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Analysis Of Non Poor Households Have Received Conditional Cash Transfer

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ABSTRACT

Poverty is a major problem faced by developing countries like Indonesia. The Indonesian government has implemented several poverty reduction programs. Program Keluarga Harapan (PKH) is one of the poverty reduction programs introduced by the government in 2007. This program provides conditional cash transfers (CCT) to beneficiaries of the PKH initiative. However, there are still many things that need to be improved from this PKH program. One of them is a large number of non-poor households that benefited from the PKH initiative, even though the conditions for recipients of the PKH program in Indonesia were designed for poor households. This study analyzed what factors caused non-poor households to receive benefits from the Conditional Cash Transfer program. The results obtained from the Probit Logit Regression model using National Socio-Economic Survey (Susenas) data in 2013, 2014 and 2017, demonstrated that living in a rural area, old age, and having many family members significantly influenced the disbursement of benefits from the PKH (CCT) program.

Keywords: *Conditional cash transfer, poverty, non poor household, Indonesia*

INTRODUCTION

Poverty is one of the problems in the process of economic development. Poverty, which is one of the low-level manifestations of living (Low Levels of Living), is considered a major challenge for development efforts. Poverty reduction is an important policy agenda not only for local governments but also as a national and even a global commitment.

Indonesia is one of the developing countries that still experiences poverty problems. Jacobus, Kindangen and Walewangko (2018) found that education is one of the poverty determinants in Indonesia. Astuti (2018) found that household head occupation is one of the poverty determinants in Semarang, Indonesia. Oratmangun, Kalangi, and Naukoko (2021) identification that open unemployment is one of factors that influence poverty in North Sulawesi, Indonesia. Indonesia has great potential to continue to grow and improve the economic life of its society, but in fact there are still many poor and lower middle class people in Indonesia, especially in rural areas. The deprivation that occurs in Indonesia should be considered a very serious problem, because at this time deprivation creates barriers for many Indonesian people in fulfilling their daily needs.

Table 1. Poverty Rate In Indonesia

	Poverty Line			
	Urban	Rural	Number of Poor People	
Year	Rupiah	Rupiah	Millions	%
2010	232,989	192,354	31.02	12.49
2011	263,594	223,181	29.89	12.36
2012	277,382	240,441	28.59	11.66
2013	308,826	275,779	28.55	11.47
2014	318,514	286,097	27.73	10.96
2015	356,278	333,034	28.51	11.13
2016	372,114	350,420	27.76	10.70
2017	400,995	370,910	26.58	10.12
2018	425,770	392,154	25.67	9.82
2019	458,380	418,515	24.78	9,22
2020	475,477	437,902	27.54	10,15

Sorce: Annual Statistic Indonesia

From Table 1, we can see the percentage of poor people in Indonesia is decreasing every year. From Table 1 we can also see that the population living below the poverty line in 2014 and 2017 decreased when compared to the data in 2013. On the other hand, in 2020 the number of poor people increased up to 10,15 %, it is probably caused by Pandemic Covid 19.

In addition, from Figure 1 we can see the presentation of the number of poor people in 5 regions (Sumatera Region, Jawa Bali Region,

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Kalimantan Region, Sulawesi Region and East Indonesia Region) in Indonesia in 2013, 2014, 2017 and 2020. In 2014, the poverty headcount decreased in each region. In contrast in 2020 poverty headcount ratio increased in each region compare to 2017.

The poverty headcount ratio in Region 5, East Indonesia, was still the highest compared to the other 4 regions, but compared to the poverty headcount ratio in 2013, the poverty headcount ratio decreased significantly, by 0.03%.

