



Department of Economics and Finance

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Chair of Blockchain and Cryptocurrencies

How would consumer adoption and public perception differ between a Digital Euro and Bitcoin as legal tender in the EU?

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ABSTRACT

This thesis examines the differential consumer adoption and public perception of Bitcoin and the Digital Euro as potential legal tender within the European Union. The study investigates several key factors influencing these dynamics, including technological accessibility, trust and security, awareness and understanding, practical usability, and cultural influences.

The research begins by providing a brief description of both Bitcoin and the Digital Euro, highlighting their respective characteristics, origins, and technological frameworks. Through comparative analysis, the study explores how these digital currencies align with consumer needs and regulatory standards within the EU.

Key areas of focus include the technological challenges and advantages each currency presents, the level of public trust and security concerns, and the socio-economic and cultural factors that shape public perception. The thesis evaluates the potential economic impacts of adopting these currencies and their alignment with existing financial systems and regulatory frameworks.

The findings suggest that while Bitcoin offers significant benefits in terms of decentralization and financial autonomy, it faces considerable challenges related to volatility, complexity, and regulatory acceptance. Conversely, the Digital Euro, supported by the European Central Bank, demonstrates higher potential for widespread adoption due to its stability, ease of use, and regulatory compliance.

The thesis posits that the Digital Euro is better suited for integration as legal tender within the EU, given its alignment with institutional trust, economic stability, and regulatory frameworks. Bitcoin, while revolutionary, is more likely to find niche adoption where decentralization and financial independence are prioritized.

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INTRODUCTION

The Advantage Question

When discussing "advantage" in the comparison between the Digital Euro and Bitcoin as potential legal tender within the European Union, it's essential to delineate the spectrum of potential benefits these digital currencies may offer. Economically, the advantages could span from enhancing stability in value, which is paramount in preventing inflation or deflation, to reducing transaction fees significantly. Such economic benefits could revolutionize the efficiency of financial transactions, reducing costs for businesses and consumers alike and potentially stimulating economic growth. Societally, the implications of adopting these currencies could be profound, offering increased financial inclusion for the unbanked or underbanked, bolstering privacy and security in financial transactions, and democratizing access to the global financial system. Moreover, the environmental aspect cannot be overlooked; the Digital Euro, assumed to require less energy consumption compared to the mining-heavy processes of Bitcoin, might offer a more sustainable alternative. Clarification of "advantage" in these terms is crucial, as it not only aligns our investigation with specific, impactful areas but also ensures that readers grasp the multifaceted potential impacts of these digital currencies' adoption.

Why It Matters

The discourse on the comparative advantages of the Digital Euro and Bitcoin exceeds academic speculation, embodying tangible implications for economic policy, business operations, and the daily financial activities of EU citizens. For policymakers, discerning the most advantageous digital currency is instrumental in sculpting regulatory frameworks and fostering adoption strategies that bolster economic stability and foster growth. Businesses stand at a crossroads, where understanding

the benefits of each currency could dictate decisions on payment processing, financial planning, and engaging in international trade, fundamentally altering operational dynamics and competitive strategies. For EU citizens, the stakes involve everyday financial transactions, savings management, and trust in the financial ecosystem. The overarching significance of this inquiry lies in its capacity to sculpt the trajectory of the European economy, potentially elevating the Euro's global stance and impacting the financial security and freedoms of EU residents. Thus, exploring this question is a venture beyond academic curiosity; it's a critical endeavour aimed at informing policy and strategic decisions that will shape the future economic landscape of the European Union.

Hypotheses

In pursuit of understanding the differential consumer adoption and public perception between a Digital Euro and Bitcoin, this study will examine several hypotheses. Firstly, "The adoption of a Digital Euro will manifest more swiftly among older populations than Bitcoin," predicates on the older demographic's propensity towards valuing stability and governmental endorsement, as opposed to the volatile and decentralized nature of Bitcoin. A second hypothesis posits, "Public perception of Bitcoin is significantly shaped by media narratives, more so than the Digital Euro." This hypothesis suggests that Bitcoin's public image is highly sensitive to media influence, reflecting its volatility and the sensational coverage of its price fluctuations and security incidents. On the contrary, the Digital Euro, being a newer entity backed by the European Central Bank, might be perceived as more stable and secure, influenced by official communications rather than media sensation. Additionally, "The potential for a Digital Euro to facilitate cross-border transactions within the EU will be seen as a key advantage over Bitcoin," anticipates that the seamless

integration of a Digital Euro into existing financial and regulatory frameworks will be highly valued by consumers and businesses alike for its efficiency and reliability in cross-border transactions, contrasting with Bitcoin's regulatory ambiguity and variability in acceptance.

These hypotheses aim to dissect the preferences and perceptions among EU populations, providing a structured lens through which the research will navigate the complex landscape of digital currencies.

CHAPTER 1. DESCRIPTION OF DIGITAL EURO AND BITCOIN

1.1 Brief Overview of the Digital Euro

The concept of a digital euro, as envisioned by the European Central Bank (ECB) and euro area national central banks, marks a significant step towards integrating digital innovation within the traditional financial systems. Launched in October 2021, the investigation phase of the digital euro project aims to explore the intricate design and distribution mechanisms necessary for its realization, reflecting a proactive approach towards ensuring central bank money's accessibility in the increasingly digitalized economic landscape. This section provides a succinct overview of the digital euro, highlighting its potential implications for the European payments landscape.

A. Genesis and Objective

The digital euro project commenced with an investigation phase, underscoring the ECB's commitment to ensuring that central bank money continues to serve public interests in an evolving digital age. Through extensive collaboration with euro area national central banks, the project seeks to address the foundational aspects concerning the digital euro's design and distribution. The primary objective is to

reinforce the central bank's role in the digital economy, ensuring secure, efficient, and inclusive monetary transactions for all citizens within the euro area.

B. Prototyping and Technical Insights

A pivotal element of the investigation phase involved a comprehensive prototyping exercise, conducted from July 2022 to February 2023. This exercise tested the feasibility of integrating digital euro solutions into the European payments landscape, focusing on the technical viability and potential for innovation. The findings revealed that a digital euro could function both online and offline through distinct designs, enhancing the payment system's resilience. The exercise, however, was a learning tool rather than a definitive solution, emphasizing the project's exploratory nature and commitment to technical rigor.

The technical infrastructure of the digital euro prototypes suggests a balanced approach between centralized and decentralized elements. The settlement engine, N€XT, demonstrated the ability to manage transactions efficiently while preserving user privacy, a testament to the sophisticated technical underpinnings of the digital euro project. Additionally, the exploration of offline payments highlighted the project's ambition to provide a universally accessible and reliable digital currency, capable of operating independently of network connectivity.

C. Stakeholder Engagement and Legislative Framework

The ECB has engaged with a wide range of stakeholders, including institutional bodies like the European Commission and the European Parliament, to shape the digital euro's framework. This collaborative effort aims to align the digital euro's development with broader legislative and policy objectives, ensuring its compatibility with existing financial regulations and infrastructures.

The draft regulation published by the European Commission in June 2023 marks a significant milestone, outlining the legal framework necessary for the digital euro's

introduction. This legislative proposal, together with continued stakeholder consultations, forms the backbone of the project's next phases, emphasizing the importance of a cohesive and supportive regulatory environment.

D. Cash-Like Utility and Inflation Considerations

One of the noteworthy aspects of the digital euro is its potential to be used exactly like cash—physical euro bills and coins. This feature is significant because it ensures that the digital euro can be seamlessly integrated into daily transactions, providing the same level of convenience and familiarity as traditional cash. Users will be able to conduct secure, efficient, and straightforward transactions, benefiting from the ease of use that physical money offers. However, similar to its physical counterpart, the digital euro does not provide inherent protection against inflation. While it offers numerous advantages in terms of accessibility and resilience, it remains subject to the same economic conditions that affect the value of traditional currency. This duality underscores the importance of comprehensive monetary policies to manage inflation and maintain the currency's value over time.¹²

Conclusion

The digital euro represents a forward-looking initiative to modernize Europe's monetary systems, blending innovation with the steadfast reliability of central bank money. As the investigation phase progresses, the insights gained from prototyping exercises and stakeholder engagements will be invaluable in refining the digital euro's design, ensuring it meets the diverse needs of the European economy while upholding the highest standards of security and privacy.

¹ European Central Bank, 2023. *Progress on the investigation phase of a digital euro – fourth report.*

² European Central Bank, 2023. *Digital euro – Prototype summary and lessons learned.*

1.2 Brief Overview of Bitcoin

Bitcoin represents a significant shift in the financial sector, being the first decentralized digital currency introduced in 2009 by an anonymous entity known as Satoshi Nakamoto. It operates without a central authority, using a technology called blockchain to manage transactions and mint new coins. This digital currency has transcended its initial perception as an experimental technology, evolving into a global financial phenomenon acknowledged by investors, governments, and the general public alike (Hossain et al., 2023)³.

The roots of Bitcoin's development are complex, starting from its inception in the wake of the 2008 financial crisis. The ambition was to create a currency free from government oversight, inflation, and corruption, with transactions verifiable by network participants without the need for traditional banking infrastructures. This was achieved through the creation of the blockchain, a decentralized ledger that records all transactions across a network of computers, ensuring transparency and security (Chohan, 2017)⁴.

Bitcoin's journey has not been without challenges, including regulatory scrutiny, market volatility, and technical vulnerabilities. Despite these hurdles, it has spurred the development of thousands of other cryptocurrencies, collectively known as altcoins, each with unique features and purposes. Bitcoin's pioneering use of blockchain technology has also inspired a multitude of applications beyond cryptocurrencies, such as smart contracts and decentralized finance (DeFi) platforms [(Conti et al., 2017)⁵.

³ Hossain, S., Bairagi, M., Aktar, J., Honey, U., & Mithy, S. (2023). The Evolution of Bitcoin: A Historical Analysis and Future Prospects. *iRASD Journal of Economics*.

⁴ Chohan, U. (2017). A History of Bitcoin. *PSN: Exchange Rates & Currency (Comparative) (Topic)*.

⁵ Ghimire, S., & Selvaraj, D. (2018). A Survey on Bitcoin Cryptocurrency and its Mining. *2018 26th International Conference on Systems Engineering (ICSEng)*, 1-6.

One of the most remarkable aspects of Bitcoin is its resilience. Despite various attacks on its network and the volatility in its price, Bitcoin has continued to grow in adoption and value. Its decentralized nature makes it resistant to censorship and interference, offering a level of financial freedom not possible with traditional fiat currencies. This resilience is partly due to the robust community that supports it, contributing to its development and advocating for its adoption (Bradbury, 2013)⁶.

