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Financial Inclusion: Household Access to Credit in Indonesia

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Abstract

Literatures on financial development and economic growth nexus have rapidly grown. Over more than a decade, research topics have been extended to a wider nexus of financial sector developmenteconomic growth-and poverty alleviation. Regarding to the topic, access to finance becomes an important one. The World Bank (2010) reports only 21% of Indonesia's population has access to banks and another 2% engages in other formal financial services. The figure shows that access to financial services in Indonesia is still very low. This study is to examine determinant factors that deter households from access to financial services, particularly business credits. The study employs desciptive analysis and performs microeconometric exercise utilizing the 2008 and 2012 Susenas data. The results of the study provide the household profile and identify determinant factors for households to access business credit from several sources, namely bank, non-bank, and individual. The probabilities for household to obtain business credit is affected by the demographic characteristics (age, sex, marrital status, location, education) and social-economic factors (employment sector, employment status, status of poverty) and the effectiveness of the implementation of banking public education program. The study employs multinomial logit method. The findings of this study is vital in providing policy recommendation to alleviate poverty in Indonesia.

JEL Classifications: I38, O16, O17

Keywords: financial sector, access, business credit, households, poor, poverty

1. Introduction

Financial inclusion has become one important program of the UN Millenium Development Goals (MDGs). Financial inclusion attempts to open access to financial services for the poors who typically have limited access to financial services. The condition has restrained their abilities to enhance their economic opportunities. The World Bank (2010) reports only 21% of Indonesia's population has access to banks and the other 2% engages in formal non-bank financial services. The figure shows that access to financial services in Indonesia is indeed very low. Bangladesh has experienced similar situation, yet the micro finance scheme– better known as the Grameen Bank proposed by the Nobel laureate Muhammad Yunuscame

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Figure 1: Banking Credits for Micro and Small Enterprises

Source: Statistik Ekonomi dan Keuangan Indonesia, Bank Indonesia, various editions.

up as the solution.

In its efforts to perform financial education to the public, the government of Indonesia promote a banking program called Tabunganku. The program is aimed to open wider access to financial services and was introduced in 2010. Tabunganku program has lighter requirements compared to others. The mandatory features, among others, are low initial deposit-only Rp 20.000 (less than 2 USD), bears no administrative fees, and pay interest rates based on customers' daily balances. To attract more customers, the central bank allows commercial banks that participate the program to provide customized/optional features on top of the mandatory features. Despite all the easiness, the program only attracts 3.2 million customers with the total saving of Rp 3.2 billion or at the average of Rp 1,000,000 per customer as of March 2012. This figure is indeed too small compared to the total saving of Rp 2,800 billion and around 101 million customers. The figure below displays banking loans. The average of SME loan is much lower than those for medium enterprises and others. Besides bank programs, the government has implemented various poverty alleviation programs. Some to mention are the cash transfer program, cheap rice program for poors (Raskin), Kecamatan Development Program (KDP), and PNPM Programs. Cooperatives is also contributing to poverty alleviation. The ILO (2012) reports that:

> "there are approximately 192.443 cooperatives up to May 2012 in Indonesia, with a total of 33.68 million members or 14,14 per cent of the total population. Most of these cooperatives (around 70 per cent) are located in rural areas. The cooperative movement in Indonesia is considered as one of the largest civil society organizations as well as social enterprises with great potential in rural development and employment creation."

Another fact occured in Indonesia as many

found in other developing countries is the practice of informal shadow bankers. Informal shadow bankers are mostly individuals who lend money in an informal way to those who are urgently in need. No administrative requirements and sometimes no collaterals are needed. The procedures are not complicated and the cash is immediately ready. To compensate the straightforwardness the informal shadow bankers normally charge higher interest rates to borrowers than formal banks, yet they are more preferred to formal banks. Using 2008 and 2012 National Economic Social Survey (SUSENAS) data issued by BPS, the objective of the research in general is to analyze households' determinant factors to acces loans. The research, in particular, aims to: (1) describe household profiles who do or do not have access to financial services, particularly loans; (2) analyze determinant factors for households obtaining loans; (3) analyze impeding factors for households to access bank loans; and (4) provide policy recommendation for the government on how to overcome constraints to loan access which will in turn reduce poverty in general. To complement and enrich the research results, the study carries out in-depth interviews with informants who represent the banking regulator, fund suppliers, and fund demanders.

The research is discussed in 5 sections. Section 1 introduces the underlying backgrounds and research objectives. Section 2 describes references in regards of financial sector-andpoverty alleviation nexus, previous empirical studies, and the development of financial inclusion in Indonesia. Section 3 discusses the research methods empolyed in the research activity. Section 4 analyzes the results and findings. Lastly, section 5 concludes the research findings and provides some recommendation to further promote and encourage financial inclusion.

2. Literature Review

2.1. Financial Sector and Poverty Alleviation Nexus

There have been numerous researches on financial sector and economic growth nexus, to name some are by King and Levin (1993), Levine (1997), Levine (2005). They have excellently demonstrated the positive relationship between financial sector and economic growth both in the context of theoretical and empirical studies. Financial sector increases the accumulation of capital and hence investment. Through an efficient financial system, the financial sector is channeling funds to the more productive uses and allocates risks to those who have the capabilities to bear risks (Demirguc-Kunt, et.al, 2008). Improved financial system will consequently enlarge the economy's financial depth; thus it will provide a variety of financial products and services.

