

INVESTMENT RISK IN CRYPTOCURRENCY TRANSACTIONS IN INDONESIA

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Abstract

This research was conducted on Investment Risk in Cryptocurrency Transactions in Indonesia. The purpose of this study is to find out how the risks of investing and cryptocurrency transactions in Indonesia are. Source of data in this study using secondary data. Then using a qualitative descriptive research type because researchers want to find facts about "Investment risks in cryptocurrency transactions in Indonesia" to accurately convey what are the risks of investing in cryptocurrency transactions through several phenomena that occur. In this case, the research location is carried out, namely from the phenomena described on the website obtained from the Data Box which discusses developments and activities in cryptocurrency with hypotheses (allegedly Investment Risk Affects Cryptocurrency Transactions in Indonesia). Based on the results of the discussion, it can also be concluded that investing in cryptocurrency has a fairly high risk, because cryptocurrency price movements are a bubble or momentary enthusiasm, lack of regulation, still leaves legality issues, becomes the target of cybercrime and has a dependence on technology

1. INTRODUCTION

Background problem

Nowadays, as the times progress, economic activities also experience many changes, one of which occurs in the economic system, that is, in the barter system, which is an economic arena in which goods are exchanged for goods in the transaction system. Every item basically functions as money. When economic actors have found money as a means of transaction, money has been agreed upon as a medium of exchange in the world economy. Money as a medium of exchange must fulfill three conditions, namely being generally accepted, functioning as a means of payment, and being legal in the sense that it is recognized by the government.

The world of capital markets is currently starting to attract a lot of attention from potential investors. Financial instruments traded on the capital market are long-term instruments, such as stocks, bonds, warrants, rights, mutual funds, and various derivative instruments such as options, futures, and others. Over time, the capital market does not only function as an investment vehicle for investors but can also become a livelihood. especially from stock instruments. The stock market itself promises quite high profits compared to other instruments, even reaching hundreds of percent in a few months. Fundamentalists and technical, all stock investors flock to try to make a profit in their own way.

In line with the development of the current era of globalization, economic activities that occur in society are also developing. One of the existing economic developments is e-commerce activities. The development of e-commerce in the world also raises the need for fast, secure and confidential payment systems. Against this need, one fundamental issue that must be considered is trust.

On the other hand, the development of e-commerce has also encouraged the development of payment instruments, which were originally cash-based instruments, now new payment instruments known as non-cash-based instruments have been added. developed so that it is no longer paper-based but also paperless (not paper-based).

One of the recently developed paperless payment tools is virtual money which has started to become a phenomenon in society since the emergence of cryptocurrencies as a manifestation of technological developments in e-commerce activities. Today, mathematicians and computer science experts find other uses of cryptography that have the potential to support people's lives in the field of buying and selling digital currencies called cryptocurrencies.

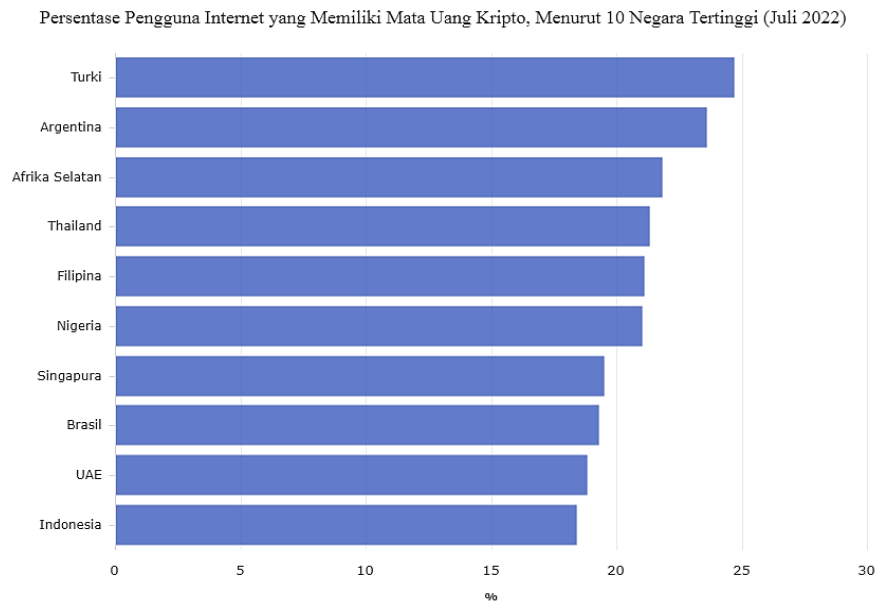
Cryptocurrency or digital money has become a global phenomenon today which is formed in such a way as to be stored on a computer device, cryptocurrency is also decentralized in that the currency in circulation is completely dependent on the market and has no central authority that can regulate it. The circulation and emergence of this currency is very rapid throughout the world so that it has great potential to influence the world economy. It is feared that the price and distribution, which are very volatile, could affect the stability of the international economy if left unchecked. Currently there are at least 11,000 types of cryptocurrencies being traded, however in Indonesia alone, there are 383 crypto assets that have been registered with the Commodity Futures Trading Supervisory Agency (Bappebti).

The main problem with Cryptocurrency is that Cryptocurrency has various risks arising from its activities, which have extreme volatility, spikes in price increases and decreases very quickly, high volatility is a reflection of the level of risk faced by investors. Cryptocurrency volatility is only influenced by past prices and is not influenced by other variables, so it is difficult to predict. This makes prices rise rapidly. Cryptocurrency value movements are very unstable, they can go up and down very quickly within a certain period of time, the regulations are still very unclear. The government has no clear stance on this currency.

Based on the news survey results reported by We Are Social (2022) on Databoks, it was revealed from 10 countries involving 1,000 to 2,500 people, that Turkey is the highest country as a crypto user with a percentage of 24.7%, which in the following year was occupied by the country's position. recorded at a percentage of 23.6% namely Argentina. South Africa (21.8%), Thailand (21.3%) and the Philippines (21.1%), Nigeria, Singapore, Brazil, UAE and Indonesia. Meanwhile, Indonesia is a cryptocurrency user with a total of 18.4 million users per month in

October 2022, which in 2021 will reach 859.5 trillion and in 2022 it will be 249.3 trillion (down 56.35%) compared to the previous year. Below you can see an image from the Databoks.

Figure 1. Crypto User Rate Data



Datadata.co.id

Source: <https://databoks.katadata.co.id/>, 2022

databoks

Based on the picture above, the author explains that Indonesia is one of 10 countries participating in investing in cryptocurrencies. Then the development of crypto users in Indonesia as an investment is likely to increase and cannot be denied, so that this makes the crypto industry large enough and credible enough for other asset managers to get involved. Every investment that generates profits must be accompanied by a level of risk that is in accordance with the promised profit level. Everyone will have a different experience in investing, some have good experience, some have bad experience with investment decisions made in the past. Someone who has had a bad experience tends to be careful about further investments, experienced regret is the regret that arises from choosing investments made in the past. However, it certainly requires knowledge and a basis for the science of investing, what are the risks that will be faced if investing in this cryptocurrency and why it is called having a high risk.

This is because the digital world is very risky, but it doesn't make people afraid to invest in digital currency, on the contrary because it is considered to provide long-term benefits and an almost stable exchange rate and its development will continue to grow, so people flock to invest in digital currency.