The future of Bitcoin remains a topic of intense speculation and debate. While some view it as a speculative bubble destined to burst, others see it as the future of money, heralding a new era of financial autonomy and innovation. Its potential to disrupt traditional financial systems, provide a viable alternative to fiat currencies, and its role in the broader cryptocurrency ecosystem continue to attract attention from investors, developers, and policymakers alike (Pavlus, 2017)⁷.

1.3 Key Differences Between Bitcoin and the Digital Euro

The evolution of digital currencies introduces a myriad of financial tools, among which Bitcoin and the Digital Euro stand out due to their distinctive characteristics and underlying technologies. This section delineates the key differences between Bitcoin, a pioneering cryptocurrency, and the Digital Euro, a central bank digital currency (CBDC) under consideration by the European Central Bank.

Origin and Control: Bitcoin was introduced in 2009 by an anonymous entity known as Satoshi Nakamoto. It operates on a decentralized network, meaning no single entity, including governments or central banks, controls it (Bruijl, 2017)⁸. In contrast,

⁶ Bradbury, D. (2013). The problem with Bitcoin. *Computer Fraud & Security*, 2013, 5-8.

⁷ Pavlus, J. (2017). The World Bitcoin Created.. *Scientific American*, 318 1, 32-37

⁸ Bruijl, G. (2017). Adopting Bitcoin as a Digital Currency Through Digital Transformation. *Monetary Economics: Financial System & Institutions eJournal*.

the Digital Euro would be issued and regulated by the European Central Bank, ensuring centralized control over its distribution and stability (Martin, 2021)⁹.

Underlying Technology: Bitcoin utilizes blockchain technology, a distributed ledger that records all transactions across a network of computers. This technology ensures transparency, security, and immutability of transactions (Sakız & Gencer, 2022)¹⁰. The Digital Euro could employ a variety of technologies, including but not limited to blockchain. Central banks are exploring different technological frameworks to suit their specific needs for security, efficiency, and regulatory compliance (Chaum, Grothoff, & Moser, 2021)¹¹.

Purpose and Use: Bitcoin was created as an alternative to traditional currencies, offering a digital means of exchange that operates independently of a central authority. Its use cases have expanded from a medium of exchange to a speculative investment and a store of value for some users (Raskin & Yermack, 2016)¹². The Digital Euro aims to complement existing forms of the euro, providing a digital option that ensures stability, wide acceptance, and ease of use in digital payments, while potentially enhancing monetary policy efficacy and financial stability (Wadsworth, 2018)¹³.

Privacy and Anonymity: Bitcoin transactions offer a degree of anonymity, as users transact under pseudonyms. However, transactions are public on the blockchain, allowing for potential traceability by analysing transaction patterns. The Digital

⁹ Martin, V. (2021). Central Bank digital currencies. *Bankarstvo*.

¹⁰ Sakız, B., & Gencer, A. (2022). Digital Currencies, Cryptocurrencies and Central Bank Digital Currencies. *International Conference on Eurasian Economies 2022*.

¹¹ Chaum, D., Grothoff, C., & Moser, T. (2021). How to Issue a Central Bank Digital Currency. *ArXiv*, abs/2103.00254.

¹² Raskin, M., & Yermack, D. (2016). Digital Currencies, Decentralized Ledgers, and the Future of Central Banking. *ERN: Monetary Policy Objectives; Policy Designs; Policy Coordination (Topic)*.

¹³ Wadsworth, A. (2018). The pros and cons of issuing a central bank digital currency. *Reserve Bank of New Zealand Bulletin*, 81, 1-21.

Euro's approach to privacy is a subject of significant consideration, aiming to balance anti-money laundering (AML) and counter-terrorism financing (CTF) requirements with the privacy expectations of European citizens. The design could include privacy-enhancing technologies while ensuring compliance with regulatory standards (Engert & Fung, 2017)¹⁴.

Impact on Financial Stability: The introduction of Bitcoin and its adoption have raised discussions about its impact on financial stability, given its price volatility and speculative nature. The Digital Euro, on the other hand, is designed with the aim of enhancing financial stability in the Eurozone, providing a risk-free digital currency that complements the existing monetary system and potentially mitigates the risks associated with private digital currencies (Cunha, Melo, & Sebastião, 2021)¹⁵.

Monetary Policy Implications: Bitcoin operates independently of centralized financial authorities, making it immune to traditional monetary policy tools. Its total supply is algorithmically limited to 21 million units, a design choice that inherently prevents inflation but also eliminates the flexibility to adjust supply in response to economic shifts. This rigidity means that Bitcoin cannot contribute directly to monetary policies aimed at stabilizing economies, managing inflation, or influencing employment levels. Conversely, the Digital Euro, as a central bank digital currency (CBDC), would be integrated into the Eurozone's monetary system, administered by the European Central Bank (ECB). This integration allows the ECB to potentially manipulate the Digital Euro's supply dynamically, facilitating more responsive and precise economic interventions. Such capabilities could enable the ECB to implement

¹⁴ Engert, W., & Fung, B. (2017). Central Bank Digital Currency: Motivations and Implications. *Regulation of Financial Institutions eJournal*.

¹⁵ Cunha, P., Melo, P., & Sebastião, H. (2021). From Bitcoin to Central Bank Digital Currencies: Making Sense of the Digital Money Revolution. *Future Internet*, 13, 165.

unconventional monetary policies, like specific incentives for spending or tailored interest rates, enhancing its ability to address economic fluctuations effectively.

In conclusion, Bitcoin and the Digital Euro represent two facets of the digital currency spectrum, with Bitcoin pioneering decentralized cryptocurrency and the Digital Euro exemplifying the evolving role of central banks in the digital age. While Bitcoin challenges traditional financial systems with its decentralized approach, the Digital Euro seeks to harmonize the benefits of digital currency with the stability and regulatory framework of the central banking system. These differences underscore the diverse potentialities and challenges that digital currencies present to the global financial landscape.

CHAPTER 2. COMPARISON

2.1 My points on Consumer Adoption.

Introduction

In the evolving landscape of global finance, the integration of digital currencies into daily economic activities represents a significant shift from traditional monetary systems. The advent of cryptocurrencies, epitomized by Bitcoin, has sparked a profound reevaluation of how money is perceived, utilized, and governed across the world. As the European Union contemplates the introduction of a Digital Euro, understanding consumer adoption dynamics becomes crucial for policymakers and financial institutions alike. This chapter delves into the varying factors that influence how consumers might accept and interact with the Digital Euro compared to Bitcoin, when both are considered as legal tender within the EU.

Consumer adoption of digital currencies is pivotal as it determines the success or failure of these innovations in achieving widespread usage. The concept of consumer

adoption refers to the process through which individuals and businesses begin to accept and utilize a new product or technology. In the context of digital currencies, this process is influenced by various technical, economic, and cultural factors that can significantly differ between established cryptocurrencies like Bitcoin and potential government-backed digital currencies such as the Digital Euro.

This analysis sets the stage by contrasting these two digital currencies—Bitcoin, a decentralized cryptocurrency known for its volatility and pioneering status, and the proposed Digital Euro, potentially a stable, state-backed digital currency designed to complement existing monetary systems. Each currency carries unique attributes and challenges that could affect their adoption. By exploring these distinctions, this chapter aims to uncover the nuanced ways in which the design, governance, and perceived utility of these currencies shape public perception and acceptance.

In summary, this exploration will not only highlight the technical and practical differences influencing consumer adoption but also consider the broader socio-economic implications that these digital currencies hold for the future of financial transactions in the EU. This analysis is fundamental for understanding the potential shifts in consumer behaviour and the strategic decisions that must be made in the development of digital currencies by governmental bodies and financial institutions within the EU.

2.1.1 Technological Accessibility

Technological accessibility is a crucial aspect that influences consumer adoption of digital currencies, such as the Digital Euro and Bitcoin. This section explores the differences in user interface, ease of use, and infrastructure requirements between these two digital currencies, drawing on statistical data and expert opinions.

User Interface and Ease of Use

The user interface (UI) and ease of use of digital currencies significantly affect their adoption rates. The Digital Euro is anticipated to have a user-friendly interface designed by central banks to ensure broad accessibility and ease of use, focusing on integrating seamlessly with existing financial infrastructures. This approach could lead to higher adoption rates among non-technical users compared to Bitcoin, which relies on a decentralized blockchain technology that can be less intuitive for the average consumer. According to Cuccuru (2017), blockchain technology, while secure and efficient, often presents a steep learning curve that can hinder its mainstream adoption (Cuccuru, 2017)¹⁶.

Infrastructure Requirements

Infrastructure plays a significant role in the adoption of digital currencies. The Digital Euro would likely leverage the existing financial infrastructure of the European Central Bank and other financial institutions, requiring minimal changes for consumers and businesses. This ease of integration can facilitate quicker adoption and greater trust among users. In contrast, Bitcoin requires a more robust technological understanding and access to specific digital wallets and crypto exchanges, which may not be readily accessible to all users. The decentralized nature of Bitcoin also requires continuous internet access and a certain level of digital literacy, which could be a barrier for widespread adoption in less digitally advanced areas.

Expert Opinions and Statistical Data

Experts suggest that the success of digital currencies largely depends on their ability to integrate with existing financial practices and the public's readiness to adapt to new technologies. A report from the European Central Bank highlights the potential

¹⁶ Cuccuru, P. (2017). Beyond bitcoin: an early overview on smart contracts. *Int. J. Law Inf. Technol.*, 25, 179-195.

for digital currencies like the Digital Euro to succeed if they can ensure ease of use and minimal infrastructural changes for end-users (European Central Bank, 2021)¹⁷. Statistical data also supports the importance of technological accessibility. A survey conducted in the Eurozone indicated that ease of use is one of the primary factors influencing the adoption of new financial technologies. This suggests that the Digital Euro, with its user-centric design, might have an advantage over Bitcoin in terms of consumer adoption within the EU.

In conclusion, while both the Digital Euro and Bitcoin offer unique advantages in terms of technological innovation, the ease of use, integration with existing financial systems, and user interface of the Digital Euro might lead to higher consumer adoption rates compared to Bitcoin. The underlying technology and infrastructure requirements will play pivotal roles in determining their success as legal tender within the EU.

2.1.2 Trust and Security

Trust and security are paramount in the adoption of any financial technology, particularly for digital currencies like the Digital Euro and Bitcoin. This section compares how each currency addresses these concerns, supported by expert opinions and recent studies.