In its development, the issue on financial sector-economic growth nexus has extended to a more multidimensional issue, that is social and economic welfares. Honohan (2003) relates the financial developmenteconomic growth with poverty issues and shows that financial depth is negatively correlated to headcount poverty rates. The issue then becomes deeper into discussion whether economic growth and financial intensive is already pro-poor. Claessens (2006) points out that in many developing countries financial use has not reached all people. Futhermore, Beck and Demirguc-Kunt (2008) states that financial exclusion may retard economic develope-The poors' limited access to finance ment. may impede both physical and human capital accumulation and in turn slows down the economic growth and may raise income inequality. Demirguc-Kunt, et.al, (2008) refers the following factors are limiting the people from access to finance:

(1) Geographical access (physical constraint)how far is the closest bank to where the people live, branch bank density, ATM penetration. Delivery channelssuch as nonbranch outlets, phone finance, e-finance– bring financial service closer to the people. (2) Requirement documents in kinds of identity cards, salary slip. (3) Affordability barriers are the administrative fees, initial deposits, minimum balance, and minimum deposits are often the barriers for users. Beside these barriers, collateral requirements are the contraints for poor people to get loans. (4) Lack of appropriate products and services for households and micro entrepreneurs.

Demirguc-Kunt, et.al, (2008) distinguish access to use of financial services. Access to financial services or better known by the term financial inclusion refers to no barriers of prices or non-prices in using financial services. The access of financial services refer to the supply of services. On the other hand, the use of financial services refers to services of both demand and supply sides. The use of financial services refers to patterns of financial service use among different groups of peoplepoor, young, female (Demirguc-Kunt dan Klapper, 2013).

2.2. Previous Studies

India is one sucessful country case study in applying financial inclusion program. Bagli (2012) employs Rotated Principle Component Analysis for each state to explain India's well achievement on the financial inclusion program. Bagli finds that there is a strong correlation between human resource development and financial inclusion. Another study by Band, et. al. (2012) concludes that access to finance is the necessary condition to lower the poverty rate. Banks are allowed to work together with civil societies to act as intermediaries for rural people to access banks. Band's study concludes that the role of Indian women is the key factor to the successful achievement of the program.

However, the achievement of the financial inclusion program can not be separated from the good coordination between Indian ministries and the central bank. The government provides campaign funds for the program and recommend banks to open a branch for every 10,000 people in the targeted regions. Only in two years, banks open their branches in 1,237 villages/rural areas. According to the report of the Reserve Bank of India (RBI), India has started the program since 2004. The condition back then was not preferable almost 60 percent of the population does not have bank accounts and almost 90 percent of the population does not have loan access from banks. To implement the financial inclusion program, RBI allows commercial banks to cooperate with civil societies, micro institutions, and society organizations. They represent the bank to play the roles of business facilitators. This model is 100% succesful in attracting adults to become bank customers (Department of Financial Service, Ministry of Finance, 2012). The RBI even has the vision to achieve 600 million targeted bank accounts in 2020 (Nalini dan Mariappan, 2012).

Futhermore, Demirguc-Kunt and Klapper (2013) affirm that bank account ownership and use is the entry point for users to save and to get loans. Mpuga (2004) investigates demand for loans in rural areas in Uganda. Uganda's financial sector is still less developed and tends to be dualistic consisting of formal and informal institutions. Informal institutions controls majority of rural markets, while formal institutions are concernated in urban areas. Rural areas almost have no access to financial services. In fact credit services in urban areas are indeed important for the development of the agricultural sector in Uganda because this sector is the main contributor to the economy. The demand for credit in rural areas is in general affected by households' and financial institution characteristics. Mpuga finds that young individuals tends to save and invest more than olds. Old people are found to rely on their past savings and if they invest, they invest in agricultural activities. This finding contradicts to what Mpuga finds for young people where they tend to invest off farm which need large capital.

Mpuga also finds that women tends not to have controls over assets as they mostly take care of the household work. In regards to income, the higher the income is the larger they save. This allows them to have more asset and be used as collaterals when they borrow money to do business. Education level is positively correlated with demand for credit and so is marrital status. Other individual characteristics that affect demand for credit are location where they live, age, and occupation. Sources of credit in rural areas are mainly from cooperatives, government programs, relatives, local community, and credit association. Rarely they get credit from banks because of the banks' distance to rural areas. Financial institution characteristic that affects demand for credit is the rate of interest and the distance accessibility of the financial institutions themselves.

2.3. Financial Inclusion Development in Indonesia

In Honohan (2004), Beck and Demirguc-Kunt (2008), Claessens (2006), and Demirgue-Kunt, Beck, and Honohan (2008), issues on financial inclusion has come into discussion in developing countries. The fact is that half of the population in most developing countries does not have bank accounts. In Indonesia herself it is predicted that around 40 million people do not have any access to financial services. Bank Indonesia (2012) identifies the problem raised from both the demand and supply sides. Problems from the supply sides covers geographical condition, designs and patterns of services which often do not match with the people's needs, and information gap. Due to these contraints, people tend to take short cut that is to borrow informally from shadow bankers. On the other hand, banks tend to give credits in large amount and to higher scale entrepreneurs. As a result no meeting point is made between demanders and suppliers. From the demand side, level of education, legal issues, and self exclusion are few factors that hold back the poors from bank access.

