

Factors Affecting the Demand for Formal Financial Services Usage in Indonesia

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This study aims to examine the influence of various demand factors either partially or simultaneously to financial services derived from a society rich in various social-economy characteristics. The research method used is Quantitative Method using logistic regression. The results of this study indicate that formal financial services in Indonesia are still dominated by certain population groups and do not yet cover the community as a whole. The result of a logistic regression model estimation shows various variables of individual characteristics such as gender, age, education level, income level, account ownership in formal financial institution, and ownership of debit cards have statistically significant influence either partially or simultaneously on an individual's decision to borrow money formal financial institutions in Indonesia.

Key words: *Inclusive Finance, Credit, Demand Side of Financial Service, Individual Characteristic, Logistic Regression.*

Introduction

Indonesia is one of the countries which has the largest economies in the ASEAN region with a contribution of 38.1% of nominal GDP of all countries in ASEAN (IMF, 2014). Indonesia is also one of twenty countries with the largest economy in the world (G20). The large economy can be effective and create prosperity if there is strong support from the financial sector, both banking and non-banking (Cheng and Degryse, 2006). A well-functioning financial system can increase the likelihood of consumers making better purchases (Mishkin, 2008).

According to Khan (2012) a good financial system is one that can be reached by all community groups, or in other words, they have a high level of financial inclusiveness so that various growth goals and economic development can be realized. Keynesian economic figure, J.M.



Keynes, gives his opinion on the definition of money in the economy. Money can affect the demand-side of the economy, so the fund from the financial sector should be channelled to the productive sectors as much as possible to act as a credit or loan that can enlarge the production capacity, create a work field, and increase the national income.

From the Global Financial Index survey data (World Bank, 2014) Indonesia is a country in the ASEAN region with a low inclusive financial level. Only 36% of Indonesia's population has accounts in the financial sector, 13% borrow money in financial institutions, and 26.5% are saving in financial institutions. The country with the highest inclusive financial level is Singapore with almost 96% of the population having accounts in financial institutions, 14% having loans in financial institutions, and 40% having savings in financial institutions.

This shows that access to financial services in Indonesia is still low. Bangladesh has a similar situation, before a better microfinance scheme known as Grameen Bank was developed. This scheme was initiated by Muhammad Yunus and is one of the solutions in Indonesia for low inclusive finance problems (Yunus et al., 2013).

Inclusive Finance Programs that are related to Formal Financial Services can be started by raising society incentives toward opening accounts in the financial sector, especially directed at the poor and disadvantaged groups in the formal financial system. Given the large number of groups in Indonesia, savings from small groups are a means of diversifying financial products that can improve financial stability and economic growth. However, when the development of the financial system is not fully inclusive, especially when there are still gaps and priorities aimed only at the rich, it can dampen economic growth (Ajakaiye and Tarp, 2012).

Financial systems that become more inclusive can allocate productive resources more efficiently, improve people's ability to manage finances, and reduce the growth of exploitative informal credit lending (credit by moneylenders). These benefits can support the community to build assets and facilitate business and trading activities. Ultimately the goal of an inclusive financial program is to improve the overall community's living standard (Demirgüç-Kunt and Klapper, 2012). The development of banking sectors becomes very important in order to promote economic growth that is based on strong, real sectors.

This is based on the findings that the financial system, with banks as a major institutional component of financial institutions, can provide links to various economic sectors and encourages specialization stages, experts, economies of scale and a conducive environment. Implementation of various government policies such as stable economic growth, exchange rate stability, balance of payments and full employment opportunities (Sanusi and Governor, 2011)



will only occur if the financial system has been implemented inclusively in the economic system.

Research on the influence of individual socioeconomic characteristics such as age, sex, income level and technological developments on the ability of individuals to borrow money from formal financial institutions in Indonesia has not yet been done extensively due to the limitations and difficulties of obtaining data from within the country regarding the demand side of the use of financial services in Indonesia. The research on the effect of individual socioeconomic characteristics on the ability of individuals to borrow from formal financial institutions has been widely conducted outside Indonesia such as in Nigeria by Efobi et al (2014) or Mpuga (2004) in Uganda.

The previous explanation becomes the basis for the author to conduct analyses on various demand factors on inclusive finance seen from the individual's credit sources. This is done in order to recognize the group of people who already have or do not yet have loans from formal financial institutions. This is an inclusive financial indicator, so the effective and on-target policy can be formulated in order to raise the public's participation on borrowing in formal financial sectors. This research is based on studies conducted by Efobi et al (2014) on Nigeria and Mpuga (2004) in Uganda. The analysis is expected to provide material considerations in formulating policies to improve inclusive finance in Indonesia.