Perceived Security

Bitcoin, being the first and most popular cryptocurrency, is built on blockchain technology which provides inherent security features such as decentralized consensus and cryptographic hash functions, which make transactions secure and resistant to fraud. However, Bitcoin has faced issues like wallet thefts and exchange

¹⁷ Ignatescu, C., & Onufreiciuc, R. (2021). Digital Euro: A (Digital) Symbol of Progress and Integration in Europe. *Logos Universality Mentality Education Novelty: Law*.

hacks, which can undermine user trust. Ooi et al. (2020) highlights that users' perceived security significantly influences their trust and continued use of Bitcoin. The study emphasizes the importance of enhancing technical protections and clear security protocols to improve user trust (Ooi et al., 2020)¹⁸

Conversely, the Digital Euro is expected to be backed by the European Central Bank, offering a different layer of security tied to regulatory and institutional support, which Bitcoin lacks. Marinov et al. (2022) discusses an innovative web-of-trust system implemented to prevent double-spending in the Digital Euro, enhancing its security infrastructure and potentially increasing trust among users (Marinov et al., 2022)¹⁹

Trust from Financial Institutions and the Public

The trustworthiness of Bitcoin and the Digital Euro also diverges significantly based on their operational frameworks. Bitcoin operates independently of financial institutions, which can be seen as both an advantage and a disadvantage. On one hand, it appeals to those who prefer privacy and minimal regulatory oversight, but on the other, it lacks the formal backing that traditional currencies enjoy. This dichotomy is essential in understanding public perception and trust, as outlined by Sas and Khairuddin (2015), who point out that trust in Bitcoin technology is not straightforward and is influenced by several factors including the absence of government endorsement (Sas & Khairuddin, 2015)²⁰

In contrast, the Digital Euro would likely benefit from the trust and security perceptions associated with the European Central Bank's involvement, providing a

¹⁸ Ooi, S., Ooi, C., Yeap, J., & Goh, T. (2020). Embracing Bitcoin: users' perceived security and trust. *Quality & Quantity*, 55, 1219 - 1237.

¹⁹ Marinov, A., Toonder, J., Jong, J., Tolsma, P., Honert, N., & Pouwelse, J. (2022). Double spending prevention of digital Euros using a web-of-trust. *ArXiv*, abs/2204.06831.

²⁰ Sas, C., & Khairuddin, I. (2015). Exploring Trust in Bitcoin Technology: A Framework for HCI Research. *Proceedings of the Annual Meeting of the Australian Special Interest Group for Computer Human Interaction*.

more stable and secure image. This institutional support could enhance consumer confidence and facilitate broader adoption compared to decentralized options like Bitcoin.

Notable Incidents Influencing Trust

Bitcoin's history includes several high-profile security breaches, such as the Mt. Gox incident, which have impacted its trust among potential users. These events are often cited in discussions about the risks associated with cryptocurrencies. Conversely, while the Digital Euro is still in the proposal and development stages, its design is focused on mitigating similar risks through regulatory oversight and advanced cryptographic measures, aiming to prevent such incidents and thereby increasing trust.

In conclusion, the trust and security of digital currencies are critical in influencing consumer adoption. Bitcoin's decentralized nature offers advantages in terms of autonomy and potential resistance to censorship, but it also carries risks related to security breaches and the lack of institutional trust. The Digital Euro, meanwhile, may offer higher perceived security and trust due to its association with established financial institutions and regulatory bodies, potentially leading to higher adoption rates among cautious consumers. The future of these currencies will depend significantly on how they evolve to address these trust and security concerns effectively.

2.1.3 Awareness and Understanding

Awareness and understanding are critical factors that influence the adoption of new technologies, including digital currencies like Bitcoin and the proposed Digital Euro. These aspects determine how quickly and broadly these currencies are embraced by the public.

Current Level of Public Knowledge

Bitcoin has been around since 2009 and has gained substantial visibility, particularly through media coverage of its volatile price movements and its role in various online transactions. Studies such as those by Albuquerque and Callado (2015) reveal that public knowledge about Bitcoin has been increasing, yet the complexity of its underlying technology—blockchain—remains a significant barrier to wider understanding and acceptance (Albuquerque & Callado, 2015)²¹

In contrast, the Digital Euro is a relatively new concept that the European Central Bank is exploring. As such, its awareness and understanding among the general public are still in the early stages. However, the backing by a central authority like the ECB may accelerate public education and trust, unlike the decentralized and community-driven approach of Bitcoin.

Efforts to Educate the Public

The success of the Digital Euro will heavily rely on structured educational campaigns by European financial institutions to foster a deep understanding of its benefits and operations. Ignatescu and Onufreiciuc (2021) discuss the potential strategies that could be employed to integrate the Digital Euro into the existing financial ecosystem, emphasizing the importance of public education in its rollout (Ignatescu & Onufreiciuc, 2021)²²

Bitcoin, meanwhile, has seen a variety of grassroots efforts to boost understanding and adoption. These range from online forums and educational websites to workshops and seminars. However, the decentralized nature of Bitcoin means that these efforts are often fragmented and vary greatly in quality and reach.

²¹ Albuquerque, B., & Callado, M. (2015). Understanding Bitcoins: Facts and Questions. *Revista Brasileira De Economia*, 69, 3-16.

²² Ignatescu, C., & Onufreiciuc, R. (2021). Digital Euro: A (Digital) Symbol of Progress and Integration in Europe. *Logos Universality Mentality Education Novelty: Law*.

Comparative Analysis

Comparatively, Bitcoin has a head start in terms of public awareness but faces challenges in public understanding due to its technical complexity and past associations with illegal activities. The Digital Euro, though less known currently, could potentially see quicker and broader adoption, supported by formal and centralized educational initiatives that could make its technology and benefits clearer to the public.

In conclusion, both Bitcoin and the Digital Euro face significant challenges in public awareness and understanding, but their approaches and potential for success differ markedly due to their underlying operational models. The centralized nature of the Digital Euro could facilitate more coordinated educational efforts, while Bitcoin continues to rely on community-driven initiatives to improve public knowledge and trust.

2.1.4 Practical Usability

Practical usability of digital currencies like Bitcoin and the Digital Euro is a fundamental aspect that impacts their adoption and effectiveness as everyday transaction mediums. This section explores their usability in terms of merchant acceptance, transaction fees, speed, and international utility.

Use in Daily Transactions

Bitcoin has been acknowledged for its peer-to-peer technology that enables direct transactions without intermediaries, thus potentially reducing transaction fees and increasing speed. However, its practical use is often hindered by high volatility and sometimes substantial transaction fees during peak times. Krohn-Grimberghe and Sorge (2013) discuss Bitcoin's unique technological basis but highlight challenges

related to its currency-like features and the regulatory landscape, which can impact its usability for daily transactions (Krohn-Grimberghe & Sorge, 2013)²³

On the other hand, the Digital Euro is being designed to integrate seamlessly into the existing financial ecosystem of the Eurozone, which could make it highly usable for everyday transactions. The backing by the European Central Bank could ensure stability and lower transaction fees, enhancing its practical usability.

International Use

Bitcoin is already used internationally, and its decentralized nature eliminates concerns about exchange rates between different fiat currencies. This characteristic potentially makes it a good option for international travellers and traders. However, the lack of a regulatory framework and its acceptance varies significantly from one country to another, which can complicate its use.

Conversely, the Digital Euro is expected to be supported by EU-wide regulations, providing a more stable and consistent framework for international use within the Eurozone. This centralized approach might limit its use outside of the EU unless agreements are made with other countries.

Merchant Acceptance and Transaction Speed

Merchant acceptance is a crucial factor for the practical usability of any currency. Bitcoin's acceptance by merchants is growing but remains limited compared to conventional payment systems. Additionally, transaction speed can be an issue, particularly during times of network congestion.

The Digital Euro, if widely adopted, could see rapid acceptance across merchants in the Eurozone due to its integration with current banking systems and digital payment infrastructures. Its design aims to offer quick transaction speeds comparable to or

²³ Krohn-Grimberghe, A., & Sorge, C. (2013). Practical Aspects of the Bitcoin System. ArXiv, abs/1308.6760.

better than current electronic transactions processed through traditional banking systems.

Conclusion

In conclusion, while Bitcoin offers pioneering advantages in terms of international use and potential for low-cost transactions, its practical usability is often compromised by its volatility and regulatory challenges. The Digital Euro, with its robust backing and integration into the European financial system, could provide a more stable and practically usable digital currency for both domestic and international transactions within its regulatory framework. The future of these currencies will likely hinge on how these practical issues are addressed by their respective networks and regulatory bodies.

2.1.5 Cultural Factors

Cultural factors play a significant role in the adoption of new technologies, including digital currencies like Bitcoin and the potential Digital Euro. This section examines how cultural attitudes towards cash, digital payments, and historical preferences for payment methods can influence consumer choices.

Cultural Acceptance of Digital Payments

In Europe, the acceptance of digital payments varies widely, reflecting diverse cultural attitudes towards technology and finance. For instance, Northern European countries typically show higher rates of digital payment adoption due to greater trust in digital solutions and a cultural inclination towards innovation and convenience in financial transactions. On the other hand, Southern and Eastern European countries

have shown slower adoption rates, often due to a stronger cultural attachment to cash and scepticism towards digital alternatives (Waarts & Everdingen, 2005)²⁴

Historical Preferences for Payment Methods

Historical preferences also dictate the adoption of digital currencies. In countries with a history of unstable banking systems or financial crises, there might be a stronger inclination towards decentralized currencies like Bitcoin, which are perceived as less reliant on traditional financial institutions. Conversely, in more stable economies, the trust in a central bank like the ECB to issue a Digital Euro could lead to quicker and broader adoption, as seen in the trust-based adoption models described by Luu et al. (2022). (Luu et al., 2022)²⁵

Influence of Socio-Economic Variables

Parino et al. (2018) suggest that socio-economic variables such as GDP per capita, freedom of trade, and internet penetration significantly correlate with the adoption of Bitcoin. These factors, along with cultural ones, can create a complex landscape that digital currencies must navigate to achieve widespread adoption (Parino et al., 2018)²⁶

Conclusion

The adoption of the Digital Euro and Bitcoin within the EU will heavily depend on a combination of cultural acceptance of digital payments, historical payment preferences, and socio-economic conditions. While Bitcoin may appeal more to cultures that value decentralization and have lower trust in traditional banks, the Digital Euro may find quicker acceptance in regions with higher trust in institutional

²⁴ Waarts, E., & Everdingen, Y. (2005). The Influence of National Culture on the Adoption Status of Innovations:: An Empirical Study of Firms Across Europe. *European Management Journal*, 23, 601-610.

²⁵ Luu, H., Do, D., Pham, T., Ho, V., & Dinh, Q. (2022). Cultural values and the adoption of central bank digital currency. *Applied Economics Letters*, 30, 2024 - 2029.

