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Can Energy Consumption and Benefit Programs Explain One's Living Standards Afterwards? Evidence from Northern Sulawesi, Indonesia

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ABSTRACT

The Indonesian government has been serious in alleviating poverty in Indonesia through the implementation of public benefit programs including alterations in energy subsidy program. Generally, the poverty rate has finally reached a single digit. On the other hand, the human development index as one indicator of living standard has not shown improvement as fast as the improvement in the poverty rate. A question remains. After all benefit programs are in effect, are the living standards of people improving? This study relies on a survey covering 315 respondents residing in North Sulawesi Province, Indonesia. Ordinary least square and ordered logistics models are used to analyze the survey data. The findings suggest that spending on electricity reduces the ability to meet daily needs but not necessarily makes lives better or worse. BPJS health insurance holders tend to have a lower rate of better living after benefit programs take place as compared to non-holders. Additionally, being the holder does not statistically affect the ability to meet daily needs. Having good academic ranks in high school is associated with having better lives. In contrast, having these ranks tend to reduce the ability to meet daily needs.

Keywords: Energy Consumption, Better Lives, Daily Needs, Living Standards

JEL Classifications: O1, Q48, I32, H53

1. INTRODUCTION

Poverty programs had been the striking programs of every president of Indonesia. The government was trying to reduce poverty through improvement in health, education, and welfare. All the efforts the government had made had resulted in an excellent achievement. For the 1st time, ever after in history, by March 2018, the poverty rate finally reached a single digit, 9.82%. The urban poverty rate went down to 7.02%, and the rural rate went down to 13.20%.¹ To get to this achievement, the government spent trillion rupiahs every year for benefit programs, either creating new programs, switching programs,

or revitalizing the existing programs. One of the programs that had been highlighted since the president Soeharto era was energy subsidy, which was thought to be an effective program. During Joko Widodo administration, several strategies had been in place. One of the ideas was reducing energy subsidy while raising the social protection budget. The underlying argument was the benefit distribution of energy subsidy was viewed regressive. Many times, the program benefited the rich more than the poor; therefore, reallocation of the budget from subsidy to cash transfer expansion is necessary (Bergaoui, 2016). Since 2015, the subsidy had been reduced from 341.8 trillion rupiahs in 2014 to 119.1 trillion rupiahs in 2015. By 2018, the allocation of subsidy was 94.5 trillion. On the other hand, the budget for hope family programs (PKH) increased from 4.4 trillion rupiahs in 2014 for

¹ Data were taken from Indonesian statistics (BPS).

2.8 million low-income families to 17.3 trillion rupiahs in 2018 for 10 million low-income families.²

Unfortunately, the Indonesian human development index (HDI) as one of the living standard measurements did not show any significant change. In 2010, the poverty rate was 13.33%, while HDI was 66.53%. In 2017, the poverty rate went down to 10.12%, while HDI increased to 70.81. The decline of the poverty rate from 2010 to 2017 was 24.10%, while the HDI only grew at 6.4%. HDI was composed of health, education, and welfare elements. This composition implied that those elements did not grow at the same rate as the decline of the poverty rate. Many studies discussed the potential causes of this issue. The causes may include maladministration, misallocation, to misuse of the budget. Regarding the misallocation, Tasik (2019) argued that there were many groups of poor people who preferred to have more energy than cash, which led to his conclusion that generalization of the programs was not effective.

Therefore, this study aims to investigate further what things are missing in the link between the poverty programs and the living standards in North Sulawesi, particularly to examine whether energy consumption and benefit programs are associated with the living standards of the benefit recipients.

2. LITERATURE REVIEW

Poverty is often associated with low quality of life of society. Low quality of life usually refers to a low level of education, health, and welfare. To reduce the poverty level, governments of any country create many poverty alleviation programs that are directed to the quality of life. Using data from the National Family Health Survey, Paul (2019) found that women without education or with low education levels tended to marry young. The tendency reduced as education level increased. On the other hand, Paul argued that the richer the family, the lower the probability of children's marriage. Therefore, Paul concluded that more opportunities to acquire education the more financial support for low-income families could become an effective strategy to address the children's marriage of girls in India.

