International Journal of Engineering & Technology, 7 (3.21) (2018) 67-72

SPC

International Journal of Engineering & Technology

Website: www.sciencepubco.com/index.php/IJET

Research paper



Nexus of Money Function and Its Effect on Inflation Rate in Thailand and Indonesia

Rudy Badrudin[1]

[1]*YKPN School of Business Yogyakarta, Indonesia*
**Corresponding author E-mail: rudybadrudin.stieykpn@gmail.com*

Abstract

This study aims to investigate the development function of money. At the beginning, function of money is a barter between two commodities, C and C'. Then this becomes C-M-C' when the money is once introduced. The M-C-M' occurs when a businessman utilizes the money (M) to produce commodity (C) and resells it to generate more money (M'). Finally, the trading process of M - M' shows the capital or financial market, like the money or security market. The development of the function of money is shown by the changes of the money supply that measured with the inflation rate. This *study contributes to advise* the central bank in *Thailand and Indonesia in* managing *the role of the central bank*'s credibility *in achieving the inflation target and the proposed rules on monetary policy*. Based on the data of 1990-2015 and using ANOVA and the regression analysis (α = 5%) the *results show that 1*) *there is a significantly difference* between the *currency outside, demand deposits, and quasi-money; 2*) the *currency outside* and the demand deposits in-significantly affects on *the inflation* rate; *3*) the *quasi money* in-significantly affects *and* significantly affects *on the inflation* rate *in* Thailand and *Indonesia*.

Keywords: *Money; Nexus; Inflation Rate*

1. Introduction

The role of money evolutionary which is started from a barter of two commodities (C and C') to the use of money as an exchange media (C – M – C'). In C – M – C', money is transferred when commodity (C) are purchased and is received when commodity (C') are sold (Skousen, 2007). The focus is on the production of commodities (goods and services) and money is only an instrument to complete a transaction (capitalism system). Furthermore, the role of money shifted to M – C – M'. In this stage, businessman use their money (M) to produce commodities (C), which is then sold to the market, in order to earn more money. By focusing on money as an initial and final activity of a businessman, then a possibility for him to produce M instead of C is widely opened. In the final stage, market system indicates an inexistence of commodities because the exchange involves only M – M'. This ultimate stage represents capital or financial market (money and securities). In this environment, a businessman often ignores the goal of economic system i.e., producing goods and services and focusing only on getting more money through market commodity. Hence, a solution for this problem is required (1).

In money economy stage (C – M – C'), the function of money as an exchange instrument becomes a foundation for specialization and distribution in producing a commodity. The existence of money drives businessmen to sell their product in the market -instead of exchange them with other product they want- and use the money earned to buy the products they want. In modern economy, this media of exchange includes, among others, coin, note, and credit instrument and they are made officially by each country -represented by its central bank- in the world –currency outside- and by general bank –demand deposits- (2).

In credit economy stage (M – C – M'), the function of money is as a standard or measure of future payment i.e., credit payment. When money is publicly accepted as an exchange instrument or unit of measure, it is used as an instrument to pay credits or as a measure of credits amount. Money can also be used to complete any transactions promptly and properly. Moreover, a businessman may use money as an instrument to stack their wealth. Saving a large amount of money is intended to facilitate an exchange or transaction at this time -present value of money- or in the future -future value of money- (3). Due to its liquid characteristic, money is chosen as a preferred instrument for saving. As a result, money is not only used as an instrument of payment but also as a tool to get money. In long term, the use of money to get money will have negative impact on an economy because the process of producing and selling goods and services might be disrupted (4) and (5). This situation, in Indonesia, is indicated by sluggish growth in real sector. This might be due to the intermediation role played by Bank and Financial Institution is not optimal yet (6) and (7).

This study aims to investigate the development function of money. At the beginning, function of money is a barter between two commodities, C and C'. Then this becomes C-M-C' when the money is once introduced. The M-C-M' occurs when a businessman utilizes the money (M) to produce commodity (C) and resells it to generate more money (M'). Finally, the trading process of M - M' shows the capital or financial market, like the money or security market. The development of the function of money is shown by the changes of the money supply that measured with the inflation rate in Thailand and Indonesia. Thailand and Indonesia start use to Inflation Targeting Frame as the goals of monetary policy in 2001. This study is developed by (8).

