

E-MONEY ANALYSIS OF THE NEED FOR BANKNOTES IN BATAM COMMUNITIES**Agung Joni Saputra**¹⁾✉, **Ibnu Harris**²⁾ ✉

Department of Business, Universal University

Article**Information***Received September 2020**Accepted November 2020**Published March 2021**Keywords :**Debit / Credit Card,
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People in Batam***Abstract**

This study discusses the Analysis of Cashless Development of Cash Needs. This study aims to see the extent of the readiness of the people in Batam for the use of non-cash transactions (debit / credit cards, emoney, etc.), as well as see whether the community is ready to no longer use paper-based money. This research method is qualitative (primary) or by distributing questionnaires with a total of 400 respondents in Batam and some data from information obtained from news and Bank Indonesia. The results of this study are people in Batam are still not ready yet to no longer use paper money due to internet facility factors that have not reached every region, lack of infratructure, not to mention because people are accustomed to using paper money, and public knowledge is still minimal in the use of non-cash transactions. The people of Batam prefer to reduce the production of paper based money by Bank Indonesia but do not eliminate the paper-based money because not all regions or transactions can use non-cash transaction facilities.

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✉ Correspondence Address:
Department of Business
Universitas Universal Batam
E-mail: agungis13@gmail.com
E-mail: ibnu.harris@gmail.com

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1. Introduction

The financial and banking sector is currently entering the non-cash usage stage, which means that transactions that used to use paper money (currency) are turning into non-cash transactions or using electronic money. Non-cash developments have increased from year to year, apart from being supported by technological advances, there have been changes in people's lifestyles and the development of innovations adding to the types of non-cash transactions. The use of non-cash money can use a credit card, debit card, or other e-money support applications such as Go Pay, OVO, and others. In the financial and banking sector, the role of technological developments and information systems has presented cashless payment instruments. According to Bank Indonesia (2006), the presence of non-cash payment instruments can replace the role of cash in economic transactions in Indonesia. At this time, people certainly expect speedy payment and transaction processes for the smooth running of their daily activities. The public needs at least a reliable, secure, and fast payment system and make transactions. The tools that support the payment system are of course very coveted by the wider community. With the development of information technology, communication and science, many developers have created various kinds of innovations and products that support electronic-based non-cash payment systems (electronic payment).

In 2010, Indonesia implemented non-cash transactions at which time Bank Indonesia carried out socialization activities to the public regarding non-cash payments and Bank Indonesia on August 14, 2014, launched an annual program with the theme of the National Non-Cash Movement (GNNT). With this program, it is hoped that the Indonesian people will begin to switch to using non-cash transactions as a substitute for cash. Associated with the money demand theory regarding the opportunity cost of holding money, or the cost lost when holding cash rather than non-cash is the loss of profits in the form of discounted

savings, interest, and benefits from non-cash payments. As an economic actor, in allocating the form of wealth (money), they will consider the advantages and disadvantages. The existence of an advantage by holding money in non-cash form will make economic actors hold money in non-cash form and change people's behavior in conducting transactions, with this it indirectly decreases people's need for cash and will ultimately reduce the amount of money circulated by Bank Indonesia.

Table 1 : Money Supply and It's Components

Money Supply Component	2020		% (yoy)	
	Mar*	April*	Mar* 20	Apr* 20
Money Supply Widely (M2)	6,440.5	6,238.3	12.1	8.6
Narrow Money Supply (M1)	1,648.7	1,576.4	15.4	8.4
Currency outside commercial banks and BPR	620.4	634.1	5.9	7.0
Giro IDR**	1,028.3	942.3	22.0	9.4
E - money	2.3	2.2	(10.0)	(14.8)
Quasi Money	4,736.6	4,637.3	10.8	8.5
Time Deposit (IDR & Valas)	2,464.6	2,422.7	5.5	4.1
Savings (IDR & Valas)	1,900.0	1,870.6	11.7	10.1
Giro Valas	398.9	344.1	52.3	39.8
Securities other than shares	28.2	24.6	44.6	20.6

Source: Bank Indonesia, 2020

Information :

*Temporary data

** Including electronic money issued by banks.

According to the 2016 Monetary Financial Statistics Manual & Compilation Guide (MFSMCG 2016), electronic money issued by banks is categorized as transferable deposit as is demand deposit / demand deposit rupiah.