Literature Review

Financial Sector

According to the Decree of the Minister of Finance of the Republic of Indonesia Number 792 year 1990, financial institutions are given limits as an institute which all activities are limited to the field of finance, collecting and channelling funds to the public primarily to finance corporate investment. Although the regulation stated that financial institution is mainly to fund the company's investment, the regulation does not mean to restrict the financing activities of the financial institution only to company's investment. In reality, financing activities of financial institutions can be for corporate investment, consumption activities, and goods and service distribution activities (Susilo, Triandaru and Santoso, 2000).

Bank

According to Law Number 10 year 1998 about Banking, a bank is one of the business entities that collect funds from the community in the form of savings and distributes to the community in the form of credit or other forms in order to improve society's living standard. The other definition of bank according to Prof. G.M. Verry Stuart is a body that aims to satisfy credit



needs, either with its own means of payment or with the money earned from other people or by passing on a new money exchange (Dahlan, 2005).

Non-Bank Financial Institutions

According to Siamat (2005), non-bank financial institutions are financial institutions whose contractual business activities are charged with withdrawing funds from the public by offering contracts to protect savers against uncertainty risks such as insurance policies and pension fund management. Another group of non-bank financial institutions is an investment institution, whose activities are related to money investment and capital markets, such as securities firms and mutual funds. Then there are other non-bank institutions that are not included in the group of contractual financial institutions or investment finance institutions such as finance companies that offer leasing services, factoring, consumer financing, pawnshops and leasing.

Inclusive Finance Concept

Inclusive finance is defined as a process that ensures ease of access, availability, and benefits of the formal financial system for all economic actors (Sarma and Pais, 2008). The United Nations defines inclusive finance as the ease of access for persons with limited access to financial institutions (un-bankable) to financial services at a reasonable cost. These services include savings, short-term and long-term credits, leases, mortgages, insurance, pension funds, payments, local and international money transfers (Thorat, 2006).

Financial inclusion is an inclusive financing scheme with the primary objective of providing various financial services to the poor and low income earners. The idea of an inclusive financial system is often referred to as microfinance and has its main product namely microcredit. Microfinance is a small-scale financial services system intended to fund micro and medium enterprises, both individual and institutional (Robinson, 2001). The range of financial services referred to in the Financial inclusion includes various financial products such as credit, savings, insurance and financial transfer services (Helms, 2006).

The definition of the Inclusive Finance concept is so diverse, so for the needs of this study a conclusion is drawn about the definition of inclusive finance so that the analysis in research begins with the same understanding of the issue. Inclusive finance is a key dimension of financial services that includes the ability of individuals to access and use affordable financial services, as well as their needs. This capability is a complex and holistic understanding with financial awareness, knowledge of the bank and its network and knowledge of the various facilities that the banking world has provided and the advantages of using these facilities.

Inclusive Finance Objectives

Bank Indonesia in Inclusive Finance Strategy (2012), gives several main goals of inclusive finance, which are: (1). Accelerating public access to financial services; (2). Provide a cheap, easy, and secure financial service; (3). Stimulate the availability of innovative products and services in accordance with the needs of the community; (4). Reducing the exploitation of communities by the non-formal sector; (5). Improving the understanding and financial capability of the community; (6). Tool of economic efficiency; (7). Supporting a healthier business competition; (8). Recording all societies in financial services and reduce the number of poor people.

The objectives of such inclusive finance are often hindered by the existence of exclusivity for the poor by financial institutions because in general, financial institutions are only willing to provide financial services to parties that are considered bankable. The existence of this relates to the prudentially of financial institutions and the principle is basically good and ensures the stability of financial institutions in the long term. But linked to the micro-context, the principle has a disadvantage and becomes the main parameter of the financial institution to determine whether or not a low-income earner obtains financial services (Robinson, 2001).

Benefits of Inclusive Finance

According to Wahid (2014) some of the benefits of an inclusive financial service system are: (1). Access to financial services such as credit will provide new business opportunities and the development of business. Not only that, an inclusive financial service system also provides wider opportunities for small communities to vary their investment options, and ultimately will increase the economies of society as well as the dynamics of the Indonesian economy as a whole; (2). The opening of networks in the formal financial sector allows the poor to utilize the full range of financial services such as savings, credit and insurance that can provide more options in its economic decisions; (3). Cost. The ease of entering the formal financial services sector can reduce the growth of the informal credit sector typically run by loan sharks who fix very high interest rates and harm society. The opening of access to formal financial institutions will reduce the cost of high interest credit repayments borne by low-income communities; (4). Society account data that already exist in financial institutions can be used as a database for various important purposes; for example, to obtain various government programs such as: electricity, clean water, direct cash assistance and other programs. Not only that access in financial services can minimize the hegemony of economic power in a few people and in terms of security, the money will be safely secured. Access to formal financial services is also one of the risk mitigation instruments for the poor when facing an economic crisis or natural disaster (Mehrotra et al., 2009).

