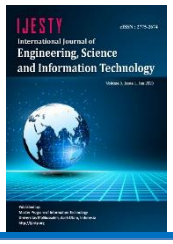
International Journal of Engineering, Science and Information Technology
Volume 5 No. 1 (2025) pp. 455-463
ISSN 2775-2674 (online)
Website: http://ijesty.org/index.php/ijesty
DOI: https://doi.org/10.52088/ijesty.v5i1.1111
Research Paper, Short Communication, Review, Technical Paper



The Miracle of Cryptocurrency: Opportunity at Global Transaction Management, Future Market and Present Value Reality

Reza Juanda[1*], Falahuddin[1], Muttaqien[1], Rico Nur Ilham[1], Frengki Putra Ramansyah[1], Muhammad Multazam[2]

[1]Faculty of Economic and Business, Universitas Malikussaleh, Aceh, Indonesia
[2]Faculty of Economic and Business, Universitas Bumi Persada, Aceh, Indonesia

Corresponding author Email: rezajuanda@unimal.ac.id

The manuscript was received on 11 June 2024, revised on 10 September 2024, and accepted on 24 January 2025, date of publication 2 May 2025

Abstract

Cryptocurrency is an investment commodity that can generate returns and already has a license to trade in exchange. This study aims to examine the prospects of digital cryptocurrency assets more deeply by summarising the results of literature studies in various countries. In each of the continents scattered in the world, some countries support the existence of cryptocurrency as an investment asset and a means of payment. As a result of this study, it is known that many countries whose governments make strict regulations on support for legality and allow cryptocurrency transactions include: European Union members, namely Germany and Italy, and non-member countries of the European Union, such as Gibraltar. Furthermore, in the Americas, there are Canada and Venezuela. In East Asia and the Asia Pacific, Australia and Japan support the existence of cryptocurrency. Meanwhile, in Southeast Asian countries, there are contradictions between several countries, including Indonesia, Malaysia, Vietnam, and the Philippines, that reject cryptocurrency transactions because they are considered threats to money laundering and the problem of terrorism. However, Singapore and Thailand will protect cryptocurrency investors in their countries and ensure legal regulations for cryptocurrency transactions as investment assets and legal means of payment transactions. Investments in digital currencies or cryptocurrencies are increasingly prevalent worldwide and are supported by significant price increases. Of course, this is a prospect that cryptocurrency transactions can meet the expectations of all users in the world by making regulations regarding the legality of cryptocurrency, so that the transaction model can be integrated between users, both as an asset and a substitute for international payment currencies.

Keywords: *Cryptocurrency, Global Transaction Management, Future Market, Reality.*

1. Introduction

Cryptocurrency works on the theory of solving encryption algorithms to create unique hashes that are finite in number. With a computer network verifying transactions, users can exchange hashes as if exchanging physical currency. The world's most common and well-known cryptocurrency has been increasing in popularity. It has the same basic structure as in 2008, but repeated instances of the world market change have created a new demand for cryptocurrencies much greater than their initial showing. By using a cryptocurrency, users can exchange value digitally without third-party oversight. A finite number of Bitcoins will ever be generated, preventing an overabundance and ensuring its rarity. Despite its requirement as a life-giving material, water is generally accepted as free or of little cost because it is so abundant. If water were rare, it would be more valuable than diamonds. Value exists for Bitcoin because its users trust that if they accept it as payment, they could use it elsewhere to purchase something they want or need.

To understand the potential value of cryptocurrency, it is essential first to understand the technology behind the cryptocurrency platform, Blockchain. First created by Satoshi Nakamoto in 2008, Blockchain is the base of the non-centralised payment system platform. The initial goal was to create an electronic payment system based on cryptographic proof instead of trust [1]. The great potential of using Blockchain is having a discrete, transparent, and even foolproof option—the secret lies with the fact that no single source of truth exists. There are several key aspects to this type of operation. One is that there is only one source of truth; this can be a risk if a cyberattack damages it. The second aspect is the need always to have a middleman; no transaction can occur without the help of the ledger keeper [2].

Upon examination, the researchers found out that there are many versions of how to implement a Blockchain platform, but all share these three main features [1]. First, there is the ledger, a public information piece. The ledger is a series of blocks. Each block holds a set of ordered transactions, and each block also points to the next block. The ledger, or Blockchain, is shared with many record keepers across the platform, preventing transaction information from getting lost or becoming outdated. Second, the user protocol is used. The security

aspect of the platform is remarkable and yet simple. As described before, the ledger is comprised of sets of blocks. Each block begins with a cryptographic hash of the previous block, creating the chain. The way Hash values are calculated prevents any number tampering. Understanding that the community can spot any changes and breaks in the chain is essential. That type of chain is not unique; it is called a Merkel chain. However, here is the key to maintaining the authenticity of the information in Blockchain [3]. The Hash key for Blockchain has an added kink. Each Hash number is created by adding a random set of bits.

Table 1. Cryptocurrency Performance Leaders in 2021

Symbol	Name	Last	Change	YTD Chg	YTD %Chg	YTD High	YTD Low
^BCHUSD	Bitcoin Cash – USD	682.345	-35.007	+374.175	+109.03%	771.847	332.066
^BTCUSD	Bitcoin – USD	56,533.58	+924.06	+26,622.78	+91.84%	56,261.96	28,383.16
^BTGUSD	Bitcoin Gold – USD	27.0826	-0.5924	+19.4033	+234.57%	31.4711	7.8748
^DASHUSD	Digitalcash – USD	301.9276	-26.7267	+229.3058	+230.81%	335.7782	84.0240
^ETCUSD	Ethereum Classic - USD	15.38561	+0.38912	+9.34830	+165.51%	17.60204	5.56343
^ETHUSD	Ethereum – USD	1,937.2648	-20.6565	+1,219.0094	+164.97%	1,973.7723	716.9192
^LTCUSD	Litecoin – USD	225.6235	-12.5127	+114.0592	+91.93%	241.7469	113.8660
^NEOUSD	NEO – USD	50.7849	+3.6260	+32.9414	+231.70%	49.5124	13.9883
^XMRUSD	Monero – USD	253.2034	-24.2801	+120.7266	+77.02%	280.8783	122.3842
^XRPUSD	Ripple – USD	0.525093	-0.035441	+0.335571	+149.17%	0.751991	0.213769
^ZECUSD	Zcash – USD	165.1091	-13.9416	+116.1274	+184.55%	189.8287	54.5828

Source: https://www.barchart.com/crypto/performance-leaders-2021

These are seven of the best cryptos on the market. It has been over a decade since the mysterious Satoshi Nakamoto created Bitcoin, the world's first and by far most popular form of cryptocurrency. Despite its fame, Bitcoin isn't the final word on cryptocurrency – imitators, innovators and spinoffs have emerged in huge numbers, and more than 7,000 cryptocurrencies are on the market today.

