THE EFFECT OF THE BITCOIN ECONOMY ON MONEY SUPPLY WITH THE BITCOIN VALUE VOLATILITY AS INTERVENING VARIABLE

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Abstract : In this technological era, Cryptocurrency emerged as a means of payment. One example is Bitcoin which has been widely used as a virtual currency. The Bitcoin system itself is based on Cryptocurrency and is decentralized and uses peer-to-peer networking and cryptography-based technology that can maintain the integrity of the data. With the easy use of Bitcoin, the demand for Bitcoin continues to increase every year while the limited amount of Bitcoin causes the value of Bitcoin to experience volatility. This study was conducted to determine whether there is an influence between the economic variables of bitcoin, currency bitcoin as an intervening variable, and the money supply in the country of Thailand. This research uses observation years January 2016 - June 2019. The methods used are Descriptive Statistics, Simple Linear Regression, test Classical Assumptions, and t test. The results show that the bitcoin economy has a significant positive effect on the bitcoin currency but the bitcoin currency does not affect the amount of money supply and the currency bitcoin is not an intervening variable because the bitcoin economy can directly influence the amount of money supply without passing through the currency bitcoin first, meaning that the people in Thailand still use bitcoin as an investment tool not as a transaction tool.

Keywords: Bitcoin Currency; Blockchain; Cryptocurrency; Economy of Bitcoin; Money Supply; Volatility

INTRODUCTION

Someone named David Chaum who is a graduate of the University of California first published the idea of making a cryphtographic based payment method with a product called DigiCash that can maintain the cionfidentiality of the owner's data (Chaum, 1982). Cryptoccurency arises as an answer to the problems faced by the current payment system which relies heavily on third parties as a payment product issuer company that is trusted to manage digital transaction such as visa, mastercard, paypal, etc. *Cryptocurrency* is the name given to a system that uses cryptography to carry out the process of sending data securely and to carry out the process of exchanging digital tokens in a scattered manner (Dourado and Brito, 2014). The use of *Cryptocurrency* Technology as a payment system technology apparently still has several obstacles related to problems that have been faced for a long time and have not been solved for years in the world of computer science, namely double spending problems and Byzantine general problems (Dourado and Brito, 2014). Until finally in 2008, Bitcoin Currency crypto first discovered by Satoshi Nakamoto and introduce as the payment network system open-source peer-to-peer where the user can transact directly without the need for intermediaries.

Bitcoin is the first decentralized digital currency and collect ownership without identity (Nakamoto, 2008). With the emergence of Bitcoin, it turned out to be able to answer problems related to the above problems, Bitcoin emerged as a currency and also as a data exchange communication protocol using cryphtograpgy technology. Currently

Bitcoin has been used as a payment tool because it is more partical and used as an investment for some users. The terminology of Bitcoin itself is still many that are misinterpreted, Bitcoin itself has two meanings and views. First, Bitcoin functions an independent currency and does not have a regulatory body and Second, Bitcoin as a technology, system, or protocol (Mulyanto,2015). The circulation of bitcoin will easily affect the currency in the country for example at the end of 2013 the exchange rate of the USD against Bitcoin value has risen five times in the span of a few weeks, besides the market value has exceeded the USD during 2013 (sheetaraman et al , 2017). According to Bank Indonesia, the amount of money in circulation can be determined by the change in currency exchange rates. An increase in the money supply will result in continuous price volatility and vice versa if the money supply is low there will be deflation.

Southeast Asian countries have the potential for very large for Bitcoin to access its service, because most large communities do not have access to the services of banking. Even though the ecosystem in Southeast Asia is still underdeveloped, it is very potential for countries with high populations. At present, Thailand is a country in Southeast Asia with an area of 512.000 kilometers amd a population of 68 million. Thailand has the new economy and when it was experiencing industrialization. However, Thailand is one of the main economies in Southeast Asia the second to Indonesia in terms of GDP. Thailand's economy is based on computer components, the automotive industry, petroleum and agriculture. Bitcoin is legal in Thailand though Thailand's cryptocurrency exchanges and financial institutions are under some regulations. Thailand's Bitcoin exchange can only exchange digital currencies for Thai Bhat and need a Business Development Department license to perform such operations.

