IMPACT OF CASH TRANSFER ON POVERTY

Deden Ferry Kurniawan [1*] and Hera Susanti [2]

[1,2] Universitas Indonesia, Indonesia

Abstract

This research aims to generate empirical evidence on the impact of cash transfers on Poverty on households in Indonesia, using the Indonesian Family Life Survey (IFLS) panel data in 2007 and 2014, and the method of Difference-in-differences with propensity score matching. This study estimates the impact of relief and benefits that do not receive assistance on Poverty. Results are expected to find that the provision of assistance (cash transfers) has a significant impact on poverty in terms of beneficiaries and who does not receive assistance, or viewed from a total of two (beneficiaries and who are not receiving assistance). It is found that the provision of assistance to the people who were targeted as shown to improve the welfare of beneficiaries, but have not been able to exceed the group that did not receive aid.

JEL Classification: *I31, I32, I38*

Keywords*: Cash transfer, Difference-in-differences, Poverty, Propensity Score Matching*

1. INTRODUCTION

The issue of poverty in Indonesia is very important because the number of poor people in Indonesia is quite high, based on BPS data on the development of the poor in Indonesia in 2004-2012 the number of poor people has experienced a downward trend of 36 million in 2004, 35 million in 2005, increased to 39 million in 2006 and then continued to decline in the following year until in 2012 there were 29 million people (Noroyono, 2013) .Apart from these data, the success of poverty alleviation programs conducted can also be seen from the success of Indonesia in cutting up to half of the total population living on $ 1 per day from 21% in 1990 to 6% in 2008 (Lundine, Hadikusumah, & Sudrajat, 2013) .

Although the programs carried out were quite successful but the number of poor people still quite high, therefore poverty alleviation programs should always be a priority. In its implementation, Government policies for intervention in the economic life of the community include: (a) subsidies, (b) maximum prices / immune min , (c) and quotas. Among the three methods, the most common method is by subsidy .

Subsidies, especially in the case of fuel oil subsidies, are preferred by the government because they are relatively easier in budget allocation , subsidies do not need to sort and choose who will receive them . Bysubsidizing public access to goods can be greater in the sense that people's purchasing power can be higher than when subsidies are not given. However, aside from the positive thing, there is a negative point from subsidies,namely those who should not receive assistance become recipients of assistance (get subsidies for goods that should be able to be purchased according to non-subsidized prices).

Subsidies often burden the State Budget, as happened in 2005, 2009 and 2013 when the fuel price must be increased because if not then the value of the subsidy in that year will be increasingly swollen which results in a collapse of the state budget . The increase in BB M prices resulted in a shock in the community, so the government must keep up with a policy that still allocates certain funds in the APBN but the amount is smaller than the appeal must do subsidies . A budget location in the form of budget progra m b elp cash transfer (BLT) / Direct Aid Society meantime (BLSM) which is

* Corresponding author. *Email address*: deden_ferry@yahoo.com

addressed directly to poor families and are expected to reduce the negative impact of rising fuel prices on the poor.

The Direct Cash Assistance Program (BLT) is a concrete example of the withdrawal of subsidies transferred in the form of cash assistance. The budget allocation for the BLT program shown in table 1 shows that the relatively lower amount of the budget is compared with the reliance on subsidies as a means of maintaining public welfare.

Table 1 BLT Program in 2005, 2006, 2008 and 2009 , 2013

Information	2005	2006	2008	2009	2013
Total BLT (Rp. Million)	4,487	18,619	13,966	3,844	3,800
RT Recipient	15.4	17.7	19	18.8	18.5
Number of months	3	9	7	2	9
Amount of Funds	100.000	100.000	100.000	100.000	100.000

Source: World Bank (2012)

In general, the provision of subsidies and granting assistance in cash is a form of protection of the State against the community to be able to maintain the level of welfare by having sufficient purchasing power of goods that become basic needs. However, the protection of the State must be proportional to the needs of different people , so that people who are not eligible for assistance actually receive government assistance, this can happen if the government assistance is carried out in the form of subsidies.

