

# CHAPTER I

## INTRODUCTION

### 1.1 Background

Digital currencies are once again a hot topic among social media users. Many people are starting to use cryptocurrency as a form of digital currency for all kinds of transactions. According to Pratama (2024), cryptocurrency has unique characteristics that distinguish it from physical money, namely, it has the same value or exchange rate in any country.

According to Huda & Hambali (2020), cryptocurrency is a blockchain-based technology often used as a digital currency. Digital currency functions almost identically to other currencies. By definition, cryptocurrency is a type of digital currency that uses cryptography. Cryptography in this digital currency is used for security reasons and as an anti-counterfeiting measure. Cryptocurrencies come in various forms, similar to currencies and precious metals. These include Bitcoin, Ethereum, Ripple, Litecoin, Monero, Ethereum Classic, Dash, Steem, Augur, and NEM (Supriyanto et al. 2021).

Blockchain technology and cryptocurrencies offer potential solutions to the challenges of cross-border payments, specifically by reducing costs and accelerating transaction speeds in comparison to traditional banking systems, which frequently rely on third-party intermediaries. Platforms such as the Stellar blockchain facilitate decentralized cross-border transactions involving both digital and fiat currencies, thereby enhancing efficiency and transparency. Nonetheless,

while the primary advantages of this technology lie in its velocity and cost-effectiveness, significant drawbacks persist, including cryptocurrency volatility, security vulnerabilities, and regulatory voids in numerous jurisdictions. Empirical evidence regarding blockchain implementation in the financial sector suggests that despite its inherent efficiency, widespread adoption remains constrained by issues of stability and user acceptance.

Despite ongoing improvements, government programs continue to be bolstered through digitalization. Increasing exports remains a critical driver of economic growth, particularly through the provision of inclusive cross-border payment mechanisms that prioritize ease, security, and speed. The significance of these payment systems was further solidified as a priority agenda during Indonesia's G20 Presidency, which focused on the advancement of cross-border payment frameworks. To date, however, international payments remain a primary challenge, particularly regarding the availability of infrastructure and software capable of supporting such transactions.

Currently, cross-border remittances continue to rely on intermediaries such as banks and third-party providers, resulting in protracted processing times, high transaction costs, and geographical limitations. For instance, utilizing services like MoneyGram reveals constraints on the maximum transferable amounts from Indonesia to the United States. Furthermore, the fee structure for regions outside the United Kingdom, Malaysia, and Singapore—where a transfer of IDR 22,500,001 to IDR 30,000,000 incurs a charge of IDR 1,000,000—represents a significant financial burden. Such substantial costs act as a deterrent

to international trade activities, potentially hindering export growth (Putranto et al. 2024. p. 2).

The emergence of cryptocurrency has given rise to pros and cons of support for the legality of digital currency in several countries, some countries support the implementation of transactions using cryptocurrency such as the United States and Singapore as representatives of Southeast Asia, and some countries have not legalized it such as China, Hong Kong, Taiwan for reasons of security or state privacy, Indonesia is one of the countries that has also legalized the use of cryptocurrency as a legal currency for transactions with various strong reasons, one of the reasons Indonesia has not legalized the use of cryptocurrency is the regulations issued by Bank Indonesia regarding legal currency (Cadizza &Yusandy, 2021).

Cryptocurrencies are digital assets built upon complex cryptographic systems, making them exceptionally difficult to counterfeit or transfer to unauthorized parties. At present, various forms of cryptocurrency have emerged and are increasingly integrated into various transactions. These digital currencies utilize encryption to manage the creation of new units and to verify the processing of data within the network. Notably, these currencies operate autonomously, free from dependence on central banks or government authorities. Bitcoin remains the most prominent and widely adopted example of such decentralized digital assets (Saputra, 2022).

Based on the background outlined above, this study aims to critically analyze the multifaceted opportunities and significant challenges of adopting

cryptocurrency as a strategic medium for international payments within the Indonesian financial landscape. Furthermore, this research will evaluate the Indonesian government's regulatory framework and policy responses in navigating the tension between technological innovation and the preservation of national monetary sovereignty.