Copyright © 2018 Authors. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

2. Literature Review

The development of an economy from time to time can by explained using Circular Flow Diagram of Francois Quesnay. This diagram shows "who", "how", and "where" an economy activity is undertaken. "Who" indicates that in an economy activity there must be a player or more involve in the activity, for example house hold and business. "How" shows that each of the economy player consumes something –household- and produce something –companies- in their economy activities. "Where" demonstrate that household who consumes a commodity and companies that produce a commodity conduct their economy activities in a place called as input market and output market, respectively.

The rapid growth of an economic activity may contribute to the growth of human civilization which is, in turn, followed by the growth of human need. To fulfill this need, someone should interact with other. Therefore, the exchange of goods and services among them are needed. The exchange of production factors in market of input and the exchange of goods and services in market of output can be done with or without involving money -barter.

Money is an integral part of human daily activity. Some say that money is the blood of an economy because, in modern economy, money is always used to complete any transactions. As a result, a flow of money, called as money circulation, is established. The circulation of money includes the transfer of money from one hand to another hand and the increase of the amount of money as a consequence of the growth of economic activity. When the amount of money supply is greater than the demand of money, the value of money decreases and, hence, the price of a product gets more expensive -inflation occurs. Therefore, it is important for any government to regulate the amount of money supply in order to control the rate of inflation. Table 1 and Table 2 present the amount of outstanding money and inflation rate in Thailand and Indonesia for the period of 1990 to 2015. As can be seen in Table 1 and Table 2, while the absolute amount currency outside, demand deposits, and quasi increased from 1990 to 2015, the relative amount of currency outside and demand deposits fluctuated during that period due to the difference in type and use of these money. The rate of inflation during the same period also fluctuated where the highest rate is 8.07% (Thailand) and 77.63% (Indonesia) in 1998, the year in which monetary crisis occurred in Thailand and Indonesia.

Table 1: The Amount of Money Supply and Inflation Rate in Thailand, 1990-2015

Year	The amount of money supply in broad money (M2): M1 + Quasi (millions of Baht)						Inflation rate (%)
	The amount of money supply in narrow money (M1): (millions of Baht)				M1 (millions of Baht)	Quasi (millions of Baht)	
	Currency Outside		Demand Deposits				
1990	136,816	76.72%	41,526	23.28%	178,342	1,472,205	5.93
1991	148,652	73.98%	52,280	26.02%	200,932	1,756,372	5.70
1992	179,266	76.96%	53,677	23.04%	232,943	2,029,571	4.10
1993	207,415	75.21%	68,369	24.79%	275,784	2,397,052	3.40
1994	240,654	73.34%	87,490	26.66%	328,144	2,686,047	5.01
1995	282,422	76.10%	88,680	23.90%	371,102	3,210,613	5.79
1996	371,860	79.79%	94,207	20.21%	466,067	3,615,806	5.90
1997	400,921	83.53%	79,069	16.47%	479,990	4,351,174	5.60
1998	376,778	81.13%	87,663	18.87%	464,441	4,846,702	8.07
1999	587,396	86.25%	93,664	13.75%	681,060	4,888,697	0.31
2000	475,120	81.41%	108,490	18.59%	583,610	5,225,759	1.60
2001	512,471	79.47%	132,403	20.53%	644,874	5,496,500	1.60
2002	583,093	78.42%	160,477	21.58%	743,570	5,653,503	0.70
2003	661,785	75.38%	216,093	24.62%	877,878	5,894,819	1.80
2004	742,268	75.92%	235,398	24.08%	977,666	6,189,083	2.70
2005	781,694	74.89%	262,155	25.11%	1,043,849	6,755,507	4.50
2006	806,374	75.41%	262,948	24.59%	1,069,322	7,205,453	4.70
2007	878,331	75.84%	279,800	24.16%	1,158,131	9,109,000	2.30
2008	962,631	76.92%	288,900	23.08%	1,251,531	9,944,300	5.50
2009	1,046,559	75.99%	330,600	24.01%	1,377,159	10,617,000	-0.90
2010	1,157,865	76.02%	365,200	23.98%	1,523,065	11,778,800	3.30
2011	1,295,522	76.25%	403,422	23.75%	1,698,944	13,559,900	3.81
2012	1,401,795	77.32%	411,154	22,68%	1,812,949	14,966,800	3.00
2013	1,480,427	77.28%	435,174	22.72%	1,915,601	16,062,200	2.20
2014	1,200,331	71.34%	482,138	28.66%	1,682,469	16,809,254	1.89
2015	1,250,926	70.35%	527,125	29.65%	1,778,051	17,551,712	1.05