The problem faced is how people use the *Cryptocurrency* system by using Bitcoin, whose value is very volatile, which can be applied and used as a payment system in Southeast Asia, especially Thailand, which uses the Baht Currency / exchange rate. Factors that affect Cryptocurrency according to Poyser (2017), are are divided into 2 factors, namely external and internal factors. which can increase the volatility of the value of Bitcoin. These factors are supply and demand, crypto market, macro-financial, and politics.

Factors that may be considered by the public in using the Cryptocurrency system using Bitcoin as the payment system are technology applied by Bitcoin, regulations related to Bitcoin in Thailand, and the economy in using Bitcoin, etc.

Based on this phenomenon, There is problem of the occurrence of Bitcoin value volatility. Therefore it is necessary to have a discussion about the factors that affect the price of Bitcoin . This study is conducted to test "the effect of the Bitcoin economy on the amount of money circulating with the volatility of the value of Bitcoin as intervening variable. (Case study is taken in Thailand for the period of January 2016 - June 2019) ".

Virtual Currency
Virtual Currency (VC) is included in the concept of *Digital Currency* based on the internet, which was launched for its users in 1996. In 2012 the European Central Bank defines virtual currency as "a type of unregulated digital money which is issued and usually controlled by its developer, and used and accepted among virtual community."

This VC is based on a *peer-to-peer system* that does not have central administrative authority and there is no central monitoring or supervision. Nowdays there have been many developments and the number is increasing every year (Turpin, 2014).

Cryptocurrency

Cryptocurrency was discovered in 2008 by a person who claimed his name was Satoshi Nakamoto, Cryptocurrency is a system that uses cryptography to make the process of exchanging digital tokens easily, safely and decentralized (Dourado and Brito, 2014). According to Conway (2014), Botcoin is the first cryptocurrency which is applied and used widely as the potential payment of *query* transactions in *real- time* for the banking system which every transaction data will be perfomed using the ecryption algorithm certain cryptographic.

Cryptocurrency has a decentralized nature to prevent a single authority, such as a central bank or government. By maintaining a public ledger known as Blockchain, cryptocurrency provides transparency that is very important to build trust between parties. By using *open source software*, anyone can see every transaction, send bug fixes, or send updates, which can help improve the system (Conway, 2014).

Bitcoin

Bitcoin was created by Satoshi Nakamoto in 2008, which is a worthy currency with a *peer-to-peer network.* Every Bitcoin is coded with cryptographic protection and every single transaction uses a protocol and is overseen by a group of volunteers. Bitcoin does not have a centralized server but instead uses Blockchain which is a distributed network public database technology, which requires digital signatures and proofof-work systems that support it to provide security and legitimacy to the money transaction process. Bitcoin is a pure currency that is not based on physical valuable objects such as gold, dollars, etc. The number of Bitcoin in circulation is predicted that will not exceed 21 million Bitcoin.

Volatility

According to Anita (2016) Volatility is a statistical method to measure price fluctuations during a certain period, but not to measure the price level, Measures the level volatility of variation during a certain period. Price variations can be a positive signal, but can also be a negative signal if the price variations that occur are large enough and cannot be anticipated by the government or economic actors.

Economy Bitcoin

In 2014, Bitcoin experienced growth with service providers in the form of: wallet service providers, Bitcoin exchange , payment processing, financial services, mining and universal service providers. Currently the price of Bitcoin can be found on Yahoo Finance, Google Finance and Bloomberg. The enactment of payment using Bitcoin on sites such as Virgin Airlines and AliExpress Alibaba enable more number of users who use user cryptocurrency.

