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Analysis of Cryptocurrency Investment Determinants

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Abstract: Various financial products have emerged in the era of the digital economy, including cryptocurrencies. In Indonesia, the Commodity Futures Trading Regulatory Agency (CoFTRA) regulates the use of cryptocurrencies. Cryptocurrencies are designated as investment assets that can be included as commodities in trading on futures exchanges but are prohibited from being used as a means of payment. Crypto investors in Indonesia alone in 2021 have reached 6.5 million people with a transaction value of Rp 370 trillion as of May 2021. This number continues to increase from the previous year, making crypto investors bigger than stocks or mutual funds. This study then analyzes the factors influencing the Indonesian people's interest in investing in cryptocurrencies. Data collection techniques were collected through questionnaires distributed online to 97 respondents, while data processing used multiple regression analysis. The findings of this study indicate that yield and flexibility have a positive and significant effect on interest in investing in cryptocurrencies. Meanwhile, the prohibition of cryptocurrencies has a negative impact on interest in investing in cryptocurrencies.
Keywords: Currency; Crypto; Investment; Risk; Return
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Introduction

The development of increasingly sophisticated technology has led to the emergence of innovations in various fields of life. One of the economic sectors continues to innovate in using the latest technology in the financial sector. Many financial products have emerged in the era of the digital economy, one of which is cryptocurrency. Cryptocurrency is a digital currency with a decentralized system in numerical form that functions as a medium of exchange and a store of value based on mathematical calculations and has cryptographic protection (Rossikhin et al., 2018). Cryptography is a method used to secure transactions in an encrypted manner. Every transaction will be recorded and stored in a blockchain digital ledger (Sukamulja & Sikora, 2018).

The use of cryptocurrencies as a medium of exchange is different from regular payments. Crypto transactions are not carried out through third parties (banks), so transaction fees will be cheaper, and the verification process will be faster without restrictions between countries (Wardoyo et al., 2020). In addition, due to its decentralized system, cryptocurrencies cannot be controlled by entities such as governments or central banks.

Everything is carried out entirely by market mechanisms for both the price and many transactions. It causes the government to be unable to confiscate cryptocurrencies owned by users. Some cryptocurrencies are also limited in number (Hossain et al., 2017).

In Indonesia, the Commodity Futures Trading Regulatory Agency (CoFTRA) regulates the use of cryptocurrencies. Cryptocurrencies are designated as investment assets that can be included as commodities in trading on futures exchanges but are prohibited from being used as a means of payment. Crypto investors in Indonesia alone in 2021 have reached 6.5 million people with a crypto asset transaction value of IDR 370 trillion as of May 2021.[1] This number continues to increase from the previous year, reaching only 4 million investors, making crypto investors bigger than stocks or mutual funds.

Using cryptocurrency as an investment asset makes it one of the most valuable assets today, not only in Indonesia but also in the world. Many crypto investors indicate a high public interest in crypto assets. The purpose of investors is the same as that of investing in other assets, namely to obtain returns. Cryptocurrencies are sought no longer as an alternative to fiat currencies or payments but as objects of digital speculation (Auer & Tercero-Lucas, 2021). In Islam, the practice of speculation is prohibited because it brings harm and harms others. The absence of an underlying asset in cryptocurrencies has made it an object of debate today.

The value of crypto has grown tremendously in the past year. The potential for rising crypto prices in the future makes it one of the anti-inflation investment assets and attracts the attention of investors (Huda & Hambali, 2020). An example of one of the cryptocurrencies with the highest price today is Bitcoin. Bitcoin has a very high rate of return, even higher than other conventional assets (Liu & Tsyvinski, 2020). On March 30, 2020, Bitcoin touched a price of IDR 127,859,021/coin. Then, on March 8, 2021, Bitcoin experienced an increase of up to six times, reaching IDR 754,311,016/coin. The price of Bitcoin continues to increase until now.

