

Master Thesis

**Analyzing the Outreach of Indonesia Education Cash Transfer
to Eligible Beneficiary: Rural Rich are More Likely to Get Cash
Transfers than Rural Poor**

by

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ABBREVIATION AND ACRONYMS

BSM	: <i>Bantuan Siswa Miskin</i> (Poor Students Assistance)
IFLS	: Indonesia Family Life Survey
KPS	: <i>Kartu Perlindungan Sosial</i> (Social Protection Card)
BPS	: <i>Badan Pusat Statistik</i> /Statistics Indonesia
PKH	: <i>Program Keluarga Harapan</i> (Family Hope Program)
Progesa	: <i>Programa de Educación, Salud y Alimentación</i> (the Education, Health, and Nutrition Program)
BSH	: <i>Bono de Desarrollo Humano</i> (Human Development Grant)

CERTIFICATION PAGE

I, YOHANA Surat Payon Philips (Student ID 51217627) hereby to declare that the contents of this Master Thesis are original and true and have not been submitted at any other university or educational institution for the award of degree or diploma.

All the information derived from other published or unpublished sources has been cited and acknowledge appropriately.

YOHANA Surat Payon Philips

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ABSTRACT

Cash transfer program is one of the poverty alleviations programs that carried out by the government in some developing countries. In Indonesia, the unconditional cash transfer program was introduced in 2005, when the government cancelled fuel subsidies. This program then was criticized for its implementation problems such as leakage of fund and corruption, and others. In 2012, the government launched a cash transfer program called Poor Student Assistance (BSM) to help poor households to have more access to education. The question arises whether this assistance has reached the most deprived groups of people and family who need it. This study aims to see whether BSM has reached eligible beneficiaries based on income, urban-rural locations, Java and Non-Java Islands. Using quantitative method which are probit and logit estimations to Indonesian Family Life Survey (IFLS), the findings of this study show that the BSM program mostly reaches people living in rural areas and those who live outside Java, which is in line with the purpose. Meanwhile, when the location variable is controlled, the recipients come from middle to high-income household. The BSM cash transfer does not reach those who need it, the families who live in the remote rural area.

CHAPTER I

INTRODUCTION

1.1 Background

Poverty is one of the global challenges experienced by most countries in the world. Various policy measures have been taken by the government in numerous countries to overcome this problem. One of the poverty alleviations programs that have been used by some developing countries is cash transfer. It is considered as one of the solutions to help the most vulnerable communities, especially those living in poverty. In general, as one of the types of social assistance programs, cash transfer aims to enable the people's consumption of goods and services provided in the market, such as food, health, and education services, among others (Farrington & Slater, 2006).

The popularity of cash transfer started since the enactment of the program in some Latin American countries, and the most well-known groundbreaking program was *Progresa* from Mexico. This program is a conditional cash transfer program for education, health, and nutrition launched in 1997 (Rawlings & Rubio, 2005). It was then followed by Colombia, which established the Families in Action Program, then Honduras with the Family Assistance Program, Jamaica with Program of Advancement through Health and Education, Nicaragua with Social Protection Network, and many other countries.

Cash transfer program in Indonesia was first introduced by the government in 2005, after its decision to raise fuel prices due to a fuel reform program. The purpose of the cash transfer is to help the community, especially the poor, who are most affected by rising fuel prices. It was unconditional which has no restrictions on the purpose of use by the household. However, there have been many criticisms on its implementation.

There are many weaknesses in the implementation of the activity, such as poor data collection of the families who are entitled to receive this assistance and issues of embezzlement of cash transfer funds. This situation triggered many protests, and these protesters are those who did not receive the cash by the value of the promised money, as well as those who felt they were entitled to receive support but were not registered at the regional or central government (Widjaja, 2009).

The government subsequently developed other conditional cash transfer programs to improve the wellbeing of poor families. In 2007, Ministry of Social Affair launched a conditional cash transfer program '*Program Keluarga Harapan*/Hope Family Program or PKH.' The program goal is to open access to health and education services for poor families. Furthermore in 2012, the government, under the authority of the Ministry of Education and Culture in collaboration with the Ministry of Religion, launched a conditional cash transfer program called '*Bantuan Siswa Miskin*/Poor Students Assistance or BSM.'

In some countries, the conditional cash transfer programs have been proven to have positive impacts on households that receive it. After BSM was implemented, it has successfully reduced the school drop-out and grade retention rates. The program boosted the motivation and discipline of children to study, both in school and at home. The cash transfer improved the students' performance in major subjects which are tested in national exams (Suprastowo, 2014).

1.2. Statement of the problem

The positive results from several implementations of the ongoing conditional cash transfer program show how important this program as long it is channeled to the right targets, especially poor people do not have access to education or health services. It is a common sense that almost all the governments want to maximize their programs that improve the welfare of its people with minimal funds. Generally, the government considers ethical aspects namely social fairness for the community, as well as pragmatic aspects such as cost-effectiveness, when they deciding target recipients and social assistance distribution (Devereux, et al., 2017).

Meanwhile, there are some cases of misallocation which high-income households received the cash transfer, that supposed to delivered to low-income households. Many safety net programs in developing countries have ineffective targeting processes which bring significant proportions of the benefit toward high-income households and excludes the poor households (Coady & Parker, 2009).

In Brazil, some households manipulate or omit information about their income to become eligible with *Bolsa Escola* (school allowance program) criteria (Firpo, Prieri, Pedroso, & Souza, 2014). One of the criteria for becoming recipients of the program is households' income per capita, and this made some individual reduce the amount of their work in order to lower the income to become qualified with the beneficiary criteria. The

possibility of nepotism also occurs in the distribution of cash transfers. This happened in India, where some people who have close connections with the local government are more likely to access the social transfer benefit (Asri, 2019). This leakage also happened in Indonesia's cash transfer program BLT of *Bantuan Langsung Tunai* (Unconditional Cash Assistance), where 22% of the ineligible household received BLT payment (Cameron & Shah, 2014).

It is important for a program that spends an amount of government budget to be able to fulfil the program objective and reach those who really need it, especially families that do not have the ability to access education and health services. For this reason, it is important to see whether a government assistance program has reached the community groups that supposed to receive this assistance.

1.3. Research questions

The question is whether the BSM cash transfer program has reached residents who really need this assistance. The reason is derived from two main factors: the first factor is that the conditional cash transfer program includes a new program developed in Indonesia, and research on the distribution performance has never been done in the country. The second factor is one of the main requirements to become an eligible recipient is that the family should have a social protection card/*Kartu Perlindungan Sosial* or KPS. This card is a program from the Ministry of Social Affairs intended to accelerate and expand social assistance to the poor, which is using prospective card recipients based on the data collection carried by the Statistic Indonesia/*Badan Pusat Statistik* or BPS. This leads to a question of whether the program distribution is effective or not. If indeed, the ownership of Social Protection Cars (KPS) is only intended for poor families, then BSM acceptance should be in accordance with the target. However, referring to the experience that occurred with the implementation of previous BLT unconditional cash transfers where there had been many problems, it is necessary to do a study that specifically aims to examine the results of BSM distribution.

1.4. Research objectives

The purpose of this study is to see the outreach of conditional cash transfers to the eligible beneficiaries based on households' income, households' location in urban-rural, and households' location based on provinces.

1.5. Research Assumptions and Hypothesis

The assumption of the study is that the BSM cash transfer supposedly reaches out to the eligible beneficiaries which are the poor.

The null hypothesis (H_0) of this research is that BSM cash transfer program reaches out the poor. While the alternative hypothesis (H_1) of the research is that BSM cash transfer program does not reach out the poor.

1.6. Significance of the study

This study can be useful as an additional literature related to BSM cash transfer studies. The strength of the study is that while most of the cash transfer studies in Indonesia were focused on the impact of the cash transfer, this study is focused on the outreach of the program in the community. The results and findings could possibly show the effectivity of the implementation of the BSM cash transfer program, specifically whether this program has reached its targeted beneficiaries. This research can be considered as additional literature for the development and improvement of the cash transfer services in Indonesia, related to targeting and distribution.

1.7. Scope and delimitations

The focus of this research is the conditional cash transfer program BSM or *Bantuan Siswa Miskin*/Poor Student Assistance Program organized by the government through the Ministry of Education and Culture in collaboration with the Ministry of Religion. The aim of this program is to eliminate barriers for poor students in accessing appropriate education services, prevent drop-out rates and encourage poor students to attend school. It also aims to help poor students meet the needs of learning activities, and support their completion of the compulsory nine-year basic education from elementary to high school (Widianto, 2013). The poverty criteria used in this study are those who have an average per capita expenditure per month below the poverty line (BPS, Statistical Yearbook of Indonesia 2015, 2015).

The subject of the study is the beneficiaries of the program in many areas in Indonesia. Requirements for those who can receive this assistance are students who are members of the household who have Social Protection Card (*Kartu Perlindungan Sosial/KPS*). Besides the criteria, the school can nominate any student who is eligible but does not yet have a KPS, if the quota of assistance has not been reached. The criteria for non-KPS recipients are those who:

- come from PKH beneficiary families, or
- children who belong to orphanages managed by the Ministry of Social Affairs, or
- victims of natural disasters, or
- belong to households who have received a 'poor a status' acknowledgement by central or local government, or
- children who are at risk of dropping out of school or
- children with have physical limitations and other economic limitations (Ministry of Religion, 2014).

The limitation of this study is that this study relies on quantitative methods and has not reached the stage of direct observation on the field or conducted interviews with program implementers at the government level, the central and regional levels, as well as with beneficiary households.