## **1.2 Scope And Research Question**

In light of the issues encapsulated in the research title, the scope of this study is specifically delineated to examine the multifaceted opportunities and systemic challenges arising from the potential adoption of cryptocurrency as a medium for international payments in Indonesia. The author will focus on evaluating the economic benefits of decentralized ledger technology while simultaneously analyzing the Indonesian government's cautious regulatory stance and its policy responses to safeguard national monetary stability. By establishing these specific boundaries, this study aims to present its findings in a rigorous, clear, and purposeful manner, ensuring a comprehensive understanding of the complex interplay between global financial innovation and domestic legal frameworks.

Therefore, the author formulates two research questions, as follows:

1. How is cryptocurrency implemented as an international payment instrument in Indonesia?
2. What are the opportunities and challenges of using cryptocurrency as an international payment instrument in Indonesia?

### **1.3 Research Objectives And Benefits**

#### 1. Purpose of Research

- a. To analyze the opportunities of cryptocurrency as a means of international payment in Indonesia.
- b. To examine the challenges faced in implementing cryptocurrency as an international payment system in Indonesia.

#### 2. The Benefit of Research

- a. This research is expected to contribute to the development of international relations studies in the future.
- b. This research is expected to provide information and become study material for international relations researchers and observers of international issues.
- c. This research is expected to provide input for various parties and policy makers.

### **1.4 Theoretical Framework**

For this research, the author will utilize the concept of Digital money theory constitutes a modern financial concept wherein monetary value is stored, transferred, and utilized in electronic form, substituting physical currency through blockchain systems or centralized servers. This framework encompasses electronic money (e-money), such as cards and digital applications, as well as digital currencies like cryptocurrencies, which offer enhanced transaction velocity and efficiency. However, these advancements also entail significant risks pertaining to data security and high price volatility.

### **1.4.1 The Evolution of Money and the Digitization Process**

The classical theory of money posits that it fulfills three fundamental functions: as a unit of account, a medium of exchange, and a store of value. In the contemporary digital era, the digitization of currency is fundamentally transforming the architecture of the global financial system toward greater efficiency.

Cryptocurrency is increasingly recognized as a pivotal application of blockchain technology, facilitating seamless electronic transactions. Digital currencies underpinned by blockchain have the potential to significantly optimize international trade by enhancing transaction velocity and reducing overhead costs. By mitigating delays and minimizing intermediary fees, this technology streamlines cross-border payment processes. Furthermore, Nugraha (2018) asserts that the integration of this technology can stimulate national economic growth by lowering transaction costs and bolstering operational efficiency within the banking sector.

### **1.4.2 Digital Money**

From a functionalist economic perspective, money serves three core roles: a unit of account, a medium of exchange, and a store of value. Digital money, particularly through blockchain and Distributed Ledger Technology (DLT), enhances these functions by providing a platform that is fast, secure, and resilient.

#### **1. The Opportunity of Disintermediation:**

Cryptocurrency offers a transformative opportunity for international payments by eliminating the need for traditional third-party intermediaries,

thereby reducing the risk of digital currency loss and lowering transaction fees.

## **2. Economic Optimization:**

The implementation of digital money is theorized to boost a country's economy by shortening payment cycles and increasing transaction efficiency in the global financial and banking sectors.

## **3. Cross-Border Integration:**

In the context of International Relations, digital money facilitates seamless cross-border transactions, which is crucial for international trade and finance in the digital era.

### **1.4.3 The Risk-Management Framework: Security and Financial Crime**

The theory also addresses the systemic vulnerabilities inherent in digital financial systems. While technology provides transparency, it also introduces new dimensions of risk that act as a major challenge for adoption.

#### **1. Cybersecurity Threats:**

The implementation of digital money is often threatened by cyber-related crimes such as money laundering, tax evasion, fraud, and hacking.

#### **2. Controllable Anonymity:**

To mitigate these risks, the theory of Central Bank Digital Currency (CBDC) introduces the concept of "controllable anonymity," where the central bank maintains oversight of user data to prevent illicit activities while facilitating ease of transaction.

### **3. Future-Proofing through Proyek Garuda:**

Indonesia's response to these challenges is exemplified by the Garuda Project, an architectural design for the Digital Rupiah that aims to achieve interoperability and resilience against advanced threats, such as quantum computer attacks.