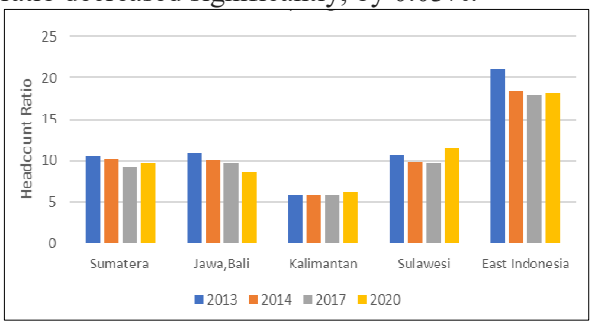

Figure 1. Poverty Headcount Ratio By Region

Source: Annual Statistic Indonesia

Figure 2, identifies the poverty headcount of Indonesian provinces in 2013, 2014, 2017 and 2020. It demonstrates that the highest poverty headcount is still in the provinces of Region 5 (East Indonesia), namely West Nusa Tenggara Province, East Nusa Tenggara Province, Maluku Province, West Papua Province and Papua Province, which is still the highest compared to the other four regions. But from the poverty headcount ratio per provinces, it can be seen that in 2017 the poverty rate in Maluku, West Papua and Papua provinces experienced a significant decline. One aspect affecting the decline in the percentage of poor households in East Indonesia is again the access to East Indonesia. The Indonesian government has focused on building access to these province. On the other hand, in 2020 the poverty headcount ratio in Maluku, West Papua and Papua increased compare to ratio in 2017.

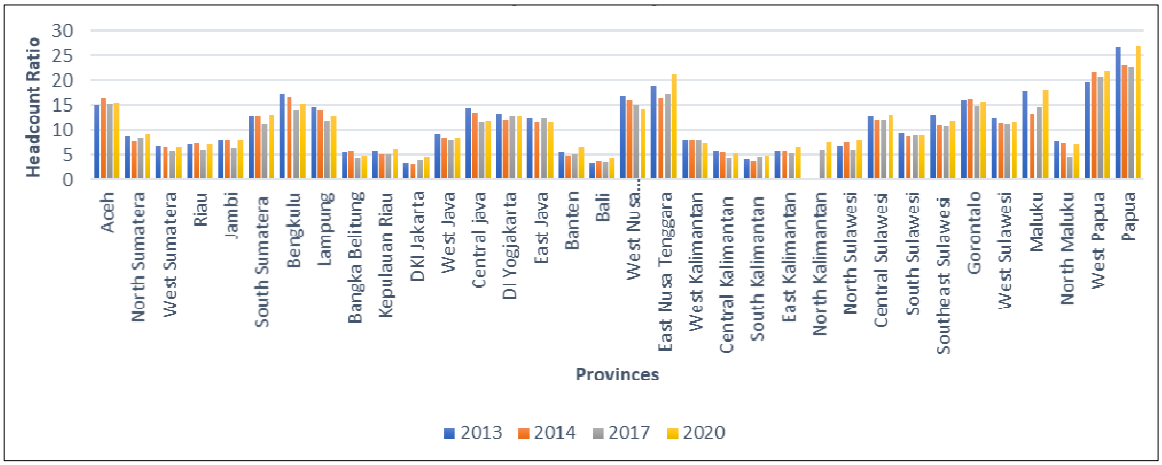

Figure 2. Poverty Headcount Ratio Province

Source: Annual Statistic Indonesia

Based on Indonesia Central Bureau of Statistics (BPS) data, the number or people living in poverty in Indonesia in 2017 was 27,771,220 people, about 10.12% of the Indonesian population, and it increased about 0.07 Percent in 2020. It Shows that the poverty in Indonesia is still high number Given that poverty is difficult to overcome, Indonesia is one of the countries that has chosen a new strategy. Giving money directly to poor people, not charity, is simple to do for a certain period of time. Waluyo and Khoirunurrofik (2021) found that cash transfer program reduce poverty in Indonesia. Rohmi and Fahlevi (2021) showed that CCT has a negative impact on poverty in Indonesia.

Indonesia is very serious about handling poverty, high mortality rates for pregnant women, and high school dropout rate. This is a consideration for the government to create a poverty alleviation program called the Program Keluarga Harapan (PKH) with a focus on education and health.

PKH targets are poor and vulnerable families with criteria for pregnant/lactating mothers and children aged zero to six years. The general objective of PKH implementation is to improve the quality of human resources, to change the behavior of the beneficiaries of PKH who are less supportive in the effort to improve social welfare and break the cycle of generational poverty. Fragoso (2021) found that

cash transfers are necessary to redress poverty. Attanasio et al (2021) found the influence of CCT Program is reducing High school dropout rates. Arifin, Wicaksono and Ngasuko (2021) showed that Indonesian conditional cash transfer program expansion has a significantly impact on elderly PKH beneficiaries. Purba, R. (2018) found that Cash Transfer Program for poor student has a positive impact on the average score of children and improve student achievement test result. Njuguna (2019) identified that conditional cash transfers have a positive effect on the health and nutrition of beneficiaries in Kenya.