CHAPTER 2

LITERATURE REVIEW

2.1 Theoretical Literature

Cash transfer is one of the social assistance programs that intended to increase or improve the consumption of goods and services, such as food, construction materials, health and education (Farrington & Slater, 2006). There are two types of cash transfer: the unconditional cash transfer and the conditional cash transfer (Yusuf, 2018). Conditional cash transfer is the type in which funds are directed at certain needs (health or education) and monitored, while unconditional cash transfer does not have such requirements. Most of the conditional cash transfer has two purposes, increasing human capital development in the long run and short-term poverty alleviation (Handa & Benjamin, 2006).

There are numerous evaluation studies that showed the impact of cash transfers in many countries. In Brazil, the cash transfer program was established to improve people's well-being but was not effective in promoting human capabilities of poor (Bagolin, 2017). A cash transfer school grant program in Brazil brought a positive effect to school enrollment and a negative effect on child labor supply (Ferro, Kassouf, & Levison, 2015). In Mexico, the goal of the cash transfer program is to increase the human capital of children from poor rural households and had a positive impact on school enrollment at all grade levels, especially primary school. Meanwhile, this program had a negative impact on students at the secondary level (Dubois, de Janvry, & Sadoulet, 2012). In Colombia, education cash subsidy seems to have more positive effect on enrollment rates among the secondary school but not primary school (Rawlings & Rubio, 2005). In Bolivia, unconditional cash transfers have boosted child labor especially in boys of rural households, due to the household's tendency to spend the cash on unconditional cash transfer (Chong & Yanez-Pagans, 2019).

2.2 Research Framework

2.2.1 Cash Transfer and Beneficiaries Income

In general, the main purpose of social assistance programs is to help low-income communities and improve their welfare. Therefore, in targeting beneficiaries, one of the criteria to determine eligible recipients is the household's income. There are different ways of targeting the social assistance recipients in developed and developing countries. Most of

the developed countries use means-testing, which targeting household whose incomes below a certain threshold. However, in developing countries, there is a huge number of potential eligible beneficiary work in the informal sector which have no formal reliable record of income which would make the means test ineffective (Alatas, Banerjee, Hanna, Olken, & Tobias, 2012).

Not all government assistance program is effectively delivered to the poor. In Australia, a study about welfare transfer based on Individual-Level Population-Weighted Analysis in LIS shows that among three income groups, middle-income households received more transfer with about 42% of the sample, while recipients from low-income groups were 35%, and high-income households were 20% (Brady & Bostic, 2015). The cash transfer was targeted to low-income households. The problem in targeting social programs is indeed a challenge for the government. When the implementation of targeting social programs is not effective, it is likely that the main objectives of the program to reduce poverty and inequality cannot be fully achieved. This leads to the rise of the 'paradox of redistribution' assumption. The more government tries to target the poor as program beneficiaries, the less likely poverty and inequality can be reduced (Korpi & Palme, 1998).

2.2.3 Cash Transfer and Beneficiaries Location

Poverty is one of the root problems in urban and rural communities. Inequality in economic and social affect the characteristics of the difference between poor in urban and rural areas. Regarding economic and social challenges, people living in rural areas have lower opportunities to get higher paid jobs or be considered for promotion, particularly areas which have experienced deterioration in natural resources and manufacturing industry. Research in US counties found that in rural areas, the possibility of poor people utilizing welfare programs is quite low. Households in rural counties are less likely to use public assistance programs, such as childcare subsidies, food stamps, and welfare, as compared to households in metropolitan counties (Davis, Grobe, & Weber, 2010). As for social assistance participation, urban areas have a higher tendency to welfare participation than rural areas. Physical access is one factor that contributes to this condition. Most urban areas have a higher population and better-established public transportation. This helps urban communities to reach the administration offices for application and registration. Meanwhile, for low-income families in rural areas, transportation is a big issue as they live in remote areas that lack integrated public transportation (Hirschl & Rank, 1991).

Some social assistance is specifically designed for rural communities such as the *Progresa* cash transfer program, which originating from Mexico. The program objective is to improve the human capital of rural people to end the cycle of poverty between generations suffered by citizens. In 2000, the cash transfer program had covered 2.6 million rural families or about 40% of rural families in Mexico. In 2008, it covered 5 million families in rural and urban areas (Dubois, de Janvry, & Sadoulet, 2012).

2.2.4 Access to Cash Transfer

There are some possible challenges that limit the probability of poor people in accessing cash transfers or other social programs. These challenges are information and administration cost. In Ecuador' *Bono de Desarrollo Humano* (BDH) cash transfer, many people had been unaware of the program, especially the enrollment process, which influenced their behaviors towards the program. When people are not sure about the information on cash transfer requirements, it will reduce people's interest to register (Rinehart & Mcquire, 2017).

Administration cost and the process could be part of the consideration of poor households in their decision to apply for the program. The higher the administration cost, the lower the number of applicants. This administration cost includes transportation cost, bank account registration fee, and so on. In the United States, the factors of why the rich received more benefit in national health insurance are higher transportation cost and better communication skills with medical providers (Currie & Gahvari, 2008). In the BDH case, there are some households that could not fulfil the program's conditions. Poor people living in remote areas often refused to register and pull out the registration (Rinehart & Mcquire, 2017).

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Data Source

The subjects of this study were Indonesian families and data were obtained from the results of the fifth wave of the Indonesian Family Life Survey (IFLS 5). The IFLS 5 is an ongoing longitudinal research activity, which is carried out per wave every seven years. The focus of the survey questions is socioeconomic and health survey. The first wave of IFLS was in 1993 and until now there have been five waves. Sample of this survey is illustrated about 83% of the Indonesian population. IFLS 5 was conducted in late 2014 and early 2015. The interview survey gathered information about individual respondents, their families, their households, their surrounding community, as well as the health and education facilities they are using. The total sample of the research was 16,204 households and 50,148 individuals. The IFLS project is a collaboration project between RAND, a United States of America based nonprofit research organization with SurveyMeter, an Indonesian non-government research agency, under grant from multinational government agencies, namely National Institute on Aging (NIA) from US, National Institute for Child Health and Human Development (NICHD), World Bank, Indonesian Government, GRM International, and Department of Foreign Affairs and Trade from Australia (Strauss, F. Witoelar, & B. Sikoki, 2016). Among all the household response in the database, the sample of households that respond to BSM questions in the IFLS is spread in 24 provinces out of a total of 34 provinces in Indonesia.

3.2 Data Analysis

The dependent variable is the recipient of BSM and not the recipient of BSM, while the independent variable is data on household income, data on the location of urban/rural households, as well as data on the location of households in Java/Non-Java island. Since we expected the dependent variable to be binary in 'yes' and 'no' responses, which is considered as a qualitative variable, these variables will be estimated using probability models. In general, the framework of the probability model is:

$$\begin{aligned}\text{Prob (event } j \text{ occurs)} &= \text{Prob } (Y = j) \\ &= F [\text{relevant effects : parameters}]\end{aligned}$$

(Greene, 1997)

In this study, we intend to look at BSM cash transfer outreach. Respondents did receive BSM ($Y = 1$) or did not receive BSM ($Y = 0$). While 'x' is a factor that we assume explains the possibility of someone accepting BSM or not, as illustrated in the equation below:

$$\text{Prob } (Y=1) = F(\beta'x)$$

$$\text{Prob } (Y=0) = 1 - F(\beta'x).$$

Parameter β illustrate the impact of changes in 'x' of the probability (Greene, 1997). This impact considered to be the marginal effect of 'x' which is reflected as an independent variable on Y as the dependent variable. The general form of a regression model with a dichotomous dependent variable:

$$y_j = \sum \beta_i x_{ij} + e_j.$$

(Noreen, 1988)

- y : stochastic/dependent variable
- j : index of a case/individual/sample
- i : index of an independent variable
- β : coefficient of an independent variable
- x : independent variable vector
- e : the error in predicting the value of 'y'

Regression method probability model analysis used in this study is the probit model and logit model. Both of models are regression methods that aim to measure analysis models that have binary outcome. The distribution function of probit and logit model are:

probit :

$$\begin{aligned}\text{Prob}(Y = 1) &= \int_{-\infty}^{\beta'x} \phi(t)dt \\ &= \Phi(\beta'x)\end{aligned}$$

logit :

$$\begin{aligned}\text{Prob}(Y = 1) &= \frac{e^{\beta'x}}{1 + e^{\beta'x}} \\ &= \Lambda(\beta'x)\end{aligned}$$

(Greene, 1997)

$\phi(\beta'x)$: probability density function of the normal distribution

$\Phi(\beta'x)$: cumulative normal distribution function

$\Lambda(\beta'x)$: cumulative logistic distribution function

To carry out regression, the BSM recipient variable and two household location variables are converted into dummy variables, while the income variable is converted into a log natural variable. The regression model of this study is:

$$D_{\text{bsm}} = \beta_0 + \beta_1 \ln(\text{income}) + \beta_2 D(\text{urbanrural}) + \beta_3 D(\text{java}) + u$$

D_{bsm} represents dependent dummy variable of the beneficiary and non-beneficiary of BSM, β_0 is an intercept, β_1 is the coefficient of household income, β_2 is the coefficient of 'urban-rural' household location in dummy variable, β_3 is another coefficient of 'Java-Non Java islands' household location in dummy variable.

For the BSM dummy variable, the label '0' is given to respondents who did not receive assistance and the label '1' for respondents who received it. In the Urban / Rural dummy variable, the label '0' is given to household respondents who live in rural areas and label '1' for the urban families. Meanwhile, on Java/Non-Java dummy variable, label '0' for households living on islands other than Java, while the label '1' is for households on Java islands.

CHAPTER 4

ANALYSIS AND DISCUSSION

4.1 General Overview of *Bantuan Siswa Miskin*/Poor Students Assistance (BSM)

4.1.1 BSM Beneficiaries Income

The aim of the cash transfer is to help poor household to have more access to education. We need to know how the general income of families who have received and the families who did not receive the BSM assistance. The question of BSM points asked by respondents is the total value of household income in the last 12 months in Rupiah (Rp).