Bitcoin has not just been a trendsetter, ushering in a wave of cryptocurrencies built on a decentralised peer-to-peer network, it's also become the de facto standard for cryptocurrencies, inspiring an ever-growing legion of followers and spinoffs. Bitcoin and Ethereum make up more than 70% of the whole crypto market's value and continue to break all-time highs weekly. The cryptocurrency asset class has been hands-down the best-performing investment category you could have chosen over the last decade, turning out a remarkable 39 583% return over that period.

While Bitcoin is enjoying growing support from institutional investors and big corporates, with Tesla being the latest blue chip to acquire a record breaking $1.5 billion (R22.4 billion) because of its perceived role as digital gold – and thus a hedge against inflation – the other cryptocurrencies shown above have entirely different forces powering their prices. Although Bitcoin remains the most significant crypto in market cap, several altcoins (a term used to define any cryptocurrency that is not Bitcoin) have significantly outperformed Bitcoin over the last year. For example, Ethereum is up 630% over the previous year, Chainlink 697%, Cardano 533%, and Polkadot 428%. These returns are well ahead of Bitcoin at 267%, traditional assets like gold (up 18%), the JSE Top 40 stock index (15%) and the S&P 500 stock index (16%).

The prospect of cryptocurrency is already being felt in digital asset transactions almost worldwide. There has been a lot of trading in cryptocurrency assets in various countries in the Americas, Europe and even Asia. It can be seen from the level of cryptocurrency transactions in the following countries:

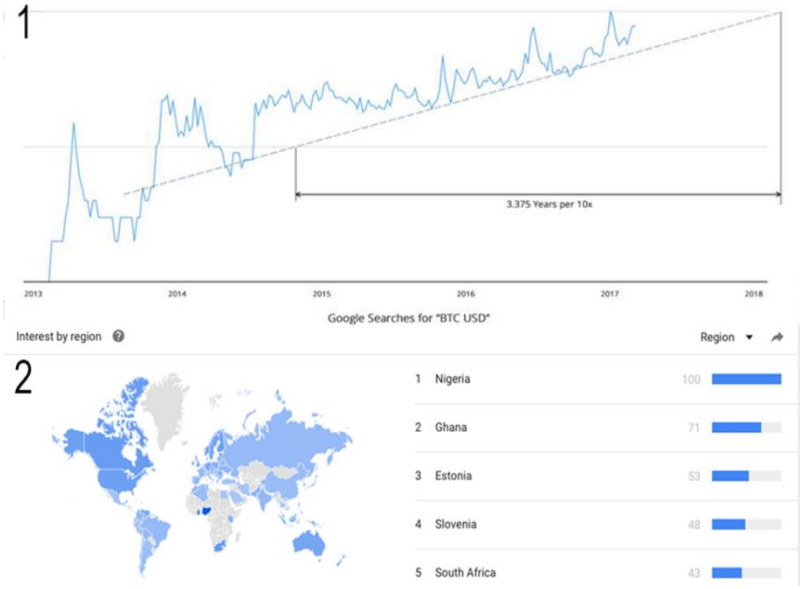


Fig 1. Percentage of cryptocurrency distribution in Africa

According to Google statistics, bitcoin searches are rising in 2017 in many countries worldwide. Furthermore, chart one details that bitcoin users have doubled monthly since 2013. Chart 2 shows many searches, mainly from Africa and the Baltic region.

The interest in cryptocurrency and digital money has expanded to developing countries in Asia, such as several countries in ASEAN that have made regulations and legality of digital asset transactions, and there are even some countries that have officially provided flexibility for their citizens to transact digital assets legally.

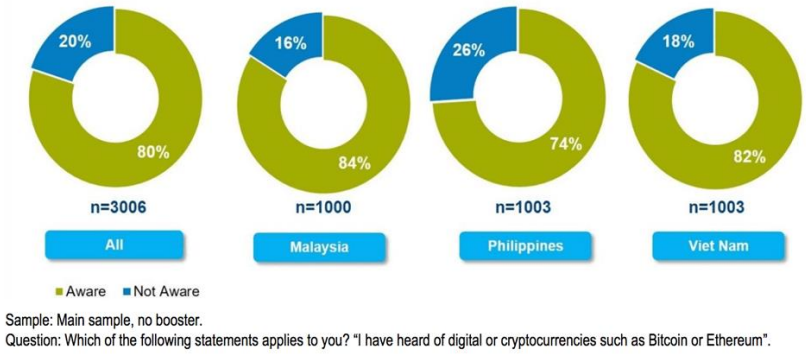


Fig 2. Cryptocurrency awareness

Leaders of all three digital asset exchanges acknowledge the lack of awareness of cryptocurrencies in Malaysia and say that much needs to be done to educate Malaysians on the value propositions and benefits. "First and foremost, as digital asset exchanges have only been recently regulated, much time is required for efforts to be conducted nationwide to promote the growth and development of digital assets," said Chuah of SINEGY. "We are also grateful for the cooperation provided by our regulators, the SC Malaysia, for not only providing investor protection but also working to provide a neutral learning initiative for the public to understand digital assets" [4].

Similarly, in a survey of crypto awareness (2018), Tang of Luno said, "It is necessary to educate the masses about cryptocurrencies. We strongly believe in responsible investing and spending many resources to educate people about cryptocurrencies." To address the lack of awareness, Luno, Tang said, is currently working on several exciting education programmes with a range of partners to roll out both online and offline education programmes, tailored specifically for Malaysians. "It is still really early in the game, but we have seen tremendous progress over the past few years, and are excited about the future".

The Securities Commission of Malaysia (SC) has approved three cryptocurrency platforms to operate legally. Luno was given the green light last October, while Sinegy and Tokenise Xchange got the green light in April 2018. A survey by the Organisation for Economic Cooperation and Development (OECD) revealed that crypto asset awareness in Malaysia is relatively high. Most survey respondents (80%) said they were aware of cryptocurrencies, with the core survey based on an online sample of 3,006 respondents aged 18 and over, living in Malaysia, the Philippines and Vietnam (over 1,000 per country). The high level of awareness of cryptocurrencies in Malaysia (84%) was ten percentage points higher than in the Philippines.