Credit

Another definition of credit according to Ismail (2011) is the distribution of funds from surplus parties to deficit parties. The distribution of funds is based on the trust given by the owner of the funds to the users of the funds. Credit can be divided into several types based on its purpose (Ismail, 2011). First, investment Credit is a credit granted by a bank or other financial institution to a borrowing party for the procurement of capital goods (fixed assets) having economic value of more than 1 year. Investment credit is generally used for the establishment of new companies or new projects, the purchase of vehicles used for business ease and for business expansion. Because of the high requirements, in general the investment credit period is more than 1 year. In other words, investment credit is long term credit.

Second, working capital credit is a credit used to meet operational working capital, which usually runs out within 1 business cycle. Working capital loans are usually used to purchase raw materials, wage fees, cover trade payables and other funding needs that are only used in 1 year. Working capital credit is granted for a period of 1 year, but may be extended at every maturity, so the debtor pays only the interest. Third, consumer credit, is a credit given to customers to purchase goods and services to be used in business.

Factors Influencing Demand for Credit

Nuryartono (2005) in Sari (2007) states that the demand for credit is not the same as demand for goods in the market. If there is any change in the demand and supply in market goods, both of them will adjust automatically. In accordance with the law of demand and supply, if there is excess demand for goods, then the price will rise, and the number of goods offered will increase.

While in demand for Credit, they have limitations in case of excess credit demands surfaced. In addition, the difference between demand for goods and credit demand is the risk, because in demand for credit the risk faced is a credit repayment which often becomes bad credit. Therefore, a guarantee is needed in order to minimize the potential risk.

According to Mpuga (2004), the factors influencing the demand for financial services of formal financial institutions in this study, which is represented by credit, can be divided into two categories: characteristics and attributes of individuals' financial institutions or households. The individual characteristics are such as income level, gender, age and education level. Then the financial institutions' attributes owned by individuals or households that may affect the decision of the demand for the services of financial institutions are: – the ownership of accounts in formal financial institutions, interest rates, distance with financial institutions, as well as certain requirements from the financial institution services.

Individual or Household Characteristic

Individual or household characteristics are suspected to have a significant relationship in the demand for formal financial services. As the life cycle hypothesis stated, young people tend to be ambitious in earning a higher income, so they are expected to have a greater tendency to save, borrow, or invest to accelerate the wealth accumulation process. According to the Life Cycle hypothesis coined by Franco Modigliani (Waluyo, 2007: 67) it explains that the older people tend to channel their earned incomes into consumption rather than investment.

Younger ones also tend to invest in the non-agricultural sector that requires substantial capital, while the older ones prefer to invest in the agriculture business. Zeller and Meyer (2002) found that there was a positive relationship between age and demand for credit. Gender is one of the traits that have an influence on the demand for formal financial services (Efobi, Beecroft and Osabuohien, 2014)), sex is estimated to be different in demand for formal financial services. Men have a financing capacity ten times greater than women, and majority of women have limited capital in business activities(Zeller and Meyer, 2002).

Individual or Household Attributes in Formal Financial Institutions

Account ownership in a formal financial institution is one of the factors affecting the demand for financial services. Individuals or households with accounts in formal financial institutions have a higher tendency to use financial services than those without financial institution accounts (Paul Dower, 2010). Like other products or services, the demand for financial services is heavily influenced by prices. The price in question is the interest rate. As interest rates rise, the demand for credit will decrease, and vice versa with the assumption of *ceteris paribus*.

The availability of financial institutions is also an important factor in determining the demand for financial services. Following the hypothesis of financial service offerings, as in the Say law coined by J.B. Say (Deliarnov, 2007) "Supply creates its own demand". The distance of consumers with financial institutions is one of the factors that affect the supply-side financial services. Furthermore, with the existence of a financial institution in a region, the demand for financial services from the existing community in the area will arise as a result of an offer from a financial institution.

Information and Technology Development Level

The development of information technology and networks is the key to success in improving access to and the use of financial services (Diniz, Birochi and Pozzebon, 2012). Demirgüç-Kunt and Klapper (2012) found that the development of ICT Inclination based Branchless Bank

(ICT Inclination) is the key to increasing the usage of financial services in developing countries such as Indonesia. Technology information is one of the important programs of financial literacy that aims to increase awareness and allocate information about financial products and services especially in rural areas (Kpodar and Andrianaivo, 2011).

Methods

Analysis Model

The quantitative analysis model used in this study is logit regression model to find out the possibility of credit demand in formal financial institution in Indonesia affected by variable of age, sex, education level, income level, account ownership in financial institution and debit card ownership in financial institution. The model refers to studies conducted by Efobi et al. (2014) in Nigeria and Mpuga (2004) in Uganda and is linked to the determinants of demand for credit.

Based on the logistic regression model, the equation among variables can be formulated as follows:

$$\begin{aligned} L_i &= \ln(P_{Credit_i} | 1 - P_{Credit_i}) \\ &= \beta_0 + \beta_1 Gender_i + \beta_2 Age_i + \beta_3 Age_i^2 + \beta_4 Education_i + \beta_5 inc_q_i \\ &\quad + \beta_6 Account_i + \beta_7 debitcardt_i + \mu_i \end{aligned}$$

Notes:

Credit_i : The possibility of borrowing in a financial institution as an inclusive financial proxy, if 1 = borrows in a formal financial institution and if 0 = does not borrow in a formal financial institution.