Table 1. BSM Beneficiaries by Income (The Fifth Wave of IFLS, 2014)

Income (Rp)*	Frequency
10,000 - 50,000,000	3356
50,000,001 - 100,000,000	67
100,000,001 - 150,000,000	12
150,000,001 - 200,000,000	4
200,000,001 - 250,000,000	1
250,000,001 - 300,000,000	1
350,000,001 - 400,000,000	1
700,000,001 - 750,000,000	1

(*Rp.1 = USD 0,00007)

Table 2. BSM Beneficiaries by Income/below Rp.1 million (The Fifth Wave of IFLS, 2014)

Income (Rupiah)*	Frequency
10,000 - 100,000	12
100,001 - 200,000	19
200,001 - 300,000	24
300,001 - 400,000	14
400,001 - 500,000	49
500,001 - 600,000	24
600,001 - 700,000	7
700,001 - 800,000	23
800,001 - 900,000	13
900,001 - 1,000,000	89

(*Rp.1 = USD 0,00007)

The data shows that most of BSM beneficiaries' income were below Rp.50 million/month. However, there some beneficiaries whose income beyond Rp.50 million/month, and there is one household whose income was more than Rp.700 million who received the cash transfer. On the lowest income range from the lowest Rp.10,000 to one million rupiah, most of the beneficiaries were in range Rp.900 thousand to one million rupiah.

Meanwhile, the overview of household income that does not receive BSM is as follows:

Table 3. Non-Beneficiary by Income (The Fifth Wave of IFLS, 2014)

Income (Rupiah)	Frequency
10,000 - 50,000,000	22160
50,000,001 - 100,000,000	1372
100,000,001 - 150,000,000	261
150,000,001 - 200,000,000	89
200,000,001 - 250,000,000	46
250,000,001 - 300,000,000	22
300,000,001 - 350,000,001	12
350,000,001 - 400,000,000	25
400,000,001 - 450,000,000	9
450,000,001 - 500,000,000	5
500,000,001 - 550,000,000	1
550,000,001 - 600,000,000	4
600,000,001 - 650,000,000	1
650,000,001 - 700,000,000	3
700,000,001 - 750,000,000	5
750,000,001 - 800,000,000	2
800,000,001 - 850,000,000	0
850,000,001 - 900,000,000	1
900,000,001 - 950,000,000	0
950,000,001 - 1,000,000,000	28

(*Rp.1 = USD 0,00007)

Table 4. BSM Non-Beneficiary by Income/below Rp.1 million (The Fifth Wave of IFLS, 2014)

Income (Rupiah)	Frequency
10,000 - 100,000	74
100,001 - 200,000	91
200,001 - 300,000	106
300,001 - 400,000	60

400,001 - 500,000	218
500,001 - 600,000	107
600,001 - 700,000	60
700,001 - 800,000	94
800,001 - 900,000	44
900,001 - 1,000,000	420

(*Rp.1 = USD 0,00007)

The non-beneficiary data above reveals that there are low-income households who do not receive BSM assistance. Based on sample data, the number of lower-income families who do not receive BSM is bigger than poor families who receive BSM.

Poverty line is a common indicator in determining an individual or a family unit is living in poverty or not. In this study, we use the poverty line rate published by Statistics Indonesia/BPS. BPS used the basic needs calculation approach in measuring and deciding the poverty line. This approach perceives poverty as an economic inability to fulfil basic food needs and non-food needs measured by expenditure. Poverty Line Calculation consists of two components, namely the Food Poverty Line and the Non-Food Poverty Line. Line Value Poverty in rural and urban areas is calculated separately (BPS, Statistical Yearbook of Indonesia 2015, 2015).

Table 5. Indonesian Poverty Line (Statistic Indonesia/BPS, 2015)

Year	Month	Poverty Line Rupiah (Rp)	
		Urban	Rural
2011	Mar	253,016	213,395
	Sept	263,594	223,181
2012	Mar	267,408	229,226
	Sept	277,382	240,441
2013	Mar	289,042	253,273
	Sept	308,826	275,779
2014	Mar	318,514	286,097
	Sept	326,853	296,681

Table 5 reveals that the average poverty line is in the range of Rp.200 thousand to Rp.300 thousand. From the value of the poverty line based on the value of family expenditure, we can assume at least the minimum value of their income will be the same and more than the spending.

4.1.2 BSM Beneficiaries Location

4.1.2.1 Urban/Rural

The overview of the location's status of BSM recipients who live in urban and rural is described as following :

Table 6. BSM Beneficiaries by Urban-Rural (The Fifth Wave of IFLS, 2014)

BSM	Rural	Urban	Total
Recipient	847	934	1781
Proportion	13,97%	10,27%	11,75%
Non-recipient	5212	8162	13374
Proportion	86,02%	89,73%	88,24%
Total	6059	9096	15155

Figure 1. BSM Beneficiaries

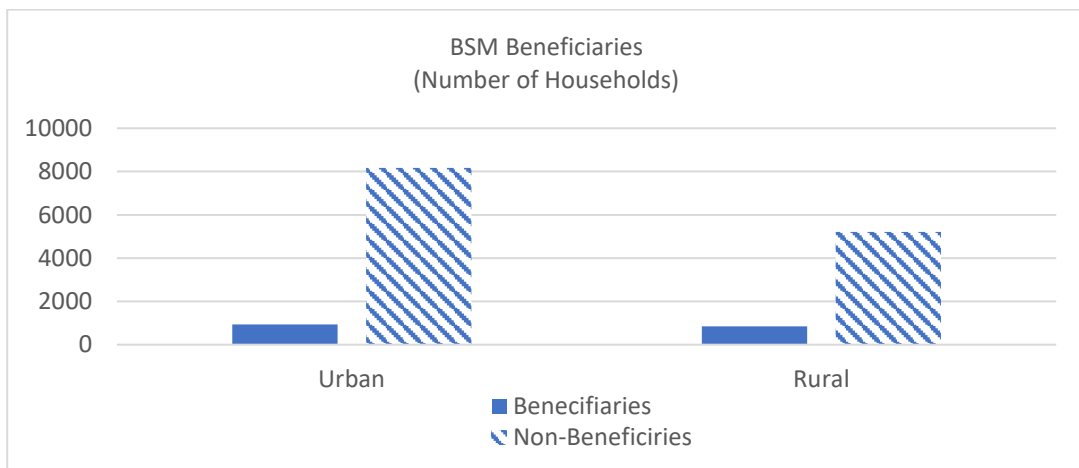
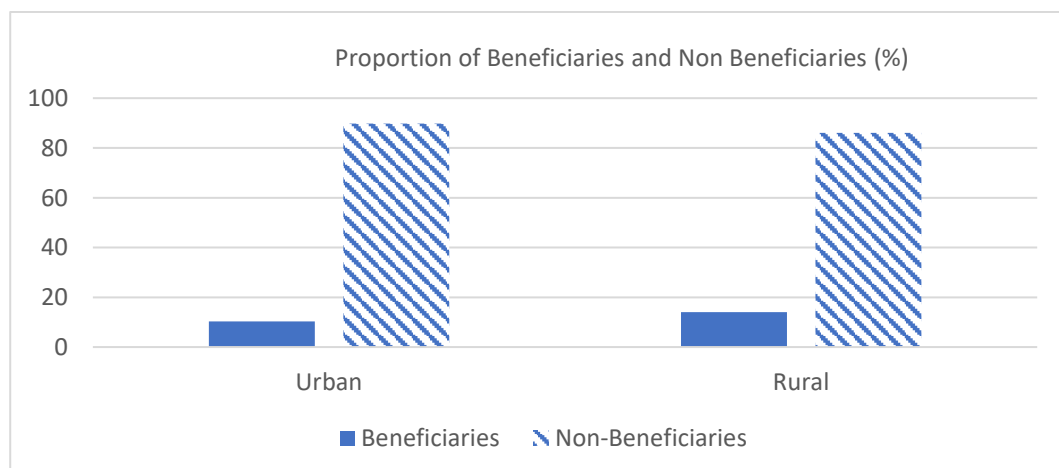


Figure 2. BSM Beneficiaries Percentage



Among all respondents surveyed in IFLS, there are 934 households in urban areas and 874 households in rural areas received BSM cash transfer. While those who did not receive assistance in urban is 8162 households and 5212 households in rural. If we compare the proportion of BSM recipients based on the total sample size, then the percentage of BSM recipients in urban and rural areas is 10,27% and 13,97%.