2. Literature Review

There have been quite a lot of studies and research on cryptocurrency. So, it is necessary to combine several previous studies to produce a strong foundation for this research. As for some of the earlier studies that became the basis for comparison and references that were considered relevant to this research, among others:

Suhag and Pandya tried to make scenarios from a sample of countries reviewed regarding their effort to adopt cryptocurrency to find some of the challenges, such as the security challenges this new monetary system faces, and limitations faced by different countries. A detailed analysis was done to answer some of the vital questions as such why cryptocurrency is banned in a few countries when other countries see cryptocurrency as a secured mode of payment transaction or what kind of security is provided by cryptocurrency compared to the traditional payments such as pay by cash, credit, or checks [5].

Peter D. DeVries finds the reality that cryptocurrencies are not likely to replace traditional fiat currency; they could change the way Internet-connected global markets interact, clearing away barriers surrounding normative national currencies and exchange rates. Technology advances rapidly, and a given technology's success is almost solely dictated by the market upon which it seeks to improve. A SWOT analysis of Bitcoin is presented, illuminating some recent events and movements that could influence whether Bitcoin contributes to a shift in economic paradigms [6].

Mirza Hedismarlina Yuneline tries to make some innovations in cryptography techniques, and Blockchain has made cryptocurrency an alternative medium of exchange due to its safety, transparency and cost effectiveness. However, its main feature cannot be separated from users who use cryptocurrency for illegal transactions. There are several arguments related to the legality of cryptocurrency. This paper aims to analyse the nature of cryptocurrency based on the characteristics of money, as well as the legal perspective, economic perspective, and Sharia perspective [7].

Jan Lansky will define cryptocurrency ownership and account anonymity. We will define cryptocurrency ownership and account anonymity. We will introduce a classification of the approaches to the regulation of cryptocurrencies by various individual countries. We will present the risks that the use of cryptocurrencies involves and the possibilities of preventing those risks. We will present the possible use of cryptocurrencies for the benefit of the state. The conclusion addresses the implications of adopting a cryptocurrency as a national currency [8].

Robiyanto and the others tried to use gold with value backed by gold, which is famous for its exchange rate stability. From Abu Bakar, there is a need to monitor the organisation of the cryptocurrency to control riba (Interest), maysir (gambling), and ghahar (Uncertainty). To solve this problem, there is a need for a tool that can predict with certainty based on valid historical data, produce accurate prediction results, and estimate economic value close to gold's real value. With the results, we can monitor daily, see the next-day value continuously based on cryptocurrency with value backed by gold, and see what other factors influence the value by looking at the negative or positive factors with sentiment analysis [9].

Mohd Shahid Mohd Noh tried to examine maqasid views on this currency, relying on SWOT analysis, which will be viewed through the lens of maslahah dan mafsadah as central pillars in maqasid al-syari'ah. As a result, this issue needs to be studied further since the maslahah and mafsadah sometimes interchange the roles as particular, general maslahah and its counterparty since the system has always been designed for the benefits, yet simultaneously creates the negative implication. Furthermore, this innovation could be developed following the desire of designers with a dynamic structure to fulfil the market's needs [10].

Wolfgang Karl H¨ardle and others find that although the technology is widely misunderstood, many central banks are considering launching their national cryptocurrency. In contrast to most data in financial economics, detailed data on the history of every transaction

in the cryptocurrency complex are freely available. Furthermore, empirically-oriented research is only now beginning, presenting an extraordinary research opportunity for academia. We provide some insights into the mechanics of cryptocurrencies, describing summary statistics and focusing on potential future research avenues in financial economics [11].

Asress Adimi Gikay tried to explain the method by examining the EU's legal framework governing payments services, including the Single Euro Payment Area (SEPA) Regulation, the Electronic Money Directive, the Payment Services Directive and the proposed AML/CTF Directive, this article concludes that (a) because the existing payment services laws apply to payments effected in currencies (legal tenders) and cryptocurrencies are not defined as currencies under the EU law or the laws of member states, they do not cover cryptocurrencies. It also argues that it is impossible to design sui generis payment services law for cryptocurrencies without curbing their essential features, especially decentralisation [12].

Chris Rose finds that bitcoin was not the first attempt at a digital currency, but it has been the most successful and several major retailers are now accepting it. Bitcoin is a cryptocurrency and operates as a peer-to-peer network. Cryptographic algorithms, instead of governments, guarantee their security and have the potential to become a significant means of e-commerce payment, which may even materialise as a viable challenge to traditional money-transfer providers. Instead of serving one country or some countries, Bitcoin serves the entire world [13].

Fedor Ya. Legotin finds that during the correlation-regression analysis of the Bitcoin price dynamics, it is determined that the observations' approximations best correspond to the polynomial model of the third degree and the exponential model. Based on the analysis of the Bitcoin market price dynamics, it is concluded that the demand for cryptocurrency has been formed not by its intrinsic value, but by market expectations, as well as by the level of interest and involvement of participants in this virtual network (via network effect) [14].

Elie Bouri tried to analyse how global uncertainty is measured by the first principal component of the VIXs of 14 developed and developing equity markets. We first use wavelets to decompose Bitcoin returns into various frequencies of investment horizons. Then, we apply standard OLS regressions and observe that uncertainty negatively affects raw Bitcoin return and its longer-term movements. However, given the heavy tails of the variables, we rely on quantile methods and reveal much more nuanced and interesting results [15].

Ciupa Katarzyna finds that cryptocurrencies went from a niche innovation to one of the hottest topics, calling for intervention from international or national regulators. Due to the growing number of corruption issues involving cryptocurrencies, this global phenomenon can no longer be neglected, and there is a need for a thorough analysis to identify anti-corruption measures [16].

Lawrence H. White finds that cryptocurrencies like Bitcoin are transferable digital assets, secured by cryptography. To date, all of them have been created by private individuals, organisations, or firms. Unlike bank account balances, they are not anyone's liability. They are not redeemable for any government fiat money, such as Federal Reserve Notes, or any commodity money, such as silver or gold. The cryptocurrency market is thus a market of competing private irredeemable funds [17].

Michael Sockin tried in this research model that cryptocurrency constitutes membership in a platform developed to facilitate certain goods or services. The complementarity in the householdsí' participation in the platform acts as an endogenous, yet fragile, fundamental of the cryptocurrency. There exist either two or no equilibria, and the two equilibria, when they exist, have disparate properties. When the transaction demand for the platform is unobservable, the trading price and volume of the cryptocurrency serve as important channels for not only aggregating private information about its fundamentals but also facilitating coordination on a certain equilibrium [18].