Source: (Thailand, 2017)

According to Tabel 1 and Table 2, the inflation rate in Thailand and Indonesia which are relatively normal for certain year during the period of 1990 to 2015 (except 1998) may be due to the implementation of particular policy by Bank of Thailand and Bank of Indonesia as well as their government, which is reflected in various inflation component in Consumer Price Index (CPI). The core inflation is fairly stable at the relatively low rate, supported by proper economic capacity, strength of Rupiah exchange rate which could neutralize the impact of inflation caused by the increase of international commodities prices and controlled inflation expectation. Bank of Thailand and Bank of Indonesia have a role in stabilizing the exchange rate of Baht and Rupiah in order to avoid the effect of inflation from external factors. Thailand and Indonesia government also involve directly in controlling the administered price of commodities and supply of commodities, especially agriculture product (1). In addition, the policies of Bank of Thailand, Bank of Indonesia, and of their government are proactively established and well organized in level of central and region government through the forum of Inflation Control Tim (TPI) of central and region government. For Thailand, inflation rate fluctuates due to external factors (3).

Table 2: The Amount of Money Supply and Inflation Rate in Indonesia, 1990-2015

Year	The amount of money supply in broad money (M2): M1 + Quasi (millions of Rupiah)						Inflation rate (%)
	The amount of supply of money in narrow money (M1): (millions of Rupiah)				M1 (millions of Rupiah)	Quasi (millions of Rupiah)	
	currency outside		demand deposits				
1990	9,094	38.18%	14,725	61.82%	23,819	60,811	9.53
1991	9,346	35.48%	16,996	64.52%	26,342	72,717	9.52
1992	11,478	39.88%	17,301	60.12%	28,779	90,274	4.94
1993	14,431	38.96%	22,605	61.04%	37,036	108,563	9.77
1994	18,634	41.07%	26,740	58.93%	45,374	129,138	9.24
1995	21,468	40.25%	31,871	59.75%	53,339	169,961	8.64
1996	22,487	35.09%	41,602	64.91%	64,089	224,543	6.47
1997	28,424	36.28%	49,919	63.72%	78,343	277,300	11.05
1998	41,394	40.90%	59,803	59.10%	101,197	476,184	77.63
1999	58,353	46.82%	66,280	53.18%	124,633	521,572	2.01
2000	72,371	44.62%	89,815	55.38%	162,186	584,842	9.35
2001	89,553	45.34%	107,959	54.66%	197,512	666,322	12.55
2002	110,814	46.06%	129,769	53.94%	240,583	691,969	10.03
2003	137,123	46.78%	155,985	53.22%	293,108	731,893	5.06
2004	109,028	44.33%	136,918	55.67%	245,946	785,261	6.4
2005	123,991	45.73%	147,149	54.27%	271,140	929,343	17.11
2006	150,654	43.41%	196,359	56.59%	347,013	1,032,865	6.6
2007	182,967	40.65%	267,089	59.35%	450,056	1,196,119	6.59
2008	209,747	45.92%	247,040	54.08%	456,787	1,435,772	11.06
2009	226,006	43.81%	289,818	56.19%	515,824	1,622,055	2.78
2010	260,227	42.98%	345,184	57.02%	605,411	1,856,720	6.96
2011	307,760	42.57%	415,231	57.43%	722,991	2,139,840	3.79
2012	361,897	77.32%	479,755	22.68%	841,652	2,455,435	4.30
2013	399,606	77.28%	487,475	22.72%	887,081	2,817,800	8.38
2014	419,262	44.50%	522,960	55.50%	942,221	3,209,475	8.36
2015	428,860	40.34%	634,178	59.66%	1,063,039	3,426,343	3.35

