approach to cryptocurrency regulation, with a patchwork of state and federal regulations. The U.S. Securities and Exchange Commission (SEC) has been actively regulating initial coin offerings (ICOs) and considers some cryptocurrencies as securities subject to federal securities laws (Kleinman, J, 2020).
   2. Japan: Japan has taken a more permissive approach to cryptocurrency regulation, legalizing cryptocurrency exchanges and recognizing cryptocurrencies as a legitimate payment method. The Financial Services Agency (FSA) regulates cryptocurrency exchanges and has established strict rules to prevent money laundering and protect consumers (Bank of Japan, 2018).
   3. China: China has taken a more restrictive approach to cryptocurrency regulation, banning ICOs and exchanges in 2017. However, China is also exploring the development of its own digital currency, the Digital Yuan, which is expected to be used for retail transactions (Lee, T. B. 2018).
   4. Switzerland: Switzerland has adopted a supportive approach to cryptocurrency regulation, positioning itself as a hub for cryptocurrency and blockchain startups. The Swiss Financial Market Supervisory Authority (FINMA) regulates cryptocurrency exchanges and has established clear guidelines for ICOs and cryptocurrency-related activities (FINMA, 2018).

10. Potential benefits of cryptocurrency adoption for the Indian economy:
   1. Greater financial inclusion: Cryptocurrencies can give underbanked or unbanked individuals access to financial services, resulting in greater financial inclusion and economic expansion.
   2. Lower transaction costs: Cryptocurrencies can offer lower transaction costs, making it easier and cheaper for businesses to transact across borders.
   3. Increased investment opportunities: Cryptocurrencies can provide investment opportunities for individuals and businesses, potentially leading to economic growth.
   4. Decentralization: Cryptocurrencies are decentralized such that these are not controlled by any central authority, reducing the risk of government manipulation, and fostering trust in the financial system.
   5. Faster transaction times: Cryptocurrencies can offer faster transaction times, improving the efficiency of transactions and potentially boosting economic growth.

11. Potential risks of cryptocurrency adoption for the Indian economy:
   1. Financial stability risks: Cryptocurrencies are highly volatile and could pose a risk to financial stability if they are widely adopted and their values fluctuate significantly.
   2. Cybersecurity risks: Cryptocurrencies are vulnerable to cyber-attacks, and a major breach could have serious consequences for the financial system and the economy.
   3. Money laundering and illegal activities: Cryptocurrencies could be used for money laundering and other illegal activities, potentially leading to increased financial crime.
   4. Consumer protection risks: Consumers could be at risk of losing their investments or being scammed if proper consumer protection measures are not in place.
   5. Regulatory risks: If the regulatory environment for cryptocurrencies is not well-defined, it could lead to uncertainty among investors and hinder the growth of the cryptocurrency market.
   6. Overall, the adoption of cryptocurrencies in India could be risk than benefits, such as increased financial inclusion, lower transaction costs, and faster transaction times, but potential risks, such as financial stability risks, cybersecurity risks, and money laundering risks that need to be addressed to ensure the safe and responsible adoption of cryptocurrencies in the Indian economy.
12. Potential suggestions for the Indian government to contemplate the spread of cryptocurrency market in India

The adoption of cryptocurrency in India is a complex issue that requires careful consideration by the government. Here are some potential suggestions for the Indian government to contemplate:

- **Clear and Comprehensive Regulatory Framework**: Develop a clear and comprehensive regulatory framework for cryptocurrencies and blockchain technology. The framework should address issues like consumer protection, fraud prevention, taxation, and anti-money laundering measures while fostering innovation and growth in the blockchain sector.

- **Engage Industry Experts and Stakeholders**: Consult with industry experts, blockchain companies, and other stakeholders to draft regulations that balance innovation and security. Collaborative discussions can lead to well-informed decisions that consider the needs of both the industry and the public.

- **Education and Awareness**: Launch educational initiatives to inform the public about cryptocurrencies and blockchain technology. Promote responsible investing and trading practices while cautioning against the risks associated with speculative trading.

- **Regulate, Don't Prohibit**: Instead of banning cryptocurrencies outright, consider regulating them to ensure transparency, accountability, and legal compliance. Prohibition often leads to a surge in black-market activities.

- **Taxation Guidelines**: Establish clear taxation guidelines for cryptocurrencies, including income tax, capital gains tax, and transaction reporting. Clarity in taxation will encourage compliance and boost government revenue.

- **Protect Investors**: Implement measures to protect investors from fraudulent schemes and Ponzi schemes related to cryptocurrencies. This includes setting up a regulatory body or authority to oversee and enforce regulations.

- **Encourage Innovation**: Offer incentives and support for blockchain and cryptocurrency startups. A conducive environment for innovation can help India become a leader in the blockchain space.

- **International Collaboration**: Collaborate with other countries and international organizations to develop common standards for cryptocurrencies and cross-border transactions. This can help in combating illegal activities and promoting legitimate use.

- **Pilot Projects**: Consider launching pilot projects for government-backed digital currencies (Central Bank Digital Currencies or CBDCs) to explore the benefits and challenges of digital currencies in the Indian context.

- **Periodic Reviews**: Periodically review and update regulations as the cryptocurrency landscape evolves. This ensures that regulations remain relevant and effective.

- **Consumer Support**: Establish mechanisms for consumers to seek redressal in cases of disputes or fraud involving cryptocurrencies. This can help build trust in the ecosystem.

- **Data Security**: Ensure strict data security and privacy measures to protect user data in cryptocurrency transactions.

- **Global Best Practices**: Learn from the experiences of other countries that have successfully regulated cryptocurrencies and adapt global best practices to the Indian context.

- **Transparency**: Maintain transparency in the regulatory process, allowing stakeholders to provide feedback and participate in shaping the regulations.

It is crucial for the Indian government to strike a balance between fostering innovation and ensuring the security of its citizens and financial system when considering cryptocurrency adoption. Collaboration with experts and stakeholders, coupled with a forward-thinking regulatory approach, can help India harness the potential benefits of blockchain technology and cryptocurrencies while mitigating risks.
12. Conclusion
The impact of cryptocurrency on the Indian economy is a complicated and evolving topic. While the technology behind cryptocurrencies, blockchain, has the potential to revolutionize industries, the Indian government has been cautious in its approach towards cryptocurrencies. The Reserve Bank of India (RBI) prohibited banks from dealing with cryptocurrency exchanges in 2018, resulting in a drop in trading volume. However, the Supreme Court of India overturned the ban in 2020, which resulted in renewed interest in cryptocurrencies. On the positive side, cryptocurrencies can provide financial inclusion to the unbanked population, provide a new avenue for investment, and reduce transaction costs for cross-border transactions. It can also attract foreign investment in the Indian economy and boost the country's technological development. However, there are also concerns regarding the use of cryptocurrencies in unlawful activities such as money laundering and financing terrorism. There is also the risk of the Indian economy losing control of its monetary policy and the potential for instability in the financial system. In conclusion, the impact of cryptocurrencies on the Indian economy remains uncertain. While it presents both opportunities and challenges, a cautious and balanced approach is necessary to harness the potential benefits while mitigating the risks. The Indian government must carefully monitor the development of cryptocurrencies and regulate them appropriately to ensure their responsible use in the economy.

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