As a reference and comparison in this study, the researcher made several studies to prove that this research was actually carried out. As for the previous research that the researcher used as a related reference, namely research conducted by Nurul Huda and Risman Hambali (2020) in their writing entitled "Risk and Profitability of Cryptocurrency Investment", that in the previous study the researcher divided 2 (two) main points of discussion and more emphasis on the level of significant cryptocurrency investment profits.

Based on the description that the author has described above, the writer is interested in conducting further research and focusing on one problem point with the title "Investment Risk in Cryptocurrency Transactions in Indonesia".

Problem formulation

Based on the background stated above and some research that has been done before, it is necessary to

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have further discussion in this research, namely "How does investment risk affect cryptocurrency transactions?"

Research purposes

The research objective is basically aimed at answering the questions formulated in the problem formulation. In accordance with the formulation of the problem posed, the purpose of this study is "To find out how the risks of investing in cryptocurrency transactions are".

2. LITERATURE REVIEW

Definition of Financial Management

According to Hasibuan (2010) management is the science and art that regulates the process of utilizing human resources and other resources effectively and efficiently to achieve certain goals.

Financial management According to Fahmi (2015) financial management is a combination of science and art that discusses, examines and analyzes how a financial manager uses all company resources to seek funds, manage funds, and distribute funds with the aim of being able to provide profit or prosperity for shareholders and business sustainability for the company". Meanwhile, according to Horne and Wachowicz (2012) "Financial management is all activities related to the acquisition, financing and management of assets with several objectives. Therefore, the decision-making function of financial managers can be divided into three main areas, namely decisions with investments, funding and assets.

Hanafi (2012) states that financial management can be interpreted as planning, organizing, staffing, implementing, and controlling financial functions. Based on the understanding that has been put forward by experts, it can be concluded that financial management is a combination of science and art that discusses the activities of a manager related to managing financial activities within a company where there are several activities including how to obtain funds, manage funds and control the functions financial function so as to provide added value to the company.

a. Management Function

The function of financial management, according to Fahmi (2015), the science of financial management serves as a guideline for company managers in every decision making. This means that a financial manager may make breakthroughs and think creatively, but all of that still does not rule out the principles that apply in the science of financial management.

According to Horne and Wachowicz Jr. (2012) there are three kinds of financial management functions, namely:

- 1) Investment decision is an important financial management function in supporting investment decision making because it involves obtaining efficient investment funds, the composition of assets that must be maintained or reduced.
- 2) The company's dividend policy must also be seen as an integral part of the company's funding decisions. In principle, the function of financial management as a funding decision concerns the decision whether profits earned by the company should be distributed to shareholders or withheld to finance investment in the future.
- 3) Asset Management Decisions are a financial management function that concerns decisions about the allocation of funds or assets, the composition of sources of funds that must be maintained and the use of capital both from within the company and outside the company which is good for the company.

Based on the management functions that have been described by the expert opinion, it can be concluded that the management function is a guideline for financial managers in making decisions in which there are 3 (three) decision-making that can affect the financial performance of a company, the three decision-making includes investment decisions, funding decisions (pay dividends) and asset management decisions.

b. Financial Management Objectives

Financial Management Objectives Fahmi (2015) argues that there are 3 (three) financial management objectives, namely:

- 1) Maximizing the value of the company
- 2) Maintaining financial stability under controlled circumstances
- 3) Minimizing company risks in the present and the future.

Of these 3 (three) objectives, the most important is the first, namely maximizing the value of the company. The understanding of maximizing firm value is how company management is able to provide maximum value when the company enters the market.

Then Sutrisno (2012) stated that the purpose of financial management is to increase the prosperity of shareholders as shown in the form of higher share prices, which is a reflection of investment, funding and dividend policy decisions. Based on the explanation of the experts, it can be concluded that the purpose of financial management is how a company is able to increase the value of the company so that by increasing the value of the company it will be able to make the company's stock price increase and this will be able to make shareholders prosper.

Investment

According to Tandililin (2010) in Fauzan, M (2022) explains Investment is a commitment to a number of funds or other resources that are carried out at this time, with the aim of obtaining a number of benefits in the future. This profit is obtained as a reward or compensation for the time and risks faced by investors regarding the investments made. An individual or group that carries out investment activities is referred to as an investor and is divided into two types, namely individual investors where investments are made on behalf of individuals and institutional investors who are investors who invest on behalf of companies or organizations.

Investment can also be defined as delaying current consumption to be used in efficient production for a certain period of time. Investment activities carried out by the community will continuously increase economic activity and employment opportunities, increase national income and increase the level of community prosperity. This role stems from three important functions of investment activity, namely (1) investment is a component of aggregate expenditure, so that an increase in investment will increase aggregate demand, national income and employment opportunities; (2) the increase in capital goods as a result of investment will increase production capacity; (3) investment is always followed by technological developments.

According to Isticharoh and Kardoyo (2020), investment is an activity of saving funds or money for a certain period with the hope that it will increase or benefit from the value of the investment. Recently, investment has become a familiar thing and the rapid development of technology has also become one of the driving factors for making investment activities flexible and easy.

According to Bodie et al (2018) Investment is a commitment that is currently held by individuals for money or resources such as gold, property and others with the hope that they will reap benefits in the future. So it can be concluded that the definition of investment is an effort or commitment that requires a person to sacrifice wealth in the present in order to achieve profits to be obtained in the future. Profits are expected to be created when investors invest their capital and then achieve price increases so that investors also benefit from the investment.

In general, the purpose of investing is to generate benefits in the future. Other goals are to:

1. Creating sustainability in the investment
2. The creation of maximum profit or expected profit
3. The creation of prosperity for investors
4. Contributing to the development of the nation

According to Ilham (2020) that investment itself can be categorized into 2 (two) types, namely:

1. Real Assets, which are tangible such as buildings, vehicles, and other things.
2. Financial Assets, namely documents (letters) of impersonal claims of the holder against the real assets of the party issuing the securities. In general, the purpose of investing is to generate benefits in the future.

Risk

According to Jones (2016), risk is the potential loss that can arise because the actual returns obtained are not as expected. This can happen because every investment decision is closely related to risk, therefore risk management is considered very important because there may be weaknesses in analyzing past data used as a basis for decision making.

Then according to Meiyura and Azib (2020), that the risks obtained from these investment activities can be different for each investment instrument. In general, the greater the expected return, the greater the risk that may be obtained.

Furthermore, according to Husnan (2001), defines investment risk as a profit that deviates from what is expected. Deviations are linear and directly proportional, the greater the deviation between the actual profit rate and the expected profit level, the greater the risk that will be faced. Thus it can be understood that risk is the possibility of an actual return that is different from the expected return. And both risk and return have a linear relationship, the greater the risk of an asset, the greater the expected return on that asset.

The goal of investors investing is to make a profit. But in reality, the level of profit actually obtained by investors (actual return) is not always the same as the level of profit previously expected (expected return). In other words, investors who invest face the risk of possible deviations from the actual profit rate from the expected profit rate. Thus, in investing besides paying attention to the level of profit, investors must also always consider the level of risk of an investment.