The government of Indonesia plans on expanding the Program Keluarga Harapan to as many as 3 million households. In recent years, some data in PKH came from well-off family. It is interesting to study why non-poor households have received conditional cash transfers in Indonesia. The main objective of the research is to analyze the determinant factors of non-poor households received conditional cash transfer programs.

LITERATURE REVIEW

Cash transfer program is a major and still expanding means for poverty reduction in developing countries over the last decade. Cash transfer is a form of recognition of the rights of each individual to obtain a decent standard of living, but also guarantees access to resources for the collective community to participate in economic activities, so that they have the opportunity to advance. Cash transfer programs in Indonesia have shown improvements in the education, health and welfare of poor households. The cash transfer program in Indonesia has become a government-sponsored social assistance strategy. Based on a survey by the Ministry of Social Affair in September 2017, Conditional Cash Transfer Program (PKH) has a significant impact on reducing poverty and inequality. Kronebusch and Damon (2019) showed that the conditional cash transfer program has a positive effect on macronutrient and micronutrient levels for beneficiaries in Mexico. Dulkiah, Sari and Irwandi (2021) found that Conditional cash transfer program has an influence on the motivation of children from poor families at school and parents awareness increases in their children education. Muliana, Mursyidin and Siregar found that CCT have an impact on decreasing numbers poverty in Aceh about 0.02%. Setyawardhani, Paat and Lesawengen (2020) found that CCT Program helps improve education of children of poor households and increase participation in examination in terms of health.

There are two types of cash assistance in Indonesia: conditional cash transfers and unconditional cash transfers. The Program Keluarga Harapan (PKH), is a conditional cash transfer program that focuses on poor households. The financial assistance provided Rp. 600,000 to Rp. 2,200,000 per year. The eligibility requirements of the Program Keluarga Harapan based on the provisions of the Ministry of Social Affair are provided on the condition that families are poor with school children from 6 to 15 years old and pregnant women.

Son and Florentino (2008) found that in the long term CCT programs can reduce poverty through capacity improvement with adjustment of the use of cash transfers. They used data from the Annual Poverty Indicator Survey (APIS) conducted in 2004 and obtained from the Office of National Statistics in Manila, where the data was collected from more than 38,000 households and 190,000 individuals across the country. Davide Rasella, et al (2021) their study showed conditional cash transfers can have longterm impacts on maternal mortality in vulnerable populations. Parker and Vogl (2021) identified the conditional cash transfer program in Mexico significantly closed the gender gap in education in the poorer Mexican states. In their study of the 10 poorest provinces in Cambodia, Meng and Pfau (2012) showed that a 42% social assistance contribution to children led to a highly reduced number of people living in poverty. The protection provided in the above examples helped very poor households meet their minimum needs, in the long run increasing the quality of their children's lives and a higher standard of living for the next generation. Banda (2021) found that the cash transfer program in Malawi has recorded a number of economic improvements to beneficiaries. Sodokin (2021) showed that cash transfers can positively impact economic development by reducing poverty

Evans, Gale, and Kosecwe (2021) identified the impact of conditional cash transfer program has improved poor children’s education in Tanzania.

CCT programs were first introduced in Latin American countries such as Brazil under the name Bolsa Familia. The Bolsa Familia program began in

2003 and was the main CCT intervention in Brazil. In 2004 the number of beneficiaries of the entire CCT program in Brazil reached 15 million. The target of the Bolsa Familia program is poor families with monthly per capita income of less than R$100 (approximately US$40). The Colombian government also started a CCT program under the name Families in Action. Recipients of this assistance must be poor households with children attending school. Those who meet the 80% requirement for school attendance and take their children for examinations at community health service centers are eligible. Finally, the Mexican government created a poverty reduction program called Progresa that is expected to improve the quality of human capital. The program began in 1997. By 2004, the program affected at least 5 million families, around 18% of Mexico's total population.

The initial phase (2007) of the PKH was intended for 500,000 poor households with pregnant mothers or children aged 6-15 years at the time of the registration survey. The PKH program has positively impact the poverty alleviation, which we can see in the 2017 data of the Indonesia Central Statistics Bureau. The data show a decline in the number of poor people: from 27,771,220 people in March 2017 to 26,582,990 people in September 2017, while a poverty reduction rate from 10.64% in March 2017 to 10.12% in September 2017.