The purpose of financial assistance from the Government is to protect the public from the possibility of social risk, improve the economic capacity and / or welfare of the community. In this case, r isk s osial is an event or events that may pose a potential kerentana n social borne by individuals, families, groups and / or communities as a result of the social crisis, economic crisis, political crisis, natural phenomena and natural disasters if not given social assistance will get worse and cannot live in reasonable conditions. (Dit. PAPBN 2014 Ministry of Finance)

In 2014 the Government of Indonesia was recorded as providing a program to improve the welfare of the community including: Community and Village Government Empowerment Program in the Ministry of Internal Affairs, Program for Provision and Development of Agricultural Infrastructure and Facilities at the Ministry of Agriculture, Basic Education Programs in the Ministry of Education and Culture, Coaching Activities , Development of Health Care Financing and Assurance at the Ministry of Health, Islamic Education Program at the Ministry of Religion, Social Welfare Guarantee Activities (Conditional Cash Assistance / Family Hope Program) for Very Poor Households (RTSM) at the Ministry of Social Affairs, Infrastructure Development and Development Programs Settlements (eg for the implementation of Urban PNPM Mandiri) at the Ministry of Public Works, and Natural Disaster Management Activities for handling natural disasters. (Ministry of Finance's PAPBN, 2014).

-Program above program showed him right that giving cash assistance not only happen when there is a shock the economy such as rising fuel prices alone. A da also cash grant program which is a program that the Government of its output routine is poverty alleviation, such as Security Event Social Welfare (Conditional Cash Transfer / PKH) for very poor households (RTSM). The P rogram -Program even without the rise in fuel prices is still being done by the relevant ministries.

The policy of providing assistance directly to the poor is not only done by the Indonesian government . This matter also been carried out by other countries such as Brazil with Bolsa Familia, PROGRESA in Mexico, Bono De Dasarolo Humano in Ecuador, PRAF in Hondura , PATH in Jamaica and others.

In general, government assistance is divided into 2 (two), namely policies in the form of cash transfer policies such as BLT, PKH policies and goods transfer policies (in kind transfer) such as rice for the poor (Raskin).

Policy transfer cash generating higher utility than in kind transfer policy ((Rosen and Gayer, 2010). Where the use of a support greater flexibility obtained by recipients of cash transf er than in kind transfer recipient, the recipient of more plexible cash transfer in the use of aid for inkind transfer recipients , therefore research conducted uses cash transfer beneficiary data because it produces better benefits so that it can be considered to have a better impact on poverty than inkind transfers .

In addition, previous research regarding the provision of assistance can also be used as a reference that the provision of assistance can provide a positive impact on the economic level of the community, including research Bazzi, Sumarto, and Suryahadi (2013) by placing the Direct Cash Assistance Program (BLT) as data variables in The granting of assistance with the results of research on the BLT program implemented in 2005/2006 as a compensation for the increase in fuel could have an impact on the welfare of the poor.

Noroyono (2012) also conducted a study on the impact of the BLT program on consumption, education, health and domestic work patterns, with the results of BLT having a positive and significant impact on the deterioration of household welfare for the recipients.

Armando Barrientos and Jocelyn DeJong (2006) found the fact that comparative studies on 3 (three) main types of cash transfers carried out with children targeted at poor households are effective instruments in reducing the amount of poverty because of the correlation between childhood and poverty.

Soares, FV et al (2006) using up to 7 (seven) types of assistance data and found that with the right cash transfer target, cash transfers could increase 4.6% of total family income.

Then there is also the study of Skoufias, E., & Maro, V. d. (2006) who found the effect of poverty reduction is stronger in the poverty gap and measure the depth of poverty provide heaviest burden on the poorest sections of the poor and proved that estimamsi poverty measurement is robust to the choice of poverty line yan g different. Research research above shows a positive impact on poverty, increased welfare and income.