In many cases, researchers suggested that education was one of the right strategies to alleviate poverty. However, in other instances, it was found that education created a poverty trap, the so-called poverty trap of education. Zhang (2014) argued that there were many families living with low and middle income in the western part of China unable to pay the higher education and decided to obtain loans for the education expenses. Without loans, families could not acquire an education.

Aside from strengthening education, governments of many countries made use of cash transfer as one alternative solution to reduce poverty. The cash transfer was used to fill the income gap without creating negative consequences toward the labour supply. Salehi-Isfahani and Mostafavi-Dehzoeei (2018) argued that they

could not find any evidence that cash transfer reduced working hours of incentives to work in Iran.

On the other hand, Prifti et al. (2018) found that cash transfer gave incentives to Zambians workers to switch the job preference from working at others' farms to working at their own farms. Angeles et al. (2019) found that unconditional cash transfer (UCT) provision would lead to the recovery of the mental health of young people in Malawi. The fundamental mechanisms were improvement in education, the advisors' condition, and social supports. UCT would break the cycle of poverty and depraved mental health.

Giang and Nguyen (2017) tried to examine the relationship between cash transfer and education and health using panel data in the Vietnamese Household Living Standard Survey in 2010 and 2012. They found that cash transfer could improve the school participation and had a good impact on poverty. In contrast, cash transfer did not have an effect on either the number of inpatients or the number of outpatients.

Handa et al. (2018) found that cash transfer programs of Zambians showed strong productive and protective effects. They argued that this program could improve the long-term living standard and had important roles in improving growth. Sabates et al. (2019) found that cash transfer encouraged investment in education. Unfortunately, since school participation in Rwanda had reached 80%, this program could result in more school participation.

In Indonesia, five promising programs directly target the poor. The programs include Program Keluarga Harapan (a conditional cash transfer or CCT), Raskin Program (subsidized rice delivery for the poor), free health protection program, financial assistance in education for the poor, and Kelompok Usaha Bersama (social welfare microenterprise group) (Eko et al., 2015). Like in many other countries, Indonesia also had an UCT program, so more poor people could be covered (The World Bank, 2017). However, targeting the right people was a challenge. Mistargeting of cash transfer program could be troublesome as it could result in negative social consequences. Cameron and Shah (2014) argued that poorly administered cash transfer program would increase the prevalence of crime and reduce the participation in community groups in the area where mistargeting took place. Particularly, these consequences arose after the ineligible recipients received the program benefits.

In 2014, i.e., before the subsidy reform in 2015, the subsidy allocation made by the Indonesian government was IDR 246.5 trillion for fuel and LPG and IDR 103.8 trillion for electricity (Lontoh et al., 2015; Younger, 2016). By 2015, the allocation went down to IDR 81.8 trillion for fuel and LPG and IDR 76.6 for electricity (IISD, 2018). From the savings, Indonesia could increase infrastructure spending. Although spending on infrastructure was good for a country, some researchers found negative impacts of the energy subsidy removal. The removal, especially in fuel price, increased the cost of living and transportation cost (Temidayo et al., 2016) and worsened the poverty rate as the poor also acquired the benefits from the subsidy (Younger, 2016).

Gbadebo et al. (2009) show that energy consumption had a positive influence on economic growth, which implied that a reduction in consumption due to a decrease in the subsidy could lead to negative

2 Other programs that experienced in a rise in the budget were loans for small businesses, assistance for education, and more. Details can be seen in the following link: <https://ekonomi.kompas.com/read/2018/10/23/190000326/menkeu--4-tahun-jokowi-jk-subsidi-energi-dikurangi-perlindungan-sosial>.

growth. In other words, if the people had to spend more on energy, purchasing power on other things might decline. Ogwumike and Ozughalu (2016) argued that energy was important for growth, but energy poverty could be the barrier and limitation to the country's ability to be in the path of rapid and sustainable development. The reason is that the availability of energy might improve people's living standards (Hussein and Filho, 2012).

3. DATA AND MODELS

To examine the contribution of energy and benefit programs on the living standard, this study chose 315 representative respondents residing in North Sulawesi Province, eastern Indonesia, through a random sampling method. The survey aims to extract information from the respondents based on four categories. The categories include demographic characteristics, self-evaluation on their life, electricity aspect, and public benefits that they have enjoyed. In this study, I use electricity spending to proxy energy consumption. The questionnaire is freely available upon request from the author. The variables used in this study are grouped into four categories mentioned earlier.