#### **1.4.4 Operationalization**

The operationalization of variables in this study is designed to translate the abstract concepts of opportunities and challenges into empirical indicators suitable for qualitative analysis. The first variable, Opportunities, focuses on the transformative potential of cryptocurrency as an international payment instrument capable of surpassing the efficiency of traditional financial systems. Key indicators for this variable include a significant reduction in operational transaction costs, enhanced cross-border settlement speeds, and the expansion of financial inclusion for sectors previously underserved by conventional banking services. Furthermore, these opportunities are measured by the capacity of blockchain technology to provide data transparency and transaction security through cryptographic systems that mitigate the risk of currency counterfeiting. By analyzing these indicators, this research aims to map the extent to which digital technology adoption can optimize Indonesia's balance of payments and global economic competitiveness.

The second variable, Challenges, is operationalized through the identification of systemic legal, technical, and political barriers that impede the full integration of cryptocurrency into the national payment system. Indicators for

this variable include regulatory misalignment with the domestic legal framework, particularly regarding compliance with Law No. 7 of 2011, which mandates the Rupiah as the sole legal tender within Indonesia's sovereign territory. Beyond legal obstacles, challenges are also measured through cybersecurity risks, such as the potential for money laundering, terrorism financing, and infrastructural vulnerabilities to cyberattacks that could jeopardize national financial stability. Lastly, this variable encompasses public literacy levels and the extreme exchange rate volatility of digital assets, which serve as primary considerations for the government in implementing preventive measures. These include the development of the Digital Rupiah or 'Project Garuda' as both a risk mitigation strategy and a form of adaptation to global digitization trends.

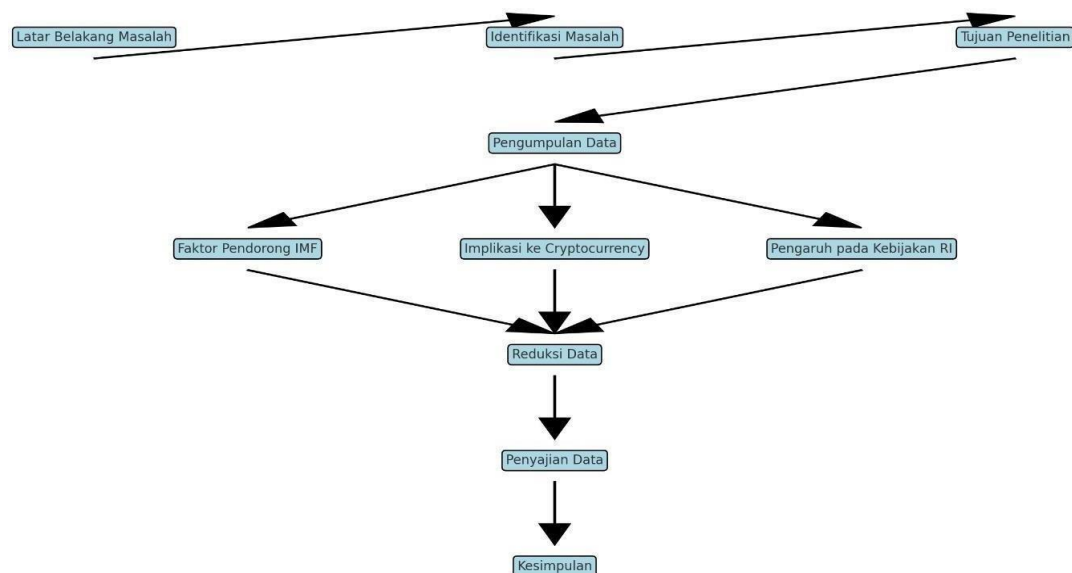


Figure 1. Flow of research data presentation

## **1.5 Research Methods**

### **1.5.1 Research Type**

This research will be conducted using a qualitative descriptive approach, emphasizing explanation or description of the given topic. This type of research is expected to produce descriptive data that illustrates the object of study. The author will use this type of research to analyze the prospects for Indonesia's foreign policy response to the increased use of cryptocurrencies due to IMF support and to analyze the IMF's role and factors in cryptocurrency support. The author believes this type of research will be relevant in its purpose of explaining the given topic to readers.