Bank of Thailand announced that Thai Banks would be allowed to issue digital tokens, provide crypto intermediary services, engage in crypto-related businesses, and invest in cryptocurrencies through subsidiaries. However, according to a report in Coin Telegraph, Thai banks and other financial institutions are still prohibited from dealing directly with *Cryptocurrency*.

In early January 2019 the Securities and Exchange Commission (SEC) issued a notice that the use of bitcoin had been legalized in US.

Money Supply

The money supply has a very significant effect on the value of Bitcoin, because the growth of the money supply in an economy will determine the value of money. The value of money is determined by the *supply* and *demand* for money, while the money supply is determined by the Central Bank and several factors such as the average price level in the economy, etc. The higher level of prices

will need the greater amount of money demanded and ultimately the economy of a country will reach the level of *equilibrium* just when the amount of money that was asked backe balanced by the number of the released (Fadli F, 2011).

Research

Sheetaraman et al (2017) examines how the impact of Bitcoin on currency by using independent variables, namely: regulations about Bitcoin globally, technology that guatantees the security and privacy of financial transactions and saving costs, economy that may increase for Bitcoin, and Bitcoin as currency.In that study, the regulation has *a correlation of path correlation* with Technology of 0.8433, Regulation with Economy has a correlation of 0.7705, Regulation with Currency has a correlation of 0.7605, Technology with Economy has a correlation of 0.6093, Economy with Currency has a correlation of 0.283, and correlation of Currency with Effect on USD of 0.8006. It isconcluded that the

influence of Bitcoin on USD currency is caused by these variables. At the moment, Bitcoin has a huge potential to significantly influence USD currencies.

This study will discuss the effect of the use of Bitcoin on currencies with a Southeast Asia country case study in Thailand. The study are using two separate regressions. The first regression os for independent variable (X1) of the Number of Investment Service Providers (Bitcoin Economy) and the dependent variable (Y) of the Volatility of the value of Bitcoin. The second regression is for the independent variable (X2) Volatility of the value of the Bitcoin and the dependent variable (Y) of the Money Supply. The third regression is for independent variable (X3), of the number of investment service providers (Bitcoin Economy) and the dependent variable (Y), Of the amount of money supply. This Study the variable Bitcoin Volatility as intervening variable (Z).
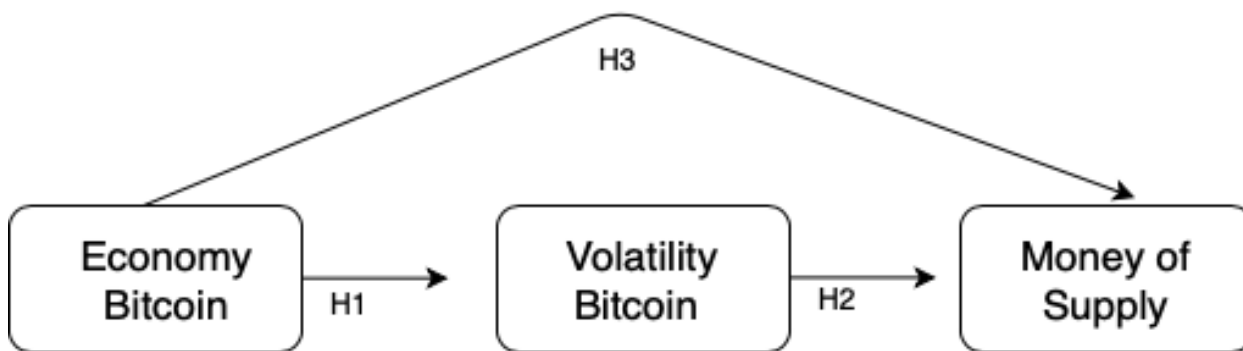
Picture 1 Framework

Source: Sheetaraman 2017

Based on the framework and paradigm shown in the picture, this study formulates the hypothesis as follows:

a. H_1: The number of Bitcoin Investment Service providers (Bitcoin Economy) affects the Bitcoin value volatility.

b. H_2: The volatility of the value of Bitcoin affects the Amount of Money Supply (M1) in Thailand.

c. H_3: The Number of Bitcoin Investment Service Providers (Bitcoin Economy) affects the Amount of Money Supply (M1) in Thailand.