Flamur Bunjaku and others find that cryptocurrencies have their benefits and drawbacks. The paper elaborates on different aspects of cryptocurrencies, starting with their early development, challenges and risks, opportunities, advantages and disadvantages, and future. In addition, the paper covered issues related to cryptocurrencies' practical and technical functions. However, the banks and other financial institutions should consider cryptocurrencies as an alternative for monetary transactions in the future [19].

David Kuo Chuen Lee and others find the reality that even for those who believe there is intrinsic value to cryptocurrencies, when their prices rise, there will be doubts about prices running ahead of values. Technologists will argue that their value is higher than Linux and lower than the Internet, yet both are facilitators rather than an asset class. Finance traditionalists will argue that cryptocurrency is just another form of value transfer that raises funds globally using cryptography and creates little value beyond that.

Eli Dourado and Jerry Brito tried to explain cryptocurrency and began to answer the new questions it raises. To understand why cryptocurrency has its characteristics, it is essential to understand the problem being solved. For this reason, we start with the past issues that have plagued digital cash and the technical advances that have made cryptocurrency possible. Once this foundation is laid, we discuss the unique economic questions the solution raises [20].

Yasar Kaya explained the review of NPV. It was seen that NPV does not apply to the case of cryptocurrencies due to their nature and lack of free cash flows to base the asset valuation on some fundamental facts. Later, the LPPL model is reviewed; however, it also proved insufficient since it does not reflect the investor speculations and provides little information about price dynamics regarding behavioural finance principles. Public interest towards Bitcoin is interest-driven, regulatory and political news about cryptocurrencies is event-driven, and VIX has been taken as an overall investor approach to the Bitcoin market [21].

Tomas Ankenbrand finds that the cryptocurrency market distinguishes itself remarkably from established asset classes in terms of risk and return. Additionally, the low correlation between the cryptocurrency markets and these established asset classes induces a diversification potential for investors, leading to more favourable risk/return profiles of their portfolios. However, the emergence of investment services and products provided by the financial industry and the increasingly cost-effective access to cryptocurrencies also corroborate the conclusion that cryptocurrencies can be seen as an individual asset class [22].

Jaysing Bhosale finds the result of this research that a cryptocurrency is a digital or virtual currency that uses cryptography for security. Despite recent issues in crypto currencies, Bitcoin's success and it's growing visibility since its launch has resulted in several companies unveiling alternative cryptocurrencies The study tries to compare three crypto currencies - Bitcoin, Ethereum and Litecoin concerning their volatility and stability in recent times and also tries to understand their trends in recent times [23].

David W. Perkins tried. In addition, although cryptocurrency ledgers appear safe from manipulation, individuals and exchanges have been hacked or targeted in scams involving cryptocurrencies. Accordingly, critics of cryptocurrencies have raised concerns that existing laws and regulations do not adequately protect consumers dealing in cryptocurrencies. Finally, if cryptocurrency becomes a widely used form of money, it could affect the ability of the Federal Reserve and other central banks to implement and transmit monetary policy, leading some observers to argue that central banks should develop their digital currencies (as opposed to a cryptocurrency); others oppose this idea [24].

Kevin Wang find reality in this research that Initial Coin Offering (ICO) is a new way to raise entrepreneurial finance, newly created cryptocurrencies are being sold to the public by start-ups in exchange of capital. This book chapter intends to clarify this phenomenon by explaining the concepts of blockchain technology, cryptocurrency and ICO, to provide valuable insights into this new trend of entrepreneurial finance [25].

The term cryptocurrency is increasingly being discussed after the increase of various types of virtual money, such as Bitcoin, which has begun to be in great demand as an investment because its value continues to fluctuate. This article will review the basic concepts of cryptocurrency, how it works, facts related to the system, and what it is trying to offer as a disruption in the financial business structure.
Based on the results of some previous research that explains a lot about the advantages and disadvantages of cryptocurrency, we can take something positive based on the many opportunities that come from profits in this cryptocurrency transaction, and considering that in parts of the world, there are still pros and cons regarding cryptocurrency transactions. Whether the opportunities for the future of digital assets still exist or not, all are still limited to talking about opportunity costs [26].

3. Methods

Investments in digital currency are increasingly prevalent throughout the world. The potential profitability of cryptocurrencies is high, although the risks investors face are also high. Price increases beyond common sense support the potential for high returns from cryptocurrency investing. Citing the coinmarketcap.com site, the price of one cryptocurrency, bitcoin, on December 31, 2016, is US$960 for 1 BTC. A year later, or to be precise, on December 31, 2017, the price of 1 BTC was equivalent to US$12,952. This means that bitcoin costs grow by 1,250% annually (Rico N.Ilham, 2019). Seeing this profit opportunity in various parts of the world, they also highly desire to trade in cryptocurrencies. The details of these countries that agree with cryptocurrency transactions are emphasised below.

3.1. Europe, United States

The European Commission presented a legislative proposal to amend the Fourth Anti-Money Laundering Directive (AMLD). It suggested, inter alia, bringing custodian wallet providers and virtual currency exchange platforms within the scope of the AMLD, meaning they would be obligated to fulfil due diligence requirements and have in place policies and procedures to detect, prevent, and report money laundering and terrorist financing. The proposal contains a definition of virtual currencies, which are described as “a digital representation of value that is neither issued by a central bank or a public authority, nor necessarily attached to a fiat currency, but is accepted by natural or legal persons as a means of payment and can be transferred, stored or traded electronically.
Furthermore, in the European Financial Sector (2018), the European Commission presented an action plan to take advantage of the opportunities offered by technology-enabled innovation in financial services (FinTech), like Blockchain, artificial intelligence, and cloud services. The FinTech Action Plan includes the recently launched EU Blockchain Observatory and Forum, which will report on the challenges and opportunities of crypto assets later in 2018. It is also working on a comprehensive strategy on distributed ledger technology and Blockchain, addressing all sectors of the economy.

3.1.1 Germany

The German Federal Financial Supervisory Authority (Bundesanstalt staltfür Finanzdienstleistungsaufsicht, BaFin) qualifies virtual currencies/cryptocurrencies as account units and financial instruments. Based on Gesetz über das Kreditwesen (2014), Undertakings and persons that arrange the acquisition of tokens, sell or purchase tokens on a commercial basis, or carry out principal broking services in tokens via online trading platforms, among others, are generally required to obtain authorisation from BaFin in advance.
The German BaFin published information on the regulatory assessment of ICOs and the tokens, coins, and cryptocurrencies they are based on. Regulatory Qualification of Tokens or Cryptocurrencies (2017). It stated that firms involved in ICOs need to assess on a case-by-case basis whether the ICOs qualify as financial instruments (transferable securities, units in collective investment undertakings, or investments) or as securities and therefore trigger the need to comply with the relevant financial legislation.