Recalling that access to financial services is important to economic growth, therefore a national strategy is needed as a form of national commitment among stakeholdersthe government, private sectors, and society. Banks have more dominant roles in the financial system than any other financial institution. For that reason banks have to strengthen and wider their brances to support the implementation of financial inclusion program. Banks must cooperates among themselves, among non-bank financial institution, including micro-finance institution. Banks needs to support microfinance institutions in obtaining legal permit and develop innovation on distribution channels through banking agents (post offices, pawn shops, or retails), mobile banking, and branchless banking.

As the monetary authority and banking regulator, Bank Indonesia (BI) has designed the five pillars of policies. The first pillar is consumer education and protection. Consumer education is dedicated to increase consumers' knowledge on financial products and services through campaigns, designing websites with information and education contents, and incorporating financial education into school curricula. Consumer protection is a benefit for consumers of formal banking where BI has required commercial banks to deliver information regarding benefits, risks, and fees that may arise from a product to consumers. This protection is not found in informal fund providers. BI also requires commercial banks to follow up consumers' complaints within determined time frame and to facilitate unsolved consumer problemes through banking mediation in BI.

The second is the financial information mapping. In regard to legality issues, there are many SMEs that do not have legal entity and business permits. In fact, these two requirements is pre-requirement for banks to provide loans/credits. The third pillar is the intermediation facility. The objective of the third pillar is to increase the awareness of financial institutions to potential society to get financial services. For that purpose, BI has developed a program in which a commercial banks can cooperate with BPRs (Rural Credit Bank) to distribute credit to BPRs' micro consumers. The fourth pillar is the distribution channel whose objective is to increase formal financial service outreach by optimizing the roles of post offices and possibility of branchless banking implementation. Branchless banking is to optimize the benefit of technology in the form of mobile money in which cellular phones are used as infrastructures for creating a deposit at a certain bank. With this innovation isolated regions in Indonesia are then reached and will get banking facility services. The last pillar is the regulations that support the access to financial services based on information technology such as e-payment and branchless banking.

BI has also made campaign activities to disseminate the intermediary roles, product, and services of banks. One of the campaigns is called "Ayo ke Bank" (Let's Go to Bank) and initiated in 2008. The next campaign is the "3P" that is make sure the benefits, understand the risks, and look for the fees. The campaign aims to eliminate asymmetric information between consumers and banks. The subsequent campaign is a national movement called "Gerakan Indonesia Menabung" or "Indonesia's Movement to Save." The movement aims to increase Indonesia's marginal propensity to save, to increase domestic funds, and to build saving cultures for Indonesians. The product of the movement is a saving product called "Tabunganku" or My Savings. "Tabunganku" is an individual saving account with very light requirements jointly issued by several banks in Indonesia. The facilities offered are no monthly administrative costs, low initial deposit requirementRp 20,000 for general banks, Rp 10,000 for BPRs and low rate of interest. To reach consumer further, the banks also provide mobile banking with the name of My Saving Mobile where the vehicle travels to schools, markets, offices, and residences. There are 36 banks recently join the program. Through this program the number of banking account increase to 2,666,897 accounts as of Agustus 2012 with the total value of Rp 2,778,576 million.

3. Research Methods

Two approaches are employed in this research. To obtain household profiles cross tabulations and descriptive statistics are performed; and to identify determinant factors of households' source of credit multinomial logit is employed. Susenas data of 2008 and 2012, issued by Center Bureu of Statistic (BPS), are exercised to accomplish the secondary data analysis. To complement the analysis in-depth interviews are implemented to several informants representing the regulator, financial institutionsboth bank and non-bank and households.

In executing their business, households obtains loans/credit from banks, non-bank institutions, and individuals; or they may not obtain loans from anywhere with various underlying reasons. Source of credit is determined by households' characteristics and social-economic factors. Households' characteristics are represented by sex (JK), age (AGE), education (EDUC), location (LOKASI)rural or uban areas, marrital status (MAR), and household size (HHS). Social economic factors are indicated by poverty status (KM), employment status (STATPEK), employment sector (LAPUS), house ownership (HOUSE_OWN), and technological accessfixed line ownership (TEL_RMH), cell phone ownership (TEL_CELL), and computer ownership (KOMP)– and the effectiveness of the implementation of banking public education program (YR). The multinomial logit method is employed to estimate the probability of households obtaining credit-from banks, non-bank institutions, individuals- or not at all. The model designs are as follows:

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 $\mathbf{2}$

$$log\left(\frac{p_{1}}{p_{0}}\right) = \beta_{10} + \beta_{11}D_{-J}K1_{i} + \beta_{12}AGE_{i} + \beta_{13}AGE2_{i} + \beta_{141}EDUC2_{i} + \beta_{142}EDUC3_{i} + \\ + \beta_{143}EDUC4_{i} + \beta_{144}EDUC5_{i} + \beta_{15}D_{-L}OKASI1_{i} + \beta_{16}D_{-M}AR1_{i} \\ + \beta_{17}HHS_{i} + \beta_{18}D_{-L}APUS1_{i} + \beta_{182}D_{-L}APUS2_{i} + \beta_{183}D_{-L}APUS3_{i} \\ + \beta_{184}D_{-L}APUS4_{i} + \beta_{191}D_{-S}TATPEK1_{i} + \beta_{192}D_{-S}TATPEK2_{i} \\ + \beta_{110}D_{-H}OUSE_{-}OWN1_{i} + \beta_{111}D_{-}TEL_{-}RMH1_{i} + \beta_{112}D_{-}TEL_{-}CELL1_{i} \\ + \beta_{113}D_{-}KOMP1_{i} + \beta_{1141}D_{-}KM1_{i} + \beta_{1142}D_{-}KM2_{i} + \beta_{115}D_{-}YR_{i} + \epsilon_{i}$$
(1)
$$log\left(\frac{p_{2}}{p_{0}}\right) = \beta_{20} + \beta_{21}D_{-}JK1_{i} + \beta_{22}AGE_{i} + \beta_{23}AGE2_{i} + \beta_{241}EDUC2_{i} + \beta_{242}EDUC3_{i} +$$