Gender_i : Shows dummy variable Gender. 1 for male and 0 for Female

Age_i : Age i

Age_i² : Squares of the individual age i

Pendidikan_i : The latest education level. 1 if graduated from middle school (secondary) and completed tertiary or more. 0 if completed primary or less.

inc_q_i : Total household income before tax per month that is divided into 5 parts (quintile). (1) first, poorest 20% (the poorest group, 20% lowest from the overall household income per month); (2) second 20% (the second group 20% lowest from household overall income per month); (3) middle 20% (middle group 20% from overall household income per month); (4) fourth 20% (middle upper group, 20% from overall household income per month); (5) fifth, richest 20% (richest group, 20% highest from overall household income per month)



$Account_i$: Dummy variable account ownership in formal financial institution, 1 if account ownership is present and 0 if account ownership is absent.

$debitcard_i$: Dummy variable debit card ownership, 1 if debit card ownership is present and 0 if debit card ownership is absent .

μ_i : Error term

Types and Data Source

The type of data used in the study is secondary data, that is cross section. The overall data used in the study, both dependent and independent variables, use cross section data from 2014. These secondary data were obtained from a sample of World Bank's individual level (Development Research Group, Finance and Private Sector Development Unit) data in collaboration with Bill and Melinda Gates Foundations and Gallup Inc. (Gallup World Poll) called Global Financial Inclusion, Global Findex Database 2014.

Global Findex is an individual survey that deals with inclusive financial topics around the world such as; account holdings, usage, payments, savings, credit, and financial resilience. This survey has been conducted since 2005 continuously in 2011 and the latest in 2014 and is planned to be conducted again in 2017 (Global Findex Methodology, 2014). The survey was conducted by sampling 150,000 people in 143 countries representing over 97% of the world's population (see Appendix). Among the 143 countries each country selects a sample of 1000 people, including a survey conducted in Indonesia, using a national random sampling technique with no regard of who is being observed. The target respondents are the Indonesian civilian population aged from 15-86 years.

Results and Discussion

Model Analysis and Hypothesis Verification

All independent variables present in the model partially indicate a significant value in influencing individual decisions to borrow from formal financial institutions. The significance value of these variables has different significance levels of 1%, 5%, or 10% and are given an asterisk to distinguish the significance level. Significant variables in influencing individual decisions to borrow or not in a formal financial institution are gender dummy, age, age 2, education level dummy, income level (inc_q), ownership accounts in financial institutions (accounts) dummy, and ownership of debit cards (debit card).

The likelihood ratio test (LR statistics) has similarities with the statistic test on the smallest ordinary (ordinary least square) method. It is generally useful to view or simultaneously test

independent variables in the model statistically significant or not in influencing individual decisions to borrow in formal financial institutions.

The pseudo R² test is used to observe the feasibility of the model (goodness of fit) consisting of certain independent variables in explaining the variation of the change of the dependent variable in the model. Based on the estimation model table (Table 4.7) it can be seen that the value of pseudo R² is quite large, i.e. 0.2201. It can be interpreted that the independent variables in the model which are: gender dummy, age, age 2, level of education (education) dummy, income level (inc_q), account ownership dummy (d_debit) can explain the variation of dependent variable change in the model, i.e. individual decision to borrow money in formal financial institution of 22.01%, while variation of change of 77.99% from dependent variable is explained by other variables outside the model.

Based on the formulation in the previous section, the formulated hypothesis suspected that there are influences of independent variables in the model, namely: gender dummy, age, age 2, education level dummy, income level (inc_q), ownership of accounts in financial institutions (accounts) dummy, and ownership of debit cards (debit_card) dummy. They partially and simultaneously have a significant effect on individual decisions to borrow money in formal institutions in Indonesia. From the analysis result using logit model in this research, it is concluded that partially all independent variables in the model have a statistically significant influence (at different levels of significance) in influencing individual decisions to borrow money in formal financial institutions. Next, simultaneously based on the estimates using logit models, it can be concluded that various independent variables in the model: gender dummy, age, age 2, dummy education level, income level (inc_q), dummy account ownership in financial institution (account), and debit card ownership dummy (debit_card) have a statistically significant influence in determining individual decisions to borrow money in formal financial institutions in Indonesia.