²⁶ Parino, F., Beiró, M., & Gauvin, L. (2018). Analysis of the Bitcoin blockchain: socio-economic factors behind the adoption. *EPJ Data Science*, 7.

finance and where digital payment infrastructures are already well-established. Thus, understanding these cultural factors is essential for predicting the successful adoption of these currencies across different European cultures.

Conclusion

The comparative analysis of consumer adoption between Bitcoin and the Digital Euro presents a multifaceted view of how each currency could potentially be integrated within the EU. Each subpoint explored—technological accessibility, trust and security, awareness and understanding, practical usability, and cultural factors—provides insights into the strengths and challenges faced by both currencies.

Summary of Findings

1. **Technological Accessibility:** The Digital Euro, with its anticipated user-friendly design backed by central banks, is likely to be more accessible to the general public compared to Bitcoin, which suffers from a steeper learning curve due to its technological complexities.

2. **Trust and Security:** The Digital Euro may inspire greater consumer trust due to its association with the European Central Bank and a regulated framework, unlike Bitcoin, which, despite its secure blockchain technology, has been plagued by security breaches and a lack of institutional trust.

3. **Awareness and Understanding:** Bitcoin currently enjoys higher global awareness, but its complex underlying technology poses barriers to widespread understanding. The Digital Euro has the potential for rapid growth in awareness and understanding, facilitated by structured educational initiatives by EU financial institutions.

4. **Practical Usability:** In terms of daily transactions and international usability, the Digital Euro might exhibit superior performance through integration with existing

financial systems, offering faster and more stable transactions compared to Bitcoin's volatility and variable transaction fees.

5. Cultural Factors: Cultural predispositions towards traditional banking and digital technologies will significantly influence adoption. The Digital Euro could be more readily accepted in regions with a stronger trust in institutional finance, whereas Bitcoin might find favour in cultures that value decentralization and have historical scepticism towards traditional banks.

2.2 My points on Public Perception

Introduction

Public perception is a complex and critical factor in the adoption and integration of new technologies, particularly in the realm of financial innovations such as digital currencies. In this context, public perception refers to the collective attitude, beliefs, and understanding that the general populace holds towards digital currencies, including both decentralized cryptocurrencies like Bitcoin and potential centralized digital currencies like the Digital Euro. Understanding these perceptions is vital because they directly influence the rate and extent to which these digital currencies are accepted and used across various segments of society.

The importance of gauging public perception stems from its capacity to affect the success of digital currency initiatives. For digital currencies to function effectively as a medium of exchange, store of value, and unit of account, they must be widely accepted and trusted by the public. This trust is not automatically granted; it develops from a confluence of positive perceptions about the utility, security, and convenience of using these currencies. Furthermore, public perception can significantly impact regulatory responses and governmental support for digital currencies, shaping the landscape in which they operate.

Moreover, the introduction of digital currencies represents a shift not only in the mechanics of monetary transactions but also in the underlying philosophy of money management. Therefore, understanding public perception helps stakeholders—ranging from policymakers and economists to technology developers—design and implement digital currencies in ways that are aligned with public expectations and values. This alignment is crucial for ensuring broad adoption and the long-term viability of digital currencies.

This chapter aims to dissect the layers of public perception surrounding digital currencies, emphasizing how these views have evolved and the factors influencing them today. By examining elements from historical contexts to psychological impacts and social influences, we will explore the multifaceted nature of public perception and its pivotal role in the future of digital currency within the European Union and beyond. This exploration will provide insights into how digital currencies can be tailored to meet the diverse needs and preferences of users, thereby facilitating wider acceptance and integration into daily financial practices.

2.2.1 Historical Context and Current Perception

The historical context and current perception of digital currencies, specifically Bitcoin and the prospective Digital Euro, provide a vivid landscape of changing public attitudes and media influence.

Historical Acceptance

Cryptocurrencies, particularly Bitcoin, were initially perceived as technical novelties when they appeared in 2009. Over time, as they gained functionality and visibility, they morphed from niche digital assets into significant financial instruments. Dulatova (2023) discusses the evolving legal and regulatory frameworks surrounding cryptocurrencies, highlighting their move from unregulated territories

into more structured environments, albeit with ongoing challenges and resistance from major economic powers due to their decentralized nature (Dulatova, 2023)²⁷.

Media Influence

The media has played a pivotal role in shaping public perception of cryptocurrencies. Initially, coverage focused on the novelty and potential risks, often highlighting dramatic price fluctuations and associations with illicit activities. However, as understanding and adoption have grown, media portrayal has become more nuanced, focusing on the potential of cryptocurrencies to revolutionize various aspects of finance and governance. This shifting media narrative has helped to somewhat stabilize the public's perception and mitigate the initial scepticism.

The expected perception of the Digital Euro, by contrast, is likely to benefit from more positive media coverage from the outset, given its backing by the European Central Bank. This institutional support lends an air of legitimacy and stability, potentially leading to a more favourable initial public perception compared to the more turbulent introduction of Bitcoin and other decentralized cryptocurrencies.

Current Perception

Today, the perception of Bitcoin and similar cryptocurrencies is increasingly defined by their investment potential and their utility in diversifying portfolios, rather than just their role in transactions. Studies like those by Hossain and Ismail (2021) illustrate the growing recognition of Bitcoin's role within broader financial markets, influencing not only other cryptocurrencies but also traditional financial systems (Hossain & Ismail, 2021)²⁸.

²⁷ Dulatova, N. (2023). Digital currency: prospects and analysis of the market of cryptocurrency exchanges in Russia and foreign countries. *Vestnik Tomskogo gosudarstvennogo universiteta. Pravo*.

²⁸ Hossain, J., & Ismail, M. (2021). Is There Any Influence of Other Cryptocurrencies on Bitcoin?. *Asian Academy of Management Journal of Accounting and Finance*.

In conclusion, the evolution of public perception towards Bitcoin and the anticipated reception of the Digital Euro underscores a significant transformation in how digital currencies are understood and valued. This shift is heavily influenced by media portrayal, which continues to play a crucial role in framing the narrative around these modern financial tools, guiding public opinion from scepticism towards more acceptance and integration into everyday financial dealings.

2.2.2 Cultural Influence

Cultural influences play a pivotal role in shaping the public perception and acceptance of digital currencies like Bitcoin and the Digital Euro across different regions within the European Union.

Regional Differences

Cultural differences within EU member states significantly affect the perception and adoption of digital currencies. Countries with a high degree of technological integration and a cultural openness to innovation, typically found in Northern and Western Europe, are more likely to embrace digital currencies like Bitcoin and the potential Digital Euro. Conversely, regions with a stronger tradition of cash usage and scepticism towards digital financial services, often in Southern and Eastern Europe, may show reluctance towards these technologies. This dichotomy reflects broader cultural attitudes towards change and technology adoption, as explored by Waarts and Everdingen (2005), who highlight how national culture impacts the adoption of new technologies across countries [(Waarts & Everdingen, 2005)²⁹.

Trust in Institutions

²⁹ Everdingen, Y., & Waarts, E. (2003). The Effect of National Culture on the Adoption of Innovations. *Marketing Letters*, 14, 217-232.

Trust in centralized institutions versus decentralized systems also varies culturally within the EU. Countries with high trust in traditional banking systems and governmental institutions, such as Germany and France, might exhibit a stronger inclination towards the Digital Euro, viewed as a safer and more stable alternative to decentralized cryptocurrencies. In contrast, in countries where trust in traditional institutions is lower, possibly due to historical financial instability or corruption, there might be a stronger affinity for decentralized options like Bitcoin, which offer an alternative to state-controlled financial systems.

Cultural Values and Economic Behavior

The adoption of digital currencies is also influenced by broader cultural values that dictate economic behaviour, including risk tolerance and the perceived reliability of different types of currencies. These cultural factors can significantly affect the rate at which new financial technologies are adopted and trusted by the public. Studies like those by Krishna and Panda (2023) provide insights into how cultural predispositions towards innovation and technology can drive the acceptance of new financial solutions like cryptocurrencies, impacting traditional financial markets and systems [(Krishna & Panda, 2023)³⁰.

In conclusion, cultural influences within the EU play a critical role in shaping the public perception of both Bitcoin and the Digital Euro. Understanding these cultural nuances is essential for policymakers and financial institutions aiming to implement digital currencies effectively across diverse cultural landscapes.

³⁰ Krishna, S., & Panda, A. (2023). Cryptocurrency Adoption and Its Influence on Traditional Financial Markets. *INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH IN ENGINEERING AND MANAGEMENT*.

2.2.3 Psychological Factors

Psychological factors are crucial in influencing the public's acceptance and adoption of cryptocurrencies like Bitcoin and the proposed Digital Euro. These factors encompass various dimensions such as risk tolerance, perceived security, and familiarity, all of which significantly shape individual and collective attitudes towards these digital currencies.

Risk Tolerance

Risk tolerance is a significant psychological trait influencing cryptocurrency adoption. Individuals with high risk tolerance are more likely to invest in or use cryptocurrencies like Bitcoin, which are known for their high volatility and potential for significant returns. Wongsunopparat and Nanjun (2023) emphasize that risk tolerance, alongside other factors like credibility and perceived usefulness, plays a critical role in the consumer decision to adopt cryptocurrencies [(Wongsunopparat & Nanjun, 2023)³¹].

Familiarity and Comfort

Familiarity with digital technologies and comfort with digital transactions also influence the adoption of digital currencies. The Digital Euro, with its backing by a central authority, may be perceived as less risky compared to decentralized options like Bitcoin. This perception could make it more appealing to individuals who are less comfortable with the inherent uncertainties of cryptocurrencies. Liu and Tsyvinski (2018) found that factors specific to cryptocurrency markets, such as user adoption and network effects, significantly predict cryptocurrency returns, highlighting the importance of familiarity and perceived economic stability in influencing adoption [(Liu & Tsyvinski, 2018)³²].

³¹ Wongsunopparat, S., & Nanjun, Z. (2023). Study of Factors Influencing Consumer to Adopt Cryptocurrency. *Business Management and Strategy*.

³² Liu, Y., & Tsyvinski, A. (2018). Risks and Returns of Cryptocurrency. *Global Business Issues eJournal*.

Psychological Comfort from Institutional Support

The psychological comfort provided by institutional support cannot be underestimated. For many potential users, the endorsement of digital currencies by reputable institutions, such as the European Central Bank in the case of the Digital Euro, provides a sense of security and legitimacy. This institutional backing reduces perceived risks and increases the likelihood of adoption among individuals who may otherwise be sceptical of the less regulated and more volatile nature of cryptocurrencies like Bitcoin.