Indonesia is a developing country that faces the problem of poverty. The uneven distribution of income throughout the country has led to income inequality and poverty, a development problem characterized by unemployment, underdevelopment and adversity. The economic crisis that occurred in Indonesia in 1998 caused the poverty rate to rise sharply. Even at the end of 2017, the government continued to struggle to carry out various programs to alleviate poverty in Indonesia. Suryahadi et al (2012) found that the biggest impact of the crisis in Indonesia was a poverty level increase from 17.3% in 1996 to 23.4% in 1999.

In addition, Miranti (2012) found Papua, Maluku and East Nusa Tenggara had the highest poverty rates—higher than 30% in 1996, 2006 and 2011. In contrast, Jakarta, Bali and South Kalimantan had the lowest poverty rates—below 10%. What Miranti found was still taking place at the end of 2017, as demonstrated in Figure 1 above. Dartanto and Nurkholis (2013) found that rural households are more vulnerable to poverty than urban households.

There are several studies examine focusing on the inclusion errors in the social assistance programs. Meng and Pfau (2012) found that cash transfer programs in Cambodia were more widely accepted by non-poor households. Agostini and Brown (2011) found non-poor households to be inappropriate targeting due to lack of information.

Higgins (2011) found that some poor families in Brazil have not received conditional cash transfers because they live in urban areas, while some rich families have received conditional cash transfers because they live in rural areas.

Cameron and Shah (2013) showed that 17% of non-poor households in Indonesia have received conditional cash transfers. Svedberg (2012) found that around 62% of cash transfer recipients in Indonesia came from non-poor households.

Kusumawati (2019) found that there is actual performance of mistargeting of the conditional cash transfer program. Saswito and Nawangsari (2019) identified that there is data on CCT recipients that do not meet the applicable criteria. Sianturi (2021) showed that BLSM (Bantuan Langsung Sementara Masyarakat) which is intended for poor people, but sometimes there were still nonpoor people who also received it, especially in Indramayu district. Nur et al (2021) showed that selecting the right targets for social protection programs has a direct impact on poverty alleviation.

RESEARCH METHOD

To conduct probit and logit analyses, this study uses data from the National Socio-Economic Survey (*Susenas*) in 2013, 2014 and 2017, because Susenas data only provide Conditional Cash Transfer program data in Indonesia in 2013, 2014 and 2017. These surveys include information on the following items: whether a household receives conditional cash transfer; whether household has health insurance; whether household receives a subsidy for primary school students; location and size of household; and education, age, gender, marital status, and occupation of household head. Table 2 summarizes these surveys. The sample size of the survey has increased as the population has risen. The total sample size of 2013 *Susenas* is 284,063 households, where 162,741 households are in rural areas and 121,322 households in urban areas. The total sample size of 2014 *Susenas* is 285,400

households, where 163,344 households are in rural areas and 122,056 households in urban areas. Finally, the total sample size of 2017 *Susenas* is 297,276 households, where 169,586 households are in rural areas and 1
27,690 households in urban areas.

Table 2. Sample Sizes of Susenas 2013, 2014 and 2017 (Poor and Non-poor Households)

	Sumatra	Java-Bali	Kalimantan	Sulawesi	East Indonesia	Total
2013						
Rural	51,277	40,049	17,053	25,567	28,795	162,741
Urban	30,048	58,547	11,116	11,458	10,153	121,322
Total	81,325	98,596	28,169	37,025	38,948	284,063
2014						
Rural	51,414	40,084	16,882	25,673	29,291	163,344
Urban	30,220	58,736	11,172	11,579	10,349	122,056
Total	81,634	98,820	28,054	37,252	39,640	285,400
2017						
Rural	53,543	53,509	17,775	27,241	17,518	169,586
Urban	31,786	65,819	11,676	12,187	6,222	127,690
Total	85,329	119,328	29,451	39,428	23,740	297,276