3.1.2 Italy

A Ministerial Resolution of September 2016 issued by the Revenue Agency (Agenzia delle Entrate) addressed aspects of the tax treatment of bitcoin and other cryptocurrencies. This Resolution implemented the decision issued by the European Court of Justice (ECJ). Research from Paolo Luigi Burlone (2018) explains that the value-added tax (VAT) does not apply to transactions in which cybercurrencies are exchanged for traditional currencies or vice versa.
In addition, the Resolution of 2016 indicates that for purposes of the corporate income tax (Imposta sul Reddito sulle Società, IRES) and the Italian regional production tax (Imposta Regionale sulle Attività Produttive, IRAP), profits and losses on such transactions constitute corporate income or losses subject to taxation. Margherita Pignatelli (2016) explains that the Resolution contains specific requirements for registering cybercurrency operations, including names, amounts, dates, and other transaction information. According to the Resolution, bitcoin operations performed by individuals who hold bitcoin for purposes other than commercial or corporate purposes do not generate taxable income.

3.2. Non-European Members

3.2.1 Azerbaijan

The chairman of the board of Azerbaijan's Central Bank, Elman Rustamov, stated that cryptocurrency is a very volatile instrument and urged the population to be more careful in dealing with cryptocurrencies. Sputnik Azerbaijan (2018). Earlier in January, it was reported that a working group was established to develop a draft law on regulating trade in cryptocurrencies.

3.2.2 Gibraltar

Gibraltar The government of Gibraltar recently introduced regulations governing the provision of Distributed Ledger Technology (DLT) and is currently introducing draft legislation to regulate initial coin offerings (ICOs). It is also considering a further regulatory framework that would address the sale and promotion of tokens to complement the DLT regulations.
DLT license holders must also pay an annual fee, charged at a flat rate of £10,000 (approximately US$14,000). However, an additional fee of up to £20,000 (approximately US$28,000) may be charged “depending upon the complexity of regulating the DLT Provider.”370 Companies that are currently licensed under the existing financial legislation in Gibraltar and use DLT to improve their controls, procedures, and processes will not need to obtain a separate licence under the DLT framework, unless the activities are not currently caught within the scope of the licence they hold. However, if they are licensed as a bank, but intend to provide virtual currency wallets and/or services, they will be required to obtain a licence under the DLT regime.

3.3. The Americas

3.3.1. Canada

This is a spectacular government decision in Canada; the self-regulatory approach allows using cryptocurrencies, including Bitcoin. According to a Financial Consumer Agency of Canada webpage on digital currencies, "we can use digital currencies to buy goods and services on the Internet and in stores that accept digital currencies. You may also purchase and sell digital currency on open exchanges, called digital currency or cryptocurrency exchanges [27].

Canada's tax laws and rules also apply to digital currency transactions, including those made with cryptocurrencies, and digital currencies are subject to the Income Tax Act. The Canadian Securities Administrators (CSA) published CSA Staff Notice 46-307 on Cryptocurrency Offerings (Ontario Securities Commission, 2017). This outlines how securities law requirements may apply to initial coin offerings (ICOs), initial token offerings (ITOs), cryptocurrency investment funds and the cryptocurrency exchanges trading these products. Based on Clare O'Hara (2018), The Globe and Mail reported that the Ontario Securities Commission had approved the country's first blockchain fund—Blockchain Technologies ETF [28].

3.3.2. Venezuela

According to Gaceta Oficial (2017), the government of Venezuela was authorised to create its cryptocurrency, the petro, which would be physically backed by Venezuelan barrels of oil [29]. One petro would be supported by a purchase-sale contract for one barrel of Venezuelan oil as quoted in the OPEC Reference Basket and other commodities, including gold, diamond, coltan, and gas.

Mainly provides for the operational details of the petro, including its issuance, mining, and trading in Venezuela, according to the rules on purchase and sale contained in the Civil Code. According to Decree 3196 (2018), a legal expert on information technology law, all cryptocurrencies are considered financial assets subject to the rules applicable to such assets, and none of their provisions declare them illegal. The Decree also creates the Superintendencia de los Criptoactivos Actividades Conexas Venezolana (Superintendency of Venezuelan Crypto-Assets and Related Activities) as the supervisory authority of cryptocurrencies.

3.4. East Asia and the Pacific

3.4.1. Australian

The Australian Parliament's Senate Economic References Committee published a report titled "Digital Currency – Game Changer or Bit Player" and following the completion of an inquiry into develop an effective regulatory system for digital currency, the potential impact of digital currency technology on the Australian economy, and how Australia can take advantage of digital currency technology [30].

Based on GST and Digital Currency, ATO (2017) Cryptocurrencies may be considered assets for capital gains tax purposes, with the guidance stating: "Where you use bitcoin to purchase goods or services for personal use or consumption, any capital gain or loss from disposal of the bitcoin will be disregarded (as a personal use asset) provided the cost of the bitcoin is $10,000 or less. The ATO has also published separate guidance on applying the goods and services tax (GST) concerning digital currency transactions.

Regarding business transactions, the ATO guidance states that the Australian dollar value of bitcoins (the fair market value) received for goods and services must be recorded as part of ordinary income, in the same way as receiving non-cash consideration under a barter transaction. Goods and services tax (GST) is also payable. It is calculated on the market value of the goods or services, which is "ordinarily equal to the fair market value of the bitcoin at the time of the transaction.

3.4.2 Japan

In Japan, cryptocurrency exchange businesses are regulated. The Payment Services Act was amended in June 2016, and the amendment took effect on April 1, 2017. The amended Payment Services Act defines "cryptocurrency. The Act also states that cryptocurrency is limited to property values stored electronically on electronic devices; currency and currency-denominated assets are excluded [31].

Based on the Financial Services Agency (FSA) (2016) under the Payment Services Act, only business operators registered with a competent local Finance Bureau can operate cryptocurrency exchange businesses. The operator must be a stock company or a "foreign cryptocurrency exchange business" that is a company with a representative who is a resident in Japan and has an office in Japan. A "foreign cryptocurrency exchange business" means a cryptocurrency exchange service provider registered with a foreign government in a foreign country under a law that provides an equivalent registration system to the system under the Japanese Payment Services Act.