In conclusion, psychological factors play a pivotal role in shaping the public's perception and acceptance of digital currencies. Risk tolerance, familiarity with digital financial technologies, and the psychological comfort derived from institutional support are all critical in determining the extent to which cryptocurrencies are adopted. As such, both Bitcoin and the Digital Euro must address these psychological barriers effectively to achieve widespread acceptance and use.

2.2.4 Social Influence

Social influence plays a significant role in shaping the public perception and adoption of digital currencies such as Bitcoin and the potential Digital Euro. This influence can manifest through peer effects, community support, and the broader impact of social networks.

Peer Effects

The opinions and behaviours of peers have a profound impact on individual attitudes towards digital currencies. According to Anser et al. (2020), the usage of social media is positively associated with users' intentions toward adopting Bitcoin, mediated through attitudes, subjective norms, and perceived behavioural control. This finding

underscores how peer discussions and the prevailing sentiments in social groups can directly influence individuals' decisions to adopt cryptocurrencies [(Anser et al., 2020)³³

Community Support and Resistance

Community support, particularly within niche groups and online forums, can greatly accelerate the adoption of digital currencies by providing a sense of security, shared identity, and collective knowledge. Conversely, resistance from these communities can hinder adoption. Das et al. (2015) found that social influence within networks affects the likelihood of adopting security features related to digital transactions, indicating a broader application towards digital currencies. This research highlights how community norms and practices can either facilitate or obstruct the widespread acceptance of technologies like Bitcoin and the Digital Euro [(Das et al., 2015)³⁴.

The Role of Visibility and Communication

Visibility and communication through social channels play crucial roles in shaping perceptions. As digital currencies become more visible in everyday transactions and as their benefits and drawbacks are discussed among peers, their acceptance can either increase or stall based on the nature of these interactions. The effectiveness of social influence is significantly dependent on how well the benefits and the security of these digital currencies are communicated and perceived within social circles.

In conclusion, social influence is a powerful driver in the adoption of digital currencies. The dynamics of peer influence, community support, and effective communication are critical in shaping the public's approach to Bitcoin and the Digital

³³ Anser, M., Zaigham, G., Rasheed, M., Pitafi, A., Iqbal, J., & Luqman, A. (2020). Social media usage and individuals' intentions toward adopting Bitcoin: The role of the theory of planned behavior and perceived risk. *International Journal of Communication Systems*, 33.

³⁴ Das, S., Kramer, A., Dabbish, L., & Hong, J. (2015). The Role of Social Influence in Security Feature Adoption. *Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing*.

Euro. Understanding these social dynamics is essential for stakeholders aiming to promote widespread acceptance and use of these digital financial tools.

2.2.5 Perception of Utility and Practicality

The public perception of the utility and practicality of digital currencies like Bitcoin and the potential Digital Euro significantly impacts their adoption and integration into everyday financial activities. This perception is shaped by the visible benefits, ease of use, and practical applications of these currencies in daily transactions.

Utility of Bitcoin

Bitcoin's initial appeal was its promise of decentralized financial transactions, enabling users to bypass traditional banking intermediaries. This has positioned Bitcoin not just as a medium of exchange but also as a speculative investment tool due to its significant price volatility. However, its utility in daily transactions can be limited by fluctuating transaction fees and slower processing times during peak usage, which may deter its use for small or routine purchases. Walton (2020) discusses how trust and control frameworks explain the public's willingness to adopt new monetary systems like Bitcoin, highlighting that its perceived utility is closely linked to individual attitudes towards economic autonomy and privacy [(Walton, 2020)³⁵.

Digital Euro's Practicality

The Digital Euro is envisioned to combine the benefits of digital currencies with the stability and reliability of traditional fiat currency. It is expected to offer faster transactions and lower fees compared to traditional banking systems, enhancing its practicality for daily use. The European Central Bank's backing is likely to foster a

³⁵ Walton, J. (2020). Why We Use a New Currency: The Role of Trust and Control in Explaining the Perception and Usage of Bitcoin.

perception of safety and reliability, potentially making it a more appealing option for the general public who may be sceptical of the less regulated cryptocurrency market.

Public Perception and Visibility

Visibility in everyday transactions plays a crucial role in shaping public perception. The more individuals encounter and use a currency in their daily activities, the more likely they are to trust and continue using it. The Digital Euro, with its integration into the existing financial system, has the potential to be highly visible and widely accepted, thereby enhancing its perceived utility. Ignatescu and Onufreiciuc (2021) discuss how the Digital Euro represents a symbol of progress and integration, suggesting that its design and implementation could lead to greater acceptance and practical use across Europe [(Ignatescu & Onufreiciuc, 2021)³⁶

In conclusion, the perception of utility and practicality heavily influences the public's willingness to adopt digital currencies. Bitcoin, with its decentralized nature, offers unique advantages but faces challenges in everyday transactional use due to its volatility. The Digital Euro, on the other hand, could leverage its stability and regulatory backing to become a practical alternative for daily transactions, potentially leading to broader adoption within the EU. Understanding and addressing these perceptions is vital for the success of any digital currency initiative.

2.2.6 Future Outlook and Expectations

The future outlook and expectations for Bitcoin and the Digital Euro encompass a range of predictions and speculations from experts, focusing on their roles in the evolving landscape of digital payments and monetary systems.

Bitcoin's Future Prospects

³⁶ Ignatescu, C., & Onufreiciuc, R. (2021). Digital Euro: A (Digital) Symbol of Progress and Integration in Europe. *Logos Universality Mentality Education Novelty: Law*.

Bitcoin, as the pioneering cryptocurrency, has carved a niche for itself as both an investment asset and a medium of exchange, albeit with significant volatility. Luther (2015) predicts that while Bitcoin may continue to function as a niche currency, its broader adoption as mainstream money remains uncertain due to its price fluctuations and regulatory challenges. However, it might gain more traction in regions with unstable currencies where traditional banking is less effective [(Luther, 2015)³⁷.

Digital Euro's Potential

Conversely, the Digital Euro represents a significant step towards integrating digital currency with the traditional financial system under central bank oversight. Experts suggest that the Digital Euro could enhance the efficiency of monetary transactions across Europe and strengthen the digital single market. Ignatescu and Onufreiciuc (2021) highlight that its success depends on its ability to offer stability, security, and seamless integration with existing financial infrastructures (Ignatescu & Onufreiciuc, 2021)³⁸.

Public and Regulatory Impact

Both currencies face futures shaped significantly by public perception and regulatory environments. The regulatory landscape, especially for Bitcoin, will play a crucial role in determining its viability as a global digital currency. For the Digital Euro, the focus will be on how well it can navigate the complex policy environment of the EU to gain widespread acceptance.

Technological Advancements

³⁷ Luther, W. (2015). Bitcoin and the Future of Digital Payments. *Consumer Law eJournal*.

³⁸ Ignatescu, C., & Onufreiciuc, R. (2021). Digital Euro: A (Digital) Symbol of Progress and Integration in Europe. *Logos Universality Mentality Education Novelty: Law*.

Technological advancements will also critically influence the future of these currencies. The adoption of blockchain technology and enhancements in security and transaction efficiency could propel both Bitcoin and the Digital Euro forward. Studies indicate that continued innovation in digital currency infrastructure is crucial for maintaining relevance and utility in an increasingly digital world economy.

Conclusion

In conclusion, the future of Bitcoin and the Digital Euro is poised at a crossroads of technological innovation, regulatory frameworks, and shifting public perceptions. While Bitcoin may continue to serve as a speculative asset and alternative currency, the Digital Euro has the potential to become a mainstream financial instrument within the EU, provided it can successfully integrate with and enhance the existing financial system. Both currencies will need to adapt to the evolving digital landscape to meet the future needs of global finance.

Conclusion

The exploration of public perception through various dimensions—historical context, cultural influence, psychological factors, social influence, perceived utility, and future expectations—reveals intricate dynamics between Bitcoin and the Digital Euro. Each factor plays a unique role in shaping the public's acceptance and trust in these digital currencies.

Synthesis of Findings

1. Historical Context and Current Perception: Bitcoin has had a tumultuous journey, with media portrayals evolving from scepticism to a more nuanced understanding of its potential and pitfalls. The Digital Euro, although newer, is expected to benefit from positive media influence and institutional backing, positioning it favourably in public perception.

2. Cultural Influence: Cultural differences within the EU influence the acceptance of digital currencies. Bitcoin may appeal to cultures valuing financial autonomy, whereas the Digital Euro might resonate more in regions with strong trust in traditional banking institutions.

3. Psychological Factors: Risk tolerance and familiarity significantly affect public perception. Bitcoin's volatility appeals to those with higher risk tolerance, while the Digital Euro's stability and regulatory backing may attract risk-averse individuals.

4. Social Influence: Peer effects and community support can accelerate or hinder the adoption of digital currencies. Bitcoin benefits from a robust global community, whereas the Digital Euro's success will depend on its ability to foster a supportive community across Europe.

5. Perception of Utility and Practicality: Bitcoin is seen as both a speculative investment and a medium of exchange, albeit with practical limitations. The Digital Euro is perceived as potentially more practical for daily transactions due to its integration with existing financial systems.

6. Future Outlook and Expectations: Speculations about Bitcoin's future is mixed, with regulatory uncertainties being a major concern. The Digital Euro, however, is viewed optimistically, expected to leverage EU-wide support to facilitate smoother transactions and financial integration.

2.3 Economic Factors

Introduction

The introduction of digital currencies such as Bitcoin and the proposed Digital Euro brings with them a host of economic factors that are pivotal to understanding their potential impact on the broader economy. Economic factors encompass a range of elements from stability and volatility to integration with existing financial systems

and their influence on monetary policy. These factors are essential for assessing the feasibility and overall economic impact of digital currencies within any economic framework, particularly within the European Union.

Understanding economic factors is crucial because these currencies propose different foundations for financial operations compared to traditional money. The Digital Euro, for example, would be a central bank digital currency (CBDC), implying direct backing and regulation by the European Central Bank (ECB). This backing is expected to affect aspects such as currency stability and monetary policy directly. In contrast, Bitcoin operates on a decentralized network, free from central bank control, which presents unique challenges and opportunities regarding economic stability and policy influence.

These economic factors determine how digital currencies can influence economic certainty, investment climates, transaction costs, and overall economic efficiency. They also play a crucial role in shaping the strategic decisions of policymakers, especially in terms of integrating these currencies into the existing monetary systems and their potential to replace or coexist with traditional fiat currencies.

As digital currencies continue to evolve, their successful integration into economies will largely depend on how well they address these economic concerns. This chapter aims to explore these vital economic dimensions, providing a clearer picture of the potential economic landscape shaped by the introduction of the Digital Euro and the continued proliferation of Bitcoin.