Source: Calculated from Susenas

This study explores the factors that determine the likelihood that non-poor households receive conditional cash transfer by conducting probit and logit analyses. In the probit and logit analyses, the study considers following factors, as independent variables: location (*rural*); gender (*female*); marital status (*married*); household size (*hsize*); age of household head (*age*); educational level of household head (*education*); subsidy for primary school students (*assist_primary*); health insurance (*h_insure*), and as dependent variable: non-poor household (*d_non-poor)*. Among them, *d_non_poor, rural, female, married, assist_primary* and *h_insure* are dummy variables, where *d_non_poor* is households with expenditure above the poverty line and consist of PKH recipients and non-recipients. If non-poor household receives PKH, non-poor = 1, otherwise, non-poor = 0 *rural* = 1 if non-poor household is in rural areas and 0 otherwise, *female* = 1 if non-$_{\text{poor}}$ household head is female and 0 otherwise, *married* = 1 is non-poor household head is married and 0 otherwise, *assist_primary* = 1 if nonpoor household receives subsidy for primary school students and 0 otherwise, and *h_insure* = 1 if non-poor household has health insurance and 0 otherwise. Consider the following binary response models:

$$P(y = 1|\boldsymbol{x}) = F(\beta_0 + \boldsymbol{x\beta}) \ldots\ldots\ldots(1)$$

where $P(y = 1|\boldsymbol{x})$ is the probability that the dependent variable gets 1 (i.e., $y = 1$) given a set of independent variables $\boldsymbol{x}$ and β_0 and $\boldsymbol{\beta}$ are coefficients associated with independent variable. In the probit model, the function F is the standard normal cumulative distribution function, which is give by:

$$F(z) = \int_{-\infty}^{z} f(v)dv \ldots\ldots\ldots\ldots\ldots\ldots\ldots(2)$$

In the logit model, on the other hand, the function F is the logistic function, which is given by:

$$F(z) = \frac{\exp(z)}{1+\exp(z)} \ldots\ldots\ldots\ldots\ldots\ldots\ldots(3)$$

Equations 2); and 3) ensure that equation; 1) is strictly between zero and one for all values of independent variables and their parameters, $\beta_0 + \boldsymbol{x\beta}$. The F functions in 2); and 3) are both increasing functions.

To obtain the partial effect of roughly continuous variables, such as household size (*hsize*), age of household head (*age*) and educational level of household head (*education*), on the response probability that non-poor households receive conditional cash transfer, we can use the following equation.

$$\frac{\partial P(y=1|x)}{\partial x_j} = f(\beta_0 + \boldsymbol{x\beta})\beta_j \ldots\ldots\ldots(4)$$

where $f(z) = \frac{dF(z)}{dz}$. To obtain the partial effect of binary variables (say, changing a binary variable x_1 from 0 to 1), such as location of household (*rural*), gender of household head (*female*), and marital status of household head (*married*), we can use the following equation.

$$F(\beta_0 + \beta_2 x_2 + \cdots + \beta_k x_k) - F(\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_k x_k) \quad (5)$$

Our probit and logit models to explain whether non-poor households receive conditional cash transfer is given by

$$P(d\_non\_poor = 1|x) = F(\beta_0 + x\beta) \quad \ldots\ldots(6)$$

Where:

$$\beta_0 + x\beta = \beta_0 + \beta_1 rural + \beta_2 female + \beta_3 married + \beta_4 hsize + \beta_5 age + \beta_6 age^2 + \beta_7 education + \beta_8 assist\_primary + \beta_9 h\_insure$$

RESULTS AND DISCUSSION

This study analyzes the factors that determine the likelihood that non-poor households receive conditional cash transfer (PKH). According to Table 3, 1.9% of households received PKH in 2013. While the proportion has increased slightly to 2.4% in 2014, it has risen conspicuously to 6.3% in 2017, indicating that the government has increased the budget for PKH. In 2013 and 2014, the province in eastern Indonesia was the poorest province in Indonesia. On the other hand, the province with the lowest poverty is Kalimantan. Interestingly, in 2017, Eastern Indonesia registered the second smallest proportion next to Kalimantan.

Though PKH is supposed to be given to poor and near poor households, a large proportion of those who received PKH were not poor (above the national poverty lines); in 2013 and 2014, the proportion was around 70%, while in 2017 it was 75%.

What are the factors that enable non-poor households to receive PKH, even though PKH is, in principle, designed to be given to poor households? In this study, the following factors are examined by conducting probit and logit analyses: location, gender, marital status, household size, age of household head, educational level of household head, subsidy for primary school students, and health insurance.