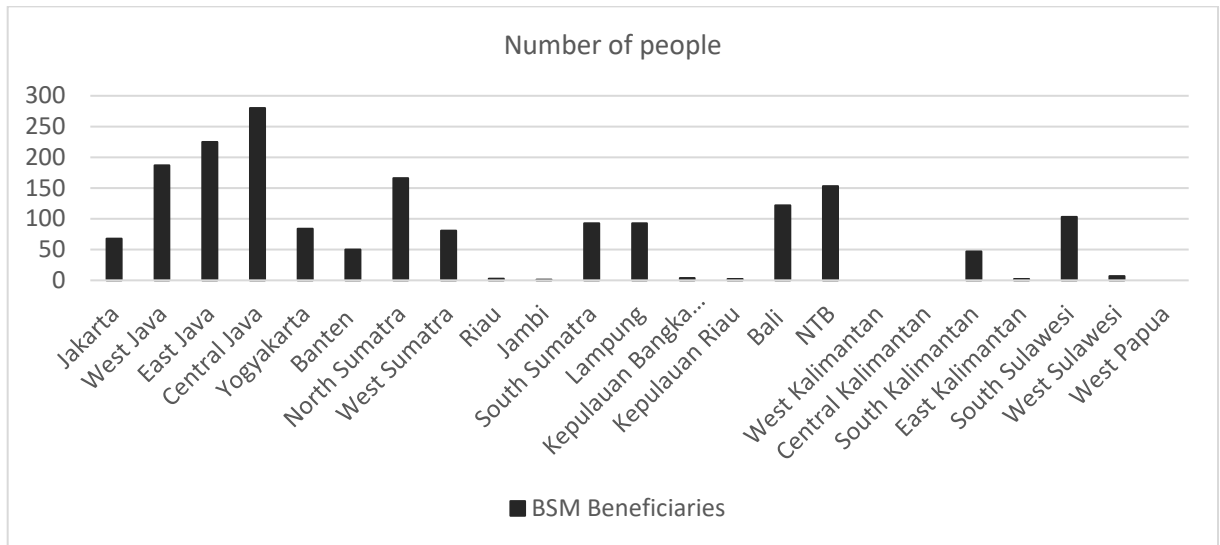
4.1.2.2 Provincial

Meanwhile, the number of IFLS respondents who received BSM was based on the province as follows:

Table 7. BSM Beneficiaries by Province

Provinces	Beneficiaries	% Beneficiaries of sample
Jakarta (Java)	68	6.61
West Java	187	8.22
East Java	225	10.23
Central Java	280	14.37
Yogyakarta (Java)	84	10.08
Banten (Java)	50	7.91
Aceh	0	0.00
North Sumatra	166	13.87
West Sumatra	81	11.98
Riau	3	2.27
Jambi	1	4.76
South Sumatra	93	12.76
Lampung	93	14.62
Kepulauan Bangka Belitung	4	4.12
Kepulauan Riau	2	4.88
Bali	122	16.12
Nusa Tenggara Barat	153	13.50
West Kalimantan	0	0.00
Central Kalimantan	0	0.00
South Kalimantan	47	6.70
East Kalimantan	2	3.08
South Sulawesi	103	13.27
West Sulawesi	7	21.88
West Papua	0	0.00

Figure 3. BSM Beneficiaries per Provinces



The table and diagram above show that the provinces with the highest number of BSM recipient samples are Central Java with 280 households, East Java with 225 households, and West Java with 187 households. Provinces with the least number of recipients are Jambi, Riau Islands, and Kalimantan, with one household, two households and two households respectively. On the other hand, provinces that did not have cash transfer recipients at all were the provinces of Aceh, West Kalimantan, Central Kalimantan and West Papua.

Java island is one of large islands in Indonesia which has the highest economic development compared to other islands. Among total 34 provinces, the three provinces with the Gross Domestic Product (GDP) were highest on the island of Java, including Jakarta with Rp.1,761,407 billion, then East Java with Rp.1,540,696 billion, and West Java with Rp.1,385,959. The description of the differences in economic growth rates between provinces in Indonesia can be explained below:

Table 8. Gross Domestic Product (GDP) at Current Market Prices by Provinces

	Province	2011	2012	2013	2014
Java	Jakarta	1,224,218.5	1,369,432.6	1,547,037.8	1,761,401.1
	West Java	1,021,628.6	1,128,245.7	1,258,914.50	1,385,959.4
	East Java	1,120,577.20	1,248,767.30	1,382,434.90	1,540,696.50
	Central Java	692,561.60	754,529.40	832,963.60	925,662.70
	Yogyakarta	71,370	77,247.90	84,924.70	93,449.90
	Banten	306,174.30	338,224.90	380,172.80	432,764
Non-Java	Aceh	108,217.60	114,552.10	121,973.00	130,448
	North Sumatra	377,037.10	417,120.40	470,222	523,771.60
	West Sumatra	118.674.3	131,435.60	146,885.10	167,039.90

Riau	485,649.30	558,492.70	607,498.60	679,692.20
Jambi	103,552.90	115,070.40	132,019.50	153,857.1
South Sumatra	226,666.90	253,265.10	281,996.50	308,406.80
Lampung	170,046.80	187,348.80	204,402.80	231,008.40
Kepulauan Bangka Belitung	40,849	45,400.20	50,393.90	56,389.90
Kepulauan Riau	126,914.20	144,840.80	163,112.10	182,915.50
Bali	104,612.20	117,987.40	134,399	156,448.30
NTB	68,187.70	69,022.20	73,605	82,246.60
West Kalimantan	96,727.10	106,958.80	118,623.30	131,933.40
Central Kalimantan	65,871.40	73,425.40	81,905.90	89,871.70
South Kalimantan	98,780.60	106,725.40	115,876.50	131,592.90
East Kalimantan	515,191.50	550,735.80	571,309.70	579,010.40
South Sulawesi	198,289.10	228,285.50	258,683	300,124.20
West Sulawesi	20,189.30	22,626.20	25,249.50	29,391.50
West Papua	44,254.60	47,421.10	53,014.20	58,285.10

If we classify BSM recipients into two groups of households, which are those who live on Java and Non-Java islands, the comparison would be as following :

Figure 4. BSM Beneficiaries Comparison (Java and Non-Java)

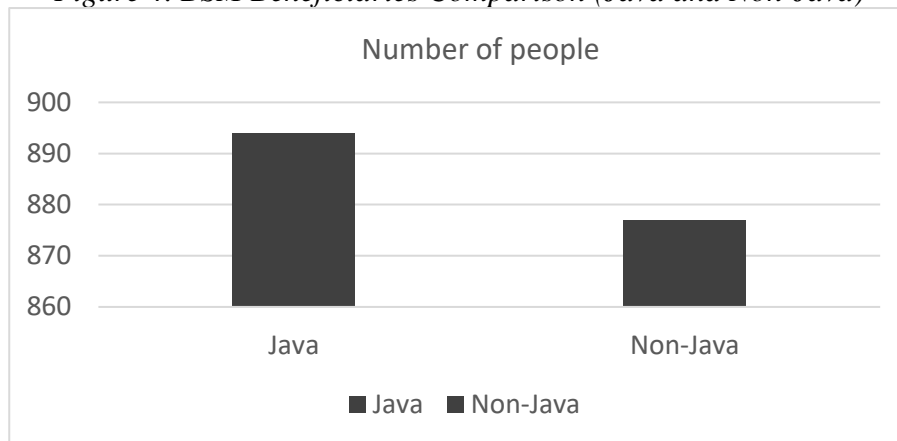


Figure 5. BSM Beneficiaries Proportion (Java and Non-Java Islands)

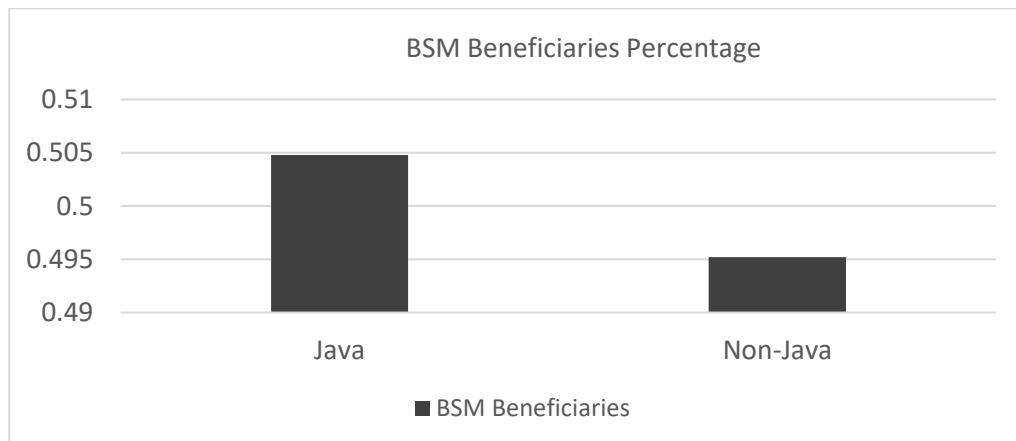
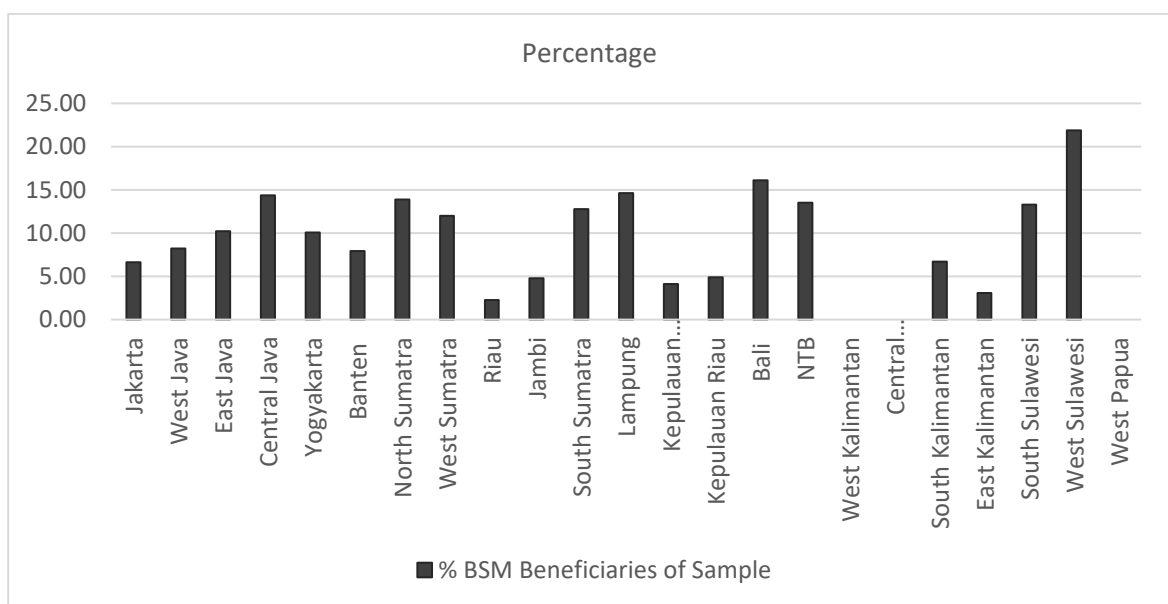


Figure.4 and 5 display how BSM recipient respondents on Java number is larger than Non-Java islands. If we analyze this condition based on the purpose of the conditional cash transfer, cash transfers are supposed to be directed to provinces with lower GDP, with the reasoning that province with lower GDP tends to have a smaller budget for the region social program. Meanwhile, if we compare the number of recipients and the total sample in each province, the proportion of recipients of BSM will be as shown below:

Figure 6. BSM Beneficiaries Proportion



The chart in the figure.6 shows the percentage of BSM recipients in each province based on the total sample in that province. The high or low percentage indicates the number of BSM recipients compared to the total respondents (receiving and not receiving). A low percentage means only a small number of respondents in the group/area receive assistance, and vice versa. Unlike the figure.5 which present how Java has a bigger number in beneficiaries, in this more fraction illustration, the highest proportion comes from provinces outside Java. These provinces are West Sulawesi (21,88%), Bali (16,12%) and Lampung (14,62%).