Types of Investment Risk

Investment risk has the meaning, namely deviation from the expected profit and investment risk also has the potential for losses caused by deviations from the expected rate of return with the actual rate of return (Isnaini et al, 2013). In other words, the returns obtained are not in accordance with what was previously expected.

Usually, a risk is directly proportional to the return. If the return on investment is high, then the risk obtained is high. Vice versa, if the profit is low, the risk will be low. This is often referred to as high risk-high return. Broadly speaking, the risk of an investment is divided into two types, according to (Bizhare, 2023), namely systematic risk and unsystematic risk.

a. Systematic Risk

Systematic risk is a type of external risk that cannot be avoided or controlled. This type can affect all effects and cannot be removed. The following includes systematic risk.

1) Interest Rate Risk

Interest rate risk is the risk that arises as a result of an increase in interest rates. Even though interest rates increase, the return on investment and the value of interest-bearing bonds will experience a significant decrease, and vice versa.

2) Inflation Risk

Inflation risk or purchasing power risk is the risk that arises as a result of inflation. As a result, the cash value of the investment today will not have much value in the future. This has the potential to reduce people's purchasing power due to rising prices of goods.

3) Currency Exchange Rate (Forex) Risk

Currency exchange rate risk (forex) or currency risk is a type of investment risk that occurs due to changes in foreign exchange rates. This will make the conversion value of foreign currency to Rupiah not as expected, especially if the value drops.

4) Commodity Risk

Commodity risk is the risk that arises due to changes in the price of certain commodities. Usually, this is influenced by other risk factors, such as price fluctuations or supply and demand.

5) Country Risk

Country risk or political risk is a risk that arises due to changes in a country's laws and regulations. As a result, yields can decrease or even disappear.

b. Unsystematic Risk

This type of unsystematic investment risk is different from before, this risk can be avoided or controlled in the form of an investment portfolio or diversification. The following are included in unsystematic risk.

1) Liquidity Risk

Liquidity risk is the risk that arises due to difficulties in providing cash within a certain period of time. Usually, this happens when one party cannot sell its assets because there are no interested parties or they cannot meet with other parties.

2) Reinvestment Risk

Reinvestment risk or reinvestment risk is the risk that arises when the income from an investment asset requires investors to reinvest it. Most likely, the yield will be lower when reinvested.

3) Business Risk

Business risk is a type of investment risk that is closely related to the business of the company where one invests. That is why it is very important for investors to know the company profile in depth, one of which is through Bizhare.

Cryptocurrencies

Cryptocurrency is the name given to a system that uses cryptography. The word "cryptocurrency" comes from a combination of 2 words, namely "cryptography" which means secret code, and "currency" which means currency that functions as a virtual medium of exchange used in a transaction and has the advantage of being free of service fees (Huda and Hambali, 2020)

Then according to Bhiantara (2018) Cryptocurrency is a blockchain-based technology that is often used as a digital currency. Digital currency has almost the same function as other currencies. However, it does not have a physical form of money like currency, but only a block of data bound by a hash as its validation.

Furthermore, according to Angelis, Ribeiro, and Silva (2019) defines that blockchain is a distributed database that records every transaction or exchange of each block and is protected by a cryptographic security method that guarantees security and cannot change its value.

According to Warsito (2020) Cryptocurrency does have a significant return or profit rate, but on the other hand cryptocurrency also has a high risk potential in investment. Cryptocurrencies have extreme volatility, their price increases and decreases very quickly, high volatility is a reflection of the level of risk faced by investors. Cryptocurrency volatility is only affected by past prices and is not affected by other variables making it difficult to predict.

According to Syamsiah (2017) cryptocurrency is a virtual currency system that functions like a standard currency that allows users to make virtual payments for business transactions that occur without service fees but still has a centralized trust authority.

Ferraro, et al. (2018) stated that cryptocurrency value movements are very unstable, they can go up and down very quickly. Thus, it is difficult to consider Bitcoin as an efficient currency to invest in.

Based on the results of research conducted by Liu & Tsyvinski (2018) the statement regarding cryptocurrency price movements is only influenced by momentary bubbles of enthusiasm, that the factors that influence cryptocurrency price movements are not the same as stock movements, currency and precious metals in general, Cryptocurrency price movements are more influenced by certain moments that can attract investors' attention.

Cryptocurrency or cryptocurrency is a digital asset that has a function to be used as a medium of exchange where records of individual coin ownership are stored in ledgers and balance sheets in a database consisting of a series of cryptographic mechanisms. Cryptocurrency is a peer-to-peer (P2P) electronic financial system that allows users to make payments online to be sent directly from one party to another without going through a financial

institution such as a bank. Besides being able to be used as a means of payment, cryptocurrencies can also be used as an investment tool and also a tool for trading digital assets. Until now there are more than 10 thousand cryptocurrencies spread in the world.

The increase in cryptocurrency is so significant because it is influenced by several factors as follows:

1. Adopting digital technology, all cryptocurrency activities have been carried out digitally, in the era of social revolution, the growth of science and technology is developing very fast. Almost all human activities have used technology. The use of technology in the digital revolution era has become a major requirement. (Bhiantara, 2018). This is proven by the level of cryptocurrency development from year to year which is considered quite significant.
2. Cryptocurrency enters the crypto stock exchange, several countries have opened and legalized cryptocurrency stock exchanges. Crypto Securities Exchange (CSX) which is the world's first blockchain-based stock exchange. The exchange is registered with the United States Securities and Exchange Commission (SEC). (Pratiwi, 2018) Indonesia itself has a digital currency exchange that has been registered with the Commodity Futures Trading Regulatory Agency (Bappeti) and officially has a CISA / CISSP certificate. Namely the Indonesian Crypto-Asset Exchange Monitoring System or the Indonesian Crypto Asset Exchange Monitoring System by the Indonesian Digital Future Exchange (DFX).
3. Anti-inflation, the potential increase in cryptocurrency prices in the future makes cryptocurrency considered an investment asset that is anti-inflationary and attractive to investors. Store assets in the form of currency.
4. Safe, to maintain security, cryptocurrencies are generally protected by complex cryptographic passwords. The cryptocurrency transaction process goes through several stages including a unique cryptographic signature or signature for each block and the Consensus Protocol, which is a process of obtaining mutual agreement that a transaction is valid. However, cryptocurrency investors must remain vigilant against cybercrimes, phishing, fraudulent malware and so on.
5. Costs are relatively low, cryptocurrency costs tend to be cheaper, because providers do not need to build each other's infrastructure (Mulyanto, 2015). Transactions in cryptocurrency do not require a third party, so transactions using cryptocurrency do not have a limit/limit on the number of transactions different from transactions using conventional currencies which have certain limits/limits, the transaction process using cryptocurrency is also considered much faster and costs incurred are cheaper than using conventional money. Because it is decentralized, cryptocurrency requires sophisticated and qualified computer specifications. In general, you will use the blockchain platform to make transactions easier.

Cryptocurrency Characteristics

According to Putri Prima (2022) This currency has several characteristics that you need to know. One of the characteristics of cryptocurrencies is that they are digital and intangible. Apart from that, there are some characteristics of cryptocurrencies that you need to know.

1. Digital

Rupiah is different from this one currency if it comes in the form of leaves and coins. Because cryptocurrency is digital, there is no real physical thing to hold onto. It also affects the process of buying and exchanging cryptocurrencies. The whole process is digital.