METHODS

The method used is Descriptive Statistics, Classical Assumption Test, Simple Regression Analysis, and t test.

Descriptive Statitstics

Descriptive Statistics is used to find the strength of a relationship between two variables through correlation analysis. This study is conducting a regression analysis and making comparisons by comparing the average sample data or population (Sugiyono, 2016).

Classical Assumption Test

In the classical assumption test, the following tests are performed:

Multicolliniarity

According Indrawati (2015) model of good regression model should not occur if ther is a hight correlation between variables independent because it will cause regression coefficient of volatility, thereby it will reduce confidence in the results, so it needs to be fully tested against the data sample whether there Multicolliniarity or not. There is no Multicolliniarity if the VIF value < 10 and the Condition Index value < 30.

Heteroscedasticity

This test examines wheter the regression model has a variable

Simple Linear Regression Analysis

Regression analysis is used to test the effect of independent variables on the dependent variable quantitative analysis is carrying out calculations that are relevant to the problem being analysed.

$$Y = a + bx + e$$

Where the values of a and b are calculated by using the following equation:

$$a = \frac{(x^2) - (\sum x)(\sum xy)}{n \sum x^2 - (\sum x)2}$$

$$b = \frac{n \sum xy - (\sum x)(\sum y)}{n \sum x^2 = (\sum x)2}$$

Where :

x = Independent variable
y = Dependent *variable*
n = Number of samples

inequality occurs from residuals of one observation to another. If the variance of the residuals of an observation to another is fixed, then it is call homoscedastisity and if it is different it called heteroscedastisity. Heteroscedasticity test in this study is done by looking at plot graph or by the Glejser test (Indrawato, 2015).

Autocorrelation

This test find wheter there is a correlation between a period t with the previous period (t-1).
If DU < DW < 4-DU, then it does not happen autocorrelation.
If DW < DL or DW > 4-DL, then happen autocorrelation.
If DU < DW < DU or 4-DU < DW < 4-DL, it is not no assurance or conclusions are define.

Normality

Normality test is done to see whether the tested data has a normal distribution. In this study uses Kolomogrov-Smirnoc, with the basic decisions making:
If the value of Sig > 0.05, then the data distribution are normal
If the value of Sig < 0.05, then the data is note ditstributed normally (Indrawati, 2015). Besides looking at the Sig value, can be used for this test Normal P-P plot.

a = Constant value (intercept)
b = Slope of the line

t Test

The t test tests the effect of each independent variable separately on the dependent variable. T test can be done by comparing t arithmetic with t table and significant value. If the significance level value:
Sig < 0.05, then the independent variable influences the dependent variable.
Sig > 0.05, then the independent variable does not affect the dependent variable.
Or

If t $_{resultant}$ > t $_{table}$,then H0 is rejected (significant effect)

If t $_{resultant}$ < t $_{table}$, then H0 is accepted (no effect)

Table 1 Operational Variable

Variable	Dimention	Indicator	Scale
Variable: Number of Transaction Service providers (Bitcoin Economy)	Service providers include wallet service providers, Bitcoin exchange, payment processing, financial services, mining and universal service providers. (Sheetaraman et al 2017)	The number of Legalized Investment Service Providers is based on a sample of research	Ratio
Variable: Amount of Money Circulating in Thailand	The money supply is the amount of money issued and circulated by the Central Bank (Bank Indonesia).	*Narrow Money for the period January 2016 - June 2019 obtained from the Bank of Thailand*	Ratio
Intervening Variable (Z): Bitcoin Value Volatility	Volatility is the range of price fluctuations of financial instruments and is one of the most important indicators of trading instruments. Volatility reflects the level of risk when using one instrument or the other, the higher this indicator, the greater the range of changes in the exchange rate within a certain period (Munandar et al., 2016).	$\frac{t-(t-1)}{t-1}\, x\, 100\%$ (3.1) Current Bitcoin price (t) reduced by previous Bitcoin price (t-1) divided by previous Bitcoin price (t-1) x 100%	Ratio