Demographic category consists of respondent identity (respondent ID), the best rank in class ever obtained in high school (SMA rank), spending on food (food spend), spending on non-food (non-food spend), marital status (marital), married (only married respondents), gender, working experience (working exp), monthly income, comparing spending to income (spend vs. income), and spending as a percentage of income (ratio S/E). Self-evaluation

category consists of rate of one's richness and poorness where 1 being the poorest and 6 being the richest (rich rate), ability to meet the daily needs (able daily need), whether the individuals find the benefit programs helpful (helped by programs), and whether the individuals feel better after participating in the benefit programs (better life after programs). The electricity category is composed of a percentage of households with electricity in the village or district (electric village), monthly spending on electricity (monthly electric expense), and electricity spending as a percentage of total monthly spending). Finally, the last category is public benefit programs that consist of whether individuals hold BPJS health insurance (BPJS Kes), number of times individuals receive public cash (public cash frequency), total aid for replacing oil subsidy (BBM aid replacement), total aid received past year (total aid past), total aid received last time (total aid last), and total cash assistance received past month (cash aid past). The public benefit category has two groups, namely, high and low recipients. High recipients mean that the benefits are applied to many individuals, while low recipients mean that not so many individuals receive the benefits. The summary statistics of these variables are presented in Table 1.

It is of interest to examine the effect of assistance aimed to replace the oil (i.e., BBM) subsidy to discover the importance of this assistance in improving an individual's welfare. This examination is motivated by the findings of Tasik (2019) that support the importance of energy consumption in improving people with low-middle income. Unfortunately, the number of the recipient is too few to be used for the analyses. There are only 25 recipients of this assistance.

Table 1: Summary statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Demographic					
Respondent ID	315	158	91.07689	1	315
SMA rank	315	0.2095238	0.4076163	0	1
Food spend	266	1,120,357	807,821.8	10,000	6,000,000
Non-food spend	251	767,788.8	998,188.8	0	1.00E+07
Marital	315	0.7111111	0.4539673	0	1
Married	224	1	0	1	1
Gender	315	0.4222222	0.4946994	0	1
Working experience	259	9.46139	9.546827	0.5	50
Monthly income	266	2,879,906	1,816,308	300,000	1.50E+07
Spend versus income	314	2.140127	0.7409397	1	4
Ratio S/E	314	74.19427	19.63624	15	100
Self-evaluation					
Rich rate	294	3.319728	0.9011664	1	6
Able daily need	304	2.388158	0.665504	1	3
Helped by programs	203	6.211823	2.662437	1	9
Better life after programs	205	5.95122	3.045015	1	9
Electricity					
Electric village	284	98.03873	7.464539	40	100
Monthly electric expense	266	357,094.7	459,755.9	20,000	4,000,000
Electric expense (% of total monthly spending)	217	33.44654	28.00412	2	100
Public benefits with high recipients					
BPJS Kes	315	0.8285714	0.3774827	0	1
Public benefits with low recipients					
Public cash frequency	77	12.38961	25.2905	1	192
BBM aid replacement	25	2,364,000	1,156,460	300,000	3,000,000
Total aid past	216	448,472.6	2,596,032	0	3.60E+07
Total aid last	315	39,142.86	188,079.6	0	2,500,000
Cash aid past	219	71,095.89	349,539.3	0	4,000,000

Source: Author's calculation

The survey was undertaken in 2019, where individuals were surveyed once during the year. The dependent variables of interest in this study include a better life after the program, which is a 9-point scale question, and the ability to meet the daily needs, which is a question with three ordinal responses. These dependent variables are the proxies of living standard in this study. The exogenous variables of interest include energy expenses and government or public benefit programs. Although there are many benefit programs provided by the government, only a few respondents have ever received the benefits. For example, Table 1 shows that there are only 77 respondents claim as the recipients of public cash, and 25 respondents claim as BBM aid replacement recipients. Table 2 presents the distribution of total aid received by the respondents in the past year, while Table 3 presents the distribution of total aid received by the respondents in the last time it was delivered by the government.