2.3.1 Stability and Volatility

The stability of a currency and its volatility are critical economic factors that affect its functionality and the broader economic environment. The Digital Euro and Bitcoin provide contrasting scenarios in this regard.

Currency Stability

The Digital Euro is expected to exhibit high stability as it would be backed by the European Central Bank, which provides substantial monetary support and regulatory oversight. This backing is likely to ensure that the Digital Euro remains stable and is perceived as secure by the public and investors, thereby fostering economic certainty within the EU.

In stark contrast, Bitcoin is known for its high volatility. Baur and Dimpfl (2021) demonstrate that the volatility of Bitcoin is significantly higher than that of major fiat currencies like the US dollar, euro, and yen. This excess volatility undermines its effectiveness as a medium of exchange and poses challenges for it as a stable store of value [(Baur & Dimpfl, 2021)³⁹].

Impact on Economy

The stability of the Digital Euro could enhance economic certainty and attract investment by providing a reliable medium of exchange and store of value. Its integration into the existing financial system could help stabilize the economy, especially during periods of financial turbulence.

Conversely, Bitcoin's volatility might deter its use for everyday transactions and could pose risks to investors, which in turn could lead to economic uncertainty. While some investors may appreciate the potential high returns associated with its volatility, it could deter broader economic integration.

In conclusion, while the Digital Euro promises economic stability due to its central bank backing, Bitcoin's inherent volatility presents challenges that might limit its broader economic application within the EU.

³⁹ Baur, D., & Dimpfl, T. (2021). The volatility of Bitcoin and its role as a medium of exchange and a store of value. *Empirical Economics*

2.3.2 Impact on Monetary Policy

The introduction of digital currencies like Bitcoin and the Digital Euro significantly influences monetary policy, albeit in different ways due to their inherent structures.

Central Bank Control

The Digital Euro represents a centralized approach where the European Central Bank (ECB) retains full control over the currency's issuance and regulation. This centralized control allows the ECB to directly influence monetary policy, such as adjusting interest rates or controlling money supply to address economic changes, inflation, or crises. Ali (2019) discusses how digital currencies can integrate into and potentially enhance the ECB's ability to implement monetary policy effectively, emphasizing the potential for more direct and efficient policy measures (Ali, 2019)⁴⁰.

Policy Flexibility

Conversely, Bitcoin operates with decentralized governance, which means it eludes traditional monetary controls. This decentralization can restrict a central bank's ability to stabilize the currency or use it as a tool for macroeconomic management. Nelson (2018) points out that while digital currencies like Bitcoin do not currently pose significant risks to monetary policy due to their limited adoption as mainstream currency, their growth could complicate monetary policy implementations if not properly regulated [(Nelson, 2018)⁴¹.

Implications for Monetary Policy

The potential for the Digital Euro to be used directly in monetary policy offers several advantages in terms of responsiveness and precision. However, Bitcoin's decentralized nature presents challenges in this area, as it cannot be directly

⁴⁰ Ali, S. (2019). The impact of using the digital currency in monetary policy. *Journal of University of Human Development*.

⁴¹ Nelson, B. (2018). Financial stability and monetary policy issues associated with digital currencies. *Journal of Economics and Business*.

manipulated or controlled by a central monetary authority. This could limit its utility in formal economic strategies but also serves as a feature for users seeking an alternative to central bank-managed fiat currencies.

In summary, while the Digital Euro could enhance the ECB's ability to conduct monetary policy, Bitcoin's impact on traditional monetary policy is more neutral or potentially disruptive, depending on its future integration and regulation within financial systems.

2.3.3 Integration with Existing Financial Systems

Integrating digital currencies into existing financial systems presents various challenges and opportunities, notably differing between Bitcoin and the Digital Euro.

Ease of Integration

The Digital Euro, designed as a central bank digital currency (CBDC), is expected to integrate smoothly with existing financial and banking systems within the European Union. This integration is facilitated by the European Central Bank's (ECB) regulatory framework, which ensures compatibility with current financial infrastructures, reducing friction and enhancing operational continuity. Ignatescu and Onufreiciuc (2021) note that the Digital Euro is likely to enhance transactional efficiencies and be readily adoptable by existing financial institutions, offering significant gains in terms of reduced transaction costs and improved speeds (Ignatescu & Onufreiciuc, 2021)⁴².

Economic Efficiency

Conversely, Bitcoin, with its decentralized nature, poses greater challenges for integration into traditional financial systems. Its technology, based on blockchain and devoid of central oversight, may not align seamlessly with existing financial

⁴² Ignatescu, C., & Onufreiciuc, R. (2021). Digital Euro: A (Digital) Symbol of Progress and Integration in Europe. *Logos Universality Mentality Education Novelty: Law*.

regulations and practices. This disconnect can hinder its acceptance by mainstream financial institutions and could limit its practical use in regular economic activities. Despite this, Bitcoin and similar cryptocurrencies have prompted discussions about the need for new regulatory frameworks that accommodate their unique characteristics and potential innovations.

In summary, while the Digital Euro is poised for easier integration into existing financial frameworks due to its central bank backing, Bitcoin faces more substantial barriers due to its decentralized infrastructure. This difference markedly influences their potential roles and effectiveness within the broader financial ecosystem.

Conclusion

The analysis of economic factors related to digital currencies, specifically Bitcoin and the Digital Euro, reveals distinct contrasts in their potential impact on the European economy. Each currency exhibits unique characteristics that influence their feasibility and effectiveness from an economic perspective.

Synthesis of Findings

1. Stability and Volatility: The Digital Euro is expected to provide a stable economic environment due to its backing by the European Central Bank, contrasting sharply with Bitcoin's inherent volatility which poses risks to economic certainty and investment.

2. Impact on Monetary Policy: The centralized nature of the Digital Euro allows for more direct and efficient implementation of monetary policy by the ECB. In contrast, Bitcoin's decentralized system limits its ability to influence or be integrated into traditional monetary policy frameworks, potentially complicating economic governance.

3. Integration with Existing Financial Systems: The Digital Euro is poised for smoother integration into existing financial systems, enhancing transactional efficiencies and economic operations within the EU. Bitcoin, however, faces significant integration challenges due to its decentralized and regulatory-disparate nature.

2.4 Regulatory factors

introduction

The regulatory landscape for digital currencies is a complex and evolving field that significantly influences their development, implementation, and acceptance globally. As digital currencies like Bitcoin and potential centralized digital currencies such as the Digital Euro emerge, understanding the regulatory framework becomes crucial. This understanding is essential because regulatory compliance not only ensures legal operation but also enhances credibility, security, and consumer trust in these financial technologies.

The importance of regulatory factors in the context of digital currencies cannot be overstated. For digital currencies to achieve widespread acceptance and become integrated into existing financial systems, they must navigate a maze of legal requirements. These requirements vary widely across jurisdictions and can include everything from consumer protection laws to anti-money laundering (AML) regulations. For a digital currency like the Digital Euro, which would be issued by a central authority like the European Central Bank, the regulatory path might be clearer and more structured compared to decentralized currencies like Bitcoin, which operate without central oversight and face more ambiguous and fragmented regulatory challenges.

This chapter explores the regulatory environment surrounding digital currencies, focusing on how different regulations impact their adoption and operation within the European Union. By understanding these regulatory factors, stakeholders can better strategize the implementation and scaling of digital currencies in a manner that aligns with legal standards and societal expectations.

2.4.1 Legal Framework

Existing Regulations

The legal framework for digital currencies within the EU has been developing alongside the growth of these technologies. Key EU regulations have not yet fully defined digital currencies as legal tender, financial instruments, or electronic money, which creates a complex regulatory environment. Bałdowski (2018) points out that although existing laws don't directly address digital currencies, they can still impact their operation indirectly. This lack of clarity poses challenges for both Bitcoin and prospective currencies like the Digital Euro, as they try to navigate these ambiguous legal waters (Bałdowski, 2018)⁴³.

Compliance Requirements

For the Digital Euro, compliance demands are expected to align closely with current financial regulations, given its backing by the European Central Bank. This centralized approach facilitates a smoother integration with existing legal frameworks and compliance protocols. On the other hand, Bitcoin's decentralized nature presents unique challenges. It operates outside the conventional financial system, which complicates compliance with standardized financial regulations, including those related to anti-money laundering (AML) and the financing of

⁴³ Bałdowski, M. (2018). Digital Currencies Trading under Polish and EU Public Law. *Przegląd Prawniczy Uniwersytetu im. Adama Mickiewicza*.

terrorism (CFT). The EU's recent efforts to bring virtual currency service providers under the scope of AML rules highlight the challenges and the evolving nature of regulation in this area [(Vandezande, 2017)⁴⁴].

In summary, the legal framework within the EU for digital currencies like Bitcoin and the Digital Euro is still in a state of flux, with significant implications for compliance and operation. The centralized Digital Euro may have an easier path to compliance, whereas Bitcoin faces ongoing regulatory challenges due to its decentralized structure.

2.4.2 Consumer Protection

Consumer protection is a paramount aspect of the regulatory environment for digital currencies, as it ensures the safety and security of users' investments and personal information.

Safety and Security

The Digital Euro, as a central bank digital currency (CBDC), would likely include robust security measures and legal protections to safeguard consumer interests. These measures are designed to align with the high standards of consumer protection typically enforced across other financial services within the EU. Dehghan and Haghighi (2015) emphasize that the regulatory framework for e-money in the EU is focused extensively on consumer protection, ensuring safe and secure transactions for all users [(Dehghan & Haghighi, 2015)⁴⁵].

Bitcoin and Consumer Protection

⁴⁴ Vandezande, N. (2017). Virtual currencies under EU anti-money laundering law. *Comput. Law Secur. Rev.*, 33, 341-353.

⁴⁵ Dehghan, F., & Haghighi, A. (2015). E-money regulation for consumer protection. *International Journal of Law and Management*, 57, 610-620.

In contrast, Bitcoin operates with inherent security measures provided by blockchain technology, but these do not come with the legal protections typically provided by traditional financial systems. The decentralized nature of Bitcoin means that consumer protection laws are more challenging to enforce, and users often have less recourse in cases of fraud or theft. This disparity highlights a significant advantage for the Digital Euro in terms of consumer protection.

Regulatory and Legal Framework

The EU's approach to consumer protection in digital currencies is evolving, with recent regulations aiming to extend existing consumer protections to include digital currency transactions. This includes efforts to ensure transparency, fairness, and security across all transactions, regardless of the currency used.

In conclusion, while both the Digital Euro and Bitcoin incorporate measures to protect consumers, the Digital Euro's integration into a well-established legal and regulatory framework provides a more secure and legally protected environment for users, aligning with broader EU consumer protection standards. This makes the Digital Euro a safer choice for consumers within the EU.