RESULT AND DISCUSSION

Table 2 Bitcoin Economy Descriptive Statistics
Descriptive Statistics

	Minimum	Maximum	Mean
LN_EkonomiBitcoin	-.68	4.20	2.5899
Valid N (listwise)			

Source: statistical output

In Table 2 it is data processing from the Bitcoin Economy (Number of Bitcoin transaction service providers) whose data has been transformed in the form of LN. Can be seen The table displays a summary of statistics in the form of Minimum, Maximum, and Mean.

From these data it can be seen that the data with a minimum value of -0.68 and a maximum value of 4.20, the data also has an average value of 46.62.

Table 3 Descriptive Statistics of Bitcoin Value Volatility

Descriptive Statistics

	Minimum	Maximum	Mean
LN_Volatilitas	24.00	26.15	25.2931

Source: statistical output

In Table 3 it is the processing of data from the Bitcoin Value Volatility where the data has been transformed in the form of LN. Can be seen The table displays a summary of statistics in the form of Minimum, Maximum, and Mean.

From these data it can be seen that the data with a minimum value of 24.00 and a maximum value of 26.15, the data also has an average value of 25.2931.

Table 4 Descriptive Statistics of the Amount of Money Supply

Descriptive Statistics

	Minimum	Maximum	Mean
LN_JUB	21.84	26.27	24.8432

Source: statistical output

In Table 4 it is the processing of data from the Amount of Money Supply whose data has been transformed in the form of LN. Can be seen The table displays a summary of statistics in the form of Minimum, Maximum, and Mean.

From these data it can be seen that the data with a minimum value of 21.84 and a maximum value of 26.27, the data also has an average value of 24.8432.

Table 5 Kolmogorov-Smirnov Test Results

	Kolmogorov-Smirnov[a]		
	Statistic	df	Sig.
Ln_EkonomiBitcoin	.239	5	.200[*]
Ln_VolatilitasBitcoin	.305	5	.144
Ln_JUB	.291	5	.193

Source: statistical output

In Table 5 it was found that the Sig value of:
Bitcoin Economy 0.200 > 0.05, data are normally distributed

Volatilias Bitcoin Value 0.144 > 0.05, data is normally distributed
Total Money Supply 0.193 > 0.05, data is normally distributed

Table 6 Multicollinearity Test Results

Model	Dimension	Eigenvalue	Condition Index
1	1	1.812	1.000
	2	1.000	1.346
	3	.188	3.102

Source: statistical output

With the Classic Assumption Test (Multicollinearity) seen from the VIF and Condition Index 2nd dimension in the Collinearity Diagnostics Table in table 6, it can be interpreted that Multicollinearity does not occur and passes the Multicolliniarity Test, because the VIF Value (2,931 <10) and Condition index values (3,102 <30).

Table 7 Autocorrelation Test Results

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.358[a]	.128	.106	26.0948230	2.332

Source: statistical output

In accordance with the Classical Assumption Test (Autocorrelation) seen from the Durbin Watson value, to obtain DU and DL values can be obtained from the Durbin Watson statistical table with n = 42 and the number of variables = 2, it can be concluded that the DU value is 1.6061 and DL = 1.4073. so the value of 4-DU (1.6061) = 2.3939 and the value of 4-DL (1.4073) = 2.5927. from the results of the output in table 4 it can be seen that 1.6061 <2.332 <2.3939 which means that the Durbin Watson value is between DU and 4-DU it can be concluded that there was no autocorrelation and autocorrelation test passed.