The reduction of subsidized fuel oil (BBM) is feared to have an impact on the welfare of the poor for the government to create a compensation program in the form of cash assistance programs for affected communities where the purpose of the compensation program is to maintain the level of welfare by having sufficient purchasing power for goods goods that become basic needs.

The success of other countries in implementing the policy of providing direct cash assistance to the poor also becomes a strong basis for the government to take this method rather than continuing to maintain subsidies as an effort to improve / maintain the welfare of the community, for example by the Brazilian government with Bolsa Familia, PROGRESA in Mexico, Bono De Dasarolo Humano in Ecuador, PRAF in Honduras, PATH in Jamaica and others.

Based on the explanation above, it can be assumed that the provision of assistance can have a positive impact on poverty, giving assistance will automatically increase income per capita and then will have different effects on each household depending on the characteristics of the beneficiary household.

Therefore a number of questions arise, including : first, whether providing assistance to poverty in providing assistance can improve the welfare of the poor ; second, what is the impact of giving assistance to the level of welfare of beneficiaries and those who do not receive assistance ; third, is there a difference or not.

This study aims to look at the impact of providing guidance to poverty so that it can be known whether the provision of assistance is an effective policy in alleviating poverty. Specific objectives in this study are Analyze the impact of providing assistance on per capita expenditure and poverty, And Compare the impact of providing assistance to households that receive assistance with households that do not receive assistance.

2. LITERATURE STUDY

There are several sections of the literature review that will be used in this research, the first is the theoretical foundation which will be discussed about theoretical theory that will be used or related to this research in this case will be discussed about poverty measurement, impact analysis, and the concept of financial assistance. Then the second will discuss the empirical review, namely the previous research which is the reference for this study, especially about the methods that will be used in this study.

2.1 Theoretical Platform

2.1.1 Poverty

The poverty line used can be different because of differences in location and standard of living needs. The Central Statistics Agency (BPS) uses a poor limit of the amount of rupiah spent per capita a month to meet the minimum food requirements used by 2,100 calories per day , while the World Bank makes an absolute poverty line of 1 US dollar and 2 US dollars PPP (purchasing power parity / parity purchasing power) .

2.1.2 Poverty Measurement

Foster, Greer and Thorbecke, (1984) convey the poverty index namely: First, *Headcount Index* (P_o), Headcount index is the most widely used poverty index, which is simply the proportion of the population classified as poor from the entire population. In the mathematical form the headcount index is written as follows:

$$P_0 = \frac{N_p}{N} \qquad \text{..... (1)}$$

Where P_0 = headcount index, N p = Number of Poor Population, N= Total Population

Second, *Poverty Gap Index* (P_1) The Poverty Gap Index measures the depth of poverty in an area relative to the poverty line . In a mathematical form, the poverty gap index is formulated as follows:

$$P_1 = \frac{1}{N}\sum_{i=1}^{Np}\left(\frac{G_i}{z}\right) \qquad \text{..... .. (2)}$$

Where P_1 = Poverty Gap Index, G_1 = Poverty Gap; poverty line minus income poor people to i, z = poverty line

Third, *Poverty Severity Index*, The Poverty Severity Index measures the severity of poverty, which is a weighted index of poverty gap with the weighted number is the poverty gap itself. Formally the poverty severity index is written as follows:

$$P_2 = \frac{1}{N}\sum_{i=1}^{Np}\left(\frac{G_i}{z}\right)^2 \qquad \text{..... (3)}$$

Where P_2 is the poverty severity index

Fourth,FGT Index, The three kinds of poverty indices described above are headcount index, poverty gap index and poverty severity index are index families known as FGT index so that they can be written in the same formulation.Mathematically the FGT index is written as follows (Foster, Greer and Thorbecke, 1984):

$$P_\alpha = \frac{1}{N}\sum_{i=1}^{N_p}\left(\frac{z-y_i}{z}\right)^\alpha I(y_i < z) \qquad \text{..... .. (4)}$$

where a = 0, 1, 2. If a = 0 then the index value is the same as the headcount index, a = 1 obtained poverty gap index and a = 2 will get the poverty severity index

2.1.3 Impact Analysis

In this study the method used is a combination of Matching method, propensity score method (PSM) and Double difference method (DD) , therefore the methods to be discussed further are the two methods.