Table 3. Proportion of Households Receiving PKH

Year		Total No. of households (A)	No. of households receiving PKH			% of households receiving PKH (B)/(A)	% of poor & non-poor households receiving PKH	
			Poor (a)	Non-poor (b)	Sub-total (B)		Poor (a)/(B)	Non-poor (b)/(B)
2013	Sumatra	81,325	388	773	1,161	1.4	33.4	66.6
	Java-Bali	98,596	555	1,493	2,048	2.1	27.1	72.9
	Kalimantan	28,169	53	189	242	0.9	21.9	78.1
	Sulawesi	37,025	153	468	621	1.7	24.6	75.4
	E. Indonesia	38,948	469	878	1,347	3.5	34.8	65.2
	Total	284,063	1,618	3,801	5,419	1.9	29.9	70.1
2014	Sumatra	81,634	558	1,036	1,594	2.0	35.0	65.0
	Java-Bali	98,820	721	1,851	2,572	2.6	28.0	72.0
	Kalimantan	28,054	67	181	248	0.9	27.0	73.0
	Sulawesi	37,252	238	665	903	2.4	26.4	73.6
	E. Indonesia	39,640	567	1,049	1,616	4.1	35.1	64.9
	Total	285,400	2,151	4,782	6,933	2.4	31.0	69.0
2017	Sumatra	85,329	1,293	3,838	5,131	6.0	25.2	74.8
	Java-Bali	119,328	2,249	6,588	8,837	7.4	25.4	74.6
	Kalimantan	29,451	175	724	899	3.1	19.5	80.5
	Sulawesi	39,428	773	2,237	3,010	7.6	25.7	74.3
	E. Indonesia	23,740	263	521	784	3.3	33.5	66.5
	Total	297,276	4,753	13,908	18,661	6.3	25.5	74.5

Source: Calculated from Susenas

Table 4, 5 and 6 present the distributions of non-poor households with PKH and those without PKH in terms of location, gender, marital status, subsidy for primary school students, and health insurance. In 2013, 2014 and 2017, among the non-poor households who received PKH, about 71% were in rural areas, which is much larger than the proportion for those who did not receive PKH (55%). Among the non-poor households who received PKH, more than 85% were married, which is larger than the proportion for those who did not receive PKH (about 80%). Among the non-poor households who received PKH, about 75% had health insurance, which is much larger than the proportion for those who did not receive PKH (about 25%). However, there is no discernible

difference between non-poor households with and those without PKH in the case of gender and subsidy for primary school students.

Table 4. Distribution of Non-poor Households in 2013

Location	Urban	Rural	Urban	Rural
Not receive PKH	111,491	137,127	45%	55%
Receive PKH	1,115	2,686	29%	71%
Gender	Male	Female	Male	Female
Not receive PKH	211,020	37,598	85%	15%
Receive PKH	3,283	518	86%	14%
Marital status	Not married	Married	Not married	Married
Not receive PKH	48,059	200,559	19%	81%
Receive PKH	542	3,259	14%	86%
Subsidy for primary students	Not received	Received	Not received	Received
Not receive PKH	242,508	6,110	98%	2%
Receive PKH	3,631	170	96%	4%
Health insurance	No insurance	Insurance	No insurance	Insurance
Not receive PKH	185,348	63,270	75%	25%
Receive PKH	1,003	2,798	26%	74%

Source: Calculated from Susenas

Table 5. Distribution of Non-poor Households in 2014

Location	Urban	Rural	Urban	Rural
Not receive PKH	111,883	137,586	45%	55%
Receive PKH	1,381	3,401	29%	71%
Gender	Male	Female	Male	Female
Not receive PKH	211,865	37,604	85%	15%
Receive PKH	4,260	522	89%	11%
Marital status	Not married	Married	Not married	Married
Not receive PKH	48,182	201,287	19%	81%
Receive PKH	567	4,215	12%	88%
Subsidy for primary students	Not received	Received	Not received	Received
Not receive PKH	244,030	5,439	98%	2%
Receive PKH	4,576	206	96%	4%
Health insurance	No insurance	Insurance	No insurance	Insurance
Not receive PKH	187,571	61,898	75%	25%
Receive PKH	1,105	3,677	23%	77%

Source: Calculated from Susenas

Table 6. Distribution of Non-poor Households in 2017

Location	Urban	Rural	Total	Urban	Rural
Not receive PKH	114,679	137,447	252,126	45%	55%
Receive PKH	3,997	9,911	13,908	29%	71%
Gender	Male	Female	Total	Male	Female
Not receive PKH	212,483	39,643	252,126	84%	16%
Receive PKH	12,209	1,699	13,908	88%	12%
Marital status	Not married	Married	Total	Not married	Married
Not receive PKH	51,957	200,169	252,126	21%	79%
Receive PKH	1,855	12,053	13,908	13%	87%

Source: Calculated from Susenas

Now to examine whether these factors (rural, female, married, hsize, age, age2, education, assist

primary and health insurance) have expected effects described in the method section above, this study conducts probit and logit analyses for non-poor households. The result is presented in Table 7.