The meaning of the coefficient value of the gender dummy variable (positive) can be seen in the odds ratio of the gender dummy variable (gender) of the individual that shows the possible value of a category to another category in the gender dummy variable. It can be interpreted that when male with a value of 1 has the possibility to borrow money 1.40 times higher than female that has worth of 0 with the assumption that another variable is constant (*ceteris paribus*). To understand the meaning of the coefficient of gender dummy variable (gender) see the value of probability per category in gender dummy variable (gender) in Figure 1 as follows:

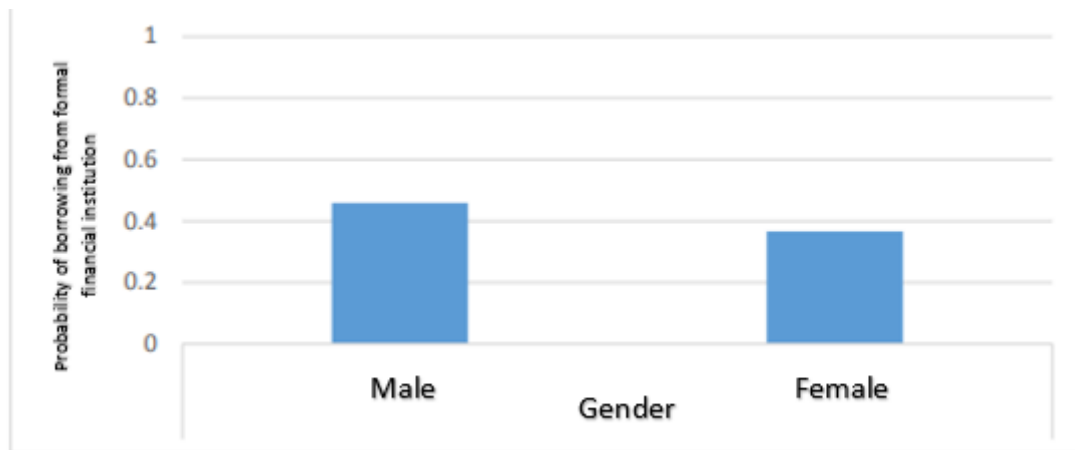


Figure 1. Probability of borrowing money from formal institution between male and female

Partially, categories in dummy variables - gender, male have higher probability than female. It proves that a positive logit model coefficient shows that male has higher probability of borrowing from formal financial institution than female. It can be concluded that gender has a negative and significant effect on an individual decision of borrowing from a formal financial institution.

This finding is in accordance with research done by Efobi et al.(2014) in Nigeria regarding access development and banking service usage. The research stated that female has a lower probability to access and to use banking services. Other research that supports the finding by Gitaharie et al. (2014) in Indonesia shows lower female participation in using formal financial services.

Further research that confirms the finding is that conducted by Demirgüç-Kunt et al. (2013). Their study focuses on the relation between inclusive finance indicators that are shown by saving ownership, account ownership, and credits in formal financial institutions with the gender variable in 142 developed and developing countries in the world. The study shows that there is gender gap in developed countries between male and female in financial services access and usage. Furthermore Demirgüç-Kunt et al. (2013) found that the gender variable doesn't have significant influence in inclusive finance, which is in accordance with this research that shows the odd ratio in gender variable (See Table 4.7) having the smallest ratio compared with the other variables in the model.

The low level of female labour participation rates that led to the proven gender gap in this study was supported by female workforce participation data in 2014. Data obtained from the Central Bureau of Statistics (2014) showed that the LFPR (Labour Force Participation Rate) based on gender in Indonesia for year 2014 was still dominated by men, as much as 83.05% and women

equal to 50.22%. This suggests that women in Indonesia in 2014 had a smaller and less dominant contribution than men to the economy.

Next, the variables associated with the demographic factor that is proven to be statistically significant in the likelihood of individuals to borrow at formal financial institutions is age. Age variable has a positive coefficient direction of 0.055. These coefficients can be interpreted as: when there is an increase in the age of individuals by 1 year, it will increase the likelihood of individuals to borrow money in formal financial institutions by 1.05 times. It can be interpreted that the age variable has a positive and significant relationship that affects the likelihood of individuals to borrow money from formal institutions.

The increase in the effect of age variables on the likelihood of individuals to borrow money in formal financial institutions proves not to occur every time. Due to the existence of the quadratic age variable (age²) which has a negative coefficient on the possibility of individuals to borrow at formal financial institutions, it can be interpreted that the increase in age in the beginning does have a positive effect on the possibility of someone to borrow money in formal financial institutions, but the increase does not occur continuously but occurs at a certain point.