3.5. Southeast Asia Nation

3.5.1. Indonesia

Bank Indonesia (Indonesia's central Bank) has released a statement that warns against buying, selling, or trading in virtual currencies [32]. The statement includes: "Bank Indonesia affirms that virtual currencies, including bitcoin, are not recognised as a legitimate payment instrument, therefore not allowed for payment in Indonesia. This is in line with Act No. 7/2011 on The Currency", which states that currency shall be money of which issued by the Republic of Indonesia and every transaction that has the purpose of payment, or other obligations which need to be fulfilled with money, or other financial transactions conducted within the territory of the Republic of Indonesia, has to be fulfilled with Rupiah [33].

The Bank's statement follows an earlier press release in 2014, in which it encouraged caution concerning virtual currencies and stated that "given the Act No.7 Year 2012 concerning Currency and Act No. 23 Year 1999 which has been amended several times, the latest with Act No.6 Year 2009, Bank Indonesia states that bitcoin and other virtual currency are not currency or legal payment instrument in Indonesia [34].

3.5.2. Malaysia

Bank Negara Malaysia (Malaysia's central Bank) said that "Bitcoin is not recognised as legal tender in Malaysia. The Central Bank does not regulate Bitcoin operations. The public is therefore advised to be cautious of the risks associated with using such digital currency [32].

Based on Malaysia's Inland Revenue Board (IRB) (2018) froze the Malaysian bank account of a UK-based cryptocurrency trading platform, apparently to conduct an audit to determine whether the company has complied with the Income Tax Act 1967, which requires tax to be paid on the income of any person accruing in or derived from Malaysia [35]. A request was made under section 81 of the Act and section 37 of AMLA for information on the company's Malaysian customers. According to the IRB's chief executive, "all traders should

adhere to the Malaysian tax requirement by keeping proper records for audit purposes and disclose any cryptocurrency trading transactions when the IRB requests.

3.5.3. Philippines

Jonathan Underhill (2017) explains that Bangko Sentral ng Pilipinas (BSP, i.e., the Philippines Central Bank) has issued guidelines concerning virtual currencies (VCs). Specifically, these Guidelines provide that since VCs are not backed by a central bank or a particular commodity and are not guaranteed by any country, they are not legal tender. However, since they are a conduit to provide specific financial services, such as remittances and payment transactions, entities that offer such services using VCs must register with the BSP and adopt adequate measures to mitigate and manage risks associated with such currencies. In addition, the Guidelines provide penalties applicable to VC entities that conduct operations without the appropriate authorisation from the BSP [36].

3.5.4. Singapore

Based on Press Release, MAS (2017) In the wake of an increase in the number of initial coin offerings (ICOs) in Singapore as a means of raising funds, the Monetary Authority of Singapore (MAS) issued a statement clarifying that the MAS will regulate the offer or issue of digital tokens in Singapore, if the digital tokens fall within the definition of "securities" regulated under the security laws. MAS's position is not to regulate virtual currencies.

Concerning the new payment regulatory framework, the MAS issued a consultation paper proposing the Payment Services Bill in November 2017. The proposed Bill would expand the scope of regulated payment activities to include virtual currency services and other innovations. Under the new framework, entities carrying out virtual currency services must be licensed, including buying or selling virtual currency.

3.5.5. Thailand

The Bank of Thailand issued a circular asking financial institutions to refrain from doing any cryptocurrency business. Bangkok Bank halted transactions involving the trading of cryptocurrencies with a private Thai company, Thai Digital Asset Exchange (TDAX) [37]. Based on research by Darana Chudasri & Somruedi Banchongduang (2018), Krungthai Bank, a state-owned financial institution, halted cryptocurrency transactions with TDAX through the Bank's accounts. According to a news article, the ban will continue even after a new regulation (discussed below) is issued [38].

Though the government expects new laws regarding cryptocurrencies to be enacted in the future, it has decided to implement temporary measures to protect cryptocurrency investors. The Cabinet approved the principles of the drafts of two Royal Decrees, one to regulate digital currencies, including cryptocurrencies, transactions, and initial coin offerings (ICOs), and the other to amend the Revenue Code to collect capital gains taxes on cryptocurrencies [39].

3.5.5. Vietnam

Nate Fischler (2018) explains that the State Bank of Vietnam issued a decree on cryptocurrency. According to news reports, the Bank effectively determined that Bitcoin and other virtual currencies are not legal means of payment. That effectively also outlawed the issuance, supply and use of cryptocurrencies. Those found violating the Decree and other relevant legal principles face fines of up to 200 million dong (around US$9,000). Some news media also reported that the government is trying to establish a legal framework for cryptocurrencies. It was reported that the Governor of the State Bank of Vietnam (SBV), Le Minh [40].

4. Results and Discussion

4.1. Present Value Reality of Cryptocurrency

The reality is somewhere between these two positions, with cryptocurrencies performing some useful functions and hence adding economic value, yet being potentially highly unstable. The trend is towards regulating cryptocurrencies, and more generally, all crypto-assets, and to their increased trading on organised and regulated exchanges. This would go against the original libertarian rationale that originated Bitcoin, but is a necessary step to protect market participants and reduce moral hazard and information asymmetries.

The following shows that the prospect of the cryptocurrency market value over the past five years has constantly increased, along with inflation and exchange rates that fluctuate relatively high.