Since the purpose of cash transfer is poverty alleviation, then one of the factors that can be used as a basis in determining the priority of recipients of cash transfer is the provincial poverty level. Provinces with a high percentage of poverty which should be prioritized for receiving government social program assistance. The following is the number of poor people and their percentage in each province:

Table 9. Poor People by Province

Province	Number of Poor People (thousand)				Percentage of Poor People			
	2013		2014		2013		2014	
	Mar	Sept	Mar	Sept	Mar	Sept	Mar	Sept
Jakarta (Java)	-	375,70	383,09	412,79	-	3,72	3,92	4,09
West Java	1796,04	4382,65	4327,07	4238,96	11,59	9,61	9,44	9,18
East Java	3220,8	4865,82	4786,79	4748,42	16,15	12,73	12,42	12,28
Central Java	2821,74	4704,87	4836,46	4561,82	15,99	9,61	9,44	9,18
Yogyakarta (Java)	234,74	535,18	544,87	532,58	19,29	15,03	15,00	14,55
Banten (Java)	292,45	682,71	622,83	649,19	7,72	5,89	5,35	5,51
Aceh	940,70	855,71	881,25	837,42	17,60	17,72	18,05	16,98
North Sumatra	1339,16	1390,8	1286,67	1360,6	10,06	10,39	9,38	9,85
West Sumatra	287,94	360,63	379,2	354,74	9,39	7,56	7,41	6,89
Riau	322,98	522,53	499,88	498,28	8,93	8,42	8,12	7,99
Jambi	166,15	281,57	263,80	281,75	7,27	8,42	7,92	8,39
South Sumatra	725,6	1108,21	1100,83	1085,80	14,50	14,06	13,91	13,62
Lampung	930,05	1134,28	1142,91	1143,94	16,00	14,39	14,28	14,21
Kepulauan Bangka Belitung	46,49	70,90	71,64	67,23	6,91	5,25	5,36	4,97
Kepulauan Riau	26,64	125,02	127,80	124,17	7,28	6,35	6,70	6,40
Bali	66,17	186,53	185,20	195,96	4,04	4,49	4,53	4,76
Nusa Tenggara Barat	412,94	1009,15	994,67	991,88	16,32	20,24	19,82	19,60
West Kalimantan	297,26	392,17	401,51	381,91	9,51	8,74	8,54	8,07
Central Kalimantan	103,72	145,36	146,33	148,82	6,75	6,23	6,03	6,07
South Kalimantan	129,69	183,27	182,88	189,49	5,88	4,76	4,68	4,81
East Kalimantan	147,54	255,91	253,60	252,68	9,90	6,38	6,42	6,31
South Sulawesi	639,69	857,45	864,30	806,35	12,24	10,32	10,28	9,54
West Sulawesi	126,86	154,20	153,89	154,69	13,27	12,23	12,27	12,05
West Papua	965,46	234,23	229,43	225,46	35,64	27,14	27,13	26,26

Refer to the data, provinces that have high levels of poverty include West Papua, West Nusa Tenggara and Aceh. However, if we look at table 8, there are 153 respondents in West Nusa Tenggara who received BSM assistance, and for West Papua and Aceh, we cannot find out information about BSM recipients because there is no respondent.

4.2 Data Analysis

4.2.1 Correlation Between Variables

Before regression estimation is undertaken, we would like to test the association between BSM and the income alongside the location of the household. Pearson's correlation coefficient between variables are presented below:

Table 10. Pearson's Correlation Coefficient of Variables

	BSM	Income	Urban/Rural	Java/Non-Java
BSM	1.0000			
Income	0.0235	1.0000		
Urban/Rural	-0.0442	-0.1098	1.0000	
Java/Non-Java	-0.0406	-0.0376	-0.0376	1.0000

The correlation results reveal that the correlation between BSM and income variable is positive, while the association between other variables such as 'BSM' and 'urban/rural', 'BSM' and 'Java/Non-Java' and so on, are negatives. The positive relationship indicates that the variables are on the same direction and that the means of 'Income' is moving to the group '1' code variable, which is the households who received BSM. The 'Income' is correlated positively with BSM.

On the other hand, the negative signs, which occurred to other of the correlations, implies that the relationship between variables is moving in a different path. The negative relationship between BSM and Urban/Rural suggests that the group '1' of the BSM variable, which is the group of households who received BSM, is related to the group '0' of the 'Urban/Rural' variable which is the 'Rural'. Furthermore, the negative correlation of BSM and 'Java/Non-Java' illustrate that the group '1' of BSM variable is more related to the group '0' of the 'Java/Non-Java' which is the 'Non-Java' group.

Meanwhile, the negative correlation between ‘Income’ and ‘Urban/Rural’, as well as ‘Income’ and ‘Java/Non-Java’, suggest that the higher the income of the household is moving in line with ‘Rural’ and Non-Java’ group, which belong to the ‘0’ group variables. The similar negative sign is in the association between ‘Urban/Rural’ and ‘Java/Non-Java’. This relation implies that the group ‘Urban’ is correlated to ‘Non-Java’, and ‘Rural’ is related to ‘Java’. Since certain correlations are found among independent variables, it makes sense to undertake regression analyses, which are exhibited below.

4.2.2 Probit Model Analysis

To estimate the relationship and the strength of association between the variables, we need to do binomial regression analysis to see whether BSM has reached eligible beneficiaries through relationships between variables which are assumed to be a factor of BSM distribution. Probit regression is one of regression model among binomial regression analysis, which is associated with the normal distribution (*Gujarati, 2003*). Based on the results of the probit regression that have been done, the results are as follows:

Table 11. Probit Multiple Regression result of BSM Beneficiaries

BSM Cash Transfer Outreach			
	Coefficient (Standard Error)	z	p
Income	0.0345*** (0.0059)	5.77	0.000
Urban Area Dummy	-0.1248*** (0.0111)	-11.22	0.000
Java Provinces Dummy	-0.1147*** (0.011)	-10.43	0.000
Constant	-1.1681		
No. observations	100,896		
Pseudo R2	0.0051		
Standard errors are reported in parentheses.			
* indicates significance at the 90%, ** indicates significance at the 95%, *** indicates significance at the 99%			

The two-tail p-value test shows that all independent variables have a significant impact on an independent variable. The coefficient in regression result leads to the regression model equation as follow :

$$P(\text{BSM}=1) = F[-1.1681 + 0.0345 \text{Ln}(\text{income}) + (-0.1248)D(\text{urban/rural}) + (-0.1147)D(\text{java})]$$

Based on the regression results above, it is found that the coefficients of the two variables are minus. There are some interpretations that we can infer from the equation based on the log-odds form, which is positive/negative sign ('+/-') of the coefficient. When a coefficient is positive, an escalation in the independent variable will influence an increase in the dependent variable. While a negative coefficient implying that an increase in the independent variable will affect a reduction in the dependent variable (UCLA, 2016).

In the probability model, the coefficients cannot be interpreted directly as in linear regression. We need to find out the change of probability of dependent variable by the increase of the independent variable, through the marginal effect of the model.

Table 12. Marginal Effect After Probit

BSM	dy/dx	SE	z	X
<i>Ln(Income)</i>	0.00598***	0.00104	5.77	0.540535
Urban/Rural	-0.02202***	0.00199	-11.06	0.598577
Java/Non-Java	-0.02015	0.00185	-10.34	0.568794

Standard errors are reported in parentheses.
 * indicates significance at the 90%, ** indicates significance at the 95%, *** indicates significance at the 99%

Every increase in one unit in the income variable in the household, it is likely that the household receives BSM of 0.59%. Furthermore, if in the urban/rural variable, the

respondent is living in urban '1' area, the probability of households receiving assistance is decreasing by 2.2%. Likewise, Java/Non-Java variables, the possibility of families living in Java '1' receiving BSM assistance decrease by 2%.

In general, it shows that households in rural areas and Non-Java provinces have a greater probability of getting BSM cash transfer assistance, compared to urban households and in the Java province. Meanwhile, for the income variable, the higher income households have a bigger probability to receive BSM than lower income.

Another important thing to note in this analysis is the relationship between the independent variables. These are the result of probit regression between independent variable.

The table 12 shows how the relationship between independent variables 'urban/rural' and 'Java/Non-Java' to dependent variable income, which is significant. In general, the negative sign in some coefficient shows that the respondents related to BSM who live in rural and Non-Java islands are families which have a higher income than the families who live in the urban area. The positive sign, especially on the regression results of the 'urbal/rural' and 'Java/nonJava' variables, show that most respondents in 'Java' who related to BSM are living in urban part, while the 'Non-Java' respondents live in rural part.