2. Global

The second characteristic of cryptocurrencies is that they are global. This does not affect the cryptocurrency if it is familiar with the exchange rate. The value of this digital money is the same in any country. Therefore, its value does not change even if virtual currencies are traded between countries.

3. Peer-to-Peer

Transactions using cryptocurrencies are peer-to-peer. This means that the transaction in question is between one person online and another person.

4. Encrypted

Go to the market and the seller will instantly recognize a face. Or, if you shop online, for example through e-commerce, you will know your identity, at least in the form of a profile name, email address or telephone number. Unlike the two shopping styles above, cryptocurrency trading does not allow users to verify the identity of the person making the transaction. The real name is not disclosed because the user has a code to complete the transaction.

5. Decentralized

The fourth characteristic of virtual currencies is that they are decentralized. This digital currency can be accessed flexibly. Cryptocurrency trading is a transaction where there are no banks involved and each person is in charge of their own money.

6. Truthless

If you decide to trade using cryptocurrency, you must first know the dishonest nature of this currency. This means that one cannot rely too heavily on anyone in the system in transactions.

Cryptocurrency Terms

According to Lansky (2018) cryptocurrency is a system that fulfills six conditions:

1. The system does not need a central authority, the state is managed by a distributed consensus.
2. The system keeps an overview of cryptocurrency units and their holdings.
3. The system determines whether new cryptocurrency units can be created. If new cryptocurrency units can be created, the system defines their original state and how to determine the ownership of these new units.
4. Ownership of units of cryptocurrency can be proved exclusively cryptographically.
5. This system allows transactions to be carried out where the ownership of the cryptographic unit is changed. Transaction statements can only be issued by entities that attest to current ownership of these units.
6. If two different instructions to change the ownership of the same cryptographic unit are entered simultaneously, the system performs at most one of them.

Cryptocurrency Functions

According to Rosyda (2022) As a legal means of exchange, cryptocurrency has several features that are common or commonly used today. Here are some cryptocurrency functions:

1. Purchase of goods or services

The first function of digital currency, of course, is a means of payment for the purchase of goods or services. So far, many shops and places of purchase, such as Overstock and Newegg, have implemented or accepted this digital currency as payment for the goods and services they sell.

2. As a Form of Investment

The second function of digital currency is as an investment vehicle or form of investment. This form of digital money investment is almost the same as a typical investment that we can buy if the price is cheap enough.

3. After the price rises, it can be resold.

This digital currency is a fairly risky form of investment. At its inception, many people became rich by investing in this digital money while enjoying rising prices in the market. However, this form of digital investment is not as fast as it was a few years ago.

4. Mining

The next digital currency function is mining. Mining is a term based on the activity of "mining" for the value of this digital currency. This term refers to the activity of solving cryptocurrency puzzles to increase cryptocurrency assets.

Cryptocurrency risks

Muhammad Farhan (2021). Stating that of all the advantages and attractions of cryptocurrency, in the end you still have to be careful when dealing or investing in cryptocurrency or digital currency because there are a

number of possible dangers that will occur. One of them is the danger of this cryptocurrency swing that is very unpredictable because it is not regulated by any authority.

There are several aspects to consider before investing in cryptocurrencies, as follows:

1. Durability or endurance. Some business experts argue that cryptocurrency is a form of investment that can be uncovered and exploded at any time or in other words a form of deception that can result in investors losing all of their fund assets without any return on capital or compensation.
2. Volatility is quite large, like when we invest with cryptocurrency there is a possibility that we make a lot of money, but we can also lose a lot of money in an instant.
3. Risk of loss, that there is a possibility of loss of data and accounts from cryptocurrency users if the user's password or privacy key is lost or hacked by someone.

Cryptocurrency advantages and disadvantages

According to Ibrahim Nubika (2018). As with other means of payment, Cryptocurrency has its advantages and disadvantages, which are as follows:

- a. Excess
 - 1) Universal, the whole world can use cryptocurrency, not everyone meets the requirements to register as a customer at a bank. Therefore cryptocurrency is considered universal because there are no requirements whatsoever to become a user.
 - 2) Fast, transactions with cryptocurrencies are fairly fast when compared to transactions at banks. Transactions between international banks, generally can take up to more than one day. Meanwhile, bitcoin trading only takes about a few minutes to an hour.
 - 3) Transparency, every cryptocurrency user can see all transactions that have been made. However, of course someone will not know that the transaction was carried out. By whom because only in the form of numbers without identity.
 - 4) Personal Control, each user is responsible for his own money.
- b. Lack
 - 1) A loophole for crime, no one knows who is behind a cryptographic code. Therefore, many people take advantage of cryptocurrency for crime. They can transact for goods or illegal things with this digital currency without being traceable.
 - 2) Once you forget the password, all the money can be lost, because cryptocurrency uses a password system without anyone managing it, so someone risks losing all the money in their account if they forget the password.
 - 3) Many still consider it illegal, many countries still consider cryptocurrency illegal and do not apply to buying and selling transactions in their country.

Based on the data the author quoted from Glints reported by Geovanni Nerissa Arviana (2023) that cryptocurrency consists of several types, namely:

Table 1: Types of Cryptocurrencies

No	Cryptotypes	Information
1.	<i>Bitcoins</i>	Bitcoin Type of cryptocurrency that is very popular to date. This type first appeared in 2009 by satoshi nakamoto, Bitcoin has a high popularity and its value tends to increase from time to time. So it's no wonder that many people are interested in investing in this one currency.
2.	<i>Litecoins</i>	Litecoin which was also present at the start of the digital currency was launched. This type of cryptocurrency came into being in 2011 as a peer-to-peer (P2P) digital currency that generates new blocks (which make up the blockchain) at a faster rate. Therefore, Litecoin

No	Cryptotypes	Information
		allows users to make transactions more quickly without the need for a powerful computing system.
3.	<i>Dogecoins</i>	Dogecoin is a derivative of Litecoin which appeared in December 2013. This type is known as the friendliest cryptocurrency, because the community often makes donations, charities and other positive activities. Dogecoin has a much lower value than bitcoin. Therefore users usually use this type for small transactions, donations and tipping. However, it also has a number of advantages that other cryptocurrencies don't have.
4.	<i>BitcoinCash</i>	Bitcoin Cash which was launched in August 2017, but is currently in the top five cryptocurrencies. This type was launched because a group of Bitcoin users disagreed with some of the rules that apply. They then separated and formed their own digital currency called Bitcoin Cash. The group also made several improvisations that they thought were better than the first cryptocurrency.
5.	<i>Feather Coins</i>	Feather Coin is open source. This type was created by Peter Bushnell, an IT officer at Brasenose College, Oxford University in April 2013. Feathercoin is similar to Litecoin and is under the MIT/X11 license.