### **1.5.2 Data Types and Sources**

In conducting this research, the author will utilize data obtained from several secondary sources, including books, academic journals, and trusted internet sources, to help develop his argument. He will also utilize government documents or information published online (Memorandum of Understandings, speech texts, etc.) relevant to the topic. These sources are expected to provide a more in-depth and accurate explanation of the potential impact of IMF support on cryptocurrency adoption on the increasing use of digital money in Indonesia.

### **1.5.3 Data Collection Techniques**

The data used in this research was obtained through a literature review technique. Literature review allows researchers to establish a fundamental foundation for obtaining theoretical foundations, forming a mindset, and proposing possible assumptions or hypotheses regarding the investigation. It

also facilitates the grouping, allocation, and organization of various literary works in the field. In this way, researchers can gain a broad understanding of the problem being studied. The data required for this research was systematically managed following the procedures set out in the 2022 proposal and thesis writing guidebook for the Faculty of Social and Political Sciences, Hasanuddin University, Makassar.

#### **1.5.4 Research Stages**

According to Sugiyono (2019), data analysis in qualitative research is conducted throughout the process and after data collection is complete. The technique used in data analysis is called the Miles and Huberman Data Analysis Model, which follows these steps:

1. Data collection. The necessary data will be collected through observation, interviews, or documentation. A combination of all three may be used. Therefore, researchers will obtain a diverse set of usable data.
2. Data reduction. Given the large amount of data collected, researchers need to reduce the amount to ensure an orderly study. Researchers can reduce the data collected by summarizing, sorting, and focusing on appropriate themes.
3. Data presentation. The most commonly used technique for presenting data in qualitative research is narrative text. Presenting data makes it easier to understand the research flow and plan for the next steps.
4. Conclusions and Data Verification. Temporary conclusions must be supported by credible data. If the supporting data cannot be used as valid evidence, the temporary conclusion must be changed. On the other hand, if valid evidence

can be found among the data that supports the initial conclusion, then the conclusion can be considered credible.

## CHAPTER II

### LITERATURE REVIEW

#### 2.1 Crptocurrency

In 2008, the cryptocurrency era began with the release of a paper by someone under a pseudonym. Satoshi Nakamoto The first cryptocurrency introduced was Bitcoin, and it started operating in 2009. Due to the popularity of Bitcoin, other cryptocurrencies became popular among investors and consumers. As part of the development of information technology, a new type of financial instrument, cryptocurrency, has emerged and is developing. This virtual currency can be used as a means of electronic transactions. (Afrizal, A., *et al* 2021).

Cryptocurrency has become the first implementation of blockchain technology, and its potential extends beyond payment systems. Decentralized applications can fundamentally impact areas of life such as economics, science, education, art, culture, and more. Cryptocurrency investment is one of the successful investment instruments born from today's technological advancements. Cryptocurrency investment offers high returns. (Sembiring, 2022).

According to Nerdwallet data, there are approximately 2,200 publicly traded cryptocurrencies, such as Bitcoin, LiteCoin, Dogecoin, Bitcoin Cash, and Feathercoin. Besides long-term investment, cryptocurrencies also offer several functions, such as purchasing goods or services and mining (Wicaksono, 2023).

## **2.2 International Payment Systems and Digital Evolution**

International payment systems serve as the fundamental pillar of the global economic architecture, facilitating the flow of capital between nations as a consequence of cross-border trade activities, foreign direct investment, and international services. Historically, this infrastructure has relied heavily on correspondent banking mechanisms and centralized financial messaging networks such as SWIFT, which, while stable, are often criticized for inherent limitations such as long transaction latency, high operational costs, and a lack of transparency for end-users. This dependence on intermediary institutions creates inefficiencies in global balances of payments, particularly for developing nations like Indonesia that require rapid liquidity to maintain economic stability. As the digital revolution accelerates, the payment paradigm is shifting toward dynamic digital forms where money is no longer defined physically but as electronic data that can be transferred instantaneously without geographical constraints

The evolution toward the digitization of money has given rise to a new instrument known as cryptocurrency, a manifestation of blockchain technology that offers a decentralized payment system. The presence of cryptocurrency presents a transformative opportunity for international payment systems through the use of Distributed Ledger Technology (DLT), which allows for peer-to-peer transaction verification without the need for a single authority or third-party intermediaries. This unique characteristic enables a significant reduction in cross-border transaction costs and enhances security through advanced cryptographic encryption, making it an attractive alternative for international market participants,

including Micro, Small, and Medium Enterprises (MSMEs) in Indonesia that frequently face obstacles in accessing traditional financing. Theoretically, this technology is capable of providing financial sovereignty to individual users while accelerating global digital economic integration through immutable data transparency.