Propensity Score matching (PSM) builds a statistical comparison group based on the probability model of the group participating in the program using the characteristics of groups that are not affected by the program.Participants are then matched based on this probability, or propensity score , on nonparticipants ants. The average treatment effect of this program was then calculated as the average difference in results in these two groups.

PSM validity depends on two conditions: (a) conditional independence , that is, the factors that are not observed do not affect participation, and (b) the general support is large enough or overlaps in the propensity score ofall participants and non-participant.

A different approach is used to match participants and non-participants based on an propensity score . Among them are Nearest neighbor matching (NN), caliper and radius matching, stratification and interval matching, and kernel matching and linear local matching (LLM). Regression-based method in the sample of participants and nonparticipants by using propensity score as a load, can produce more efficient estimates.

PSM is a useful approach if only the characteristics observed are believed to influence program participation. Whether this belief really depends depends on the unique features of the program itself, in terms of targeting and taking individual programs. With the assumption that the choice of the observed characteristics is strong enough to determine program participation, the basic data of various characteristics before the program will enable participation based on the observed characteristics to be more precisely specified. Several tests can be carried out to assess the level of selection bias or participation in unobservable characteristics.

There are four matching methods in the Propensity Score Matching (PSM) namely: Stratification Matching, This procedure divides general support to different strata (or intervals) and calculate the impact of the program in every interval. Specifically , in each interval, the effect of this program is the difference in averageresults between participants and controls. Nearest Neighbor Matching, One of the most commonly used matching techniques is NN matching , where each processing unit is suitable for comparison with the closest tendency score , usually 5 (five) closest neighbors are used Caliper or Radius matching, One problem with matching NN is that difference in the trend score for participants and their closest neighbors who are nonpar participants maybe still very high. This situation causes poor installation but can be avoided by imposing a threshold or "tolerance" on the maximum trend score range (Caliper). Therefore this procedure involves matching with replacements, only between propensity scores in a certain range. Kernel Matching, One of the risk by the method just described is that only a small percentage of nonparticipants will eventually fulfill the criteria to enter general support and then build counterfactual results , for that kernel matching uses an average weighting of the non-participants to build counterfactuals for program participants

Then do the next method the difference in Difference, advantages of the method of difference-in-differences compared with the estimator standard mounting in the levels is a method of difference-in-differences can eliminatethe differences in the variables to be observed related to the effects of time-invariant unobservable (unobserved time-invariant effect). In other words, the difference-in-difference method controls the selection of both observed and unobserved time invariants, while the standard installation method only controls the observable selection .

Method of difference-in-differences can be combined with PSM as long as there's enough for the data both in the region and in the area of control treatments. The purpose of this combination is to better match households that are used as controls when the assistance program is provided.

Applying PSM can help match the treatment unit with the control unit which is similarly observed before estimating the impact of d iff in diff, PSM will be applied to the base year then the diff in diff method in the unit that is at the same support (common

support). By controlling observation based on Propensity score, it will produce very efficient estimators (Hirano, Imbens, and Ridder , 2003). Because effective PSM is influenced by rich base year data.

2.2 Empirical Study

Skoufias (2006) conducted a study based on the Difference in Difference estimation, where this estimator compares the differences between group treatment and controls before and after the start of the program. This estimation offers the advantage that the difference before the start of the program at treatment and group control does not exist in the estimated impact. Under the assumption that any hetrogenity that is not observed between the treatment group and the control is fixed over time, the difference-in-differences estimator removes this heterogeneity.