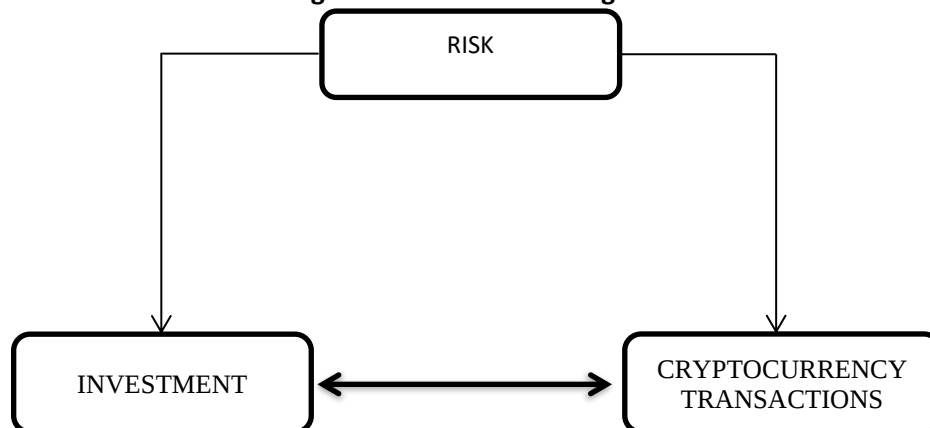
Source: Processed Data (2023)

Framework

Sugiyono (2015) states that the framework is a synthesis of the relationships between variables compiled from various theories that have been described. Based on the theories that have been described, they are then analyzed critically and systematically, resulting in a synthesis of the relationships between the variables studied. The synthesis of the relationship between these variables is then used to formulate hypotheses.

Based on the descriptions and theories explained above, the framework was created to better explain the design of research activities so that the authors try to link investment risk in cryptocurrency transactions in a conceptual research framework. The following is the conceptual framework of thinking described by the researcher, namely:

Figure 2 Research Thinking Framework



Hypothesis

The hypothesis is a research conclusion that is not perfect, so it needs to be refined by proving the truth of the hypothesis through research. Based on the above concept, the hypothesis of the whole research is:

H: Allegedly Investment Risk Affects Cryptocurrency Transactions in Indonesia.

3. RESEARCH METHODS

Research design

Moleong (2007) states that this method is a qualitative method which is a research procedure that produces descriptive data in the form of written or spoken words. The research design used in this study is a qualitative descriptive method because researchers want to find facts and interpret about "Investment risk in cryptocurrency transactions in Indonesia" to describe or present accurately what are the risks of investing in cryptocurrency transactions through several phenomena that have occurred in the past two years. this last.

The data obtained during the research will be analyzed using a qualitative descriptive method. The author reduces the data that has been obtained during the research by grouping and selecting data that is relevant to the research study.

a. Location and Time of Research

Sugiyono (2015) said that the research location is a scientific goal to obtain data with specific goals and uses about something that is objective and reliable about a particular matter or variable.

This research relates to "Investment Risk in Cryptocurrency Transactions in Indonesia" in this case as the object/location of research carried out, namely from the phenomena described on various website sites, namely those obtained from Data Boxes that discuss developments and activities in cryptocurrency. This research was conducted from September 2022 until completion.

b. Data Types and Sources

1) Data Type

According to Sugiyono (2017) Qualitative data is data in the form of words, sentences or pictures. that is determined by adjusting to research objectives or certain goals that are based on philosophy and are not in the form of numbers, this social situation consists of three main components, namely place, actor, and activity.

Then according to Moleong (2014) that the data collected is accurate and systematic data so that it can analyze and interpret the data properly and produce conclusions according to the purpose of this study. Data is vital in any research, because it is the basis for discussing a topic.

2) Data source

According to Arikunto (2013) the data source is the subject where the data is obtained, an inappropriate data source results in the data collected being irrelevant. The data sources obtained must be quality data sources in this study as follows:

c. Secondary Data

The data source in this study is derived from secondary data. Secondary data, namely data taken indirectly from sources that have been formed in documents obtained from the phenomenon of the development of cryptocurrency users as well as from other sources that support this research. In other words, secondary data is a non-human element as research supporting data.

Furthermore, according to Sugiyono (2017) that data sources are divided into 2 (two), namely primary data sources and secondary data sources, the technique used to collect data is library research. According to Ronny (1990) there are 2 secondary data that can be used in research, namely private secondary data and public secondary data. In writing this article the author uses public secondary data such as abstracts, results of scientific publications, books, media and social networks that discuss cryptocurrencies.

The main references used as reference sources in this research are journals, articles, books, and other reading sources or documents regarding the phenomenon of investment risk in cryptocurrency transactions. Details regarding the literature materials that have been used by the author in this study will be

Data collection technique

The data collection technique used in this research is to obtain relevant information, namely through research of literature studies by collecting relevant reading sources and presenting them as data sources according to the research theme. Presentation of data in this study will be in the form of words that have been processed briefly and systematically.

According to Cronin (Djam'an Satori and Aan Komariah, 2020) states that if you want to know the significance of a citation, you must first cite or quote opinions or theories contained in the works of other authors which are mostly done by writers. Citation is understood to support writing and it has become a necessity in the world of scientific communication.

Data analysis

According to Moleong (2020), qualitative data analysis is an effort made by working with data, organizing the data, sorting the data into manageable units, synthesizing it, looking for and finding patterns, finding what is important and deciding what can be told to people. other.

Then according to Sugiono (2014) there are several steps of data analysis that can be applied in qualitative research, namely:

1. Data reduction

Reducing data means summarizing, choosing the main things, focusing on the things that are important, looking for themes and patterns for the researcher's efforts to process selection, separation, and attention so that the data becomes simpler on the main things according to the research theme.

2. Data Presentation

This step is done so that it is easy for researchers to see an overall picture of their research. Presentation of limited data as a collection of information compiled to facilitate researchers in order to draw conclusions and take action.

4. RESULTS AND DISCUSSION

General Description of the Research Object

a. History of Cryptocurrencies

The emergence of cryptocurrency stems from academic activity in anonymous research in the 1980s (Chaum, 1983). Using electronic cryptography called e-cash, then in 1995 he gave birth to his first digital currency called Digicash. But unfortunately, the innovation failed to develop. In 2007 Nakamoto, was able to evoke the philosophy (Chaum, 1983) by innovating the addition of resources and peer-to-peer networks with the aim of avoiding centralized control.

The development of crypto currency reached a bright spot in 2008. In that year Satoshi Nakamoto published a book entitled 'Bitcoin- A Peer to Peer Electronic Cash System'. Quoting Forbes. The contents of the book were also posted by Satoshi to the cryptography discussion mailing list. A year later, Satoshi released the first cryptocurrency called bitcoin to the public. The release received support from cryptographic actors. In 2010, other cryptocurrencies began to appear. The most popular cryptocurrency to date is Bitcoin. Bitcoin is loved by its users because it has a payment system that is transparent, easy, can be done (anywhere and anytime), fast international payments, relatively low fees, guaranteed security and can maintain the confidentiality of its user's identity.

Figure 3 Bitcoin logo



Source: CoinGecko, 2023

The popularity of Bitcoin has implications for the emergence of other types of crypto currency which are then referred to as altcoins or alternative coins. As is well known, that in 2007 a Nakamoto, has completed work on the Bitcoin project, In 2008, he published his research report in the headline The Cryptography Mailing List and launched it in January 2009. Approximately 2 years after the release of Bitcoin then appeared Altcoin/ alternative coin named Namecoin. Starting from here, Altcoin / alternative coin began to appear. And its development began to explode in 2013. (Bitcoin Education, 2020).