Table 8 Heteroscedasticity Test Results

Unstandardized Coefficients		Standardized Coefficients		
B	Std. Error	Beta	t	Sig.
23.662	7.524		3.145	.003
-.788	1.554	-.080	-.507	.615

Source: statistical output

In Table 5 it is known that the Sig value of Heteroscedasticity Test uses Glejser Test that is equal to 0.615> 0.05, then the data does not occur Heteroscedasticity and passed Heteroscedasticity Test.

Table 9 Result Discussion

Hypothesis	Simple Linear Regression Analysis	t Test
Hypothesis 1 **Economy Bitcoin to the Volatility of Bitcoin Values**	Y= 38.880 – 6.134X + e	0.020
Hypothesis 2 **Volatility of Bitcoin Values to the Money of Supply**	Y= 1910847.30+ 126.398X + e	0.862
Hypothesis 3 **Economy Bitcoin to the Money of Supply**	Y= 1702397.69 + 4.4804.266X + e	0.000

Source: statistical output

Based on these results, it is known that:

a. Hypothesis 1

$H0_1$: There is no effect of the Number of Bitcoin Transaction Service Providers (Bitcoin Economy) on the Bitcoin Value (Currency Bitcoin) Volaitility.

$H1_1$: There is an influence of the Number of Bitcoin Transaction Service Providers (Bitcoin Economy) on the Bitcoin Value (Currency Bitcoin) Volatility .

Based on these results it is known that the value of the t test on hypothesis 1 is Sig 0.020 <0.05, which means $H0_1$ is rejected, which there is the influence of the Number of Bitcoin Transaction Service Providers (Bitcoin Economy) to the Bitcoin Value (Currency Bitcoin) Volatility. The linear regression equation Y = 38,880 - 6,134X + e

b. Hypothesis 2

$H0_2$: Theres is no influence of the Bitcoin Value (Currency Bitcoin) on the Total Money Supply (M1).

$H1_2$: That is, there is an influence of Bitcoin Value (Currency Bitcoin) on the Amount of Money Supply (M1).

Based on these results it is known that the value of the t test on hypothesis 2 is Sig 0.862> 0.05 which means that $H0_2$ is accepted, which there is no effect of the Bitcoin Value (Currency Bitcoin) Volatility on the Total Money Supply (M1). The linear regression equation is as follows $Y = 1910847.30 + 126,398 + e$

c. Hypothesis 3
$H0_3$: There is no influence of the Number of Bitcoin Transaction service providers (Bitcoin Economy) on the Total Money Supply (M1).
$H1_3$: There is an influence of the Number of Bitcoin Transaction service providers (Bitcoin Economy) on the Total Money Supply (M1).

Based on these results it is known that the value of the t test on hypothesis 1 is Sig 0.000 <0.05, which means $H0_3$ is rejected, which there is the influence of the Number of Bitcoin Transaction Service Providers (Bitcoin Economy) on the Total Money Supply (M1). With the linear regression equation is as follows $Y = 1702397.69 + 4.4804.266 + e$
From the three hypothesis it can be concluded that the Number of Bitcoin Transaction Service Providers (Bitcoin Economy) has a Significant Positive effect on the Amount of Money Supply (0,000), Bitcoin Value Volatility (Currency Bitcoin) has no effect on the Amount of Money Supply (0.862). the relationship between the Number of Bitcoin Transaction Service Providers (Bitcoin Economy) and the Bitcoin Value Volatility (Currency Bitcoin) has a Significant Positive (0.020) but compared to the number of Bitcoin Transaction Service Providers (Bitcoin Economy) to the Amount of Money Supply tends to be weak. Therefore Bitcoin Value Volatility (Currency Bitcoin) is not an intervening variable, because the number of Bitcoin Transaction Service Providers (Bitcoin Economy) can directly influence the amount of money in circulation and the Bitcoin Value Volatility (Currency Bitcoin) has no influence on the Amount of Money Supply.