Table 13. Probit Single Regression per Variable

BSM Cash Transfer Outreach			
	Probit	z	p
Income	0.0439*** (0.0059)	7.41	0.000
No. observations	100,639		
Pseudo R2	0.008		
Urban/Rural	-0.1834*** (0.0074)	-24.76	0.000
No. observations	197,961		

Pseudo R2	0.0043		
Java/NonJava	-0.1375*** (0.0073)	-18.70	0.000
No. observations	197,961		
Pseudo R2	0.0024		

Standard errors are reported in parentheses.

* indicates significance at the 90%, ** indicates significance at the 95%, *** indicates significance at the 99%

We did single probit regressions to see how the interactions of each independent variable towards the dependent variables. The positive and negative sign of the coefficient is relatively the same with the result of the probit multiple regression, which is how household who live in a rural area, outside Java with high income have more probability to receive cash transfer BSM.

4.2.3 Logit Model Analysis

Logit regression is another binomial regression model used for the cumulative distribution function of a random sample, especially logistic distribution (Gujarati, 2003). We would like to see how the outreach of the cash transfer in logit model regression.

Table 14. Logit Multiple Regression Result of BSM Beneficiaries

BSM Cash Transfer Outreach			
	Logit	z	p
Income	0.0663*** (0.0115)	5.75	0.000
Urban/Rural	-0.2405*** (0.0216)	-11.13	0.000
Java/NonJava	-0.222*** (0.0214)	-10.36	0.000
constant	-1.9806		
No. observations	100,896		
Pseudo R2	0.0051		

Standard errors are reported in parentheses.

* indicates significance at the 90%, ** indicates significance at the 95%, *** indicates significance at the 99%

The p-values test show that all independent variables significantly influence the dependent variable BSM. In general, the regression coefficients show the same sign as the probit regression results. Higher income leads to a higher probability of the family to receive BSM cash transfer. Family who lives in the rural area are more likely to receive the cash transfer than urban, and the same probability occurs in families living on islands outside Java. Meanwhile, the equation of the logit model is :

$$P(\text{BSM}=1) = F[-1.9806 + 0.0663\text{Ln}(\text{income}) + (-0.2405)D(\text{urbanrural}) + (-0.222)D(\text{java})]$$

To interpret the coefficient of a probability model, we need to do marginal effect analysis.

Table 15. Marginal Effect After Logit

BSM	dy/dx	SE	z	X
<i>Ln(Income)</i>	0.00588***	0.00102	5.77	0.540535
Urban/Rural	-0.02177***	0.00199	-10.94	0.598577
Java/Non-Java	-0.0199	0.00195	-10.25	0.568794

Standard errors are reported in parentheses.
* indicates significance at the 90%, ** indicates significance at the 95%, *** indicates significance at the 99%

From the marginal effect result, we can assume that a unit increase in income variable, the probability of household in receiving BSM is 0.58%. For the ‘urban/rural’ variable, the probability of urban household ‘1’ to receive BSM is decreasing 2,17%. Moreover, on ‘Java/Non-Java’ variables, the possibility of families living in Java ‘1’ to receive the cash decline by 1,99%.

Similar to probit regression, all independent variables have a significant relationship with other variables in logit regression. These results further affirm the assumption from the previous regression that families living in rural areas outside Java and having higher income are the households most likely to receive BSM assistance. The following table illustrates the relationship between independent variables using logit regression:

Table 16. Logit Single Regression per Variable

BSM Cash Transfer Outreach			
	Logit	Z	p
Income	0.0852*** (0.0114)	7.45	0.000
No. observations	100,896		
Pseudo R2	0.0008		
Urban/Rural	-0.347*** (0.0139)	-24.81	0.000
No. observations	197,961		
Pseudo R2	0.0043		
Java/Non-Java	0.261*** (0.0139)	-18.72	0.000
No. observations	197,961		
Pseudo R2	0.0024		

Standard errors are reported in parentheses.

* indicates significance at the 90%, ** indicates significance at the 95%, *** indicates significance at the 99%

Moreover, we conducted an analysis of the relationship of each independent variable with dependent variables through single logit regression. With results which are similar with probit single regression results, it can be concluded that most of the recipients of BSM in this sample are families living in rural areas, on islands outside Java, and high-income earners. These findings assert the result of all regression analysis process described earlier.

4.3 Discussion

The data and results of the regression analysis give us some interesting findings. If we look at the general overview of BSM recipients based on urban/rural and Java/on-Java island, it appears that more BSM recipients are in urban areas and Java islands. However, the results of probit and logit regression analysis show that most of BSM recipients live in rural areas and provinces outside Java. In this study, we rely on the results of the regression statistical analysis process as a basis for interpreting.

The outcome of regression on the relationship between all independent variables to BSM beneficiaries illustrate how the implementation of government's BSM cash transfer program. As stated in the results of the previous analysis, that based on the analysis conducted on the sample of IFLS respondents, the majority of BSM beneficiaries came from households living in rural areas, Java, and high-income households. With more BSM recipients came from rural areas, it shows that in the effort of targeting the cash transfer beneficiaries, the government has tried to prioritize families outside Java and rural areas. This is aligned with the purpose of the cash transfer itself, which is helping the poor to have more access to education. Based on poverty data in table 9 and GDP per province in table 8, the government should allocate more assistance to communities in poor regions with low GDP, which most of them are located outside the island of Java.

However, based on the regression results of the income variable on BSM, it shows that most of the recipient families are high-income families, once 'urban/rural' and 'Java/Non-Java' factors are controlled. In other words, when beneficiaries are controlled by 'rural' and 'Non-Java' groups, the family who comes from these categories and received BSM are more likely to have a higher income. This result is not matched with the goal of the program. Recipients of cash transfers should be families that earn below the poverty line.

The question arises about how this can happen and what is the cause of the inaccuracy in the distribution of cash transfers?

There are several assumptions on why this condition happened. The first factor is the stage of selecting the target of the poor. As mentioned earlier, BSM cash transfer can only be given to the family who has KPS or Social Protection Cards/*Kartu Perlindungan Sosial*. This card is released by the government through Social Ministry to help the poor. The purpose of the card is to identify the poor families which are targeted by the government assistance program. If the acceptance of BSM registration runs according to the provisions, it is certain that almost all BSM recipients are KPS owners. The facts which show that high-income families accept BSM, prompt some doubts in the implementation of this program. The questions are whether the KPS holder families are not eligible, or the distribution BSM that is not in accordance with the provisions.

The second factor is limited program information that causes low awareness of the poor families to the program. When the spread of information about social assistance is not effective, the number of program applicants is certainly very small. One of the challenges of the poor to access cash transfers is information. This leads to a situation where only some families who aware of the program that finally applied for it. There is a possibility that there is a poor family who already has a KPS but does not know the program or some poor families might not know any information about KPS card as well as BSM. Then what might be happened is that some high-income families who knew about the cash transfer applied for the program and got accepted.

The next possible factor is perception and accessibility to the program. There might be some poor families who have a KPS card but reluctant to take care of BSM registration for several reasons. The perception that the process of applying to cash transfer is complicated, difficult to fulfil the required documents, or having financial constraint related

to transportation costs to reach the local government office, are some of the possible reasons why there are still poor families who do not access cash transfers. Their perception is more focused on the complexity of the application process and not on the benefits they will get. Another problem is that when KPS ownership is the sole instrument for government in channeling social assistance, the risk is that the poor who do not have KPS will find it more difficult to access government social programs. On the other hand, high-income families which tend to be more familiar in managing administrative matters, are likely to have fewer challenges to access the program. Most of these high-income families who live in rural and outside Java island have private transportation to reach the local government officials, and they perceived that their effort will bring benefit to their family.

Based on these assumptions, there are some important things that the government needs to do. The government should monitor the evaluation of the implementation of the BSM distribution, especially on how the targeting of BSM recipients is through the KPS data collection instrument, whether the data from BSM recipients are matched with data of KPS card holder. Furthermore, the government need to evaluate how the program is introduced and promoted to the public, especially the poor in rural areas who live in remote areas. These families have financial constraint and suffer difficulties in managing registration documents. The government needs to consider the right strategy to facilitate these families to register as beneficiaries of cash transfers. strict controls need to be carried out especially by the local government towards program applicants. High-income families are not the target of the program, and the number of families in this category must be eliminated from the beneficiary list.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

Cash transfer is one of the social transfer programs that is widely implemented in developing countries. In Indonesia, the cash transfer program was introduced in 2005 and has undergone some development and improvement. One of the ongoing conditional cash transfers in Indonesia is Bantuan Siswa Miskin' (Poor Student Assistance / BSM). The purpose of this cash transfer is to help provide access to education for the poor. With the many challenges in the implementation of cash transfers, this thesis intends to analyze how outreach from cash transfers to the poor.

Based on the results of probit and logit regression analysis, the majority of BSM cash transfer beneficiaries were families living in rural and Non-Java provinces. But most of these families are high-income families. This condition is contrary to the main purpose of the cash transfer, which is helping the poor.

There are several possibilities that cause this condition, including limited program information for the poor, as well as the perception and accessibility of poor families living in remote areas, who face challenges in accessing cash transfers such as transportation and administrative processes. For this reason, it is important for the government to do more on the introduction of the program to poor families and facilitate them to register as program beneficiaries.

5.2 Recommendation

From the results of this study, there are few things that need to be more elaborated, including the need to have larger samples, especially in rural and Non-Java areas. With a

larger sample, the analytical process on how the BSM assistance outreach will be more intensive. Besides that, it is necessary to conduct research and interviews with the government at the central and regional levels, to see how the program implementation and the challenges. Some interviews also need to be taken towards poor families who receive assistance, as well as those who have not received support to find out how they become recipients of cash transfers and why they do not register as beneficiaries.