Source: (Indonesia, 2017)

The role of money has faced an evolutionary growth in Thailand and Indonesia and it causes the change in the amount of supply of money (2). The supply of money in narrower sense may consist with M_1 (see Table 1 and 2). On the other hand, the number of outstanding money in broader sense may comprise currency outside, demand deposits, and quasi (M_2). In other words, M_2 consists of M_1 and quasi. M_2 may indicate an economy liquidity position. The period of 2002 to 2007, on average, the component of non-base inflation on the inflation of Consumer Price Index (IHK) in Central Java, Indonesia reached 59.90% (Wacana, Identifikasi Sumber Tekanan Inflasi Jawa Tengah di Sisi Penawaran, 2008). On the other hand, the contribution of non-base inflation component is 40,10%. Based on this finding, it can be said that the effect of non-base the inflation in Central Java is greater than the effect of non-base inflation.

The mechanism of monetary control where inflation rate is the only target (9). His findings indicate that M0, M1, and M2 linearly affect underlying inflation in Indonesia. The Hsiao-Granger causality is used for period of 1990 to 1999 (quarterly data). Based on variance decomposition test, it is shown that the effect of M1 is greater than M2 on underlying inflation. This may be due to the demand of M1 is the increase of real spending which causes inflation in the demand side. The measurement of lag based on vector auto-regression test demonstrate that M1 needs a lag of around 5 quarters.

The inflation rate was not affected by the supply of money but by the credibility of Bank of Thailand in formulating an expectation related to inflation (4). In other words, the trust of Bank of Thailand in fulfilling inflation target would be an important factor in determining the credibility of Bank of Thailand. The shorter the time spent to reach targeted inflation rate, the more credible Bank of Thailand. As a result the relative rate of inflation can be maintained.

The determinant of inflation in Indonesia is the expected inflation which is related to the pattern of expectation formulation dominated by pass inflation -adaptive expectation-, not the supply of money (10). This behavior generates inflation persistence because the inflation history in Indonesia generally triggered by cost-push or supply shock inflation such as the increase of gas and oil price and excessive fluctuation in Rupiah exchange rate. Those inflation characteristics do not get better after crisis. The inflation persistence is also affected by the pressure of price increase in administered commodities, especially gas and oil, electricity, depreciation of exchange rate, and the increase in minimum pay -related to over-inflation indexation. In that condition, inflation would decrease if favorable supply shocks occur or if tight monetary policy which tolerate economic recession impact is established. In the condition of high inflation expectation and low credibility monetary policy, disinflation would cause a huge sacrifice in economic growth.

The testing of the factors affecting inflation using the Ordinary Least Square (OLS) method and the Partial Adjustment Model (PAM) showed that the interest rate have a dominant effect on inflation in Indonesia during the period of 1997: 3-205: 2 compared with the exchange rate (Andrianus & Niko, 2006). It is obvious to say that the results found in this study do not differ much with the results of research conducted by previous researchers.

The credibility of central bank in achieving inflation targeting and proposed some rules that support it be considered as monetary policy in Indonesia (11). They built and estimated a Small Scale Macroeconomic Model by adapting Batini-Haldane model as well as Taylor policy regulation. The results indicated that it is important for Bank of Indonesia to enhance its credibility in order to reach a lower of inflation rate. This finding would be beneficial for Bank of Indonesia and hence, it can be said that the more credible Bank of Indonesia, the more trust it gets from the society. The trust from the society to Bank of Indonesia tends to have effect on economic yields. In conclusion, inflation could be affected by factors other than the supply of money e.g., credibility. Without credibility, it would take a long time for central bank to achieve target of inflation rate.