However, behind these substantial opportunities, the integration of cryptocurrency into national payment systems faces highly complex systemic challenges, particularly regarding extreme exchange rate volatility and the potential for misuse in cyber-financial crimes. From the perspective of monetary sovereignty, the use of unregulated digital assets can weaken the role of the central bank in overseeing money circulation and maintaining the stability of the Rupiah's exchange rate against foreign currencies. The clash between open digital innovation and the necessity for closed state control creates a dilemma for financial authorities in Indonesia. As a strategic response to these dynamics, the concept of international payment systems is now trending toward the development of Central Bank Digital Currencies (CBDC), as implemented through the Garuda Project by Bank Indonesia. CBDCs are designed to adopt the efficiency of digital technology while remaining within the government's regulatory framework, ensuring that digital evolution remains synchronized with national laws and long-term economic interests.

### **2.3 Central Bank Digital Currency (CBDC)**

Central banks are faced with a challenging future crossroads as the wave of digital innovation is not only disrupting the banking system, but is also

extending into the realm of official currencies and central banking with the emergence of crypto assets and *stablecoin* personal. The global central banking community is certainly not passive. Bank Indonesia is no exception. In response to this situation, various central banks are adjusting their policies and beginning to explore the issuance of central bank digital currencies (CBDCs) as a potential solution to address future challenges. Concurrently, under Indonesia's leadership of the G20 in 2022, the central banks of G20 countries, along with international institutions, are responding to this dynamic by formulating regulations and supervision for crypto assets and stablecoins, emphasizing the principle of "*same activity, same risk, same regulation*" (Rizaldy, 2022).

According to Hendarta (2022), central banks face complex challenges in issuing CBDCs. They must undertake careful planning to design CBDCs, considering their benefits and managing potential risks. Three key aspects need to be considered in CBDC development. First, CBDC design must prioritize the public interest and consider the role of the central bank. CBDCs can be retail for direct use by the public or wholesale for transactions between banks and financial institutions, which can also form the basis for the development of retail CBDCs. Second, CBDCs must support financial inclusion by providing offline features for remote, frontier, and underdeveloped regions, and optimizing efficient data use. This will support ongoing payment digitization efforts, including the development of fast payment systems and QR standards, as well as Open APIs. Third, CBDCs must be integrated, interoperable, and

connected to existing payment systems and financial infrastructure, including cross-border transactions, which must be carefully considered.

Bank Indonesia will design Indonesia's CBDC (Digital Rupiah) based on three main drivers. First, this is driven by the mandate in the Law, which stipulates that Bank Indonesia is the sole institution authorized to issue Rupiah currency in Indonesia, not private entities (*shadow currency*). Furthermore, Bank Indonesia is undergoing a transformation, including its traditional money distribution function, to address the increasingly decentralized development of the digital economy and finance. This initiative also aims to prepare cross-border payment infrastructure for international trade and finance in the digital era (Hendarta, 2022).

#### **2.4 Garuda Project as Digital Rupiah**

The Garuda Project is an umbrella project encompassing various initiatives exploring architectural design options for the Digital Rupiah. This project is a strategic initiative by Bank Indonesia to promote a series of experimental Digital Rupiah projects, both wholesale and retail. The Digital Rupiah is expected to emerge as a sustainable (future-proof) solution. The 'Garuda Project' serves as an umbrella for various initiatives exploring architectural design options for the Digital Rupiah. (Kawengian, 2024).