Research result

a. Cryptocurrency As Investment In Indonesia

The results of the study show that the development of cryptocurrency in Indonesia itself is quite rapid. Generally, people from the upper middle class already know about the term cryptocurrency. Cryptocurrency is an asset that can be traded in Indonesia. This is specified in the regulation of the Commodity Futures Trading Regulatory Agency Number 7 concerning Establishment of Lists of Crypto Assets that Can be Traded on the Physical Market of Crypto Assets. Investment is one of the activities that is often carried out by the owner of these digital assets. As an investment instrument, crypto assets have a fairly high level of risk, but are able to provide long-term profit opportunities. Therefore it is necessary to properly study the fundamental aspects of crypto assets, such as,

Cryptocurrency has the advantage in terms of getting higher and higher with the weakening local currency exchange rate. Cryptocurrency values tend to be more influenced by past prices. therefore some people consider cryptocurrency to be an attractive investment tool. However, cryptocurrencies also have a high risk of losing their market value.

The development of crypto users as an investment is likely to increase and cannot be denied, so this makes the crypto industry big enough and credible enough for other asset managers to get involved. However, knowledge and basic knowledge of investing is certainly needed, what are the risks that will be faced if investing in this cryptocurrency and why is it called having a high risk. This is because the word digital is very risky, but it doesn't make people afraid to invest in currency digital.

Cryptocurrency value Fluctuations in value are influenced by the users themselves. One other factor is due to the trust the Blockchain system offers to the cryptocurrency system from the community. In general, fluctuations in the value of cryptocurrencies up and down are influenced by market mechanisms. The unfortunate thing about the cryptocurrency market is that its value moves fast and high because of the volatility which ends up fluctuating. The emergence of cryptocurrency in Indonesia as digital money or electronic products has been in the spotlight of the State of Indonesia since the beginning, but until now the government has not determined steps on how to formulate written regulations regarding its distribution and supervision. It can be concluded that the results of this study indicate that investment in cryptocurrency has a fairly high risk.

b. Cryptocurrency Legality in Indonesia

Cryptocurrency legality in Indonesia based on Coordinating Minister for the Economy Letter Number S-302/M.EKON/09/2018, crypto assets are considered as commodities that can be traded on futures exchanges and not as a means of payment.

Based on the GlobalWebIndex survey, it was stated that around 10% of internet users in Indonesia already have crypto currency. Placing Indonesia in the 10th position with the highest use of cryptocurrency in the world. The high interest of the Indonesian people in cryptocurrency, the Indonesian government continues to intensively prepare regulations and record market exchanges and crypto assets circulating in Indonesia can be registered and legally in Indonesia. Commodity Futures Trading Monitoring Agency (Bappebti). On the Bappebti.go.id website, as of January 23, 2023, there are 13 market exchanges that are legal and registered with Bappebti. The following table lists market exchanges that have been registered with Bappebti:

Table 2 lists the market exchanges that have been registered with Bappebti

No	MarketExchange	Company
1	Indodax	PT. Indodax National Indonesia
2	Tokocrypto	PT. Indonesian Crypto Blessing
3	Upbit	PT. Upbit Exchange Indonesia
4	Triv	PT. The Three Main Cores
5	Door	PT. Anywhere Door
6	Zipmex	PT. Zipmex Exchange Indonesia
7	Taste	PT. Prima Crypto Exchange
8	Luno	PT. Luna Indonesia I.Td
9	my account	PT. My account is Dotcom Indonesia
10	Indonesia Digital Exchange	PT. Indonesia Digital Exchange
11	my coins	PT. Create Digital Coins
12	Vitocoto	PT. Trinity Investama Blessing
13	Plutonext	PT. Plutonext Digital Assets

Source Bappebti secondary data processed, 2023

The Ministry of Trade (Kemendag) through the Commodity Futures Trading Regulatory Agency (Bappebti) has also released provisions regarding cryptocurrency assets that can be traded on the Indonesian Crypto Asset Physical Market. (CoFTRA Regulation Number 11 of 2022). The following table lists 383 types of crypto assets that have been determined by Bappebti to be tradable (Huda, 2021):

Table 3 lists 383 types of crypto assets

No	Types of Crypto Assets	No	Types of Crypto Assets	No	Types of Crypto Assets
1	Ethereum	129	Wing Finance	257	SafePal
2	Klaytn	130	Nexus	258	Ana Coin
3	Solana	131	Standard Tokenization Protocol	259	Flow
4	Tezos	132	Nxt	260	Alien Worlds
5	iota	133	V. Systems	261	Immutable X
6	Luna Coin	134	Firo	262	PlayDapp
7	Usd Coin	135	Vidycoins	263	DODO
8	Polka dot	136	Data	264	Biswap
9	The Sanbox	137	Einsteinium	265	IDEX
10	Bitcoins	138	Groestlcoin	266	Auto
11	Cosmos	139	nav coin	267	DeXe
12	Ox	140	District0x	268	Tadpole Finance
13	Litecoins	141	Lbry credits	269	STEPN
14	Cardano	142	Aragon	270	Secret
15	Chainlink	143	Bytom	271	Measurable Data Tokens
16	Uniswap	144	Ms	272	Coin98
17	Stellar	145	Dad	273	UNUS SED LEO
18	Binance Usd	146	Go-chain	274	Moonriver
19	XRP	147	Ambire AdEx	275	Unifi Protocol
20	Tron	148	Hashgard	276	OasisNetwork
21	Decentraland	149	Function x	277	Spell Tokens
22	Coin Engine	150	Pumapay	278	Veracity
23	Uma	151	Tokenomy	279	SUN
24	Polygon	152	Aid coin	280	Chia Network
25	Basic Attention Tokens	153	Vertcoins	281	YooShi
26	REN	154	civics	282	Burger Swaps
27	Qtum	155	Hifi Finance	283	Enzymes (MLN)
28	SXP	156	Btu protocol	284	Dego Finance
29	True Usd	157	Cosmo coins	285	MOBOX
30	bnb	158	Ravencoins	286	Kadena
31	Tetha Network	159	Hedera Hashgraph	287	OCTOFI
32	Synthetix	160	Wanchain	288	Arweaves
33	compound	161	Token Store	289	Bluzelle
34	Cronos	162	He	290	ellipsis
35	Vechains	163	NearProtocol	291	Efinity
36	aurora	164	HoloToken	292	Yield Guild Games
37	Status	165	VeThor Tokens	293	Ooki Protocol
38	Cartesian	166	Gala	294	Star Atlas
39	Doge coin	167	THORChain	295	NanoByte Tokens
40	maker	168	SushiSwap	296	ARPA Chain