$$log\left(\frac{1}{p_{0}}\right) = \beta_{20} + \beta_{21}D_{-}JK1_{i} + \beta_{22}AGE_{i} + \beta_{23}AGE2_{i} + \beta_{241}EDUC2_{i} + \beta_{242}EDUC3_{i} + \beta_{243}EDUC4_{i} + \beta_{244}EDUC5_{i} + \beta_{25}D_{-}LOKASI1_{i} + \beta_{26}D_{-}MAR1_{i} + \beta_{27}HHS_{i} + \beta_{28}D_{-}LAPUS1_{i} + \beta_{282}D_{-}LAPUS2_{i} + \beta_{283}D_{-}LAPUS3_{i} + \beta_{284}D_{-}LAPUS4_{i} + \beta_{291}D_{-}STATPEK1_{i} + \beta_{292}D_{-}STATPEK2_{i} + \beta_{210}D_{-}HOUSE_{-}OWN1_{i} + \beta_{211}D_{-}TEL_{-}RMH1_{i} + \beta_{212}D_{-}TEL_{-}CELL1_{i} + \beta_{213}D_{-}KOMP1_{i} + \beta_{2141}D_{-}KM1_{i} + \beta_{2142}D_{-}KM2_{i} + \beta_{215}D_{-}YR_{i} + \epsilon_{i}$$
(2)

$$log\left(\frac{p_{3}}{p_{0}}\right) = \beta_{30} + \beta_{31}D_{-}JK1_{i} + \beta_{32}AGE_{i} + \beta_{33}AGE2_{i} + \beta_{341}EDUC2_{i} + \beta_{342}EDUC3_{i} + \beta_{343}EDUC4_{i} + \beta_{344}EDUC5_{i} + \beta_{35}D_{-}LOKASI1_{i} + \beta_{36}D_{-}MAR1_{i} + \beta_{37}HHS_{i} + \beta_{38}D_{-}LAPUS1_{i} + \beta_{382}D_{-}LAPUS2_{i} + \beta_{383}D_{-}LAPUS3_{i} + \beta_{384}D_{-}LAPUS4_{i} + \beta_{391}D_{-}STATPEK1_{i} + \beta_{392}D_{-}STATPEK2_{i} + \beta_{310}D_{-}HOUSE_{-}OWN1_{i} + \beta_{111}D_{-}TEL_{-}RMH1_{i} + \beta_{312}D_{-}TEL_{-}CELL1_{i} + \beta_{313}D_{-}KOMP1_{i} + \beta_{3141}D_{-}KM1_{i} + \beta_{3142}D_{-}KM2_{i} + \beta_{315}D_{-}YR_{i} + \epsilon_{i}$$
(3)

Equations (1)-(3) are estimated by maximum likelihood where: p0 = the probability of households do not obtain credit (reference category); p1 = the probability of households obtain credit from banks; p2 = the probability of households obtain credit from non-bank institutions; p3 = the probability of households obtain non-formal personal credit and i.

 $D_JK = Sex; D_JK = 1$ if male ; $D_JK = 2$ if female (reference category); AGE = Respondent's age of 15 or above; D_AGEGROUP=Age group; D_AGEGROUP = 1 if age 17-55 years; D_AGEGROUP = 2 if age > 55 years (reference category); D_EDUC = Education attainment measured from highest diploma attainment; D_EDUC = 1 if do not graduate from elementary school (reference category); D_EDUC = 2 if graduate from elementary school; D_EDUC = 3 if graduate from junior high school (secondary); D_EDUC = 4 if graduate from high school; D_EDUC = 5 if graduate from college/university; D_LOKASI = Location urban or rural areas; D_LOKASI = 1 if urban areas; D_LOKASI = 2 if rural areas (reference category); D_MAR = Marrital status; $D_MAR = 1$ if married; $D_MAR = 2$ if not married (never been married, life divorced, death divorced) (reference category); HHS = Household size; D_{KM} = Poverty status; $D_KM = 1$ if poor (reference category); D_KM = 2 if nearly poor; D_KM = 3 if not poor; $D_LAPUS = Economic sector in which respon$ dents worked the last one week; $D_{LAPUS} =$ 1 if agricultural sector; $D_{LAPUS} = 2$ if mining/quarrying sector; $D_LAPUS = 3$ if manufacture sector; $D_{LAPUS} = 4$ if service sector; $D_{LAPUS} = 5$ if other sectors (reference category); $D_STATPEK = Main employment$ status in the last one week; D_STATPEK= 1 if account worker or employer own assisted by temporary/unpaid/permanent workers; $D_STATPEK = 2$ if employee; $D_{TATPEK} = 3$ if casual employee (reference category); $D_HOUSE_OWN = House$ $D_HOUSE_OWN = 1$ if own; ownership; $D_HOUSE_OWN = 2$ if do not own house (reference category); $D_TEL_RMH = Fixed line$ communication ownership; D_TEL_RMH=1 if own fixed line telephone; D_TEL_RMH=2 if do not own fixed line telephone (reference category); $D_TEL_CELL = Cellular phone own$ ership; D_TEL_CELL=1 if own cell phone; D_TEL_CELL=2 if do not own cell phone (reference category); $D_KOMP = Computer$ ownership; D_KOMP=1 if own computers (laptop/desktop); D_KOMP=2 if do not own computers (laptop/desktop) (reference category); $D_{-}YR =$ Year of bank campaigns by BI; D_YR=1 if year is 2008 prior to the program implementation (reference category); D_YR=2 if year is 2012 after the program implementation.