Broad money supply (M2) slowed down in April 2020. M2 position in April 2020 was recorded at Rp 6,283.3 trillion, or grew by 8.6% (yoy), lower than the previous month's growth of 12.1% (yoy) (table 1). The slowdown in M2 was caused by a slowdown in all its components, including the narrow money supply (M1), quasi

money, and securities other than shares. The growth of electronic money float (balance) issued by banks decreased (-14.8%, yoy), deeper than the previous month's decline (-10.0%, yoy). Electronic money in April 2020 was recorded at IDR 2.2 trillion, with a 0.14% share of M1. Meanwhile, the position of currency in the community (excluding banking and BI) in April 2020 was recorded at Rp 634.1 trillion or grew by 7.0% (yoy), an increase compared to the previous month (5.9%, yoy). This increase is in line with the increasing demand for currency entering the month of Ramadan.

The results of the research (Fujiki, 2014) in Japan show that the substitution of cash ownership for non-cash payments is insignificant, which means that non-cash payments cannot fully replace the use of cash in making transactions, this is inversely proportional to research from (Fung, 2016) which shows that the innovation of credit and debit card payments will affect cash users. With the phenomenon of increasing cashless transactions in Indonesia and differences in the results of previous studies, researchers will try to conduct research back in the latest year to prove the existing theory where researchers want to see the development of cashless transactions on the need for cash (currency) that occurs on the island of Batam.

Literature

Transactions according to KBBI (Drs. Suharso, 2017) are buying and selling agreements in trade between the buyer and the seller. According to (Mursyidi, 2010) a transaction is an event in the business world and not only in the process of buying and selling, paying and receiving money but also due to losses, fires, flows, and other events that can be valued in money. Before humans recognized paper money, humans carried out a barter system when making transactions where to get the desired item, we had to exchange the item with the goods we had where the value of the two goods was the same. The following are the types of transaction systems used from the past until now.

1. Barter

Barter is the exchange of property with other assets desired. This kind of exchange started from the beginning of human transactions and is still used by some people. According to (Davies, 2002) that from 9000 - 6000 BC livestock was used as a unit of exchange, then when agriculture was developed the crops were used as a means of bartering, only around 1200 BC China used cowry shells as a means of payment until coins were found around the year 1000 BC

2. Silver

Around 500 BC, silver coins were the earliest coins used as money. With a print and given the symbol of a god or emperor, as a sign of the great value of a money. This coin was first displayed in Lydia, a region of Turkey, the silver was used as a means of payment repeatedly and was subsequently repaired by the Persians, Greeks, Macedonians, and the Roman Empire. In contrast to China, which uses coins from a metal base consisting of bronze, gold and silver (Davies, 2002)

3. Banknotes

From the seventh century to the fifteenth century AD, the Chinese kingdom from the Siu dynasty to the T'ang dynasty, had experienced economic progress and cultural development, as evidenced by the first use of paper as money. Even in this period, the number of paper currencies was recorded too much to cause inflation (O'Connor, 2004)

4. Gold

Around 1535, the use of gold as a currency standard had been started by the Chinese, then in 1816. England followed the use of gold as the standard of value, which meant that the currency value was pegged to a certain weight of gold on the assumption that gold coins would help prevent inflation. , followed by the United States in 1900. Until mid-1931 Britain and America abandoned gold and switched to paper money, followed by countries around the world (Jacob F Kirkegaard, 2012).

Modern Money Supply Theory

The modern money supply theory or paper standard system was developed by economists after Keynes. In the standard paper system, the sources of the creation of money in circulation are monetary authorities (government and central bank) and financial institutions (monetary system). Monetary authorities are distributors of core money or base money, while financial institutions (banks) are distributors of secondary money to the public. The process of creating money in circulation is a market process, which means that the result of the interaction between demand and supply and not just the printing of money or government decisions, in modern money supply theory, there is a process of adjusting the balance between demand and supply of money, which is called the money multiplier. In reality, the money that a bank creates does not only depend on the willingness of the bank alone but also on the results of the interaction of money market players.