The examination of the association between the amount of money supply, price, and aggregate output have done in Thailand based

on data of 1993 first quarter to 2006 fourth quarter (5). The notion that monetary expansion affects the price level, but leaves output unaffected is examined in this study by using the model specification from the well-known Classical quantity theory of demand for money. Using the autoregressive distributed lag (ARDL) approach for cointegration, the direction and strength of the relationship between real money demand and aggregate output, and the relationship among prices, output, monetary aggregate, and money velocity are discovered. The existence of cointegration implies stable real money demand, output and prices equations. Results give some policy implications. First, the monetary authorities in Thailand should use the broad definition of money (M3) when trying to control the level of interest rate via real money demand and its supply. Second, if the main target is inflation, the narrow definition of money (M1) will play an important part. By controlling M1 expansion, the target can be achieved. Based upon cointegration test result of the long-run price equation, a one percent increase in money supply causes a 0.563 percent increase in the price level. Therefore, inflation targeting can be achieved via controlling M1 money.

The inflation dynamics at province level in Indonesia for the period of 2000-2009 (6). Economic stability in terms of stability regarding the level of price and national income, and employment growth. The results are the gross domestic product and SBI rate are positive and significant effect on inflation. While, the exchange rate are positive and not significant effect on inflation. In the other hand, the money supply (M2) is negative and significant effect on inflation.

The supply of money M1 significantly and M2 insignificantly effect on inflation rate (1965 to 2002) in Indonesia (7). He provides empirical estimation using Fisher-Seater methodology and gives conclusion that long-run neutrality of money is not prevailed in Indonesian case. In addition, he also proves the positive correlation between money and price only when using the M1 not for M2.

The effect of change in Gross Domestic Product, Central Bank interest rate, supply of money (M2), and exchange rate (Rupiah against US dollar) have examined on inflation rate in Indonesia for the period of 2000 (Q1) to 2011 (Q4) (12). They found that -using Ordinary Least Square (OLS)- the supply of money significantly and negatively affects inflation rate. This finding is inconsistent with the theory because the supply of money used in the study (M2) is that with broader meaning which consists of currency outside, demand deposits, and quasi money. The quasi money it self consists of large amount of term deposit, saving, and foreign exchange owned by domistical public.This money is illiquid so that it cannot, eventhough its amount is large enough, affect an inflation in an economy.

China has become the primary destination of exportation from Thailand thanks to the closer and closer economic links between the two countries (13). Therefore the monetary policy developed and implemented by China should have significant influence not only on the production and price fluctuations in China but also on that in Thailand. In this paper we establish an SVAR model with short-run restrictions to fit both China and Thailand's macroeconomic quarterly data from 1995S1 to 2011S4. Using this model we analyze the empirical effects of the money supply shock from China on the output growth rate and inflation rate in Thailand. The results show that the money supply shock executed in China has produced significant effects on the economy of Thailand.

The development of the functionality of money from the stage of (C – M – C'), (M – C – M'), (M – M') and their effect on rate inflation have examined in Indonesia for the periode 1990-2011 (8). He found that the currency outside and demand deposits insignificantly effect on inflation rate and the quasi money significantly effect on inflation rate.

Based on the theoretical and previous study review above, the hypotheses of this present study are formulated is as follows:

H1a: The supply of currency outside, demand deposits, and quasi are different in Thailand

H1b: The supply of currency outside, demand deposits, and quasi are different in Indonesia

H2a: The supply of currency outside positively affects the inflation rate in Thailand

H2b: The supply of currency outside positively affects the inflation rate in Indonesia

H3a: The supply of demand deposits positively affects the inflation rate in Thailand

H3b: The supply of demand deposits positively affects the inflation rate in Indonesia