4. Result and Analysis

4.1. Houseshold's Profile

The Indonesian household's profiles based on 2008 and 2012 Susenas data are mostly men between the age of 17-55, living in rural areas with low education, and working in agricultural and service sectors as own workers or as employers assisted by laborers. Table 1 below displays households' profiles in a more detail and comprehensive information. In addition to the above information, the 2012 data in particular indicates that 25% of the households (HHs) have insufficient income to meet their daily needs. Among them, nearly 70%borrows from relatives and 54% from neighbors/friends. Others mention that they withdraw their savings (20%), sell their own belongings (14%) and place them as collateral (2%) to get borrowings. Only very small percentage of HHs are found using formal institutions to finance their deficit balances from cooperatives (4%) and from banks (2%). This finding preliminarily indicates that formal institutions are not HHs' main options to borrow from and that banks specifically seem faroff attached from households. Detailed figures of sources of funds are given by the diagram below. The data shows that 90% of households' income per capitaproxied by expenditure per capita is below Rp 1,000,000. Yet, there has been an increase in households' income/capita from Rp 462,000 in 2008 to Rp 713,000 in 2012 as shown in the table below. Households who get bank loans have the highest expenditures/capita; while those who get loans from individuals have the lowest expenditure/capita. The percentage of households that obtain loans from bank slightly increases from 3.42% in 2008 to 3.54% in 2012. Referring to BPS poverty status classification, poor, nearly poor, and not poor households who get loans from bank increase (Figure 3). The increase of households who get loans from nonbanks is found higher than those from banks and the highest increase is for near poor households. The later is interesting to note since it indicates that non-bank loans, which are mostly from the government, are allocated for the near poors (Figure 4).



Figure 2: Sources of Funds for Households in Meeting Their Daily Needs (%), 2012

Notes: Sample number (n)= 286.113. Source: Authors' own estimation from 2012 Susenas Data



Figure 3: Distribution of Households who Obtain Bank Loans Based on Poverty Status (%)

Source: Author own estimation from 2008 and 2012 Susenas



Figure 4: Distribution of Households who Obtain Non-Bank Loans Based on Poverty Status (%)

Source: Author' own estimation from 2008 and 2012 Susenas

Figure 5: Distribution of Households who Obtain Individual Loans Based on Poverty Status (%)



Source: Author' own estimation from 2008 and 2012 Susenas

Figure 5 displays that individual loans decrease from 2.02% in 2008 to 1.89% in 2012. However, it is worthy to notice that the percentage of poor households who get loans from individuals increases, even though only in small number. It may indicate that borrowing from individuals is preferred to other sources. In regards to asset ownership, around 80% of the households have their own houses. The number tends to increase from 2008 to 2012. House ownership may be placed as collateral for borrowing, but only a few who are willing to place their houses as collateral. There is a sharp decline in fixed line telephone ownerhsip, but there is a large increase in cellular telephone. The increase in cellular telephone ownership indicates that households are quite literate to use cell phones. This finding is in line with the study of Banerjee and Duflo (2012). Households' familiarity with cell phone will facilitate the implementation of mobile payment services. Statistical data also show that computer, both laptops and desktops, ownership doubles in 2012. Information nowadays are not only distributed by printing medias but profoundly circulated in cyber space in which computer literacy is required. The increase percentage of computer ownership indicates that households are getting more familiar with the use and literary of computers.

4.2. Determinant Factors of Households⁷ Loans

To analyze what determine the probabilities of households' loans, the study employs two multinomial logistic regressions. Model 1 uses continous age variable, while Model 2 uses it as catagoric variable. Age group is classified into twoone is for the group of less than 55 years old to indicate the age group prior to pension age; and the other is for the group of greater than or equal to 55 years old to indicate pension age group. Both models provide similar results as summarized in the following table.

4.3. Determinant Factors of Households' Loans: Households' Characteristics

Households' characteristics somehow affect the probabilities of household obtaining loans. Location of households' domiciles significantly affects the probability household obtaining loans. The estimation results of both models indicate that households in the urban areas are less likely to get loans from all sources relative to rural areas. This finding is inline with the descriptive analysis that more than 50% of households who get loans reside in rural areas, particularly in 2008.

The next finding is that sex does not significantly affect the probability household obtaining loans from banks. However, women are more likely to get loans from non-banks and individual. Heads of household who are married are more likely to get loans from bank and non-banks, but marital status does not significant affect the probabalility they get loans from individuals. Age also significantly affect the probability of households get loans from all sources. Age group of less than 55 yearproductive ageis more likely to affect the probability of household get loans from non-bank institutions an individuals, but not from banks. Age is then not a primary consideration for banks supplying loans for household. Poverty status seems to be a more important consideration for bank in providing loans to households.