Table 2: The distribution of total aid received in the past year

Total aid past year	Freq.	Percent	Cum.
0	177	81.94	81.94
12,000	1	0.46	82.41
19,000	1	0.46	82.87
22,000	2	0.93	83.8
50,000	1	0.46	84.26
110,000	1	0.46	84.72
220,000	1	0.46	85.19
330,000	1	0.46	85.65
900,000	2	0.93	86.57
1,000,000	5	2.31	88.89
1,200,000	4	1.85	90.74
1,320,000	1	0.46	91.2
1,500,000	3	1.39	92.59
1,600,000	2	0.93	93.52
1,720,000	2	0.93	94.44
1,800,000	1	0.46	94.91
2,000,000	4	1.85	96.76
2,500,000	1	0.46	97.22
2,800,000	1	0.46	97.69
3,000,000	2	0.93	98.61
3,600,000	1	0.46	99.07
7,000,000	1	0.46	99.54
8,000,000	1	0.46	100
Total	216	100	

Source: Author's calculation

Table 3: The distribution of total aid last received

Total aid last received	Freq.	Percent	Cum.
0	289	91.75	91.75
25,000	2	0.63	92.38
110,000	3	0.95	93.33
200,000	2	0.63	93.97
250,000	3	0.95	94.92
300,000	2	0.63	95.56
450,000	1	0.32	95.87
500,000	7	2.22	98.1
600,000	1	0.32	98.41
700,000	2	0.63	99.05
750,000	1	0.32	99.37
1,000,000	1	0.32	99.68
2,500,000	1	0.32	100
Total	315	100	

Source: Author's calculation

Table 2 shows that there are only 177 of 216 valid respondents claim that they have never received aid in the past year (i.e., total aid past variable). The biggest number of respondents claim that they have received aid totaled IDR 1,000,000. There are five respondents in this category. The second biggest number of respondents claim that they have received aid totaled IDR 1,200,000 and IDR 2,000,000 in the past year. There are four respondents in this category. Surprisingly, there is only one respondent claims the biggest total aid, which is IDR 8 million.

Table 3 shows that there are 289 of 315 valid respondents claim that they received no aid last time aid was distributed (i.e., total aid last). For this reason, this study focuses on the benefit program that I have found to have sufficient respondents for the analyses, namely, BPJS health insurance (BPJS Kes). The biggest aid last received is IDR 2,500,000, and the number of the recipient is one respondent. The lowest aid received is IDR 25,000. The biggest number of respondents claim that they have received aid totaled IDR 500,000. There are seven respondents in this category. The second biggest number has received IDR 110,000 and IDR 250,000. There are three respondents in this category.

Table 4 below shows the distribution of the holder of BPJS health insurance by working experience. It is unfortunate that not all

Table 4: Distribution of BPJS holder by working experience

Working experience	BPJS Kes		Total
	0	1	
0.5	1	0	1
1	2	20	22
1.5	0	2	2
2	1	33	34
3	5	23	28
4	3	14	17
5	6	28	34
6	0	4	4
7	1	6	7
8	3	9	12
9	1	3	4
10	4	19	23
11	0	2	2
12	1	4	5
13	1	2	3
14	1	2	3
15	5	5	10
16	1	2	3
19	0	2	2
20	6	4	10
21	0	3	3
25	2	2	4
26	0	1	1
27	0	1	1
28	0	2	2
30	2	10	12
32	0	2	2
33	0	2	2
35	1	0	1
36	0	1	1
38	0	1	1
40	0	2	2
50	0	1	1
Total	47	212	259

Source: Author's calculation

315 respondents have provided a response on whether they are BPJS Kes holders or not. From those who have responded, it turns out that there are still 47 of 259 respondents, or 18% of the respondents do not have BPJS health insurance despite the regulations of the government to encourage participation in the BPJS health insurance program. Table 4 also shows that the longer the working period, the less likely the respondents not to have BPJS health insurance. Surprisingly, there are six respondents do not have BPJS health insurance after working for 20 years. There is one holder has the most working experience, i.e., 50 years. There 33 holders have 2 years of working experience. These holders are the biggest in number in any working experience, followed by 28 holders with 5 years of working experience.

To investigate further the characteristics of the respondents, this study tries to obtain information on whether the respondents are happy with the public benefit programs overall. In this case, the respondents are asked about their general opinion on the benefit programs that they have ever enjoyed. The response is based on respondents' self-evaluation on the benefit programs. In particular, the respondents were asked if they felt that the benefits programs helped their lives. Using a scale from 1 to 9, where one is very helpless and nine being helpful, Table 5 shows that the majority of respondents say that the benefits programs are very helpful. Of 144 respondents, 60 respondents who are married feel that the programs are very helpful (scale number 9). The responses of non-married respondents, on the other hand, are quite well distributed except for the first scale.