Bank Indonesia as the Central Bank in the Republic of Indonesia is responding to the high interest and use of digital/crypto money, with the 'Garuda Project' being a fairly responsive and efficient action, plus this project is in collaboration with...*Central Bank Digital Currency*(CBDC), for a country that has

just adapted to digital money, this is already a good step towards a better economy, according to Paul (2022), with the Garuda Project there are several things that need to be prepared and refined before it can be used freely by the entire community, namely

1. *Fast (fast)*: has the capability of processing transactions quickly within a transaction completion timeframe that is acceptable to the user.
2. *Safe (secure)*: has the ability to maintain transaction integrity and mitigate operational risks, including cyber risks. The Digital Rupiah technology platform must meet high security standards, including the ability to use technology that is resistant to quantum computer attacks (quantum resilient).
3. *Resilience (resilient)*: has the ability to recover quickly from various operational disruptions.
4. *Interoperability (interoperable)*: has 3i capabilities with various other systems, both existing and future.
5. *Easy to develop (extensible)*: has the ability to accommodate the development of various new functionalities and allows other parties to innovate through the development of functionalities/services on the system.
6. *Flexible (flexible)*: is modular, namely the characteristics of a system that consists of various components so that it is easy to configure.

In this case, the term of this project is still in the development stage as time goes by, there is a need for maintenance to avoid triggers for cybercrime, in the current era anything can be used as a form of crime, in handling cases there needs to be legal protection to complement the legal security system.

To date, the development and implementation stages of the Garuda Project have gone through several phases, in 2022 Bank Indonesia introduced *Whitepaper* with an exploratory initiative to develop a top-level

architectural design (*high-level design*) of Indonesia's CBDC, the Digital Rupiah. The Garuda Project is an initiative of Bank Indonesia to accelerate the development of national digitalization and align the comprehensive integration of the digital economy and finance. In 2023, Bank Indonesia *Consultative Paper* This report discusses efforts to gather input and responses from stakeholders (public-private collaboration) regarding the design, impact, and benefits of a Digital Rupiah that meets current and future needs. This consultative document describes the design for developing the Digital Rupiah in its immediate state, including wholesale Digital Rupiah cash recording involving the introduction of technology and basic functions such as issuance, write-offs, and fund transfers. The consultative document will also discuss the implications of Digital Rupiah issuance for the payment system, financial stability, and monetary policy. This report also discusses the initial phase of the Digital Rupiah on a wholesale scale, which includes issuance, transfers, and write-offs. The results of this consultative document have been presented in the Public Consultation Report, which also demonstrates Bank Indonesia's transparency in developing the Digital Rupiah design. (Maulana, 2024)

## 2.5 Previous Studies

No.	Name/Title	Method of Research	The Result of Research
1.	Granithio Karya Nugraha, (2018).  "The Impact of the IMF's Response to Cryptocurrency Use on Government Policy" Indonesia"	Qualitative Description	This research finds answers to the existing problem formulation. First, the researcher has found several factors behind the IMF's support for cryptocurrency usage. The first factor behind the support The IMF's focus on the use of cryptocurrency is the reduction of transaction costs. The second is the potential for economic growth, especially in developing countries. The third factor is security. The fourth factor is related to with increased efficiency in the world of finance and banking.

2.	<p>Muhammad Rafi Darajati, (2020).</p> <p>"The Existence of the IMF, World Bank, and ILO as International Economic Organizations"</p>	Qualitative Description	<p>This research reveals that the IMF has an existence for countries that are members or not members of it, this is because the IMF's role is very important for countries, namely helping to promote monetary cooperation, facilitating the expansion of international trade, stabilizing exchange rates, providing confidence to IMF members, and shortening and reducing the level of balance of payments disequilibrium of member countries.</p>
3.	<p>Safitri &amp; Putranti. (2019).</p> <p>"The Policy of Legalizing Cryptocurrency as an Effort by the Japanese Government to Secure Japan's National Security"</p>	Qualitative Description	<p>Cryptocurrency has many advantages, but despite these advantages, it also has the potential to be used for related crimes. Cryptocurrency is used in cybercrimes such as hacking, spoofing, cracking, sniffing, etc., while in cyber-related crimes such as money laundering, tax evasion, and fraud. evasion, fraud, funding criminal activity, purchasing illegal goods, online gambling, and online prostitution. It can be seen that cryptocurrency poses a threat to Japan's cybersecurity and economy when it is not regulated. Threats to Japan's cybersecurity and economy directly threaten Japan's national security. To maintain Japan's security, based on the approach in Japan's National Security Strategy (NSS), Japan is legalizing cryptocurrency. Japan's legalization of cryptocurrency involves amending the Payment Service Act, which defines virtual currency, regulates cryptocurrency exchange platforms, establishes tax regulations for income from cryptocurrency transactions, and regulates AML/CFT transactions.</p>