41	Tethers	169	Utrust	297	Wrapped NXM
42	Storj	170	Internet Computers	298	FraxShare
43	Venus protocol	171	Chiliz	299	Ethereum Name Service
44	Zilliqa	172	Chromia	300	Energy
45	Omg network	173	MyNeighborAlice	301	HEGIC
46	Harmony	174	Theta Fuel	302	Merit Circle
47	Elrond	175	Polkastarter	303	Convex Finance
48	Orbs	176	Helium	304	Highstreet
49	iExec RLC	177	Stacks	305	Bitcoin Standard Hashrate Token
50	Algorand	178	Fetch. ai	306	Frontiers
51	Eos	179	Alchemix	307	OrbitChain
52	Wazirx	180	AAVE	308	Phala. Network
53	Wrapped Bitcoins	181	DYDX	309	IDK
54	Electroneum (ethn)	182	Reef	310	glitch
55	Avalanche	183	TomoChain	311	self key
56	Quant	184	Axie Infinity	312	Beefy. Finance
57	Polymath	185	Bancor	313	VVCamers
58	Dai	186	Audius	314	TROY
59	Loopring	187	Ocean Protocol	315	Raydium
60	Ehtereum classic	188	Iluvium (ILV)	316	Literary
61	numeraire	189	Celsius	317	Token rendering
62	Bitcoincash	190	PancakeSwaps	318	Keep3rV1
63	Yearn. finance	191	Conflux Network	319	aurories
64	Neo	192	ForTube	320	CelerToken
65	origin protocol	193	Keep Network	321	Trust Swaps
66	Kusama	194	DivisionNetwork	322	NULS
67	waves	195	Telcoins	323	JasmyCoin
68	Alpha Venture DAO	196	Injective Protocol	324	Efforce
69	Nanos	197	Alpaca Finance	325	Crypto Gaming United Tokens
70	Golems	198	BICONOMY	326	Keepers of the Dao
71	Phantom	197	PTU Tokens	327	Flux
72	Kava	200	Curve DAO Tokens	328	tranchess
73	Nem	201	Aavegotchi	329	Linkeye
74	Bittorrents	202	TerraUSD	330	Chainbing
75	Icons	203	Trust Wallet Tokens	331	Ethernity Chain
76	Serum	204	1INCH	332	ABC Coin
77	Pax Dollars	205	eCash	333	TitanSwap
78	Kyber network Crystal v2	206	SKALE Network	334	Velo
79	Bitcoin diamonds	207	IOSToken	335	VidyX

80	Ardor	208	Mina	336	KingDAG
81	Ontology	209	CertiK	337	Dock
82	Just	210	Badger Dao	338	Livepeers
83	Siacoin	211	ThunderCore	339	Contentos
84	XDC Network	212	Anyswap	340	Pando
85	protocol bands	213	WOO Network	341	Coinweb
86	Pax gold	214	FTX Tokens	342	Marlin
87	ankr	215	The Graph	343	Cocos-BCX
88	Tenx	216	Coin Files	344	Apple Tokenized Stock
89	Digibytes	217	IoTEx	345	Everipedia
90	Ampleforth	218	Mdex	346	JOE
91	Orion protocol	219	Nexo	347	KIN
92	BitcoinSV	220	SHIBA INU	348	Gitcoins
93	Dent	221	Alchemy Pay	349	Super Farm
94	Request	222	Vulcan Forged PYR	350	Splintershards Tokens
95	Lyfe	223	Coin Lock	351	Santos FC Fan Tokens
96	Wax	224	Reserve Rights	352	radicle
97	Lisk	225	Prometheus	353	Automata Network (ATA)
98	StormX	226	Ariva	354	Saffron Finance
99	Loom network	227	TrueFi	355	bread
100	Metadium	228	OKB	356	BinaryX
101	Coti	383	CELO	357	Amazon Tokenized Stock
102	High performance blockchains	230	WinkLink	358	Alpine F1 Team Fan Tokens
103	Terra	231	Perpetual Protocol Tokens	359	travala.com
104	Bakery tokens	232	API3	360	Ergo
105	Play games	233	Cindrum	361	Spartan Protocol
106	Balancers	234	Apecoins	362	PowerPool
107	Power ledgers	235	Voxies	363	League of Kingdoms Arena
108	Aug	236	BIDR	364	Dusk Network
109	Dfi. money	237	DaoMaker	365	AIOZ Network
110	Stratic	238	Astar	366	Airbnb Tokenized Stock
111	Bitcoin gold	239	renBTC	367	Mines of Dalamia

112	Aergo	240	Amp	368	Crypto Token Degrees
113	coffers x	241	HOW COME	369	carry
114	Syscoins	242	GXChains	370	Gas
115	Rupiah tokens	243	Achains	371	Ality
116	Aelf	244	linear	372	Deep Coin
117	Bora	245	Harvest Finance	373	Btrips
118	Waltonchain	246	Smooth Love Potions	374	Attila
119	Euro stasis	247	Orchid	375	SHILL Tokens
120	Decred	248	KardiaChain	376	tokenplace
121	Medibloc	249	Revain	377	Yieldly Tokens
122	Ark	250	Hedge Trades	378	Alibaba Tokenized Stock
123	hives	251	BarnBridge	379	DGPayment
124	Metal	252	AnchorProtocol	380	Acala Tokens
125	Pivx	253	MirrorProtocol	381	SuperRare
126	Steem	254	XSGD Tokens	382	Clover Finance
127	Bitshares	255	Nervos Network	383	Play It Forward DAO
128	Gemini dollars	256	Terra Virtual Collect		

Discussion

a. Cryptocurrency Investment Risks And Factors That Influence Them

Investment risk is a condition in which an investor has the opportunity to incur a loss as a result of the investment activity he is undertaking. In other words, the returns obtained are not in accordance with what was previously expected. Usually, the risk of a product is directly proportional to the return. If the return on investment is high, then the risk obtained is high. Vice versa, if the profit is low, the risk will be low. This is often referred to as high risk-high return. Cryptocurrency does have a significant profit level, but on the other hand cryptocurrency also has a high risk potential in investment, here are some data or sources that the authors found in research. Cryptocurrency has extreme volatility, its price increases and decreases very quickly, high volatility is a reflection of the level of risk faced by investors. Cryptocurrency volatility is only influenced by past prices and is not influenced by other variables, making it difficult to predict (Warsito, 2020). Cryptocurrency value movements are very unstable, they can go up and down very quickly. Thus, it is difficult to consider Bitcoin as an efficient currency to invest in. (Ferraro, et al. 2018) stated that Bitcoin is not a currency because there is an element of speculation there. The author also observes historical data on cryptocurrency value movements in recent years and can conclude that cryptocurrency volatility is very high. Cryptocurrency volatility is only influenced by past prices and is not influenced by other variables, making it difficult to predict (Warsito, 2020). Cryptocurrency value movements are very unstable, they can go up and down very quickly. Thus, it is difficult to consider Bitcoin as an efficient currency to invest in. (Ferraro, et al. 2018) stated that Bitcoin is not a currency because there is an element of speculation there. The author also observes historical data on cryptocurrency value movements in recent years and can conclude that cryptocurrency volatility is very high. Cryptocurrency volatility is only influenced by past prices and is not influenced by other variables, making it difficult to predict (Warsito, 2020). Cryptocurrency value movements are very unstable, they can go up and down very quickly. Thus, it is difficult to consider Bitcoin as an efficient currency to invest in. (Ferraro, et al. 2018) stated that Bitcoin is not a currency because there is an element of speculation there. The author also observes historical data on cryptocurrency value movements in recent years and can conclude that