The Role of Money in the Economy

The function of money according (Mankiw, 2007) consists of three functions, namely;

a. As a Medium of Exchange

Money is a legal means of payment in making economic transactions in people's lives. Money functions to make it easier to carry out economic transactions, which is to act as a medium of exchange to get the desired service or goods.

b. As a Store of Value

Money as a store of value can be interpreted as transferring the purchasing power of the present to the future. When people get money, people can set aside a part of their income to be saved and can be used at a later date.

c. As a Unit of Account

Money is a measure that we use to measure the price of goods or services in economic transactions. Money also shows the value of goods and services that can be bought and sold, and money can measure the level of wealth owned by economic actors.

People's motives for holding money consist of transaction motives, precautionary motives, and speculation motives. Transaction motive, where someone holds money to be used in daily economic transactions, where if income increases, the need for money for transactions will also increase. The watchful motive is a motive used to deal with uncertainties in the future. Meanwhile, the speculation motive is a motive where money can be transferred into other, more profitable forms of assets.

Money Demand Theory

The theories of money demand in outline explain what factors influence the nature of the individual in determining the amount of money demanded from the individual's preference in saving the form of wealth he has. The theory of money demand put forward by several economists, such as Irving Fisher's money demand theory, Cambridge's money demand theory, Keynes's money demand theory, and so on.

Broadly speaking, in the money demand theory, there are two variables that determine the demand for money. The first is the scale variable or what is commonly referred to as the constraint variable. The constraint variable is a variable that limits our maximum to hold money in the form of cash / in the form of physical money. The second is the variable cost of holding cash (opportunity cost of holding money). It is the lost cost of holding cash in the form of interest and capital gains if we hold wealth in the form of bonds and stocks.

With the development of non-cash payment instruments, it can provide benefits and convenience in transactions. Associated with the theory of money demand which discusses the opportunity cost of holding money, then if you use cash in transactions you will lose costs such

as the benefits of interest income, discounted spending and ease of transactions if you hold money in non-cash form, the greater the opportunity cost of holding money will decrease the desire to hold cash so that it will affect the amount of cash circulated by Bank Indonesia.

Payment Tool As A Media In Transaction

Payment instruments are instruments or tools used to perform an obligation arising from an economic transaction activity. The payment instruments are divided into cash payment instruments and non-cash payment instruments.

1. Cash payment instrument as a valid transaction medium:

Cash payment instruments are payment instruments using cash or cash, namely banknotes and coins. By using cash payment, the public will directly make transactions and get the desired goods. However, by using cash payment instruments, we are required to keep a larger cash supply to meet all payment obligations and there is an opportunity that is the cost of holding money so that we will lose the cost of holding cash in the form of loss of interest, discounts and convenience when holding money in non-cash form.

2. Non-cash payment instruments as an alternative to cash payments in transactions:

Non-cash payment instruments are payment instruments that use paper based instruments and card based instruments to fulfill obligations in economic transactions. Payment using a card is a non-cash payment instrument where payment transactions are made using a card (card) where the card contains funds or money which will be deducted from the funds in the card if the transaction is successful. There are various types of payment instruments using this card, such as credit cards, debit cards, flash cards, etc. The bank or non-bank institution that issues the card is referred to as the issuer. The bank or non-bank institution conducting cooperation with merchants is called an acquirer. Meanwhile, the principal is the party

responsible for managing the system or network among its members (Directorate General of Accounting and Payment Systems, Bank Indonesia).

The credit card is a non-cash payment instrument that can be used for shopping transactions, where the payment obligation using a credit card is fulfilled in advance by the credit card issuer and the credit card user is obliged to reimburse the payment to the issuer within a predetermined period.

An ATM card or debit card can also be used as a means of non-cash payment transactions, the debit card issuer is issued by a bank that has received permission from Bank Indonesia to issue both debit and credit cards. In order to have the card, the public is required to have a bank account in question.

The Effect of Non-Cash Payments on the Indonesian Economy

Bank Indonesia as the monetary authority that regulates the payment system in Indonesia is currently promoting a non-cash program. At the beginning of 2010, Bank Indonesia started to conduct outreach activities for the development of non-cash payment instruments. Bank of Indonesia launched the Non-cash National Movement Program (GNNT) in August 2014 with the aim of increasing public awareness to make non-cash payments in transactions

The presence of non-cash payment instruments has had an impact on the Indonesian economy. Technology, information and science have encouraged the development of electronic card-based non-cash payment instruments. According to Dias in (Yudhistira, 2014). The existence of non-cash payment instruments using cards can reduce the opportunity cost for people to hold money for both transaction and precautionary needs. The use of card-based non-cash payment instrument (Segara, 2014) its can be more practical and efficient and saves transaction costs, saves time, and can also provide income in the form of interest as a return for putting money in the form of savings. If you hold money in cash, you will

lose costs such as interest, giving discounts, and benefits if you use non-cash. From the side of banks and non-banks that issue electronic card-based non-cash payment instruments, they will benefit so that it will increase profits from these bank and non-bank institutions.