Having discovered the opinions of respondents about the benefit programs, this study tries to examine other characteristics of the respondents that can potentially be the reasons why they need public benefit. This study investigates how respondents think about their spending in comparison to their income. Table 6 shows that around 16% of the respondents (i.e., 51 respondents) say that all of their income is spent for their lives while more than half of the respondents (i.e., 184 respondents) say that they spend almost all of their income. In contrast, only 5% say that they spend their income just a little. The trend of married and non-married respondents is quite similar.

To be more detailed, the following Table 7 describes the spending as a percentage of income. There are 15% of the respondents (i.e. 45

Table 5: Distribution of self-evaluation on benefit programs by marital status

Marital	The scale of being helped by public benefit programs						Total
	1	2	3	4	5	6	
0	0	2	27	5	4	3	59
1	13	4	3	8	10	9	144
Total	13	6	30	13	14	12	203

Marital	The scale of being helped by public benefit programs			Total
	7	8	9	
0	11	3	4	59
1	21	16	60	144
Total	32	19	64	203

Source: Author's calculation

respondents) who are married believe that they spend all their income on their lives. Other married respondents say that they spend 80, 90, and 95%. The majority of non-married respondents, on the other hand, spend in the range of 50 to 80%. There are very few respondents claim that they have spent relatively all of their income.

Now, it is clear that many recipients expect to have benefit programs. The expectation is due to the fact that their ratio of spending to income and what they feel about the benefit programs are important to their lives. It is time to dig even deeper into how the benefit programs contribute to the lives of the respondents. In this case, this study aims to examine the relative importance of benefits programs and energy on an individual's living standard; I use two strategies of analyses. Firstly, I use a cross-section regression model to explain whether the individuals feel better after becoming the program's participants. Secondly, I use ordered logistics regression model to explain the ability of individuals to meet their daily needs. Let the following equation be the structural model predicting whether the individuals feel better after becoming the program's participants (*Better life*) for individual $i = 1, \dots, N$ who is observed at one period,

$$Better\ life_i = \alpha + x'_i \beta + q'_i \gamma + u_i \tag{1}$$

where *Better life_i* is the dependent variable, x'_i is a K -dimensional row vector of benefit program and energy variables and q'_i is an M -dimensional row vector of control variables, α is the intercept, β is a K -dimensional column vector of parameters, γ is an M -dimensional column vector of parameters, and u_i is an idiosyncratic error term. Meanwhile, to execute ordered logistics regression, let the following equation be the structural model predicting the ability to meet the daily needs for individual $i = 1, \dots, N$ who is observed at one period when the first choice is selected,

$$P(ability_i = 1) = \frac{1}{1 + \exp(Z_i - K_1)} \tag{2}$$

and let the following equation be the model when the second choice is selected,

$$P(ability_i = 2) = \frac{1}{1 + \exp(Z_i - K_2)} - \frac{1}{1 + \exp(Z_i - K_1)} \tag{3}$$

and let the following equation be the model when the third choice is selected,

$$P(ability_i = 3) = \frac{1}{1 + \exp(Z_i - K_2)} \tag{4}$$

where $Z_i = \sum_{k=1}^K \beta_k X_{ki} = E(Y_i^*)$ with conditions that $ability_i = 1$ if $ability_i^* \leq K_1$, $ability_i = 2$ if $K_1 < ability_i^* \leq K_2$, and $ability_i = 3$ if $ability_i^* > K_2$.

In this case, K_1 is the condition when the individuals is able to meet their daily needs and K_2 is the condition when the individuals are more than able to meet their daily needs.