All the variables have significant and expected results in 2013, 2014 and 2017 either at the 1% or 5% significance level. First, the estimated coefficient of *rural* is significant at the 1% level and has the positive expected sign. In other words, non-poor households are more likely to receive PKH in rural. Second, the estimated coefficient of *female* is significant at the 1% level in 2013 and 2017 and has the positive expected sign. In other words, female headed non-poor households are more likely to receive PKH.

Table 7. Estimates of Probit and Logit Models for Non-poor Households

	2013		2014		2017	
Independent variable	Probit Coefficient	Logit Coefficient	Probit Coefficient	Logit Coefficient	Probit Coefficient	Logit Coefficient
rural	0.0742***	0.1727***	0.0733***	0.1429***	0.2015***	0.4206***
	(0.0161)	(0.0389)	(0.0150)	(0.0347)	(0.0096)	(0.0206)
female	0.1406***	0.3507***	0.0448	0.0948	0.1296***	0.2828***
	(0.0364)	(0.0880)	(0.0352)	(0.0825)	(0.0219)	(0.0476)
married	0.0829**	0.2632***	0.0850**	0.2339***	0.1120***	0.2902***
	(0.0357)	(0.0877)	(0.0337)	(0.0799)	(0.0210)	(0.0462)
hsize	0.1139***	0.2565***	0.1204***	0.2588***	0.1625***	0.3168***
	(0.0043)	(0.0095)	(0.0041)	(0.0086)	(0.0027)	(0.0052)
age	0.0322***	0.0886***	0.0247***	0.0707***	0.0364***	0.0980***
	(0.0045)	(0.0114)	(0.0041)	(0.0100)	(0.0026)	(0.0061)
age2	-0.0004***	-0.0012***	-0.0004***	-0.0010***	-0.0005***	-0.0012***
	(0.0000)	(0.0001)	(0.0000)	(0.0001)	(0.0000)	(0.0001)
education	-0.0620***	-0.1530***	-0.0641***	-0.1532***	-0.0724***	-0.1555***
	(0.0029)	(0.0075)	(0.0027)	(0.0065)	(0.0013)	(0.0028)
assist_primary	0.0727**	0.1331	0.1147***	0.2193***		
	(0.0366)	(0.0830)	(0.0351)	(0.0757)		
h_insure	0.7357***	1.8318***	0.8454***	2.0503***		
	(0.0154)	(0.0399)	(0.0145)	(0.0370)		
Constant	-3.4381***	-7.5402***	-3.2050***	-6.8964***	-2.6922	-5.5576***
	(0.1103)	(0.2779)	(0.1010)	(0.2446)	0.0652	0.1492
No. of observations	236,349	236,349	238,883	238,883	251,884	251,884
Log likehood value	-15,579	-15,589	-18,430	-18,445	-46,027	-46,089
Pseudo R-squared	0.1446	0.1441	0.1703	0.1696	0.0997	0.0985

(Note) Standard errors are in parenthesis. *** significant at 1%, **significant at 5%, significant at 10%.
Source: Estimated using Susenas

Third, the estimated coefficient of *married* is significant at the 1% or 5% level and has the positive expected sign. In other words, married non-poor households are more likely to receive PKH. Fourth, the estimated coefficient of *hsize* is significant at the 1% level and has the positive expected sign. In other words, non-poor households are more likely to receive PKH as their household size gets larger. Fifth, the estimated coefficient of *age* is significant at the 1% level and has the positive expected sign, while the estimated coefficient of *age2* is significant at the 1% level and expected negative sign.