The rising prices of some of these cryptocurrencies provide high returns and risks. Cryptocurrencies have a relatively high level of volatility. According to Samputra and Putra (2020), the high level of crypto volatility makes it difficult for the government to accept because it is considered to be able to disrupt economic stability. Investors tend to be more interested in returns regardless of the risks involved (Daugherty & Trkla, 2018). Investors who take more risk will generally expect higher returns in the long term (Xi et al., 2020). This risk factor certainly cannot be underestimated by investors because it will impact the sustainability of future investments.

In addition to the returns and risks involved, cryptocurrencies also have the advantage of flexibility. Its decentralized system makes cryptocurrencies independent of any institution, reducing transaction prices (Dwyer, 2015). The peer-to-peer network makes transactions using cryptocurrencies not require verification from a central authority and speeds up cross-border transactions. Currently, there are also various cryptocurrency exchange platforms. Crypto exchange is different from stocks. This transaction does not

[1]CoFTRA, 2021.

involve a bank, making it faster to disburse into local currency. It then makes it easier for crypto investors.

In addition, other factors influence investors' interest in cryptocurrency, namely their general profile, such as gender, age, education level, employment status, region of residence, and investment experience (Xi et al., 2020) in China and Australia. The authors have not found similar studies in Indonesia based on the existing literature on this topic. Indonesia, with a population of 270 million, can potentially increase the number of cryptocurrency investors. Indonesia is ranked as the fourth country in CSAO (Central Southern Asia and Oceania) with the most significant cryptocurrency transactions after Vietnam, India, and Australia, as well as being the 17th ranked country in the world with a crypto transaction value of $9 billion.[2] Therefore, the author analyzes the factors influencing Indonesian people's interest in investing in cryptocurrencies.

Several previous studies discuss cryptocurrencies. The author used previous research to develop research hypotheses. Research conducted by Xi et al. (2020) on respondents from China and Australia stated that most respondents believe that cryptocurrencies are the most liquid investment assets and can provide short-term returns. This research also shows that gender determines the behavior of cryptocurrency investors. The number of female investors tends to be less than males in Australia. Male investors are more confident in making investments, while female investors tend to be more careful and avoid risk in uncertain conditions.

Of course, investing in cryptocurrencies cannot be separated from the risk factor. Using a sample of individual US investors, Zhao and Zhang (2021) found that investment experience and age correlate with interest in cryptocurrencies investment. Investment experience reflected in the ownership of shares or other investment assets has a positive and significant relationship to cryptocurrency investment. The more experienced individuals, the more likely they are to invest in cryptocurrencies. Then, age has a negative relationship with cryptocurrency investment. Individuals aged 18 to 34 make up the majority of cryptocurrency investors. It is due to younger individuals being more open to the latest technology, unlike older individuals who tend to be conservative in investing.

Associated with the flexibility that cryptocurrencies have in the form of convenience in conducting transactions. According to Kim et al. (2008), convenience is an essential factor affecting the increase in internet transactions. In line with this, Ayedh et al. (2020) research show that convenience has a positive and significant relationship with Bitcoin cryptocurrency investment in Oman. The easy-to-manage cryptocurrency Bitcoin influences the interest of Omani investors to invest. This study also shows that religious values become a consideration for Muslim individuals in making investment decisions. They see the suitability of Bitcoin cryptocurrency investment with their religion. The interest of Omani Muslim investors in Bitcoin cryptocurrency investment will be greater if it is in accordance with sharia values. They consider the element of gharar inherent in Bitcoin.

[2]Chain Analysis, 2020.

Research Method

The subjects in this study are Indonesian people who have invested in cryptocurrencies. According to Sekaran (2017), the purposive sampling technique is a sampling technique that is carried out considering that the information needed in research can be obtained from a group that has met the criteria determined by the researcher. This technique is used because the sample will follow the research objectives. The sample contacted is a sample that meets the requirements set to provide time and energy efficiency in research. Meanwhile, the sample criteria determined in this study are Indonesian citizens aged at least 18 years who have invested in cryptocurrencies and are domiciled in the territory of Indonesia. The data collection technique used in this study was a questionnaire. The distribution of the questionnaires is carried out online in the range of January – February 2022.