H4a: The supply of quasi positively affects the inflation rate in Thailand

H4b: The supply of quasi positively affects the inflation rate in Indonesia

3. Methodology/Materials

The data employed in this study are acquired from annual report of Thailand and Indonesia Economy from 1990 to 2015, published by Bank of Thailand and Bank of Indonesia, respectively. Anova test is used to test H1a and H1b. Regression analysis is used to test H2a, H2b, H3a, H3b, H4a, and H4b. Alpha of 5% is used in this study and the research model each country is as follows:

$IR = \alpha + \beta 1CM + \beta 2DM + \beta 3QM + e$

Where:

α is intercept

IR is Inflation rate

CM is Currency outside Money

DM is Demand deposits Money

QM is Quasi Money

$\beta 1$ is regression coefficient of CM

$\beta 2$ is regression coefficient of DM

$\beta 3$ is regression coefficient of QM

e is error term

4. Results and Findings

Based on Table 1 and Table 2, we can calculate value of the standard deviation and mean currency outside, demand deposits, quasi money, and inflation rate in Thailand and Indonesia. The results of calculations are presented in Table 3 is as follow:

Table 3: Summary Statistic of The Variables

Country	Currency Outside		Demand Deposits		Quasi Money		Inflation Rate (%)	
	Thailand	Indonesia	Thailand	Indonesia	Thailand	Indonesia	Thailand	Indonesia
Standard Deviation	406,107.31	116,926.23	129,063.41	149,685.02	4,214,263.89	798,269.57	2.16	14.62
Mean	654,921.46	124,035.54	193,284.96	160,141.17	6,654,702.63	878,220.79	3.61	10.82

Source: Obtained from data processing.

Based on Table 3 the standard deviation and mean of currency outside in Thailand is greater than Indonesia. This shows that the development of Thailand's national income is greater than Indonesia, because according to the Quantity Theory of Money, the demand for currency outside depends on national income. Based on Table 3, the standard deviation of demand deposits in Thailand is lower than Indonesia but the mean of demand deposits in Thailand is greater than Indonesia. This shows that the development of Thailand's businessman is difference with Indonesia. Base on Table 1, we know that the relative amount of demand deposits in Thailand is 22.52% but in Indonesia 57.79%. Based on Table 3,

the standard deviation and mean of quasi money in Thailand is greater than Indonesia. This shows that the development of Thailand's saving and time deposits is greater than Indonesia.
Based on Table 3, the standard deviation and mean of the inflation rate in Thailand is lower than Indonesia. This shows that the development of Thailand's monetary policy and fiscal policy for managing the inflation rate more successful than Indonesia. The inflation rate in Thailand and Indonesia which are relatively normal although the rate of inflation in Thailand is lower (3.61%) than Indonesia (10.82%) for certain year during the period of 1990 to 2013 (except 1998). This can be showed in Figure 1 that the inflation rate in Thailand is lower than Indonesia.

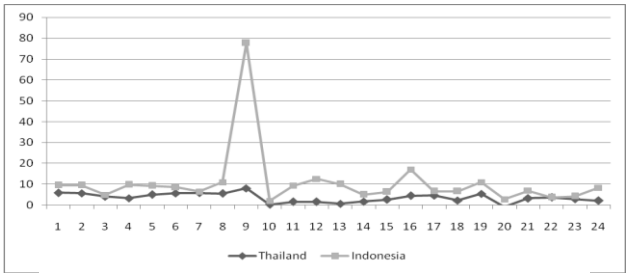

Fig. 1: The Inflation Rate in Thailand and Indonesia, 1990-2015

Based on Table 1 and Table 2, it can be presented the results of the estimation of data with Anova and regression analysis in Table 4 is a follow:

Table 4: Estimation of Nexus of Money Function and Its Effect on Inflation Rate in Thailand and Indonesia, 1990-2015

Hypothesis	P_*value*
H1a	0,0000 *)
H1b	0,0035 *)
H2a	0.0344
H2b	0.1180
H3a	0.1908
H3b	0.8636
H4a	0.1043
H4b	0.0295 *)

Note: Significant at 5%.
Source: Obtained from data processing.