In regards to education, there's an interesting finding. Banks consider more of this variabel in providing loans to households, particularly households with college/university degree. Lower level of educationsecondary level– is more likely to get loans from non-banks. However, the education level is less important for individuals to provide loans for households. This finding may become a proposition for policy makers in choosing means to attract more customersthat is policy makers better use easily-understood ways to communicate with unbankables for they are mostly of lower level education. Economic sectors have less importance in affecting banks, non-banks, and individuals to provide loans for householdsmeaning that what economic sectors households are in is not a consideration for lenders.

Households with own account worker or assisted employer are more likely to have greater chance to get loans from banks, non-banks, and individuals. On the other hand, households with employment status as employees are less likely to get loans from all sources.

4.4. Determinant Factors of Households' Loans: Poverty Status and Poverty Alleviation Program Implementation

The poverty status is classified into (1)poorused as the reference category (2) nearly poor, and (3) not poor. Poverty status in overall cases significantly affects households' access to loans. For bank loans, both households of nearly poor and not poor are 2 times more likely to get bank loans relatively to the poors. Similar illustration applies to non-bank and individual loans. Nearly poor and not poor households are around 1.5 times more likely to get non-bank loans relatively to the poors. Not-poor households even have larger chance6 times more likely- to get loans from individuals. The finding indicates that poor households are much less likely to get loans from all sources. Limited incomearound 90% of household have average income per capita below Rp 1 million per month- and limited assets restrict them from borrowing because they have insufficient aseets to put as collateral. Further information obtained from in-depth interview, other factor that may restrain them from obtaining bank loans is that many of them do not have citizien identity cards (KTP).

The implementation of poverty alleviation program conducted by the government, in this case is the implementation of national campaign/movement to go to bank and to save by Bank Indonesia, seems that it has not demonstrated larger possibility for the poors to access loans from banks. Similar result also applies for non-bank loans. On the other hand, the opposite is valid for individual loans where the implementation of the program indeed provides higher possibilities for households to obtain loans from individuals. This is an interesting finding to be explored more deeply what causes the contradicting results.

4.5. Determinant Factors of Households' Loans: House Ownership and Access to Technology and Information

House ownership seems to provide higher probabilities for households to get loans from banks. It is indifferent for households to get loans from non-bank institutions and becomes less importance to get loans from individuals. The finding indicates that house ownership may become important for banks as collaterals on households' borrowings.

4.6. Determinant Factors of Households' Loans: Fixed line telephone, cellular telephone, and computer ownerships

Information may be accessed more easily nowadays via the use of telephones, both of fixed lines and more of cell phones, and computers. Through these medias, information is retrieved more easily, faster, and cheaper by much more people. Bank and other institutions also use these medias to disseminate their profiles and products. They use these medias to market themselves and their products. Customers' accessibility to these media is then important.

From the multinomial logit estimation, it is confirmed that telephoneboth fixed lines and cellularownership provides larger possibilities for households to get loans from banks. Households with cell phone ownership is 3 times more likely to get loans from banks. However, different finding is discovered for non-bank and individual loans. It is relatively indifferent for households to obtain loans from non-banks whether they own fixed line and/or cell telephones. It becomes less important for households to obtain loans from individual.

4.7. Impeding factors for households to access bank loans

Micro entrepreneurs are often lacking of capital to run their business. Based on indepth interviews with micro entrepreneurs, the impeding factors for them in accessing bank loans are the limited income in order to make loan repayments, limited assets to be placed as collaterals, inconvenience and inconfidence to interact with the bank, accessibility to the bank. Other factors are that they perceive it would be complicated to deal with banks, many paper/documents to fill in and sign. The process to get loans takes quite some time, while they need the fund immediately. On the other side, based on banks' view households/micro entrepreneurs hardly ever have their identity cards (ID card/KTP). This is a complexity for banks as the ID card is the most important requirement to open an account.

In addition to that, the central bank, Bank Indonesia, is at its early stage of implementing financial inclusion programs. The main focus of the central bank is to educate people. The central bank's main concern is how to change people's mind set and their financial behavior toward banks. The central bank need to introduce financial services and to convince households that bank services are affordable and safe. Banks are also reachable. Educating is not a short term program but is a long term program instead. The central bank's target is to have as many as bank customers, hence bank accounts. Through this action, commercial bank will be able to observe households' financial behavior. Subsequently, banks can create lending programs for the poor.

Here we see incomplementary between households as fund demander and banks as fund supplier. This gap should be minimized instantly otherwise the role of informal shadow banker will still exist. Informal shadow bankers provide funds instantly, easily, and require no collateral. They are more preferred to formal banks for their easiness eventhough they charge higher interest rates. Households are belived to be insensitive with interest rates, they are more sensitive toward any parties who can provide what they need instantly.

5. Conclusion

The Indonesian household's profiles based on 2008 and 2012 Susenas data are mostly men between the age of 17-55, living in rural areas with low education, and working in agricultural and service sectors as own workers or as employers assisted by laborers. The percentage of households who gets loans from bank is very low, that is only 3,5% of the total samples. On the contrary, around 90% of households do not get loans from anywhere. These households are mostly in agricultural sector, own account worker or assisted employer, have low educationelementary level or below, have average income per capita of less than Rp 1 million per month, have limited assets to be placed as collateral.

Based on the multinomial logit estimation, the probability of household obtaining bank loans is affected by the productive age (17-55 years), household size, marital status, and college/university graduates, employment status, house ownership, telephone ownership, and computer ownership. Not-poor households have higher chance to get loans from the bank relatively to the poors.