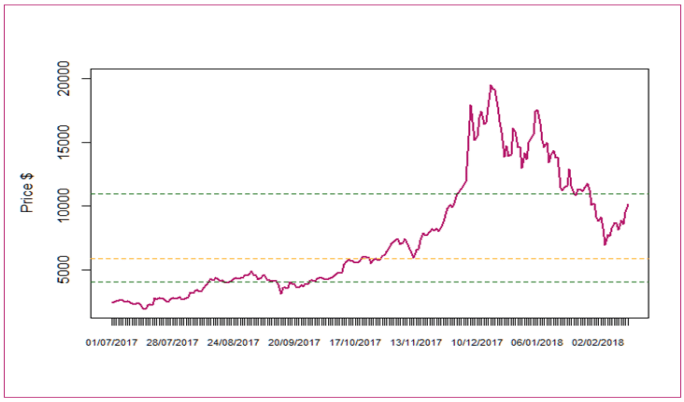


Fig 3. Market Price of Cryptocurrency Bitcoin from 2017 to 2018

Based on the data above, it can be seen that the Bitcoin cryptocurrency has a very stable and significant rate of return that occupies the top position of crypto assets, with a percentage return value of nearly 600%. This is due to the trading volume and the number of enthusiasts for Bitcoin, which continued to increase in 2017.
The discussion aims to show the value and awareness of the investment. However, it would not have come to the limelight if cryptocurrency had not gained popularity, and it has a bright future. We will show that, as long as the transaction costs are lower than the cost of payment transactions, the rational behaviour of legal and natural entities requires that they should encourage the use of cryptocurrencies among themselves to reduce the cost of transactions and to overcome the existence of an intermediary when paying.
Cryptocurrency futures allow you to maximise your returns by utilising the power of leverage to multiply your profits and apply advanced trading strategies. Use futures to speculate on the market's direction and minimise risk, all while holding less crypto than on a spot exchange. Bitcoin and digital assets are volatile investments. Many traders attempt to manage their risk by buying an asset when the price drops or selling it when it goes up. The downside of this tactic is that, oftentimes, money is left on the table after you leave the market. If the price continues to rise after you sell, for example, you're missing out on profits you could've earned had you left your position open. A key benefit of futures trading is that you can hedge existing spot positions without additional crypto, allowing you to be agile and prepared for any market environment.

4.2. Potential Future Market of Cryptocurrency

The secret to the growth of cryptocurrency's value lies in speculation. Therefore, it can be concluded that the basic motive and reason for creating cryptocurrencies is that classic money did not satisfy the ideas of particular groups of people from the aspect of the speed of transactions or the way of acquiring wealth. Investors do not have to rely solely on Bitcoin as a cryptocurrency that can provide high returns. According to him, the Initial Coin Offering (ICO) project can potentially provide higher profits if investors are involved. For the record, an ICO is a fundraising process to form a digital coin that will be launched into the market. Investors who take part in the ICO can get coins at low prices and then have the opportunity to make multiple profits when the coins are officially listed on the market.
Three features distinguish cryptocurrency markets: investors are non-institutional, risk (volatility of returns) is high, and the fundamental value is unclear. Under these conditions, behavioural biases should be even more pronounced than in traditional asset markets. In this special issue, Haryanto et al. (2020) study the disposition effect and the herding behaviour in the cryptocurrency realm by investigating the trading behaviour at a cryptoexchange: they find a reverse disposition effect in bullish periods where the Bitcoin price increases, while a positive disposition effect is observed in bearish periods.
Academic researchers and industrial practitioners have widely supported the conjoint method for almost 50 years, and this shows the potential of the conjoint method in providing a helpful way to represent consumer preferences and the ability to predict the consumer's behaviour towards new stimuli. Many studies have examined factors affecting investor decisions from a consumer behaviour perspective. Today, the importance of cryptocurrencies is increasing daily, and new currencies are taking their place in the market. A long-standing cryptocurrency player, Bitcoin faces more potent competitors than it does. In this study, the attributes of the new currencies have been prioritised to obtain a competitive advantage in the cryptocurrency market.

5. Conclusion

In recent years, we have often heard about cryptocurrency, or digital currency. Cryptocurrency is a technology that makes digital currency that uses cryptography for security, which makes it so it cannot be counterfeited. Over time, this technology has grown in popularity. It continues to be developed by companies and teams of experts in various parts of the world. It has led to the trend of 'hot fundraising' where a start-up generates millions of dollars in capital by issuing virtual tokens to investors in exchange for traditional money.
Various paradigms have emerged in response to the world's cryptocurrency transaction process. Many countries reject the existence of cryptocurrency as a substitute for standard currency as a primary transaction tool. Still, few countries think that cryptocurrency is a scientific miracle that must be developed because cryptocurrency has various features and does not rule out the possibility of cryptocurrency being used as a science. Legal investment instruments throughout the world will be realised in the future.
Regulations regarding the legality of cryptocurrency transactions are one way to limit practices that are considered dangerous and lead to money laundering and terrorism. So that when all countries in the world are integrated with one regulatory rule regarding cryptocurrency transactions, good prospects for digital asset investment models will be implemented legally, so that digital currency transactions and world payments can run well, and the choice of financial investment instruments will be more diverse in the future.

References

[1] J. Waldo, “A hitchhiker’s guide to the blockchain universe,” *Commun. ACM*, vol. 62, no. 3, pp. 38–42, 2019.
[2] Y. Yuan and F.-Y. Wang, “Blockchain and cryptocurrencies: Model, techniques, and applications,” *IEEE Trans. Syst. Man, Cybern. Syst.*, vol. 48, no. 9, pp. 1421–1428, 2018.
[3] B. Betts, “Blockchain: the missing link in cloud security,” *Comput. Wkly.*, 2016.
[4] “Survey of crypto awareness,” 2018.
[5] S. Pandya, M. Mittapalli, S. V. T. Gulla, and O. Landau, “Cryptocurrency: Adoption efforts and security challenges in different countries,” *HOLISTICA J. Bus. Public Adm.*, vol. 10, no. 2, pp. 167–186, 2019.
[6] P. D. DeVries, “An analysis of cryptocurrency, bitcoin, and the future,” *Int. J. Bus. Manag. Commer.*, vol. 1, no. 2, pp. 1–9, 2016.
[7] M. H. Yuneline, “Analysis of cryptocurrency’s characteristics in four perspectives,” *J. Asian Bus. Econ. Stud.*, vol. 26, no. 2, pp. 206–219, 2019.
[8] J. Lansky, “Possible state approaches to cryptocurrencies,” *J. Syst. Integr.*, vol. 9, no. 1, p. 19, 2018.
[9] R. Robiyanto, Y. A. Susanto, R. Ernayani, and others, “Examining the day-of-the-week-effect and the-month-of-the-year-effect in cryptocurrency market,” *J. Keuang. dan Perbank.*, vol. 23, no. 3, pp. 361–375, 2019.
[10] M. S. M. Noh and M. S. A. Bakar, “Cryptocurrency as a main currency: A Maqasidic approach,” *Al-Uqud J. Islam. Econ.*, vol. 4, no. 1, pp. 115–132, 2020.
[11] W. K. Härdle, C. R. Harvey, and R. C. G. Reule, “Understanding cryptocurrencies,” 2020, *Oxford University Press*.
[12] A. A. Gikay, “Regulating decentralised cryptocurrencies under payment services law: Lessons from European Union Law,” *Case*