Table 6: Spending versus income by marital status

Marital	Spending versus income (1=all income is spent; 2=almost all; 3=half of income; 4=little income)				Total
	1	2	3	4	
0	3	63	21	4	91
1	48	121	42	12	223
Total	51	184	63	16	314

Source: Author's calculation

Table 7: Ratio spending to income by marital status

Ratio spending to income	Marital		Total
	0	1	
15	1	0	1
20	0	1	1
25	1	1	2
30	1	0	1
33	0	1	1
35	0	1	1
45	0	1	1
50	36	44	80
60	10	8	18
65	2	1	3
70	0	9	9
72	1	0	1
75	5	21	26
77	0	1	1
80	22	42	64
85	1	5	6
90	6	22	28
95	1	13	14
96	2	0	2
99	0	7	7
100	2	45	47
Total	91	223	314

Source: Author's calculation

Table 8 presents the better life model using the ordinary least square strategy to evaluate the effect of benefit program, in this case, is BPJS health insurance (i.e., BPJS Kes). Better life variable is used to proxy the living standard of the respondents. There are four specifications used in this model. Specification (1) is used to assess the effect of rich rate, marital status, gender, BPJS Kes, and SMA rank (as a proxy to education) on whether the individuals have better lives. In this specification, energy variables are still excluded. Specifications (2), (3), and (4) are used to include the energy variables, which include electric expense (% of total monthly spending), monthly electric expense, and monthly electric expense in natural logarithm, respectively. The findings show that any energy variables do not contribute to whether the respondents have a better life or not. Also, without controlling the energy variables, rich rates, marital status, gender, BPJS Kes, and SMA rank do have an effect on the better life variable. Particularly, the higher the rich rate (i.e., when the respondents tend to be richer), their lives become less good. Perhaps the reason behind this phenomenon is that the richer the respondents, the more complex is their living standard, and the harder it is to reach a better living standard. The difficulty in reaching the standard is partly due to the likelihood that people tend to set a new standard as they get richer.

Married respondents have better lives than the non-married ones. Male respondents tend to have less good lives than women,

having BPJS Kes tends to make lives less good, while rank in high school (i.e., SMA rank) contributes to better lives. Those who have BPJS health insurance may come from a poor community whose lives are no better than a rich community. Although the rich community is also a member of BPJS health insurance, since the launch of BPJS health insurance in 2014, the local government has encouraged the poor community to have BPJS health insurance. This encouragement increases the chunk of a poor community in the BPJS health insurance program; therefore, those who have BPJS health insurance have a less good life.

To check the consistency of the results shown in Table 8, this study tries to use another variable to proxy the living standard. The variable used is the ability to meet respondents' daily needs. The variable consists of three choices: the ability equals to (1) if the respondents are not able to meet their daily needs, equals to (2) if they are able, and equal to (3) if they are more than able. Since the dependent variable consists of three choices, this model uses a strategy different from the one in Table 7. In this case, ordered logistics regression is used.

There are three specifications used in this model. The only difference in each specification is in the variable to proxy the electricity consumption. Specification (1) uses electricity expense as a percentage of total monthly spending, specification (2) uses monthly electric expense, while specification (3) uses monthly electric expense in natural logarithm.

Unlike the findings in Table 8, the model using ordered logistics regression in Table 9 shows different results. The difference is mainly due to not only differences in regression strategy but also the variable that is used as a dependent variable. Table 9 shows that the richer the respondents (i.e., rich rate), the abler they meet their daily needs, and the result is consistent throughout all specifications. Also, married respondents have more ability to meet needs than non-married respondents. Unlike the rich rate, the effect of marital status is not consistent throughout all specifications as it is only statistically significant in the first specification. Surprisingly, gender and BPJS Kes are no longer statistically significant in this model. The rank in high school (i.e., SMA rank) turns out to reduce the ability to meet daily needs. Whether having a rank in the class of high school requires monetary support that may reduce the ability to meet daily needs, further investigation is necessary. Finally, spending on electricity turns out to reduce the ability to meet the daily needs, and the finding is consistent in both specifications (1) and (2) but not in the specification (3) where the natural logarithm of electricity spending is used. The insignificant effect of electricity spending in the specification (3) is not a big deal since it is only a monotonic transformation of the spending. The significant impacts of electricity spending on specifications (1) and (2) imply that spending on electricity is really crucial and affecting the ability of the respondents to meet their needs. The higher is the spending; the lower is the ability. When individuals are very poor, the effect may be larger than those who are not poor — this is the right situation where governments can step in. One solution the government can take is providing electricity subsidy directed to the poor or providing assistance in electricity consumption in any other form such as vouchers.