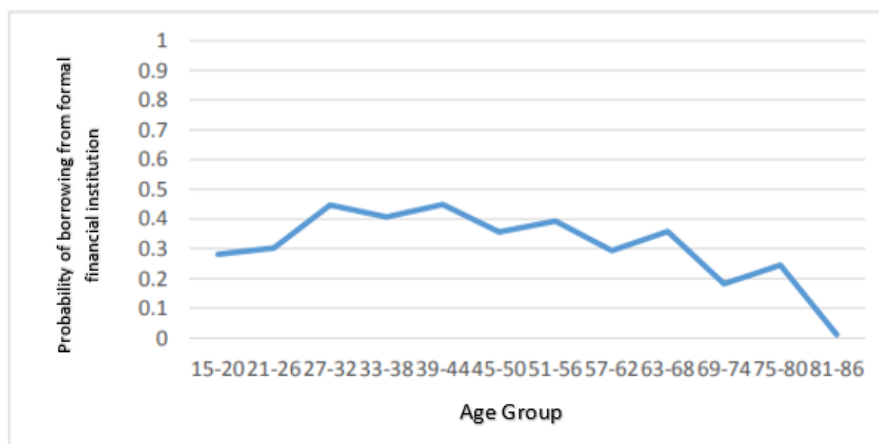


Figure 2. Probability of borrowing money from formal institution between several age groups

Based on Figure 2. it can be seen that initially the age groups of 15-20 and 21-26 years have a positive effect on the possibility of individuals to borrow money in formal financial institutions. However, when reaching the age group of 39-44 years, the increase in the age of the individual gives a negative effect on the likelihood of individuals to borrow money in formal financial institutions. The findings are consistent with the studies of Mpuga (2004) in Uganda and Octen and Osili (2004) in Indonesia.

Both studies also found that age is a significant variable in influencing the demand for use of services in each country that serve as the object of research according to Okten and Osili

(2004). Category of age groups 15-20 years and 21-26 years that can increase the possibility of individuals borrowing money in financial institutions that has been described in Figure 2. is related to the possibility to start a business that is suitable for that age.

The financial literacy level of individuals shows the knowledge and belief in using financial services. When they have high financial literacy level, then the probability of using financial services is also higher. The age group of over 35 years of age in Indonesia demonstrates a decrease in the likelihood of an opportunity to have a loan in financial institution due to the lack of financial literacy in that age group.

The next discussion in this research is the dummy variable - education. Based on the estimation result using logit model that is indicated in Table 4.7 it is shown that dummy variable – education has a significant effect on the probability of individual borrowing from formal financial institutions in Indonesia. Assessment result shows that dummy variable coefficient of education has a positive direction, as much as 1.203.

The result of the assessment can be interpreted that for a middle school graduated individual or college (= 1), the chances of borrowing money in formal financial institutions increased by 3.33 times compared to the elementary-educated individuals (= 0) assuming other variables that remain constant (*ceteris paribus*). to be able to understand the meaning of the dummy variable odds ratio of individual education level (education) which has 2 categories.

The probability value of the secondary or tertiary education level category has the highest probability value in influencing the individual opportunity to borrow money from a formal financial institution. Conversely, the variable primary level (completed primary education or less) has the lowest probability in influencing a person's chances to borrow money from a formal financial institution. The findings are in line with the research that has been done by Pena et al. (2014) who found that educational levels had a positive relationship with the use of financial services in Mexico.

Nikaido et al. (2015) explain that the level of education is a medium that leads someone to get out of financial exclusivity. With more educated individuals, inclusive financial development in a country will be more evenly distributed and provide more dynamic variations for the development of the financial system. Related to this research, in Indonesia there is a positive relationship between a more educated individual and the level of financial literacy owned.

To be able to understand the meaning of the odds ratio of individual income level (*inc_q*) variables because the variable has more than two categories, the discussion of the relation of individual income level (*inc_q*) variable will be presented with the probability value per

category in the individual income level variable (*inc_q*). This is done to ease the understanding of informative data presentation about the odds ratio of the income level (*inc_q*) variable.

All studies attempting to find the relationship between income levels and the use of formal financial services (both borrowing and saving money) have consistently shown a positive relationship, especially in developing countries (Beck, Fuchs and Uy, 2009). According to Pal and Pal (2014) per capita income is a key determinant of household trends to use formal financial services. The results of the research have also found that individuals with the highest wealth have the greatest possibility of utilizing financial services (Helms, 2006).

It can be concluded that society with the lowest economy is included in marginalized groups of formal financial services. That group is included in un-bankable people that becomes more slumped due to the absence of access to financial institution, even though access to financial institution is a crucial role to raise society welfare and productivity (Banerjee dan Duflo, 2005). According to Robinson and Dupas (2009) they stated that credit and saving access from formal financial services enable poor society to make productive investments, to be resilient to financial shocks, and to ease on consumer transaction.

The lack of access to new financial institutions penetrated the higher income communities as found in this study indicates the existence of exclusivity of financial institutions in Indonesia. Financial exclusion is one of the obstacles to improving people's lives. The siding of financial institutions to low income groups should continue to be developed to provide adequate capital support as a solution to the problem of poverty (De Soto, 2000). The microcredit should be cheaper and closer to the poor to provide space for lower income people to gain access to finance (Li et al., 2011).