In determining the number of samples used, the researcher uses the Cochrane formula considering the number of populations is unknown (Sugiyono, 2013). Meanwhile, the number of samples is 97 people based on the calculation of the following formula:

$$n= \frac{Z^2pq}{e^2} \quad (1)$$

Information: n = Number of samples; z^2 = Price in the normal curve for 5% savings, with a value of 1.96; p = 50% correct chance or 0.5; q = 50% chance of being wrong or 0.5; e = error rate (*error*) used in this study by 10%

The analysis used in this research is multiple linear regression. The method used is the method of least squares (ordinary least square). This method can be used if the regression model meets the BLUE (Best Linear Unbiased Estimator) assumption. In the BLUE assumption, the regression model between the dependent and independent variables has a linear relationship. The independent variable has no fixed value. The error term has an estimated value of 0 because the assumption is that the estimated value of the dependent variable is only affected by the independent variable. Then, the error term has the same variance (homoscedasticity). The following assumption is that no serial correlation between the error term and the error term has a normal distribution. The regression model in this study is as follows:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5D_1 + \beta_6D_2 + e \quad (2)$$

Variable description: Y = Public investment interest in cryptocurrencies; X_1 = Return (standard deviation); X_2 = Flexibility (standard deviation); X_3 = Age (years); X_4 = Perception of prohibition (standard deviation); D_1 = Investment experience (1 = yes, 0 = no); D_2 = Gender (1 = male, 0 = female)

As the dependent variable in this study, return is the profit level derived from investment instruments within a certain period. The yield variable is measured using a Likert scale consisting of questions regarding considerations of the yield generated and long-term returns in cryptocurrency investments. The final value on the yield variable is obtained by

averaging all components in the variable, which is then transformed into a number with an average of 0 and a standard deviation of 1. The unit of this variable is the standard deviation.

The flexibility variable was measured using a Likert scale by asking several questions to the respondents associated with the independent variable. The flexibility variable consists of questions about the ease of transactions and the low cost of investing in cryptocurrencies. The final value of this variable is taken by averaging all components, which is then converted into numbers with an average of 0 and a standard deviation of 1. The unit of this variable is the standard deviation. Meanwhile, the perception of prohibition is an individual's view or response to cryptocurrency laws based on sharia rules. This variable is measured using a Likert scale which consists of questions about the legal perception of cryptocurrencies and the effect of the prohibition of cryptocurrencies on investment. The unit of this variable is the standard deviation.

Regarding individual characteristics, the age variable measures the characteristics of individuals who invest in cryptocurrencies. This variable is measured in years. Another personal characteristic is investment experience. Investment experience is the experience that individual gains when investing in specific instruments. Investment experience is the benchmark for an individual to know the world of investment before investing in cryptocurrencies. Precisely, this variable is measured from the experience of investing in capital market assets before investing in cryptocurrencies. The experience of investing in the capital market before investing in cryptocurrencies was changed to a dummy one if the respondent answered yes and 0 if no. Finally, gender is a benchmark to determine the characteristics of individuals who invest in cryptocurrencies. The variable is converted into a dummy form with a value of 1 if male and 0 if female.

Result and Discussion

Table 1 shows the results of multiple regression analysis based on equation (2). Based on the results of various regressions that have been carried out, the yield variable has a positive and significant relationship with interest in investing in cryptocurrencies. It shows that the higher the expected return on cryptocurrency investments, the higher one's interest in investing in the instrument. Cryptocurrency investment provides more significant and faster returns than other investment instruments. Most respondents predict that the value of cryptocurrencies will increase in the future. They also know that the resulting returns come from price fluctuations. This finding is in line with the research conducted by Xi et al. (2020) that most respondents believe that cryptocurrencies are investment assets that can provide high returns in the short term.

Meanwhile, the flexibility variable positively and significantly relates to a person's interest in investing in cryptocurrencies. This finding is in line with Ayedh et al. (2020), which show a positive and significant relationship between convenience and Bitcoin cryptocurrency investment in Oman. Transactions on cryptocurrency investments are relatively faster than other investment instruments because they can be done anytime for 24 hours while

buying and selling assets can be done in just a few seconds. This convenience is driven by the existence of buying and selling platforms that charge lower transaction fees when compared to other investment assets, especially the amount of cryptocurrency investment can be in the form of a small nominal.