2.4.3 Anti-Money Laundering (AML) and Counter Financing of Terrorism (CFT)

Regulatory Compliance

In the EU, digital currencies must adhere to stringent AML and CFT regulations. These regulations are designed to prevent illegal activities such as money laundering and terrorist financing. The Digital Euro, as an initiative of the European Central Bank, would be developed with inherent AML and CFT safeguards, ensuring it meets all regulatory requirements right from its inception. This compliance is facilitated by the

centralized nature of its issuance and regulation, which aligns seamlessly with existing AML frameworks within the EU.

In contrast, Bitcoin operates in a decentralized system, which presents unique challenges for AML and CFT compliance. While Bitcoin transactions are traceable on the blockchain, the anonymity of wallet addresses and the lack of a central authority complicate the enforcement of AML and CFT measures. The Financial Action Task Force (FATF) has highlighted the need for international cooperation and standardization in regulations to effectively address the risks associated with such decentralized digital currencies (Al-Tawil & Younies, 2020)⁴⁶.

Handling Regulatory Challenges

The EU continues to adapt its AML and CFT directives to better include cryptocurrencies within their scope, aiming to mitigate the risks associated with their use for illicit activities. This involves extending the 'travel rule' to virtual asset service providers (VASPs), requiring them to collect and share information about the originators and beneficiaries of virtual asset transfers, which directly impacts platforms operating with Bitcoin and similar cryptocurrencies.

In summary, while the Digital Euro is expected to conform naturally to EU AML and CFT regulations due to its centralized architecture, Bitcoin faces ongoing challenges in meeting these regulatory standards due to its decentralized and anonymous nature. Ensuring compliance for Bitcoin and other decentralized cryptocurrencies requires enhanced regulatory frameworks and international cooperation.

⁴⁶ Al-Tawil, T., & Younies, H. (2020). The implications of the Brexit from EU and bitcoin. *Journal of Money Laundering Control*.

Conclusion

The regulatory landscape presents distinct challenges and opportunities for both Bitcoin and the Digital Euro, influencing their potential adoption and functionality within the European Union. This analysis of regulatory factors provides a comprehensive view of how each digital currency aligns with or confronts existing and evolving regulatory frameworks.

Synthesis of Findings

1. Legal Framework: The Digital Euro, backed by the European Central Bank, would likely align smoothly with existing and forthcoming EU regulations, making compliance more straightforward. Bitcoin, due to its decentralized nature, faces ambiguity and challenges in adapting to the same set of regulations.

2. Consumer Protection: The centralized structure of the Digital Euro ensures robust consumer protections are in place, aligned with EU standards. Bitcoin, while secure through blockchain technology, lacks specific legal protections, placing users at a higher risk.

3. AML and CFT Compliance: The Digital Euro is designed to seamlessly integrate with AML and CFT regulations, ensuring it mitigates risks associated with money laundering and terrorism financing. Bitcoin, however, struggles with compliance due to the anonymity and decentralization inherent in its design, requiring more complex regulatory approaches.

CHAPTER 3. FINAL THOUGHTS

3.1 Consumer Adoption

As we reach the final analysis on consumer adoption between a Digital Euro and Bitcoin as legal tender within the EU, it becomes evident that the Digital Euro stands out as the more likely candidate for widespread consumer adoption. This conclusion stems from several key factors that position the Digital Euro favorably in the eyes of the EU populace.

The Digital Euro's design is fundamentally rooted in inclusivity and ease of use, which are critical for ensuring its adoption across the diverse economic landscapes of the EU. The involvement of the European Central Bank (ECB) in its development and management enhances the trust and stability associated with the Digital Euro. This institutional backing is a significant advantage, as it aligns with the general populace's preference for regulated and stable financial systems.

Moreover, the Digital Euro aims to seamlessly integrate with existing financial infrastructures, reducing the learning curve for consumers. This integration facilitates easier transitions for businesses and individuals alike, making the Digital Euro a practical and convenient option for daily transactions. The focus on education and user-friendly interfaces further amplifies its appeal, ensuring that even those with limited digital literacy can participate in the digital economy.

In contrast, Bitcoin, despite its innovative approach to decentralization and financial autonomy, faces substantial challenges in consumer adoption. Its volatility remains a major deterrent, as consumers and businesses are generally wary of using a currency that can fluctuate wildly in value. Additionally, the technical complexity associated with Bitcoin, including the need for understanding blockchain technology and managing private keys, poses a barrier to entry for the average user.

Furthermore, the lack of regulatory oversight for Bitcoin raises concerns about security and reliability. Many consumers prefer the assurance that comes with a central authority's involvement, which Bitcoin inherently lacks. This absence of a regulatory framework can also lead to issues related to fraud and misuse, further hindering its adoption.

Given these observations, the Digital Euro appears to have a competitive edge in the race for consumer adoption within the EU. Its design tailored for inclusivity, ease of use, and robust support from a central authority makes it highly suitable for the diverse economic landscape of the EU. The central backing not only enhances trust but also ensures stability and reliability, which are crucial for widespread consumer adoption.

3.2 Public Perception

As we conclude our exploration of public perception regarding the Digital Euro and Bitcoin as legal tender within the European Union, it becomes apparent that the Digital Euro holds a slight but significant advantage. This edge is rooted in its design and the trust it garners from institutional backing, which collectively position it favorably in the eyes of the public.

The Digital Euro's potential for high utility in everyday transactions cannot be understated. Its integration into existing financial systems and the assurance provided by the European Central Bank (ECB) enhance its credibility and reliability. These factors are crucial in shaping public perception, as consumers tend to favor financial instruments that promise stability and are supported by trusted institutions. The Digital Euro's alignment with these expectations positions it as a promising contender in the realm of digital currencies.

Public perception of the Digital Euro is further bolstered by ongoing efforts to educate the populace about its benefits and use. Educational campaigns and transparent communication from the ECB help demystify the concept of a digital currency, making it more accessible and understandable to the average consumer. This proactive approach in addressing public concerns and questions plays a pivotal role in building trust and acceptance.

In contrast, Bitcoin, while possessing the advantage of established global recognition and a strong supporter base, faces significant hurdles. Its inherent volatility is a major concern for the general public, as it undermines confidence in its use as a stable medium of exchange. The dramatic fluctuations in Bitcoin's value can deter everyday users who seek reliability in their financial transactions.

Furthermore, the regulatory challenges surrounding Bitcoin pose additional barriers to mainstream acceptance. The lack of a central authority and the decentralized nature of Bitcoin make it susceptible to regulatory scrutiny and uncertainty. This unpredictability can tarnish its public image, making it less appealing to risk-averse consumers who prefer more secure and regulated financial options.

Understanding and addressing public perception is crucial for the success of both Bitcoin and the Digital Euro. For Bitcoin, enhancing stability and achieving regulatory clarity are essential steps towards improving its public image. By mitigating volatility and working towards a more defined regulatory framework, Bitcoin could potentially gain wider acceptance and trust.

For the Digital Euro, ongoing efforts to educate the public and demonstrate its reliability and utility will be key. Transparency in its operations and consistent communication from the ECB can further solidify its positive perception among consumers. As digital currencies continue to evolve, their acceptance will likely hinge

on their ability to align with public expectations and adapt to the changing financial landscape.

3.3 Economic Factors

When evaluating the economic factors associated with the adoption of a Digital Euro versus Bitcoin as legal tender within the EU, it becomes evident that the Digital Euro presents a more advantageous and stable option. This assessment is rooted in several key economic benefits that the Digital Euro is poised to deliver, making it a superior choice in supporting the EU's economic framework.

One of the most significant benefits of the Digital Euro is its ability to improve economic stability. The Digital Euro is designed to give the European Central Bank (ECB) greater control over monetary policy. This control is crucial for the ECB to manage economic fluctuations and maintain financial stability across the European Union. By having the ability to implement and adjust monetary policies more effectively, the ECB can better respond to economic challenges, helping to prevent crises and ensure a stable economic environment. This means that the ECB can take actions such as adjusting interest rates and regulating the money supply more precisely, which can help to keep inflation in check, support economic growth, and stabilize the financial system.

Additionally, the Digital Euro's seamless integration with existing financial systems positions it as a highly efficient tool for facilitating transactions and promoting economic activities. This integration reduces transaction costs, improves payment efficiency, and enhances the overall functioning of the financial market. These improvements can lead to increased economic productivity and growth, benefiting the broader economy.

Furthermore, the Digital Euro supports financial inclusion by providing a digital payment solution that can be easily accessed by all segments of the population, including those who are currently unbanked or underbanked. This inclusivity can stimulate economic participation and drive economic development, particularly in less developed regions of the EU.

In contrast, while Bitcoin offers innovative features such as decentralization and financial autonomy, its economic utility as a stable instrument within the EU is limited. Bitcoin's inherent volatility presents a significant challenge, as it can lead to unpredictable economic impacts and undermine financial stability. The dramatic fluctuations in Bitcoin's value can disrupt economic planning and decision-making for both individuals and businesses.

Moreover, Bitcoin's decentralized nature, while a strength in terms of autonomy, poses difficulties in aligning with the centralized economic policies of the EU. The lack of regulatory oversight and control makes it challenging to implement effective monetary policies using Bitcoin, reducing its suitability as a tool for economic management.

Given these considerations, the Digital Euro appears to have a competitive edge over Bitcoin in terms of contributing positively to the EU's economic framework. Its potential for enhancing stability, enabling robust monetary policy, and integrating efficiently with existing financial systems positions it as a more viable and beneficial option for official adoption as legal tender within the EU.

While Bitcoin offers innovative aspects and has pioneered the digital currency space, its utility as a stable economic instrument within the EU seems limited when compared to the Digital Euro. The latter's design and anticipated operational framework are more in line with the economic and financial stability goals of the European Union. Thus, from an economic standpoint, the Digital Euro could be

considered a more suitable choice for supporting the EU's financial systems and economic policies.

3.4 Regulatory Factors

When it comes to regulatory factors, the Digital Euro clearly outshines Bitcoin, primarily due to its inherent design as a central bank digital currency (CBDC). This design ensures that the Digital Euro can be seamlessly integrated into existing regulatory frameworks, which is crucial for its widespread acceptance and use within the European Union. The regulatory advantages of the Digital Euro stem from its ability to comply with established legal standards, provide robust consumer protection, and adhere to anti-money laundering (AML) and counter-terrorism financing (CFT) regulations.