Therefore the results of this study indicate that Bitcoin is only used as an investment tool, not as a transaction tool even though in Thailand the regulation of the use of Cryptocurrency has been legalized and several companies have sold their products using Cryptocurrency. But based on the results of the study stated that there is no influence between the Bitcoin Value (Currency Bitcoin) Volatility with the Money Supply.

With a transaction service provider, it can affect the value of Bitcoin. The more service providers, the more requests for Bitcoin and the value of Bitcoin will increase, but Bitcoin itself is predicted that the amount in circulation will not exceed 21 million Bitcoin, therefore the Bitcoin Value Volatility that occurs changes is very Significant. However, people in Thailand still use Bitcoin as an investment tool not as a transaction tool even though the existence of Bitcoin in Thailand has been legalized by the government. In this study the money of supply used is Narrow Money (M1), which is money saved by the public for daily transactions. With the number of Bitcoin transaction service providers, people can easily invest in Bitcoin. In addition, because the use of Bitcoin in Thailand has been legalized, the Thai people choose to invest using Cryptocurrency, one of which is Bitcoin, considering its use is easier and does not need to use a third party to make investments.

With the presence of cryptocurrency, especially Bitcoin, this could potentially bring some risks to the economy in the country. Possible risks include: risks to

price stability of fiat currencies related to the money supply, velocity of cash flow, interactions between

, it will indirectly pose a risk to the central bank's reputation as an institution that has the authority to print and determine the amount money supply.

CONCLUSION

Based on the results of the study in Table 9 it can be concluded that the number of transaction services Bitcoin Provider (Economy Bircoin) has positive significant effect on the money supplu, the volatility of the value of Bitcoin (Currency Bitcoin) has no effect on the Money Supply. The economy of bitcoin has a significant effect on the volatility of the value of bitcoin (currency bitcoin) the number of Bitcoin transaction service provders (Bitcoin Economy) has a significant effect on the amount of money supply too.

Therefore the volatility of the value of bitcoin (currency bitcoin) is not an intervening variable, because the number of bitcoin transaction service providers (the economy of bitcoin) can directly influence the amount of money in circulation and the volatility of the value of Bitcoin (Currency Bitcoin) has no effect on the amount of money supply.

The results of this study indicate that Bitcoin is only used as an investment tool not as a transaction tool even though in Thailand the regulation of the use of *cryptocurrency* has been legalized and several companies have sold their products using *cryptocurrency*. However, based on the results of the study stated that there is no effect of volatility of the value

economic agents, and protection of fiat currencies. It also risks financial stability where the development of cryptocurrency can increase demand and affect price volatility, and if the virtual currency continues to increase

of Bitcoin (currency bitcoin) on the Total Money Supply.

The presence of cryptocurrency especially Bitcoin could potentially bring some risks for the economy of a state. Risks that may occur are: the in stability of the price of a currency money fiat associated with the amount of money in circulation, the speed rotation of money cash, the interaction between actors economy, as well as protection against currency money fiat. In addition it is also risky to the stability the financial where with development cryptocurrency can increase the demand and the effect of the volatility of the price. In Southeast Asia, Bitcoin has the potential to have very large impact because the Bitcoin ecosystem in the Southeast Asian Region is growing very rapidly. Bitcoin can play a major role in alleviating poverty of a population of more than 600 million people (ASEAN countries are the third largest population after China and India) and continue to prove that using cryptocurrency can benefit investors and startups.

The suggestions that can be shared by researchers are as follows:
1. For current investors and prospective investors who will invest in cryptoccurency especially Bitcoin, is expected to consider the factors of the risk of using Bitcoin can understand the cycle of price movements Bitcoin highly fluctuating every time.
2. For further researchers, it is recommended to use different

3. variables such as factors that influence the use of bitcoin for example in terms of cryptocurrency demand and supply, cryptocurrency market, micro-financial market, and politics and other cryptocurrency objects such as Etheureum, Ripple, Cardano, and others.

4. In this research there are still shortcomings due to the lack of theories regarding Cryptocurrency especially Bitcoin and the absence of theories regarding the Bitcoin Economy.

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