The probability of household obtaining non-bank loans is affected by the productive age (17-55 years), household size, marital status, and secondary school graduates, own account worker or assisted employer status, agricultural sector, house ownership, telephone ownership, and computer ownership. Nearlypoor households have higher opportunity to get loans from non-bank relatively to the poors.

The probability of household obtaining individual loans is affected by the productive age (17-55 years), household size, marital status, and elementary school graduates, own account worker or assisted employer status, manufacturing and service sectors, house ownership, telephone ownership, and computer ownership. Not-poor households have higher opportunity to get loans from individuals relatively to the poors.

Based on the secondary and primary data findings, it is recommended for the central bank to urgently create lending programs for the unbankables as additional funds/capital are urgently required to run their business. The central bank should cooperate with commercial banks to create products as needed by the poors. The issue of branchless banking should be more considered as the household from the Susenas data indicate that most household own cell phones and sufficiently computer literate.

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Heads of Households Characteristics		01	ources	of Loan	s		Do not Obtair	ı Loans	Tot	tal
	Ba	nks	Non-	Banks	Indivi	duals				
	2008	2012	2008	2012	2008	2012	2008	2012	2008	2012
Age Group										
< 17	0	0	0	0	0	0	0.1	0.1	0.1	0.1
17-35	17.6	18.3	22.2	19.2	24.8	21.4	25.3	21.4	25	21.2
36-45	34.8	34.5	31.7	32.8	31.5	31.6	26.9	27.2	27.4	27.8
46-55	29.1	28.8	27.1	27.4	23.6	25.5	22.5	24	22.9	24.4
; 55	18.4	18.4	19.1	20.5	20	21.6	25.2	27.2	24.7	26.5
Total	100	100	100	100	100	100	100	100	100	100
Sex										
Male	93.4	93.1	89.7	89.9	89.6	90	86.1	85.2	86.5	85.7
Female	6.6	6.9	10.3	10.1	10.4	10	13.9	14.8	13.5	14.3
Total	100	100	100	100	100	100	100	100	100	100
Location										
Urban	45.6	53.3	37.1	33.6	31.8	39.1	35.5	43.1	35.9	42.9
Rural	54.4	46.7	62.9	66.4	68.2	60.9	64.5	56.9	64.1	57.1
Total	100	100	100	100	100	100	100	100	100	100
Education										
Do not graduate from Primary	12	10.9	21.7	19.4	25.4	22	24	21.3	23.5	20.8
Primary	21.4	23.8	31.8	33.6	37.8	33.5	31.1	31.3	30.9	31.2
Secondary	17.1	16.5	20.2	18.5	16.9	17.6	17	15.9	17.1	16.1
Tertiary	33.4	33.1	21.8	23.1	17	21.4	21.8	23.2	22.1	23.5
College/Universtiy	16.1	15.7	4.6	5.3	2.9	5.5	6.2	8.3	6.4	8.4
Total	100	100	100	100	100	100	100	100	100	100
Marrital Status										
Married	92.5	92.1	89	89.2	88.4	88.9	83	81.3	83.6	82.2
Not Married	7.5	7.9	11	10.8	11.6	11.1	17	18.7	16.4	17.8
Total	100	100	100	100	100	100	100	100	100	100
Economic Sector										
Agriculture	24.5	23.3	42.1	43.5	48.5	44	50	46.1	48.9	45.1
Mining/Quarrying	1.1	1.4	1.9	2.1	1.4	1.5	2.1	2.6	2.1	2.5
Manufacture	6.9	8.8	7.3	7.9	2	8.2	6.3	2	6.4	7.1
Services	63.8	65.9	46.7	45.8	41.6	45.5	39.4	43.5	40.5	44.5
Others	3.6	0.7	5	0.7	1.5	0.8	2.2	0.9	2.2	0.9
Total	100	100	100	100	100	100	100	100	100	100
Employment Status										
Own account worker or assisted employer	56.9	62.1	63.5	62.5	67.1	64.8	61.2	56.9	61.3	57.5
Employee	37.8	31.3	26.6	25.8	20.1	22.4	28.5	31.8	28.6	31.3
Casual employee	5.3	6.6	9.8	11.8	12.8	12.8	10.3	11.4	10.1	11.2
Total	100	100	100	100	100	100	100	100	100	100
Note: Notes: 2008 sample number (n) = $282,387$ and 2012	sample number	(n) = 2	86,113	Source:	Author	s own e	stimation from	2008 and	2012 5	dusenas
data										

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			Sources	of Loans			Do not Obt	ain Loans	Tot	;al
	Banks		Banks		Banks					
Income/ capita	2008	2012	2008	2012	2008	2012	2008	2012	2008	2012
Mean	632	924	434	616	395	647	459	711	462	713
$(Rp \ 000)$										
Max (Rp 000)	17,100	$31,\!400$	4,687	33,700	4,036	26,100	25,800	75,300	25,800	75,300
Min (Rp 000)	35	113	43	93	67	93	12	67	12	67
Std Dev	565	1,010	283	634	281	790	420	855	421	853
$(Rp \ 000)$										
Total Sample (n)	9,645	10,122	8,146	12,223	5,715	5,421	258,881	258,347	282,387	$286,\!113$

	Table 2:
	Household's
	Income
	Per
٢	Capita
	based
	on
	Loan
,	Attainment.
	2008
	and :
	2012