Based on Table 4, all hypothesis are rejected unless H1a, H1b, and H4b are accepted. Hypothesis 1a and 1b be accepted, so that the findings of this study to support the finding's (2) and (8). The role of money evolutionary which is started from a barter of two commodities (C and C') to the use of money as an exchange media (C – M – C'). In C – M – C', money is transferred when commodity (C) are purchased and is received when commodity (C') are sold. The role of money shifted to M – C – M'. In this stage, businessman use their money (M) to produce commodities (C), which is then sold to the market, in order to earn more money. In M – M', stage represents capital or financial market (money and securities). In this environment, a businessman often ignores the goal of economic system i.e., producing goods and services and focusing only on getting more money through market commodity.
Moreover, a businessman may use money as an instrument to stack their wealth. Saving a large amount of money is intended to facilitate an exchange or transaction at this time -present value of money- or in the future -future value of money-. Due to its liquid characteristic, money is chosen as a preferred instrument for saving. As a result, money is not only used as an instrument of payment but also as a tool to get money. In long term, the use of money to get money will have negative impact on an economy because the process of producing and selling goods and services might be disrupted. This situation, in Indonesia, is indicated by sluggish growth in real sector. This might be due to the intermediation role played by bank and financial institution is not optimal yet.
Hypothesis 2a, 2b, 3a, and 3b are rejected. Thus, the currency outside insignificantly affects the inflation rate in Thailand and Indonesia and the demand deposits insignificantly affects the inflation rate in Thailand and Indonesia. Currency outside and demand deposits is the amount of money circulating in the narrow sense or M1. Thus, the results of this study support the findings (4) and (10) which states that the determinant of inflation in Thailand was not affected by the supply of money but by the credibility of Bank of Thailand in formulating an expectation related to inflation and Indonesia is inflation expectations associated with the pattern formation of inflation expectations are still dominated by past inflation (adaptive expectations), instead of the money supply. These results also support the findings (14) which states that the supply of money insignificantly affects inflation rate in Indonesia during the period 1997.3-2005.2. These results also support the findings (11), (6), and (8) who conducted research on the credibility of central bank in achieving inflation targeting and proposed some rules on monetary policy in Indonesia. This study does not support of the findings (9), (5), and (7) that the amount of M1 significantly affects the inflation target.
Hypothesis 4a is rejected - the quasi money insignificantly affects the inflation rate in Thailand. The inflation is caused not by changes in the supply of money, but due to the ability of The Bank of Thailand in achieving the established inflation target. If The Bank of Thailand is able to achieve inflation target then inflation will be under control. This means that The Bank of Thailand's credibility is maintained. Conversely, if The Bank of Thailand is not able to achieve the inflation target then inflation will not be controlled. The credibility of The Bank of Thailand in achieving the inflation target is important. Thus, the results of this study support the findings (4) that in Thailand the inflation rate was not affected by the supply of money but by the credibility of Bank of Thailand in formulating an expectation related to inflation.
Hypothesis 4b is accepted - the quasi money significantly affects the inflation rate in Indonesia. Thus, the results of this study support the findings (8) that the quasi money significantly positive affects the inflation rate, does not support the findings (7) that M2 insignificantly affects the inflation rate, does not support the finding (12) which states that the money supply significantly negative affects the inflation rate in Indonesia during the period 2000.1-2011.4. Variable amount of money used in the study (M2) is the amount of money circulating in the broad sense which consists of currency, demand deposits and quasi-money and the presence of quasi-money percentage consisting of time deposits, savings, and foreign currency accounts belonging to domestic private large enough. Quasi money is money whose value illiquid, so despite the high value but are not able to influence the increase in inflation in the economy. Therefore, the finding of this study stating that the quasi money have a significant affects the inflation rate because of quasi money in the form of time deposits, savings, and foreign currency accounts can be a means of ensuring economic actors in the transaction. This is evident by the increasing means of payment by using card is like credit card, secured by time deposits, savings, and foreign currency accounts. This is shown by the details of the calculation when the average usage of credit cards around USD 2-3 million per month by the number of transactions approximately 17 million transactions per month, then the transaction volume reached approximately USD 17-18 billion per month.