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Cryptocurrency has become a global phenomenon today. Based on the results of the GlobalWebIndex Survey, around 10% of internet users in Indonesia already own digital currency. This percentage makes Indonesia ranked in the 10th most cryptocurrency users in the world. The purpose of this study is to find out the risks and how to invest in cryptocurrencies. This type of cryptocurrency investment has a fairly high risk. The risk of an investment has a linear relationship. Based on the research results, it was found that investment in cryptocurrency has a fairly high risk, because it has extreme volatility, changes in the value of cryptocurrency prices experience very high spikes from their actual value within a certain time, lack of regulation, still leaving legality issues, become the target of cybercrime and have a dependence on technology. Ardela (2019) explains that there are 3 points why Bitcoin is prohibited in Indonesia:

1. The fundamental value or function of Bitcoin is not yet known, in contrast to other instruments which already have clear fundamental functions.
2. Difficulties in matching Bitcoin as a currency considering the Currency Law (UU) confirms that only the Rupiah is the legal tender in the Unitary State of the Republic of Indonesia.
3. There is nothing that can be used as a guarantee (underlying) that underlies Bitcoin as other investment products

Figure 4. Bitcoin Movement Graph



Bitcoin is quite popular, with prices rising very quickly compared to conventional currencies, it's no wonder that the changes in bitcoin prices from year to year make this crypto currency even more desirable. As the best and biggest cryptocurrency asset on the market, bitcoin always gets attention. Most crypto investors will include BTC coins in their investment portfolios, this will monitor how the Bitcoin price moves over a certain period of time. The price of bitcoin coins throughout 2022 has been quite volatile with various sentiments to come, but as an asset called "digital gold", bitcoin price movements are considered to be more stable in the long term. Despite the widespread negativity in the cryptocurrency market.

There are 4 reasons why Bitcoin is so in demand even though the price of Bitcoin fluctuates from year to year.

1. High Liquidity Value

With a higher liquidity value, of course, it allows traders to easily convert, it's no wonder bitcoin enthusiasts are increasing even though the price fluctuates.

2. A valid payment method

As a valid payment method for making any transactions, of course it will make it easier for bitcoin owners, they don't even need to convert bitcoins into conventional currency.

3. Transaction fees tend to be easier

Bitcoin not only makes it easy to be used for transactions anywhere with lower transaction fees.

4. Ease of international transactions

International transactions using bitcoin don't even require special bureaucracy which tends to be a hassle. It's no wonder that this digital currency is very attractive to the public.

b. How Crypto Currency Works

According to Zimmermann (2019) states that crypto currency is a digital asset or property without a physical form. Ownership of these assets is regulated in a decentralized record called the blockchain. Blockchain management involves a global computer network called miners. This register is open, so that everyone around the world who has a computer connected to the internet can download the software needed, become miners, and join the block chain network. The owner or holder of crypto currency stores the currency in a software called a wallet (wallet). A secret private key known to the wallet user is required to use the contents of the wallet. Without this key, crypto currency transactions are always rejected by the miners system. Then to get a number of cryptocurrencies, someone has to do mining (mining), which is the process of solving a mathematical problem with the help of a computer. The difficulty level of the problem can vary, so for certain cryptocurrencies mining must be done on a high-speed computer. Likewise, there are variations in algorithms and various software for these various currencies. Crypto is focused on risks related to changes in the price of cryptocurrencies. In short, it can be stated that cryptocurrencies are declared legal as commodities that can be traded in Indonesia, but not as a medium of exchange like foreign currencies. namely the process of solving a mathematical problem with the help of a computer. The difficulty level of the problem can vary, so for certain cryptocurrencies mining must be done on a high-speed computer. Likewise, there are variations in algorithms and various software for these various currencies. Crypto is focused on risks related to changes in the price of cryptocurrencies. In short, it can be stated that cryptocurrencies are declared legal as commodities that can be traded in Indonesia, but not as a medium of exchange like foreign currencies. Likewise, there are variations in algorithms and various software for these various currencies. Crypto is focused on risks related to changes in the price of cryptocurrencies. In short, it can be stated that cryptocurrencies are declared legal as commodities that can be traded in Indonesia, but not as a medium of exchange like foreign currencies. Likewise, there are variations in algorithms and various software for these various currencies. Crypto is focused on risks related to changes in the price of cryptocurrencies. In short, it can be stated that cryptocurrencies are declared legal as commodities that can be traded in Indonesia, but not as a medium of exchange like foreign currencies.

The centralized nature is exemplified in the transaction model that has been frequently used by the public. For example, in this case, given the example of a parent who wants to send money to their child overseas, what they do is use a banking service (ATM, Mobile Banking, or come directly to the bank concerned) and then transfer some money to their child's account number. These transactions are basically carried out through bank

intermediaries and trusted services. So the process is that the money that is transferred actually goes to the bank first, then is forwarded to the recipient. The process is real time so that the movement is not felt. However, what is quite felt is precisely because the process is through an intermediary, then there is a reward that must be paid, namely in the form of administrative fees, both incurred on the spot (if sending to a different bank account) or in administrative fees that are charged every month. In Indonesia, the legality of cryptocurrency is determined by Law no. 7 of 2011 concerning Currency. In Article 1 paragraph (1) and paragraph (2) it is stated:

- 1) Currency is money issued by the Unitary State of the Republic of Indonesia, here in after referred to as Rupiah
- 2) Money is legal tender.

Furthermore Article 2 paragraphs (1) and (2) stated:

- 1) The currency of the Unitary State of the Republic of Indonesia is Rupiah.
- 2) Kinds of Rupiah consist of paper Rupiah and metal Rupiah.

For the use of Rupiah, in Article 21 paragraph (1) in the said Law it is stated:

1 Rupiah must be used in:

- 1) Every transaction that has the purpose of payment;
- 2) Settlement of other obligations that must be met with money; and/or
- 3) Other financial transactions conducted in the Territory of the Unitary State of the Republic of Indonesia.

5. CONCLUSION

It can be concluded that investing in cryptocurrency is inseparable from what is called a very high risk, in cryptocurrency assets that have become widely known in recent years such as bitcoin, this is influenced by factors such as crypto price movements which are not the same as stock price movements because high or low levels of volatility affect market price movements. The higher the value, the faster the movement or change. Price value movements are very unstable, they can go up and down, so it's hard to think of bitcoin as an efficient currency.

Despite all the appeal of cryptocurrencies, it is ultimately still necessary to be careful when dealing with investing in cryptocurrencies, as there may be potential dangers involved. Although having risks does not make people afraid to invest in this digital currency, it is quite the opposite because it can provide long-term benefits.

6. SUGGESTION

Based on the above conclusions, that research on investment risks in cryptocurrency transactions in Indonesia, some suggestions can be submitted as follows:

1. Potential investors, determine investment goals and targets, the purpose of investment is to generate benefits in the future. However, more specifically the purpose of investing is to get a better life in the future, potential investors must be prepared for whatever risks they will face later. Most importantly, if an investor has planned to make an investment, he must have good financial knowledge so that his investment decisions have a clear direction. Investment managers are expected to be able to predict and minimize the risks that occur as a result of unexpected events such as an economic crisis
2. To the public, having a good understanding of the type of investment that will be chosen, at least you have to know about cryptocurrencies in advance by looking for references from trusted sources, be it magazines, social media or learning directly from experts who already understand them. An investor must analyze and take into account, the time period and the level of risk. If everything is well understood then an investor can determine the type and investment that suits their needs.
3. Suggestions for further research, consider before investing, an investor must consider risk management that will occur in the future, this can minimize risk.

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