The next discussion is the dummy variable of Account Ownership in a formal financial institution (*account*). These variables indicate an individual's relationship to a financial institution that wants to see the public awareness of a financial institution has an influence on the likelihood of an individual using financial services. The results of the study show that dummy account ownership in formal financial institutions proved to positively affect the possibility of individuals borrowing money in formal financial institutions. This means that when individuals have accounts in formal financial institutions (1 = accounts) on dummy variable ownership accounts in formal financial institutions, then the likelihood for individuals to borrow in formal financial institutions increases by 12.60 times when compared to individuals who do not have accounts (0 = has no account) assuming other variables are constant (*ceteris paribus*).

To understand better the definition of coefficient and odds ratio of dummy variable Account Ownership (account) see per category probability value on dummy variable Account Ownership in formal financial institution (account) on Figure 3 as follows:

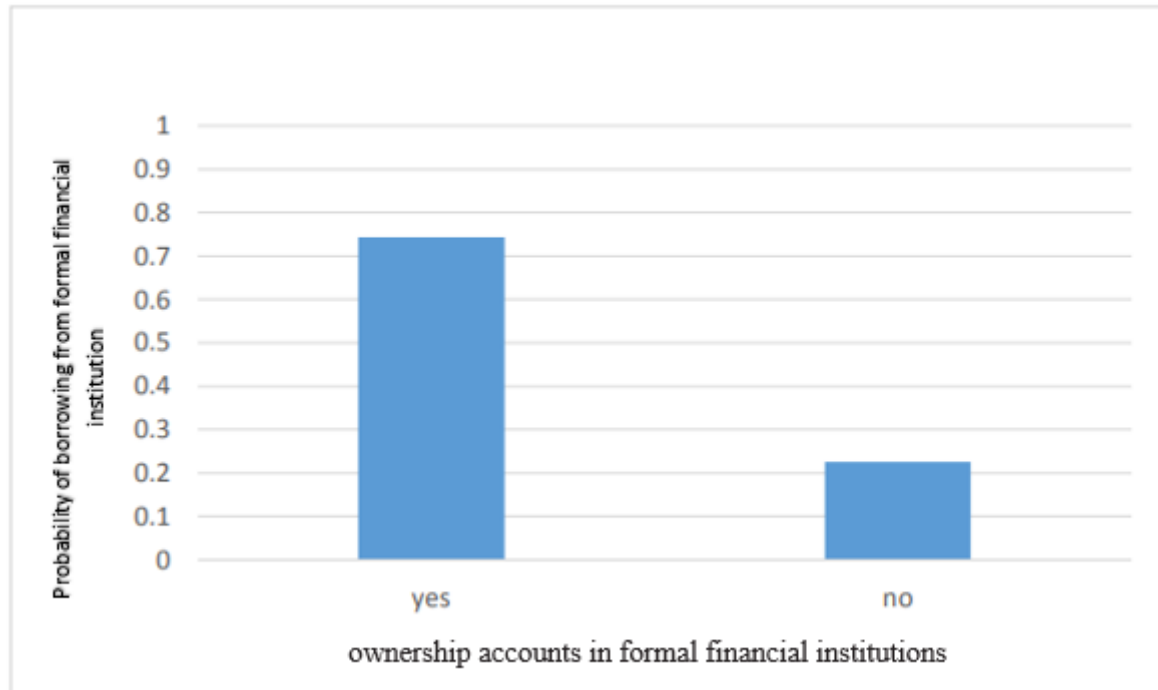


Figure 3. Probability of borrowing money from formal institution in people with ownership accounts in formal financial institutions

The probability value of borrowing from formal financial institution is higher in individuals who have accounts than those who don't. It proves that the direction of positive logit model coefficients of dummy variable ownership accounts in formal financial institutions (accounts) shows that individuals who have accounts (yes = 1) have a greater likelihood to borrow money in formal financial institutions than individuals who do not have accounts (not = 0). It can be concluded that dummy variable ownership accounts in formal financial institutions (accounts) have a positive and significant influence in influencing individual decisions to borrow money in formal financial institutions.

The findings of the dummy variable of Account Ownership in formal financial institutions (accounts) in this study are consistent with the findings of Efobi et al. (2014), namely, that the individual's relationship with the financial institution has a role as a socialisator and serves as the first step to introduce various financial services products and the benefits gained. This is important in order to improve the role of financial institutions in society and financial awareness of the community to financial institutions. Various policy measures related to the macro and micro-economic financial system in a country can be more effectively undertaken



if the community already has a close and good understanding of various products from financial institutions.

Low account ownership in financial institutions in Indonesia need to be considered by the government and related parties. According to Global Findex data (World Bank, 2014). (Demirgüç-Kunt and Klapper, 2012) in Indonesia only 37% of adults have accounts in formal financial institutions, while 63% of Indonesians do not have accounts in formal financial institutions. Community access and use of financial institutions needs to be improved so that the various objectives described above can be achieved in Indonesia.