Third, the estimated coefficient of *married* is significant at the 1% or 5% level and has the positive expected sign. In other words, married non-poor households are more likely to receive PKH. Fourth, the estimated coefficient of *hsize* is significant at the 1% level and has the positive expected sign. In other words, non-poor households are more likely to receive PKH as their household size gets larger. Fifth, the estimated coefficient of *age* is significant at the 1% level and has the positive expected sign, while the estimated coefficient of *age2* is significant at the 1% level and expected negative sign. In other words, older non-poor households are more likely to receive PKH, but as they get older the likelihood diminishes. Sixth, the estimated coefficient of *education* is significant at the 1% level and has the negative expected sign. In other words, more educated non-

poor households are less likely to receive PKH with. Seventh, the estimated coefficient of *assist_primary* is significant at the 5% level for the probit model in 2013 and at the 1% level in 2014. It has also the positive expected sign. In other words, non-poor households who are receiving subsidy for primary school students are more likely to receive PKH. Eighth, the estimated coefficient of *h_insure* is significant at the 1% level and has the positive expected sign. In other words, non-poor households who have health insurance are more likely to receive PKH.

Since the Pseudo R-squared is around 15-17% in 2013 and 2014, there are many other factors that determine the likelihood that non-poor households receive PKH though there are not supposed. But, the results of the probit and logit analyses indicate that older, rural, female-headed and less educated households with many family members and health insurance are likely to receive PKH even though they are not necessarily poor, i.e., not under the official poverty lines. Many of these non-poor households receiving PKH would be close to the official poverty lines.

Using Susenas in 2013 and 2014, a probit analysis is performed for households above the new poverty line. Except for *female* in 2014 and *married*, all the variables have significant and expected effects on the probability that non-poor households (here, those under the new poverty lines (= 1.5*official poverty lines) receive PKH. This indicates that the results are robust. In other words, older, rural, female-headed and less educated households with many family members and health insurance are likely to receive PKH even though they are above the poverty lines. However, it is unclear whether the selection of non-poor households for PKH is based on location, gender, education, household size and health insurance.

CONCLUSIONS

Based on According to Susenas 2013, 2014 and 2017, a large number of non-poor households have received conditional cash transfer (PKH) even though they are not supposed to receive. To explore the factors that determine the likelihood that non-poor households receive PKH, this study conducted probit and logit analyses using Susenas 2013, 2014 and 2017. The following provides a summary of major findings. First, while the incidence of poverty (i.e., headcount ratio) has declined gradually over the last decade, about 10% of households were still under the official poverty lines in 2017 in Indonesia. In other words, 27.7 million people were poor. Second, there are large variations in the incidence of poverty across regions and provinces. Kalimantan is the richest region in Indonesia where 5.7% were under the official poverty lines in 2017, which is much smaller than thee national average. Kalimantan is followed by Sulawesi, Java-Bali and Sumatra, but at around 9-10%. East Indonesia is the poorest region in Indonesia where 18% were under the official poverty lines. East Indonesia includes four very poor provinces, West and East Nusa Tenggara, West Papua and Papua with their poverty head count ratios being 15%, 17%, 21% and 23% in 2017, which are much larger than the national average.

Third, about 2% of households received PKH in 2013 and 2014, but the proportion has substantially increased to 6.3%, indicating that the government has increased its budget for PKH over the study period. There are some variations in the proportion of households who received PKH among regions. East Indonesia, the poorest region, registered the highest proportion at around 3.5-4.0% in 2013 and 2014, which is followed by Java-Bali and Sulawesi. Meanwhile, Kalimantan, being the richest region, had the smallest proportion at 0.9% in 2013 and 2014. In 2017, however, Sulawesi registered the highest proportion at 7.6%, which is followed by Java-Bali and Sumatra, while East Indonesia had the second smallest at 3.3%. Fourth, a large proportion of households who received PKH are non-poor. In 2013 and 2014, around 70% of the households receiving PKH were above the official poverty lines. Meanwhile, in 2017, 75% of the households receiving PKH were non-poor.

To reduce poverty, the government introduced conditional cash transfer (PKH) programs. However, it is found from the 2013, 2014 and 2017 Susenas that a large number of the households who received PKH were above the official poverty lines. According to probit and logit analyses, older, rural, female-headed and less educated households with many family members and health insurance are more likely to receive PKH even though they are above the poverty lines. In order to alleviate poverty, the PKH programs should be used more effectively and need to be targeted to poor or near

poor households. To reduce the proportion of non-poor households among PKH receiving households, the government should choose households for PKH more carefully, particularly when households are in rural areas, female headed, less educated, receiving health insurance and/or having many family members.

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