Table 1 Multiple Regression Analysis Results

Variable	(1)
	Investment Interest
Yield	0.450***
	(0.089)
Flexibility	0.309***
	(0.089)
Age	-0.014
	(0.012)
Perception of Prohibition	-0.165**
	(0.076)
Investment Experience	0.047
	(0.145)
Gender	-0.357
	(0.246)
Constant	0.394
	(0.432)
Observations	97
R-squared	0.563

*,****,***: significant at 10%, 5%, 1% levels
Standard error in brackets

The variable of perception of prohibition is negatively related to a person's interest in investing in cryptocurrencies. The perception of the ban can reduce a person's interest in investing. The Indonesian Ulema Council (MUI) recently stated that investing in certain types of cryptocurrencies is unlawful according to sharia rules. Prohibited cryptocurrencies are thick with gharar (speculative) and dharar elements, do not have a physical form and do not have underlying assets or clear benefits. It is in line with the research of Ayedh et al. (2020) in Oman, which states that religious values are a consideration for Muslim individuals in making investment decisions. They see the suitability of Bitcoin cryptocurrency investment with their religion. Muslim investors' interest in Bitcoin cryptocurrency investment will be greater if it follows sharia values considering they consider the element of gharar inherent in Bitcoin.

Regarding individual characteristics, the age variable is unrelated to a person's interest in investing in cryptocurrencies. This finding differs from the research of Zhao and Zhang(2021), which uses survey data from the United States 2018 NFCS (The National Financial Capability Study) which found that age was negatively and significantly associated with interest in investing in cryptocurrencies. This difference in results is caused by the limited number of research samples and the characteristics of most respondents at a young age, namely 20-25 years (47%). This inequality also affects the results of the regression. It differs from the age distribution of Zhao and Zhang's study,

most of which are at a higher age, namely 55-64 years (23.4%) and 65 years and over (38.34%).

Similarly, the gender variable was unrelated to a person's interest in investing in cryptocurrencies. This finding is different from Xi et al. (2020) in Australia, where the number of cryptocurrency investors is more male than female. This study's results differ due to the different respondents' characteristics and the limited number of samples. In this study, most respondents were male (91%). This inequality then affects the regression results.

Then, the investment experience variable is not related to a person's interest in investing in cryptocurrencies. This finding differs from the research of Zhao and Zhang (2021), who found that the investment experience reflected in the ownership of shares or other investment assets has a positive and significant relationship with cryptocurrency investment. Experienced individuals are more likely to invest in cryptocurrencies. This difference in results indicates that other factors influence crypto investment. The FOMO (Fear Of Missing Out) behavior is suspected of affecting crypto investment.[3] Many people are involved in crypto investing without the knowledge and experience that this asset is risky. They follow the trend of investing in cryptocurrencies because they are tempted by the investment benefits presented on social media.

Conclusion

The results of this study indicate that the yield and flexibility variables have a positive and significant relationship with a person's interest in investing in cryptocurrencies. The greater the expected return from investing in cryptocurrencies, the higher one's interest in investing in the asset. Crypto investment provides greater returns than other asset investments whose value is expected to increase. Transactions on cryptocurrency investments are also relatively faster than other instruments, which can be done 24 hours a day. In addition, the transaction fees are low, and investments can be made in small amounts. The variable of perception of prohibition has a negative and significant relationship with a person's interest in investing in cryptocurrencies.

Of course, this research still has some limitations. This limitation is expected to be corrected by future research. The limitation of this study relates to the distribution of respondent profiles, one of which is related to the number of female respondents who are far less than male. Then, the distribution of respondents mostly has the aged 20-25 years. As a result, the results of this study cannot be generalized. Therefore, further research is expected to be able to add samples with more varied distribution of respondents so that they can better reflect the population. In addition, there are limitations to the variables used in this study. Other factors are thought to be related to public investment interest in cryptocurrencies, such as the FOMO factor.

[3]FOMO (Fear Of Missing Out) is the fear of being left behind because of not following certain activities or trends,

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