REFERENCES

- Alatas, V., Banerjee, A., Hanna, R., Olken, B., & Tobias, J. (2012). Targeting the Poor : Evidence from A Field Experiment in Indonesia. *American Economic Review*, 1206-1240.
- Allison, P. (2012, September 10). *Multicollinearity*. Retrieved from Statisticalhorizons: <https://statisticalhorizons.com/multicollinearity>
- Asri, V. (2019). Targeting of Social Transfers : Are India's Poor Older People Left Behind? . *World Development* 115 , 46-63.
- Bagolin, I. (2017). The Impact of Cash Transfer Programs on Brazilian's Well Being. *International Journal of Social Economics Vol.44 Issue : 8*, 1106-1118.
- BPS. (2015). *Stastictical Yearbook of Indonesia 2015*. Statistics Indonesia.
- BPS. (2015). *Stastictical Yearbook of Indonesia 2015*. Statistics Indonesia.
- Brady, D., & Bostic, A. (2015). Paradoxes of Social Policy : Welfare Transfers, Relative Poverty, and Redistribution Preferences. *Americal Sociological Review, Vol. 80, No, 2*, 268 - 298.
- Cameron, L., & Shah, M. (2014). Can Mistargeting Destroy Social Capital and Stimulate Crime? Evidence from A Cash Transfer Program in Indonesia. *Economic Development and Cultural Change, Vol.2 No.62*.
- Chong, A., & Yannez-Pagans, M. (2019). Not So Fast! Cash Transfer can Increase Child Labor : Evidence for Bolivia. *Economic Letters* 179, 57 – 61.
- Coady, D., & Parker, S. (2009). Targeting Performance under Self-selection and Administrative Targeting Methods. *Economic Development and Cultural Change*, 559 – 587.

- Currie, J., & Gahvari, F. (2008). Transfers in Cash and In-Kind : Theory Meets the Data. *Journal of Economic Literature*, Vol.46, No.2 , 333-383.
- Davis, E., Grobe, D., & Weber, R. (2010). Rural - Urban Differences in Childcare Subsidy Use and Employment Stability. *Applied Economic Perspectives and Policy*, Vol.32 No.1. .
- Deneulin, S., & Townsend, N. (2007). Public Goods, Global Public Goods and Common Goods. *International Journal of Social Economics*, Vol. 34, 19-36.
- Devereux, S., Masset, E., Sabates-Wheeler, R., Samson, M., Rivas, A.-M., & Lintelo, D. (2017). The Targeting Effectiveness of Social Transfer. *Journal of Development Effectiveness*, Vol.6 No.2 , 162-211.
- Dubois, P., de Janvry, A., & Sadoulet, E. (2012). Effects on School Enrollment and Performance of a Conditional Cash Transfer Program in Mexico. *Journal of Labor Economics* Vol. 30, 555-589.
- Farrington, J., & Slater, R. (2006). Introduction : Cash Transfers : Panacea for Poverty Reduction or Money Down the Drain? *Development Policy Review*, 499-511.
- Ferro, A., Kassouf, A. L., & Levison, D. (2015). The Impact of Conditional Cash Transfer Programs on Household Work Decisions in Brazil : In Child Labor and Transition between School and Wor. *Emerald Insight*.
- Firpo, S., Prieri, R., Pedroso, E., & Souza, A. (2014). Evidence of Eligibility Manipulations for Cash Transfer Programs. *Economia* No.15.
- Greene, W. (1997). *Econometric Analysis (Third Edition)*. New Jersey: Prentice-Hall International, Inc.
- Gujarati, D. (2003). *Basic Econometrics*. New York: McGraw-Hill Higher Education.

- Handa, S., & Benjamin, D. (2006). The Experience of Conditional Cash Transfers in Latin Amerika and the Caribbean. *ESA Working Paper No. 06-07*.
- Hirschl, T., & Rank, M. (1991). The Effect of Population Density on Welfare Participation. *Social Forces, Vol.70, No.1* , 225-235.
- Korpi, W., & Palme, J. (1998). The Paradox of Redistribution and Strategies of Equality : Welfare State Institutions, Inequality, and Poverty in the Western Countries. *American Sociological Review, Vol.63, No.5*, 661-687.
- Kusuma, D., McConnell, M., Berman, P., & Cohen, J. (2017). The Impact of Household and Community Cash Transfer on Children's Food Consumption in Indonesia. *Preventive Medicine 100*, 152-158.
- Ministry of Religion. (2014). *Petunjuk Teknis Bantuan Siswa Miskin Tahun 2014*. Direktorat Jenderal Pendidikan Islam.
- Noreen, E. (1988). An Empirical Comparison of Probit and OLS Regression Hypothesis Tests. *Journal of Accounting Research, Vol 26 No. 1*, 119-133.
- Nussbaum, M. (2000). Women and Human Development. *Cambridge University Press*.
- Rawlings, L., & Rubio, G. (2005). Evaluating the Impact of Conditional Cash Transfer Programs. *Oxford University Press*.
- Rinehart, C., & Mcquire, J. (2017). Obstacles to Takeup : Ecuador's Conditional Cash Tranfer Program, The Bono de Desarrollo Humano . *World Development Vol.97*, 165-177.
- Strauss, J., F. Witoelar, & B. Sikoki. (2016). The Fifth Wave of Indonesia Family Life Survey (IFLS5): Overview and Field Report. WR-1143/1-NIA/NICHD.

Suprastowo, P. (2014). Contributions of Students Aid Program towards Sustainability and Continuity of Students' Education. *Jurnal Pendidikan dan Kebudayaan, Vol.20 No.2* .

UCLA, S. C. (2016, August 22). *introduction to the features of sas*. Retrieved from stats.idre.ucla.edu: <https://stats.idre.ucla.edu/other/mult-pkg/faq/general/faq-how-do-i-cite-web-pages-and-programs-from-the-ucla-statistical-consulting-group/>

Widianto, B. (2013). *Laporan TNP2K atas Pelaksanaan Uji Coba Mekanisme Baru Penetapan dan Penyaluran Bantuan Siswa Miskin (BSM)*. Sekretariat Wakil Presiden Republik Indonesia.

Widjaja , M. (2009). An Economic and Social Review on Indonesian Direct Cash Transfer Program to Poor Families Year 2005. *Asian Social Protection in Comparative Perspective*. welfareacademy.org.

Yusuf, A. (2018). The Direct and Indirect Effect of Cash Transfers : The Case of Indonesia. *International Journal of Social Economics, Vol. 45 Issue : 5, 792 – 807*.

APPENDIX

IFLS Questionnaire

SECTION KR (HOUSEHOLD CHARACTERISTICS)

KR21	Where does this household drain its sewage?	Drainage ditch (flowing)..... 01 Drainage ditch (stagnant)..... 02 Permanent pit..... 03 Disposed into river..... 04 Disposed in sideback yard/garden..... 05 Pond/pond/lake/pool..... 07 Hole (without permanent lining)..... 08 Paddy field/other field..... 09 Sea, beach..... 11 Other..... 95
KR22	How does this household dispose of its garbage?	Disposed in trash can, collected by sanitation service..... 01 Burned..... 02 Disposed into river/creek/sewer..... 03 Disposed in yard and let decompose..... 04 Disposed in pit..... 05 Forest, mountain..... 07 Sea, lake, beach..... 08 Paddy field/other field..... 09 Other..... 95
KR23	Do you store your perishable food in a refrigerator?	Yes..... 1 No..... 3 Don't have refrigerator..... 6
KR24	What is the main kind of fire/stove used for cooking?	Electricity..... 01 Gas..... 02 Kerosene stove..... 03 Firewood..... 04 Charcoal..... 05 Do not cook..... 07 Other..... 95
KR24a	Does this household have a television?	Yes..... 1 No..... 3
KR24b	Since 2007, has this household renovated/had major repair done on the house?	1. Built a new house..... 1 2 3 2. Built a new room..... 1 2 3 3. Installed a new roof..... 1 2 3 4. Installed/replaced the floor/tiler/razzo..... 1 2 3 5. Painted the wholehouse..... 1 2 3 6. Built a new kitchen or expanded the kitchen..... 1 2 3 7. Replaced/installed plumbing system..... 1 2 3 8. Installed sewerage/sanitation system..... 1 2 3 9. Increased electricity voltage..... 1 2 3

KR24c	How much did you spend for the renovation?	NO RENOVATION/MAJOR REPAIR..... 1 DON'T KNOW..... 6
KR25	What language is most often used in this household, other than Indonesian?	01..... 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 96 95.....
KR26	Does this household have a Health Card (Kartu Sehat), ASKESKIN, JAMKESMAS, BPJS or JKN card?	No..... 3=KR27 Yes..... 1
KR26a	Who in the household has a Health Card/ASKESKIN, JAMKESMAS, BPJS, or JKN card?	All household members..... 1 Only head of household..... 2 ... persons..... 3
KR27	Does this household participate in the Health Fund (Program Dana Sehat)?	Yes..... 1 No..... 3 No program..... 6
KR27a	Does this household have or ever utilized "letter of poor" (Surat Keterangan Tidak Mampu)?	Yes..... 1 No..... 3 DON'T KNOW..... 8
KR27b	Did the household have PAPS BSM/BLTBLSM card?	Yes..... 1 No..... 3 DON'T KNOW..... 8
KR27d	Does this household get BSM (Help Poor Students)?	Yes..... 1 No..... 3 DON'T KNOW..... 8
KR27e	Does this household get JSLU Program (Elderly Social Security)?	Yes..... 1 No..... 3 DON'T KNOW..... 8

CODE for KR25

Javanese..... 01	Minang..... 09	Latet..... 17
Sundanese..... 02	Banjar..... 10	Other South Sumatra..... 18
Bali..... 03	Batak-Diponegoro..... 11	Batak..... 19
Batak..... 04	Malay..... 12	Lampung..... 20
Edige..... 05	Nias..... 13	NONE..... 96
Chinese..... 06	Pasuruan..... 14	Other..... 95
Naturalized..... 07	Surabaya..... 15	
Sasak..... 08	Toraja..... 16	