W. Res. JL Tech. \& Internet, vol. 9, p. 1, 2018.
[13] C. Rose, "The evolution of digital currencies: Bitcoin, a cryptocurrency causing a monetary revolution," *Int. Bus. \& Econ. Res. J.*, vol. 14, no. 4, p. 617, 2015.
[14] F. Y. Legotin, A. A. Kocherbaeva, and V. E. Savin, "Prospects for crypto-currency and blockchain technologies in financial markets," *Rev. Espac.*, vol. 39, no. 19, 2018.
[15] E. Bouri, R. Gupta, A. K. Tiwari, and D. Roubaud, "Does Bitcoin hedge global uncertainty? Evidence from wavelet-based quantile-in-quantile regressions," *Financ. Res. Lett.*, vol. 23, pp. 87–95, 2017.
[16] C. Katarzyna, "Cryptocurrencies: opportunities, risks and challenges for anti-corruption compliance systems," in *OECD Conference on Global Anti-corruption and Integrity Forum. Paris*, 2019, pp. 20–21.
[17] L. H. White, "The market for cryptocurrencies," *Cato J.*, vol. 35, p. 383, 2015.
[18] M. Sockin, "A Model of Cryptocurrencies Preliminary Draft," 2018.
[19] F. Bunjaku, O. Gjorgieva-Trajkovska, and E. Miteva-Kacarski, "Cryptocurrencies--advantages and disadvantages," *J. Econ.*, vol. 2, no. 1, pp. 31–39, 2017.
[20] E. D. and J. Brito, "Cryptocurrency," 2014, [Online]. Available: https://www.researchgate.net/publication.298792075
[21] Y. Kaya, "Analysis of Cryptocurrency Market and Drivers of the Bitcoin Price: Understanding the price drivers of Bitcoinunder speculative environment," 2018.
[22] T. Ankenbrand and D. Bieri, "Assessment of cryptocurrencies as an asset class by their characteristics," *Invest. Manag. Financ. Innov.*, no. 15, Iss. 3, pp. 169–181, 2018.
[23] J. Bhosale and S. Mavale, "Volatility of select crypto-currencies: A comparison of Bitcoin, Ethereum and Litecoin," *Annu. Res. J. SCMS, Pune*, vol. 6, no. 1, pp. 132–141, 2018.
[24] D. W. Perkins, "Cryptocurrency: The Economics of Money and Selected Policy Issues.," *Congr. Res. Serv. Reports Issue Briefs*, p. NA--NA, 2020.
[25] P. Martino, K. J. Wang, C. Bellavitis, and C. M. DaSilva, "An introduction to blockchain, cryptocurrency and initial coin offerings," in *New frontiers in entrepreneurial finance research*, World Scientific, 2020, pp. 181–206.
[26] R. N. Ilham, K. A. F. Erlina, A. S. Silalahi, and J. Saputra, "Comparative of the Supply Chain and Block Chains to Increase the Country Revenues via Virtual Tax Transactions and Replacing Future of Money," *Int. J Sup. Chain. Mgt Vol*, vol. 8, no. 5, p. 1066, 2019.
[27] FCAC, "Digital Currency, Financial Consumer Agency Of Canada." [Online]. Available: https://www.canada.ca/en/financial-consumeragency/services/payment/digital-currency.html
[28] C. O'Hara, "OSC Approves Canada's First Blockchain ETF," The Globe And Mail. [Online]. Available: https://www.theglobeandmail.com/globe-investor/funds-and-etfs/etfs/osc-approves-canadas-first
[29] G. Oficial, *Decreto 3196 Mediante el cual se Autoriza la Creación de la Superintendencia de los Criptoactivos y Actividades Conexas Venezolana. Decree 3196 Authorising the Creation of the Venezuelan Superintendency of Cryptoassets and Related Activities*. 2017.
[30] "Digital Currency," Parliament of Australia. [Online]. Available: https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Economics/Digital_currency.
[31] P. S. Act, *Because the Cabinet delegates its authority over most of the matters under the Payment Services Act to the Financial Services Agency (FSA).(id. art. 104), the FSA is the regulatory agency of cryptocurrency transactions.* 2016.
[32] "Bank Negara Malaysia, Statement on Bitcoin.," Press Release. [Online]. Available: http://www.bnm.gov.my/index.php?ch=en_announcement&pg=en_announcement&ac=49&lang=en, archived at https://perma.cc/6ZXJ-W2ZR.
[33] *Law Number 7 of 2011 Concerning Currency. Undang-Undang Nomor 7 Tahun 2011 Tentang Mata Ung. Law Number 7 of 2011 Concerning Currency]*. [Online]. Available: http://www.flevin.com/ id/lgso/translations/Laws/Law No. 7 of 2011 on Currency (MoF).pdf, archived at https://perma.cc/9NQL-SHYU.
[34] "Bitcoin is Not in Line with the Law, Kementerian Keunangan [Ministry Of Finance.," Ministry of Finance. [Online]. Available: https://www.kemenkeu.go.id/en/publications/news/minister-of-finance-bitcoin-is-not-in-line-withlaw/, archived at https://perma.cc/3MEJ-HHUP.
[35] "Cryptocurrency Not Regulated but Traders Still Subject to Malaysian Income Tax Law. The Star Online.," Malaysia's Inland Revenue Board (IRB). [Online]. Available: https://www.thestar.com.my/tech/tech-news/2018/01/19/irb-cryptocurrency-not-regulated-buttraders-still-subject-to-malaysian-income-tax/.
[36] "Guidelines for Virtual Currency (VC) Exchanges. Circular No. 944.," Bangko Sentral ng Pilipinas. [Online]. Available: http://www.bsp.gov.ph/downloads/regulations/attachments/2017/c944.pdf.
[37] A. Shome, "Thailand's Central Bank Bans Banks from Dealing with Cryptocurrencies. Finance Magnates." [Online]. Available: https://www.financemagnates.com/cryptocurrency/news/thailands-central-bank-bans-banks-dealcryptocurrencies.
[38] D. C. & S. Banchongduang, "Bangkok Bank Halts TDAX Activity," Bangkok Post. [Online]. Available: https://www.bangkokpost.com/business/news/1417355/bangkok-bank-halts-tdax-activity.
[39] W. Chantanusornsiri, "Cabinet OKs Digital Asset Draft Decrees. Bangkok Post." [Online]. Available: https://www.bangkokpost.com/business/news/1427642/cabinet-oks-digital-asset-draft-decrees.
[40] N. Fischler, "Vietnam Has a Cryptocurrency Dilemma," Asia Times. [Online]. Available: http://www.atimes.com/ article/vietnam-cryptocurrency-dilemma/, archived at https://perma.cc/5VF9-MSUE.