One of the key strengths of the Digital Euro is its alignment with the EU's stringent regulatory environment. The European Central Bank (ECB) and other regulatory bodies have a well-established infrastructure for monitoring and enforcing financial regulations, and the Digital Euro fits neatly into this framework. This regulatory compliance not only enhances the Digital Euro's security and stability but also makes it a more attractive option for both consumers and businesses who seek reliable and legally compliant financial instruments.

Consumer protection is another significant aspect where the Digital Euro excels. The involvement of central authorities ensures that users are safeguarded against fraud and other financial crimes, which is not as straightforward with decentralized currencies like Bitcoin. This regulatory oversight provides a safety net for consumers, fostering trust and confidence in the Digital Euro.

In contrast, Bitcoin, despite its innovative features and the potential for broadening the scope of what currencies can achieve without central oversight, faces substantial

regulatory challenges. The decentralized nature of Bitcoin, which is one of its main attractions, also makes it difficult to regulate. This lack of central control means that Bitcoin does not easily comply with the established regulatory frameworks, posing significant barriers to its acceptance as a mainstream financial instrument within the EU.

Bitcoin's anonymity and the potential for misuse in illicit activities make it a target for regulatory scrutiny. Governments and regulatory bodies are often concerned about the use of Bitcoin for money laundering, terrorism financing, and other illegal activities. This regulatory ambiguity and the associated risks hinder Bitcoin's potential for widespread adoption as a legal tender in the EU.

Given these considerations, the Digital Euro demonstrates a clear advantage over Bitcoin in terms of regulatory compliance. Its design as a CBDC ensures that it can be tightly integrated into existing regulatory frameworks, enhancing its potential for widespread acceptance and use within the EU. Its compliance with legal standards, consumer protection measures, and AML/CFT regulations makes it a more secure and stable option for both consumers and the broader financial system.

While Bitcoin offers innovative features and broadens the scope of what currencies can do without central oversight, its regulatory challenges pose significant barriers to its acceptance as a mainstream financial instrument within the EU. The Digital Euro, with its comprehensive regulatory alignment, presents a more favorable option for meeting the EU's stringent regulatory environment and policy goals. As policymakers continue to navigate these waters, the Digital Euro is likely to emerge as the more feasible and regulatory-compliant choice, shaping the future of digital currencies in the European financial landscape.

CHAPTER 4. FUTURE PREDICTIONS: DIGITAL CURRENCY ADOPTION OUTSIDE OF EUROPE

Introduction

As we explore the potential for digital currencies beyond the borders of Europe, it's crucial to understand the unique sociopolitical and economic landscapes that will influence their adoption. Each continent presents distinct opportunities and challenges for both region-specific digital currencies and Bitcoin. This chapter delves into these dynamics, providing a detailed analysis of the factors that will shape the future of digital currency adoption in Asia, North America, South America, Africa, and Australia.

4.1 Asia: Government Control vs. Decentralized Innovation

Asia, particularly China, presents a fascinating case for digital currency adoption. The Chinese government has been a strong proponent of the Digital Yuan (DCEP). Given China's centralized governance model and the government's substantial influence over its population, the Digital Yuan is likely to see quicker and broader adoption than Bitcoin.

China's central authority allows for swift policy implementation. For instance, when the government decides to promote the Digital Yuan, it can leverage its control over financial institutions, tech companies, and even retail operations to ensure compliance. The People's Bank of China (PBOC) has already conducted several successful trials of the Digital Yuan in major cities, indicating strong governmental backing and a well-planned rollout strategy.

In contrast, Bitcoin's decentralized nature poses a challenge in this environment. The Chinese government has historically been wary of cryptocurrencies due to their potential to bypass capital controls and facilitate illicit activities. Bitcoin's association

with financial sovereignty is at odds with the Chinese government's objectives. This is evidenced by China's crackdown on cryptocurrency mining and trading in recent years. Thus, while Bitcoin may continue to be used underground or in specific tech-savvy circles, its widespread adoption as a legal tender in China appears unlikely.

Moreover, other Asian countries like Japan and South Korea, which are technologically advanced and have more liberal economic policies, might present a more balanced view. Japan has recognized Bitcoin as a legal payment method, and South Korea has a thriving cryptocurrency market. However, even in these countries, government-issued digital currencies would likely be adopted more quickly due to regulatory support and integration with existing financial systems.

4.2 North America: Innovation Hubs and Regulatory Hurdles

In North America, particularly the United States and Canada, the scenario is quite different. The United States, with its strong emphasis on free-market principles and innovation, has been a hotbed for cryptocurrency development. Bitcoin and other cryptocurrencies enjoy significant popularity and usage, especially in tech hubs like Silicon Valley.

However, the introduction of a Digital Dollar could fundamentally change the landscape. The Federal Reserve has shown interest in exploring a central bank digital currency (CBDC), but regulatory and legislative hurdles abound. Unlike in China, the U.S. government does not wield the same level of control over financial markets and institutions, making the rollout of a Digital Dollar a more complex process. Nonetheless, the inherent trust in government-backed financial instruments might drive faster adoption of a Digital Dollar once it overcomes these initial hurdles.

Bitcoin faces both support and scepticism from various sectors in North America. While it is embraced by a growing number of individuals and businesses, regulatory

uncertainty remains a significant challenge. The U.S. Securities and Exchange Commission (SEC) and other regulatory bodies have been cautious in their approach to cryptocurrencies, often citing concerns about fraud, market manipulation, and investor protection. However, a significant shift occurred on January 10, 2024, when the SEC approved 11 spot Bitcoin exchange-traded funds (ETFs). This approval marked a historic step, providing a regulated and accessible way for investors to gain direct exposure to Bitcoin. This move is expected to simplify and secure Bitcoin investments for a broader investor base, potentially reshaping the dynamics of cryptocurrency investments.⁴⁷

Despite this progress, the regulatory environment remains complex, with the SEC emphasizing that the approval of Bitcoin ETFs does not signal a broader acceptance of all crypto assets. The Commission continues to scrutinize the market to protect investors and ensure compliance with federal securities laws. This cautious yet evolving regulatory landscape might slow down Bitcoin's adoption as a legal tender, even though its technological and innovative appeal remains high.

4.3 South America: Economic Instability and the Appeal of Decentralization

South America offers a unique perspective on digital currency adoption, driven by economic instability in several countries. In nations like Venezuela and Argentina, hyperinflation and currency devaluation have eroded public trust in traditional financial systems. This creates a fertile ground for both Bitcoin and digital currencies. Bitcoin, with its decentralized nature, appeals to South Americans seeking to protect their wealth from inflation and government interference. It has already seen

⁴⁷ Jacob W.(2024).Spot Bitcoin ETFs: What Are They, And How Do They Work?

significant adoption in these regions as a store of value and a means of transferring money across borders. The relative ease of accessing and using Bitcoin through mobile technology further supports its growth.

However, the adoption of government-backed digital currencies could also be significant, provided they offer stability and security. For example, if Brazil were to launch a Digital Real, backed by its central bank, it could provide a stable alternative to the volatile fiat currencies. The challenge here lies in building public trust in these new digital forms, especially in countries where government institutions have historically been seen as corrupt or ineffective.

4.4 Africa: Leapfrogging with Mobile Technology

Africa presents an interesting case for digital currency adoption, driven by its rapid embrace of mobile technology and digital financial services. Countries like Kenya and Nigeria have become global leaders in mobile money, with platforms like M-Pesa revolutionizing financial inclusion.

In this context, a digital currency issued by an African central bank could seamlessly integrate with existing mobile money infrastructure, facilitating quick adoption. Governments in Africa, keen to boost financial inclusion and streamline monetary policy, might find digital currencies particularly appealing.

Bitcoin also has significant potential in Africa, especially in countries with unstable currencies and limited access to traditional banking. Its decentralized nature allows for cross-border transactions and remittances, which are critical for many African economies. However, the challenges include limited internet penetration in some regions and the need for greater education and infrastructure to support cryptocurrency use.

4.5 Australia: Regulatory Clarity and Technological Integration

Australia, with its advanced economy and clear regulatory framework, presents a conducive environment for digital currency adoption. The Reserve Bank of Australia (RBA) has been exploring the concept of a Digital Australian Dollar. Given the country's robust financial infrastructure and regulatory clarity, the rollout of a government-backed digital currency could be smooth and efficient.

Bitcoin has a strong presence in Australia, supported by a tech-savvy population and favorable regulatory environment. The Australian government's clear guidelines on cryptocurrency usage and taxation have fostered a healthy crypto ecosystem. However, for widespread legal tender adoption, a Digital Australian Dollar might find quicker acceptance due to its official status and integration with the national payment systems.

CONCLUSION

The comprehensive analysis presented in this thesis reveals distinct dynamics between Bitcoin and the Digital Euro in terms of consumer adoption and public perception within the EU. Through examining various factors, including technological accessibility, trust and security, awareness and understanding, practical usability, cultural factors, historical context, cultural influence, psychological factors, social influence, and perception of utility and practicality, it becomes clear that each digital currency has unique strengths and challenges. The Digital Euro, backed by the European Central Bank, is designed to be more user-friendly, stable, and seamlessly integrated with existing financial systems, which positions it favourably for widespread consumer adoption. It benefits from institutional trust, regulatory alignment, and a structured approach to public education and awareness, making it a practical and reliable option for daily transactions. In contrast, Bitcoin, with its

decentralized nature, offers financial autonomy and has established a strong global presence, particularly in regions with unstable currencies and limited access to traditional banking. However, Bitcoin's complexity, volatility, and lack of regulatory oversight pose significant barriers to its mainstream acceptance and usability for everyday transactions. From a public perception standpoint, the Digital Euro is likely to be viewed more favourably due to its association with stability and institutional backing, whereas Bitcoin's perception is mixed, influenced by its potential for high returns and its speculative nature. Economically, the Digital Euro aligns well with the EU's monetary policy goals, offering a stable environment and efficient integration with existing financial systems, whereas Bitcoin's volatility and decentralized framework complicate its potential economic impact. Regulatory considerations further underscore the Digital Euro's advantages, as it is designed to comply with stringent AML and CFT regulations, ensuring consumer protection and legal compliance. Bitcoin, while innovative, faces ongoing regulatory challenges due to its anonymity and decentralized structure. In conclusion, while both Bitcoin and the Digital Euro offer transformative potential, the Digital Euro emerges as a more suitable option for widespread adoption within the EU, providing a stable, secure, and practical digital currency solution that aligns with the region's regulatory and economic frameworks. Bitcoin, on the other hand, continues to serve as a significant player in the digital currency landscape, particularly in contexts that value decentralization and financial independence. For the EU, the Digital Euro's approach to accessibility, integration, and regulatory compliance makes it the more feasible and advantageous choice for the future of digital currencies in the European financial landscape .

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