The final discussion of the determinants of the demand for financial services in Indonesia is the Technological level variable illustrated by the dummy of individual Ownership of the debit card (debit card). The study results show that debit card ownership dummy (debit card) proved to have a positive effect on the possibility of individuals to borrow money in formal financial institutions. This means that when an individual has a debit card (1 = owns a debit card) on the debit card ownership dummy variable (debit card), then the possibility for an individual to borrow at a formal financial institution increases by 3.02 times when compared to an individual who does not have a debit card (0 = no has a debit card) assuming other variables are constant (*ceteris paribus*).

The probability value of borrowing money in formal financial institutions of individuals who have debit cards is higher compared to individuals who do not have a debit card. It proves that the positive logit coefficient direction of the debit card ownership variable (debit card) shows that individuals who have debit cards (yes = 1) are more likely to borrow money in formal financial institutions than individuals who do not have a debit card (not = 0). It can be concluded that the Debit Card Ownership dummy variable (debit card) has a positive and significant influence in influencing individual decisions to borrow money in formal financial institutions.

The findings are consistent with the results of a study conducted by Efobi et al. (2014) and Kpodar and Andrianaivo (2011). Research from Efobi et al. (2014) and Kpodar and Andrianaivo (2011) found that the development of technology and information on financial institutions will facilitate public access to use financial services. The higher the technological innovation in the financial institution of a country, the more quickly inclusive finance will be achieved. Of course, it must be balanced by the quality of human resources capable of rapidly adopting the development of these technologies.

Cash Less Society policy (e-money) and ATM usage are a form of technological and information innovation in financial institutions that have been occurring in Indonesia. The development of two technological innovations in the field of financial institutions has

experienced rapid progress in recent years. However, when compared with other countries such as Singapore since 2000 and Hong Kong since 2007, Indonesia is relatively slow in using the financial system.

The community's response is also deemed to be slow in using e-money and ATM (Automated Teller Machine) as one of the safe and easy payment instruments. The lack of socialization and education on electronic-based financial services products becomes the reason for slow progress in the community, especially in the lower classes; this should be a priority of financial services. From Global Findex (World Bank, 2014) data, there were only 29.4% of the adult population who have debit cards, while the remaining 70.6% do not have debit cards. The findings in this study that indicate a positive relationship between technological and informational developments in formal financial institutions illustrated by the ownership of debit cards and individual decisions to borrow at formal financial institutions should be noted to create policies and strategic measures to improve the card ownership ratio in Indonesia.

The analysis of the factors affecting the demand side of financial services is to show the policy makers the importance in looking at the demand-side of the financial services derived from the community. It is important to note that the policies planned should not support only on the supply side that has top down approach, but also pay attention to the demand-side that uses bottom down approach.

By using the demand-side approach on the financial services, the financial services that people need is clear. The financial services' capabilities should be improved in order to create a financial system that covers all levels of society. When this condition is created, the inclusive financial system will succeed and provide macroeconomic benefits such as: equal income distribution and capital ownership opportunities, a dynamic financial system and resistance to crisis shocks, people with good financial literacy, as well as various other benefits extracted from financial inclusion. Various empirical studies indicate that the existence of financial inclusion provides many benefits for a country's economy (Babajide, Adegboye and Omankhanlen, 2015). Due to this importance, Indonesia should attempt to implement them.

The all-way-out-approach to individual characteristics in this study would like to provide an overview of the micro composition at the individual level of inclusive financial development in Indonesia illustrated by loans in formal financial institutions. The results of this study indicate that individual characteristics, educational level, income level, technological level and individual relevance to financial institutions in Indonesia have a significant effect on the community usage on formal financial services illustrated through credit in financial institutions. With this study, it is expected that there will be strategic and effective steps from stakeholders related to the improvement of financial services in an inclusive, community-centred way as a financial services user.



It is important to strengthen the financial services network of financial institutions as a strong and equitable financial system for all segments of society. The main objective of the existence of financial inclusion is to eliminate all barriers to the use of financial services, both price and non-price barriers, for all levels of society. Formal financial institutions that were initially exclusive for some people are expected to become lose to all levels of society with inclusive finance. A strong financial system that can resist crisis shocks is a system that is not only enjoyed by some people, but also a system that is rooted in all elements of society and empowers the economy of society as a whole (Ibrahim *et al.*, 2012).

Conclusion

Since formal financial institution services have not yet spread evenly in Indonesia, Government and Bank Indonesia should dedicate more attention to this issue in order to promote an inclusive financial system that becomes the medium to stimulate potential economic development, combats poverty with productive capital access from financial institutions, and also contributes to an even income distribution in society. Various micro credit programs from government such as: Society business credit (*Kredit Usaha Rakyat (KUR)*) and Small Investment Credit (*KIK, Kredit Investasi Kecil*) need to be developed further in order to be really effective as financial service programs for the society that has no access to formal financial institutions at this stage. Based on the research limitations explained above there is a need for other variables in order to study more deeply the inclusive financial institution, especially the variable that is related to the probability of borrowing money from formal financial institutions. Residence location, job status and the effect of various variables need to be studied more in order to understand the people that have not yet access to formal financial services and productive capital.

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