The practical and efficient use of non-cash payment instruments can increase the consumption level of users. This will have an impact on increasing the amount of demand for output so that it will have the potential to increase output. This will encourage increased production in the real sector and will encourage economic growth (Pramonno, 2006).

According to the deputy of Bank Indonesia, Puji Atmoko, the advantages of cashless on the central bank's side, can reduce the cost of printing, maintaining and destroying cash so that it can save budget. On the balance sheet side of the central bank, the issuance of non-cash payment instruments in the form of e-money, both issued by banks and non-banks, has the potential to reduce the currency component in the base money, which means that it will reduce the liabilities side of the central bank's balance sheet (Pramonno, 2006). With cashless, the circulation of counterfeit money can be minimized so that it will reduce the circulation of counterfeit money that occurs in Indonesia.

3. Methods

Population and Sample

The object of this research is the need for cash when cashless use is being widely used by the community. Researchers will take the population from the Batam community, according to (Sugiyono, 2015) the sample is a part of the determined population. Samples must be in accordance with predetermined requirements in order to get more accurate results for research needs (Ferdinand, 2014). according to (Sugiyono, 2015) the proper sample size in the study is 30 to 500 samples. The number of samples taken using the Slovin formula :

$$n = \frac{N}{1 + N(e)^2}$$

Information :

N = population size

n = Number of Samples

E = Batam Error Tolerance

The population of Batam city (N) = 1,329,773 people in 2018 with data from BPS Batam 2020, the researcher uses a 5% error margin where this formula will be included in the Slovin e = 5% formula, the number of samples that must be used in this study is as much as: The population of the city of Batam (N) = 1,329,773 people in 2018 with data from BPS Batam 2020, the researcher uses a 5% error margin where this formula will be entered into the Slovin e = 5% formula in this study are as many as:

$$n = \frac{1.329.773}{1 + 1.329.773(0,05)^2} = 400$$

From the above calculations, to find out the sample size with an error rate of 5% is as many as 400 respondents who live in Batam city, sampling uses non probability sampling with a convenience sampling technique, which means that all members of the population that the researcher can use as samples. The stages of this research can be seen in the image below :

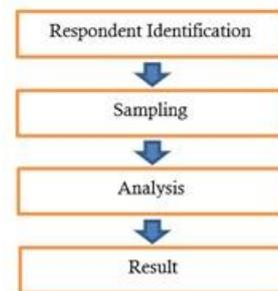


Fig 1 : Methodology

4. Results

Identification of the characteristics of the sample obtained, the sample randomly selected shows the female gender as many as 233 respondents (58.3%), and male gender as many

as 167 respondents (41.8%) from a total of 400 respondents (Table 2). The age of the respondents (Table 3) that the researchers found was <25 years as many as 248 respondents (62%), 25 - 45 years as many as 129 respondents (32.3%), and > 45 years as many as 23 respondents (5.8%). Non-cash application users (Table 4) of the respondents obtained were Gopay as many as 158 respondents (39.5%), OVO 137 respondents (34.3%), DANA 39 respondents (9.8%), and others such as debit cards, credit cards, flash BCA, etc. as many as 66 respondents (16.5%). The length of time using non-cash applications (Table 5) is that 299 respondents (74.8%) have used the application for less than 2 years, 67 respondents (16.8%) are 3-5 years, and 34 respondents (8.5%) have been using non-cash for more than 5 years, and of the 400 respondents, 114 respondents (28.5%) had credit cards, the remaining 286 respondents (71.5%) did not have credit cards (Table 6.) For debit card ownership (Table 7), 355 respondents (88.8%) have a debit card, while the remaining 45 respondents (11.3%) do not have a debit card. Information on the respondents above can be seen in the table below :

Table 2. Gender

	Frequency	Percent	Cumulative Percent
Valid Male	167	41.8	41.8
Female	233	58.3	100.0
Total	400	100.0	