			Sources of	f Loans			Do not Obtain	Loans	Tot	cal
	Banks		Non-Banks		Individuals					
	2008	2012	2008	2012	2008	2012	2008	2012	2008	2012
House ownership	82.65	84.27	81.02	85.64	81.56	83.1	79.14	81.4	79.36	81.72
Fixed Line Telephone Ownership	21.5	6	8.2	3.5	6.1	4	6	5.7	9.4	5.7
Cellular telephone ownership	82.3	96.1	57	84.5	48.5	84.7	48.6	78.8	50	79.7
Computer ownership	18.6	29.4	6.6	10.7	4.3	11.4	6.8	13.7	7.2	14.1

Table 4: Regression Estimation Results

	Model 1		Model 2	
Number of obs	459786		459738	
LR chi2	63970.99		59376.1	
Prob > chi2	0		0	
Pseudo R2 Log likelihood	0.1938 133055.28		0.1799 135348 70	
k_ok	-135055.28 RRR	P > z	-135548.79 RRR	P > z
1 bank		- > 1~1		- > 1-1
d_lokasi1 (urban)	0.5284768	0	0.5374132	0
d_jk1 (male)	1.033654	0.639	0.9029836	0.135
d_mar1 (married)	1.530039	0	1.686268	0
$\operatorname{umur}^{(\operatorname{age})}$	0.9986962	0		
d_agegroup1	0.000002	Ŭ	0.9612441	0.203
hhs	1.01759	0.011	1.054493	0
d_educ2 (elementary)	1.330046	0	1.267506	0
d_educ3 (secondary)	1.636607	0	1.525747 1.751151	0
d_educ5 (college/university)	2789766	0	2 516486	0
d_lapus1 (agricultural sector)	0.3907363	ŏ	0.384745	ŏ
d_lapus2 (mining sector)	0.3977448	0	0.3739203	0
d_lapus3 (manufacture sector)	0.8115812	0.003	0.7786495	0
d_lapus4 (service sector)	0.8144146 1 776217	0.001	0.8068722	0
d statpek2 (employee)	1.028822	0.571	1.052274	0.309
d_house_own1 (house ownership)	1.447431	0	1.624102	0
d_tel_rmh1 (Fixed Line Telephone Ownership)	1.330524	0	1.42418	0
d_tel_cell1 (cellular telephone owhership)	3.023131	0	3.151301	0
d_komp1 (computer ownership)	1.046367	0.154	1.077934	0.019
d km3 (not poor)	2.001040 2.713022	0	2.002200 2.798907	0
d_yr2 (year 2012)	0.1256407	Ő	0.1252037	Ő
_cons	0.0001245	0	0.0026331	0
2 nonbank d lekecil (urban)	0 5495252	0	0 5526044	0
d_ik1 (male)	0.6077655	0	0.5625046	0
d_mar1 (married)	1.418604	0	1.453129	0
umur (age)	1.099455	0		
	Model 1	Dr. I.I.	Model 2	D. I.I
k_ok	RRR	P > z	RRR	P > z
d agegroupl	0.999039	0	1 152037	0
hhs	1.053923	0	1.081461	ŏ
d_educ2 (elementary)	1.122143	0	1.080769	0.013
d_educ3 (secondary)	1.359014	0	1.301449	0
d_educ4 (tertiary)	0.9759331	0.525	0.9176396 0.8642271	0.022
d lapus1 (agricultural sector)	0.7644139	0.001	0.8042371 0.7579691	0.001
d_lapus2 (mining sector)	0.8946785	0.325	0.8610005	0.186
d_lapus3 (manufacture sector)	1.08672	0.362	1.066076	0.483
d_lapus4 (service sector)	0.93272	0.4	0.9296649	0.378
d_statpek1 (Own account worker or assisted employer)	1.238523	0 75	1.260333	0 670
d_house_own1 (house ownership)	1.393901	0.75	1.502627	0.079
d_tel_rmh1 (Fixed Line Telephone Ownership)	1.038279	0.409	1.081784	0.083
d_tel_cell1 (cellular telephone owhership)	1.407156	0	1.444822	0
d_komp1 (computer ownership)	0.5315338	0	0.5403087	0
d_km2 (near poor)	1.598271	0	1.633156	0
$d_{\rm xr13}$ (not poor) $d_{\rm yr2}$ (year 2012)	0.394416	0	0.3964709	0
_cons	0.0018591	õ	0.0128038	Ő
3 Individual Loans	0.01051	0	0.0151000	0
d_lokasil (urban)	0.81951	0.088	0.8151988	0
d mar1 (married)	1.085179	0.331	1.07103	0.402
umur (age)	1.935436	0		0
$\operatorname{umur2}\left(\operatorname{age2}\right)$	0.9932561	0		
d_agegroup1			1.607888	0
hhs	1.507441	0	1.778106	0
a_eauc2 (elementary) d_educ3 (secondary)	1.025525	0.51	0.8945234	0.004
d_educ4 (tertiary)	2.09296	0	1.676636	0
d_educ5 (college/university)	0.9608111	0.644	0.8326489	0.033
d_lapus1 (agricultural sector)	0.8825228	0.308	0.8482169	0.185
d_lapus2 (mining sector)	0.9489643	0.755	0.8651453	0.39
d lapus4 (service sector)	1.287940 1.300396	0.055	1.102981 1.273797	0.462
	1.000000	0.00	1.2.0.21	0.010

Note: Source: Authors' own estimation from 2008 and 2012 Susenas