SECTION AR (LIST OF HOUSEHOLD MEMBERS)

HHID: _____ Name of Household Head: _____

EA TERDEKAT: _____

LAST INTERVIEW: _____

AR004: TOTAL NUMBER OF LINES USED _____

SC17: Jumlah anggota rumah tangga SAKERTI 2014: _____

AR00	PIDLINK	AR01	AR01a	AR02	AR07	AR08	AR08a	AR09	AR01e	AR01g	AR01h	AR01i	AR01m
No. of HH(MPID)	Tracking or Anlinking ID	NAME OF HOUSEHOLD MEMBER	AR01a Status (last survey)	Relationship to household head in the (last survey)	Sex	Birth date	Age in last interview	Age now	FANDOM DBS	STATUS BOOK3 2007	STATUS BOOK4 2007	STATUS EK1 2007	STATUS EK2 2007
01			0 → AR011 1 2 3 5 11		<input type="checkbox"/>	_____ Day / Month / Year			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
02			0 → AR011 1 2 3 5 11		<input type="checkbox"/>	_____ Day / Month / Year			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
03			0 → AR011 1 2 3 5 11		<input type="checkbox"/>	_____ Day / Month / Year			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
04			0 → AR011 1 2 3 5 11		<input type="checkbox"/>	_____ Day / Month / Year			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
05			0 → AR011 1 2 3 5 11		<input type="checkbox"/>	_____ Day / Month / Year			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
06			0 → AR011 1 2 3 5 11		<input type="checkbox"/>	_____ Day / Month / Year			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
07			0 → AR011 1 2 3 5 11		<input type="checkbox"/>	_____ Day / Month / Year			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
08			0 → AR011 1 2 3 5 11		<input type="checkbox"/>	_____ Day / Month / Year			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
09			0 → AR011 1 2 3 5 11		<input type="checkbox"/>	_____ Day / Month / Year			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10			0 → AR011 1 2 3 5 11		<input type="checkbox"/>	_____ Day / Month / Year			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NOTE TO INTERVIEWER:
WHILE FILLING OUT AR00-01a
DON'T FORGET TO ASK
AR03-AR06.

- AR01f
0. Died
 1. Yes
 3. No
 4. Interviewed in other HH
 5. New HHid
- AR01s
0. Died
 1. Yes, HHid is still in HH
 2. Yes, HHid was in other FLS HH in previous wave
 3. No
 5. New HHid
 11. FLSid returns in current wave

- AR02, AR02b
01. Household head
 02. Husband/wife
 03. Child (biological)
 04. Child (non-biological)
 05. Son-in-law
 06. Parents
 07. Parent-in-law
 08. Sibling
 09. Brother/Sister-in-law
 10. Grandchild
 11. Grandparent
 12. Under/Adult
 13. Nephew/Niece
 14. Cousin
 15. Servant
 16. Other Family
 17. Non-family

- AR07
1. Male
 3. Girl
- AR01e, L, m
1. Yes
 3. No
- KODE AR01 g, h
1. Panel
 3. New

SECTION AR (LIST OF HOUSEHOLD MEMBERS)

AR00	ART1A.	ART1B.	ART1SP.	ART1C.	ART1E.	ART17.	ART1B.	ART1B.	ART1B.	ART1B.
No. of HHM (PID)	Did [...] work in the last 12 months? (>5 years)	What were the total earnings of [...] in the last 12 months?	Is [...] ? [unticking brackets for art150]	What was [...]s primary activity during the past week?	Highest Level of Schooling Attended by HHM	Highest grade ever completed by HHM	INTERVIEWER CHECK: AR09 AGE < 25	CAP1 CHECK: AR01a = 1, 2, 5, or 11 (LIVE IN THIS HH)	Is [...] in school this year?	
01	3. NO → ART1Sc 8. DK → ART1Sc 1. YES 6. <5Years → ART1B	1. [] [] [] [] [] [] [] [] Rp. 6. UNPAID FAMILY WORKER → ART1Sc 8. DONT KNOW	Breaking points: Rp 12 millions, Rp 40 millions, Rp 100 millions	[]	[]	[]	1. YES → 3. NO → ART1Bx	1. YES → 3. NO → ART1Bx	1. YES → SCHOOL LIST 3. NO 6. Not yet in school	
02	3. NO → ART1Sc 8. DK → ART1Sc 1. YES 6. <5Years → ART1B	1. [] [] [] [] [] [] [] [] Rp. 6. UNPAID FAMILY WORKER → ART1Sc 8. DONT KNOW	Possible entry points: Rp 12 millions (2 UP) Rp 40 millions (1UP/DOWN) or	[]	[]	[]	1. YES → 3. NO → ART1Bx	1. YES → 3. NO → ART1Bx	1. YES → SCHOOL LIST 3. NO 6. Not yet in school	
03	3. NO → ART1Sc 8. DK → ART1Sc 1. YES 6. <5Years → ART1B	1. [] [] [] [] [] [] [] [] Rp. 6. UNPAID FAMILY WORKER → ART1Sc 8. DONT KNOW	Rp 40 millions (1UP/DOWN)	[]	[]	[]	1. YES → 3. NO → ART1Bx	1. YES → 3. NO → ART1Bx	1. YES → SCHOOL LIST 3. NO 6. Not yet in school	
04	3. NO → ART1Sc 8. DK → ART1Sc 1. YES 6. <5Years → ART1B	1. [] [] [] [] [] [] [] [] Rp. 6. UNPAID FAMILY WORKER → ART1Sc 8. DONT KNOW		[]	[]	[]	1. YES → 3. NO → ART1Bx	1. YES → 3. NO → ART1Bx	1. YES → SCHOOL LIST 3. NO 6. Not yet in school	
05	3. NO → ART1Sc 8. DK → ART1Sc 1. YES 6. <5Years → ART1B	1. [] [] [] [] [] [] [] [] Rp. 6. UNPAID FAMILY WORKER → ART1Sc 8. DONT KNOW		[]	[]	[]	1. YES → 3. NO → ART1Bx	1. YES → 3. NO → ART1Bx	1. YES → SCHOOL LIST 3. NO 6. Not yet in school	
06	3. NO → ART1Sc 8. DK → ART1Sc 1. YES 6. <5Years → ART1B	1. [] [] [] [] [] [] [] [] Rp. 6. UNPAID FAMILY WORKER → ART1Sc 8. DONT KNOW		[]	[]	[]	1. YES → 3. NO → ART1Bx	1. YES → 3. NO → ART1Bx	1. YES → SCHOOL LIST 3. NO 6. Not yet in school	

ART1E.
01. Working/helping to earn income
02. Job searching
03. Attending school
04. Housekeeping
05. Retired
06. At home/dont work
07. Sick/disabled
08. DONT KNOW

ART1B.
01. Not yet in school
02. Elementary school
03. Junior high - general
04. Junior high - vocational
05. Senior high - general
06. Senior high - vocational
07. Adult Education A
08. Adult Education B
09. Open University
10. Pesantren
11. Adult Education C
12. Others

ART17.
00. DONT COMPLETE 1ST CLASS AT THAT LEVEL.
01. 1
02. 2
03. 3
04. 4
05. 5
06. 6
07. GRADUATED
08. NO/NOT YET IN SCHOOL
09. DONT KNOW

CAP1 CHECK:
SCHOOL LIST IN
PAGE K-11

Prob > chi2 = 0.0000
 Log likelihood = -32568.8 Pseudo R2 = 0.0051

BSM	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
urbanrural	-.2405472	.0216129	-11.13	0.000	-.2829078	-.1981867
Island	-.2220434	.0214321	-10.36	0.000	-.2640496	-.1800373
logIncomeHH	.0663524	.0115457	5.75	0.000	.0437231	.0889816
_cons	-1.980607	.0197293	-100.39	0.000	-2.019276	-1.941938

Marginal Effect

Marginal effects after probit

$$\begin{aligned}
 y &= \text{Pr}(\text{BSM}) \text{ (predict)} \\
 &= .09862149
 \end{aligned}$$

variable	dy/dx	Std. Err.	z	P> z	[95% C.I.]		X
logInc~H	.0059895	.00104	5.77	0.000	.003955	.008024	.540535
urbanr~1*	-.0220212	.00199	-11.06	0.000	-.025924	-.018118	.598577
Island*	-.0201512	.00195	-10.34	0.000	-.023972	-.01633	.568794

(*) dy/dx is for discrete change of dummy variable from 0 to 1

. mfx

Marginal effects after logit

$$\begin{aligned}
 y &= \text{Pr}(\text{BSM}) \text{ (predict)} \\
 &= .09840939
 \end{aligned}$$

variable	dy/dx	Std. Err.	z	P> z	[95% C.I.]		X
logInc~H	.0058871	.00102	5.75	0.000	.003881	.007893	.540535
urbanr~1*	-.0217758	.00199	-10.94	0.000	-.025675	-.017876	.598577

Island*| -.0199624 .00195 -10.25 0.000 -.023778 -.016147 .568794

(*) dy/dx is for discrete change of dummy variable from 0 to 1

. mfx

Marginal effects after logit

y = Pr(BSM) (predict)

= .09840939

variable	dy/dx	Std. Err.	z	P> z	[95% C.I.]	X
logInc~H	.0058871	.00102	5.75	0.000	.003881	.007893		.540535
urbanr~1*	-.0217758	.00199	-10.94	0.000	-.025675	-.017876		.598577
Island*	-.0199624	.00195	-10.25	0.000	-.023778	-.016147		.568794

(*) dy/dx is for discrete change of dummy variable from 0 to 1