Source : SPSS

Table 3. Age

	Frequency	Percent	Cumulative Percent
Valid < 25 Years Old	248	62.0	62.0
25 - 45 Years Old	129	32.3	94.3
> 45 Years Old	23	5.8	100.0
Total	400	100.0	

Source : SPSS

Table 4. Cashless Type

	Frequency	Percent	Cumulative Percent
Valid Gopay	158	39.5	39.5
OVO	137	34.3	73.8

DANA	39	9.8	83.5
Etc	66	16.5	100
Total	400	100.0	

Source : SPSS

Table 5. Length of Use

	Frequency	Percent	Cumulative Percent
Valid < 2 Year.	299	74.8	74.8
3 - 5 Year	67	16.8	91.5
> 5 Year	34	8.5	100.0
Total	400	100.0	

Source : SPSS

Table 6. Have a Credit Card

	Frequency	Percent	Cumulative Percent
Valid Yes	114	28.5	28.5
No	286	71.5	100.0
Total	400	100.0	

Source : SPSS

Table 7. Have a Debit Card

	Frequency	Percent	Cumulative Percent
Valid Yes	355	88.8	88.8
No	45	11.3	100.0
Total	400	100.0	

Source : SPSS

This research is a survey type, from the distribution of 400 respondents in Batam the researcher found the results of the respondent's conclusions :

Table 8. Recapitulation Respondent

	Frequency	Percent	Cumulative Percent
Valid Agree to eliminate paper money	98	24.5	24.5
Disagree to eliminate paper money	302	74.5	100.0
Total	400	100.0	

Source : SPSS

From table 8 above it is showing that there are still many who think that Bank Indonesia still needs to print banknotes, and the users still comfortable using paper money as a form of luxury in shopping. Of the 400 respondents, only 98 respondents (24.5%) agreed

that Indonesia had to make changes from paper money to non-cash money, while the remaining 302 respondents (75.5%) stated that they did not agree with the use of non-cash money as a complete substitute for paper money. The reasons given vary such as, education in Indonesia is still uneven so that people still do not fully understand the use of non-cash money, there are still many areas that do not have internet facilities, bother to always fill balances into applications, confused when they want to snack roadside, and other reasons that researchers cannot explain one by one. because of that reason and seeing the result of respondent's answer we conclude that the people of Batam are more likely to want reduction in printing of banknotes compared to eliminating paper money.

5. Conclusion

From 400 respondents, all use non-cash applications, like Gojek, OVO, DANA, and other types of non-cash, even though all respondents use non-cash applications and are used to it, but only 98 respondents (24.5%) stated they agreed that Indonesia had to make changes from paper money to non-cash money they want Bank Indonesia to no longer issue paper money because paper money is very dirty, not environmentally friendly, and wasteful in the budget for printing money, it is better if the banknotes are eliminated so that the Indonesian people can simplify using the non-cash payment system, However, the remaining 302 respondents (74.5%) stated that they did not agree and wanted Bank Indonesia to only reduce the issuance of banknotes with the aim of preventing excessive inflation due to too many banknotes circulating in the community, but not to lose banknotes. because not all places support in making non-cash purchases, as well as many areas that have not been reached with internet facilities. Rifqy Tazkiyyaturrohman also conclude in his research (Tazkiyyaturrohman, 2018), which states that the constraints that include non-cash transactions are limited infrastructure. From the results of this study, the researchers concluded that, Indonesia, especially

the Batam region, still has not agreed to use non-cash transactions in full, respondents are still not accustomed to using non-cash applications and are more comfortable using paper money in shopping and other transaction. They want Bank Indonesia to reduce the printing of banknotes and focusing to add more infrastructure on non-cash transactions, Irma Aidilia Putri in (Putri, 2014) said, which states that the use of non-cash payment instruments has not been able to reduce the need for cash in the community so that it has not been able to reduce the amount of cash circulated by Bank Indonesia. Researchers believe that one day we will all start getting used to using non-cash transactions and begin to switch to no longer using paper money.

Thank You note

Thank you to the Ministry of Education and Culture (Ristekdikti) for giving me the opportunity for the second time to participate in the Beginner Lecturer Research. I hope that my research will be useful for advances in economic development, especially in the use of non-cash transactions.

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