Table 8: Better life model of ordinary least square

Variables	(1) Better life	(2) Better life	(3) Better life	(4) Better life
Rich rate	-0.4631** (0.2073)	-0.4553** (0.1787)	-0.5007** (0.1989)	-0.5278** (0.2063)
Marital	2.9363*** (0.4595)	0.8671* (0.4982)	0.7204 (0.5743)	0.7511 (0.5779)
Gender	-0.8210** (0.3981)	-0.3085 (0.3670)	-0.2183 (0.3948)	-0.2403 (0.3949)
BPJS Kes	-1.0415* (0.5351)	-0.3059 (0.4441)	-0.7588 (0.5072)	-0.8046 (0.5115)
SMA rank	1.1222** (0.4533)	0.4244 (0.4233)	0.3501 (0.4553)	0.2954 (0.4573)
Electric expense (% of total monthly spending)		0.0070 (0.0060)		
Monthly electric expense			-0.0000 (0.0000)	
Monthly electric expense_log				-0.0050 (0.2198)
Constant	6.5584*** (1.0080)	8.0340*** (0.9370)	8.7022*** (1.0157)	8.7598*** (2.6293)
Observations	187	133	159	159
R-squared	0.3156	0.0982	0.0745	0.0712

Source: Author's calculation. Standard errors in parentheses. ***P<0.01, **P<0.05, *P<0.1

Table 9: Ordered logistics model of ability to meet respondents' daily needs

Variables	(1) Ability	(2) Ability	(3) Ability
Rich rate	0.4416*** (0.1703)	0.7288*** (0.1579)	0.7434*** (0.1598)
Marital	0.6695* (0.3667)	0.5049 (0.3403)	0.4920 (0.3406)
Gender	0.3087 (0.3276)	0.4348 (0.2904)	0.4711 (0.2914)
BPJS Kes	0.0984 (0.3640)	-0.0449 (0.3319)	-0.0365 (0.3314)
SMA rank	-0.6362* (0.3439)	-0.0674 (0.3058)	-0.0336 (0.3115)
Electric expense (% of total monthly spending)	-0.0252*** (0.0057)		
Monthly electric expense		-4.43e-07* (2.51e-07)	
Monthly electric expense_log			-0.2256 (0.1391)
Constant cut1	-1.3716* (0.8075)	0.4901 (0.6885)	-2.0538 (1.6888)
Constant cut2	0.8393 (0.7876)	2.6036*** (0.6969)	0.0602 (1.6789)
Observations	207	253	253

Source: Author's calculation. Standard errors in parentheses. ***P<0.01, **P<0.05, *P<0.1

4. DISCUSSION

The Indonesian government has provided many types of assistance for the poor. At the same time, the Indonesian poverty rate declines. However, an important question remains on how the benefit programs encourage people to have better lives as well as the ability to meet their daily needs.

Using the survey data of 315 respondents chosen randomly in many cities and regencies in North Sulawesi province, the findings suggest that not everyone has the same access to benefit programs as many of them never experience some of the programs. The findings also indicate that BPJS health insurance holders tend to have less good lives as compared to non-BPJS health insurance holders. Those who have BPJS health insurance may come from a poor community whose lives are no better than a rich community. Although the rich community is also a member of BPJS health insurance, since the launch of BPJS health insurance in 2014, the local government has encouraged the poor community to have BPJS health insurance. This encouragement increases the chunk of the poor community in the BPJS health insurance program; therefore, those who have BPJS health insurance have a less good life. Meanwhile, being the holder does not statistically affect the ability to meet daily needs. On the other hand, spending on electricity reduces the ability to meet daily needs but not necessarily make lives better or worse.

5. CONCLUDING REMARKS

The fact is that many individuals experience the high cost of electricity. An increase in assistance for the poor regarding

electricity in the right forms can help the poor to have better lives. Having good academic ranks in high school is associated with having better lives. In other words, those who have good academic ranks usually have better lives, although, in this case, this is not a causal relationship.

In contrast, having this rank tends to reduce the ability to meet daily needs. Perhaps the best explanation behind this situation is that those whose good rank tend to spend more money on academic needs, which then results in less ability to buy other things necessary for their lives. Some kinds of treatment on academic needs look necessary, for example, the provision of academic needs through public benefit programs. Additionally, a new formula in the provision of BPJS health insurance is needed to increase the importance of the BPJS health insurance program. That is, having this program, the ability to meet daily needs increases.

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