5. Conclusion

Based on the analysis, we conclude that 1) there is a significant difference between the currency outside, demand deposits, and quasi-money in Thailand and Indonesia; 2) the currency outside insignificantly affects the inflation rate in Thailand and Indonesia; 3) the demand deposits insignificantly affects the inflation rate in Thailand and Indonesia; 4) the quasi money insignificantly affects the inflation rate in Thailand; and 5) the quasi money significantly affects the inflation rate in Indonesia.

Suggestion for Bank of Thailand, Thailand's government, Bank of Indonesia, and Indonesia's government to manage the ability of the central bank in achieving the established inflation target and the proposed rules on monetary policy in Thailand and Indonesia. Bank of Indonesia and the Indonesia's government to control the ownership of credit cards as a means of payment, so that quasi money in the form of time deposits, saving deposits, and foreign currency accounts which can be a means of ensuring in the transaction does not effect to increase in the inflation rate uncontrolled in Indonesia. Suggestion for further research is to develop the study in ASEAN countries in order to support the operation of MEA for banking from 2020.

References

[1] McCauley RN, editor Core versus headline inflation targeting in Thailand. Bank of Thailand's International Symposium on Challenges to Inflation Targeting in Emerging Countries, Bangkok; 2006.

[2] Gulo A. Analisis Pengaruh Aspek Moneter dan Fiskal Terhadap Pertumbuhan Ekonomi Indonesia. jurnal VISI. 2008;16(3):595-611.

[3] Inoue T, Toyoshima Y, Hamori S, 井上武, 豊島裕樹, 羽森茂之. Inflation targeting in Korea, Indonesia, Thailand, and the Philippines: the impact on business cycle synchronization between each country and the world. 2012.

[4] Chantanahom P, Poonpatpibul C, Vongsinsirikul P. Exploring Inflation in Thailand: Through Sectoral Price Setting Behavior and Underlying Trend: Bank of Thailand; 2004.

[5] Jiranyakul K. Relationship among money, prices and aggregate output in Thailand. 2009.

[6] Subekti A. Dinamika inflasi Indonesia pada tataran provinsi. 2011.

[7] Arintoko A. LONG-RUN MONEY AND INFLATION NEUTRALITY TEST IN INDONESIA. Bulletin of Monetary Economics and Banking (Buletin Ekonomi Moneter dan Perbankan). 2011;14(1):75-99.

[8] Badrudin R. MONEY NEXUS ANTARA PERKEMBANGAN FUNGSI UANG DAN DAMPAKNYA TERHADAP INFLASI DI INDONESIA. KINERJA. 2013;17(1).

[9] Zulverdi D, Haryono E, Pratomo W, Nugroho WA. Operasi Pengendalian Moneter yang Berbasis Suku Bunga dalam Mencapai Sasaran Inflasi. Bulletin of Monetary Economics and Banking (Buletin Ekonomi Moneter dan Perbankan). 2003;3(3):1-80.

[10] Hutabarat AR. Determinan Inflasi Indonesia. Occasional Paper No OP/06/2005 Bank Indonesia. 2005.

[11] Tanuwidjaja E, Choy KM. Central bank credibility and monetary policy in Indonesia. Journal of Policy Modeling. 2006;28(9):1011-22.

[12] Nugroho PW, Basuki MU. Analisis faktor-faktor yang mempengaruhi inflasi di Indonesia Periode 2000.1–2011.4: Fakultas Ekonomika dan Bisnis; 2012.

[13] Zhao SX, Chan RC, Chan NYM. Spatial polarization and dynamic pathways of foreign direct investment in China 1990–2009. Geoforum. 2012;43(4):836-50.

[14] Andrianus F, Niko A. Analisa Faktor-Faktor yang Mempengaruhi Inflasi di Indonesia Periode 1997: 3–2005: 2. Economic Journal of Emerging Markets. 2006;11(2).