The study considers a case where there is data availability for control and treatment households before and after the program runs, limiting the sample to available households only, the regression equation used is being able to collect various "differences" estimators that can control individuals, households and Characteristics of observation locality:

The conclusion of the study is that the effect of poverty reduction is stronger on the poverty gap and the size of the depth of poverty which gives the heaviest burden to the poorest group of the poor and it is evident that the estimation of poverty measurement is robust in different poverty line choices.

Bazzi, Sumarto, and Suryahadi in 2013 also conducted a study with the difference in difference method that placed the Direct Cash Transfer Program (BLT) in 2000 and 2006 as a Variable in Providing Assistance, the study wanted to see how the timing of assistance affected household expenditure and response labor supply, then to see how household expectations shape the interpretation of the response.

The conclusion from this study is that the average beneficiary household that received two full transfer stages in early 2006 did not differ much from comparison households that did not receive the benefits of transfers in terms of growth in per capita expenditure and changes in the supply of adult labor, but beneficiaries who are still awaiting a second transfer report a lower growth in expenditure growth of 7% and a reduction in the supply of workers of 1.5 hours / person / week, the difference in expenditure disappeared in early 2014, several months after the last transfer received by beneficiaries. Then variations in per capita transfers are used to identify small amounts of marginal propensity to consume from income through transfers (around 0.10)

Fabio Veras Soares et al (2006) conducted a study entitled Cash transfer in Brazil: impact on inequality and poverty by using up to 7 (seven) types of assistance data and with methodological sequences using questionnaire data, comparison of past program data with administrative record data, separation of income components by looking at 2 conditions, namely when receiving assistance, and if not receiving assistance. The conclusion of the study found that with the target of providing the right cash transfer, cash transfers can increase 4.6% of total family income.

Armando Barrientos and Jocelyn DeJong (2006) conducted a study entitled Reducing Child Poverty with Cash Transfers: A Sure Thing, where the study was divided into 3 parts, first focusing on issues relating to the design of targeted cash transfers for children consisting of reduction efficiency poverty by categorizing cash transfers, distribution of resources in the household, and consumption effects due to the cash transfe, the second discusses three main types of programs that identify the above issues which consist of cash transfers to children in south africa, family income in economic transition, and cash tarsnfer is stipulated in Latin America, and the three conclusions arising from the comparative study are finding the fact that comparative studies on 3 (three) main types of cash transfers that are targeted at children in poor households are effective instruments in reducing poverty due to a correlation between childhood and poverty.

Finally, research from Cuong, Nguyen Viet (2009), this research is used as the main reference in the selection of methodology and the selection of research variables where the research uses the combined method of PSM and Diff in diff.

Research Cuong takes migration as the main independent variable, while the other independent variables are family income, education of the family head and partner, gender and marital status of the head of the household, household composition, education of household members, home and land ownership, and characteristics of the place stay, while the dependent variable is per capita expenditure, poverty and inequality.

The results of the study on damak migration on welfare, poverty and inequality showed positive results for these three things even though the numbers were quite small.

Of all the previous studies, no studies have used newer data (all using data before 2014), it is hoped that this study will use the Indonesian Household Life Survey panel data (Sakerti) in 2016 and 2014 to provide new findings in research that discusses Cash Transfer Direct Assistance.

3. RESEARCH METHODOLOGY

3.1. DATA SOURCE

The type of data used in this study is secondary data derived from Household Life Survey (Sakerti/IFLS) in 2007 and 2014 in the form of expenditure data per family, cash assistance data received per family, Educational Background data, Amount per Family data, Child Labor, Family Investment (Education), Assets and others.

For observation data is limited by per capita expenditure for the control group, where households whose per capita expenditure is greater than the largest per capita budget of the treated group are not included in the observation.

3.2. METHOD OF ANALYSIS

The method of analysis follows the method carried out by Cuong, Nguyen Viet (2009). namely with the following stages:

3.2.1 Propensity Score Matching

In the impact evaluation literature, *The Average Treatment effect on the Treated* (ATT) can be defined by:

$$ATT = (Y1-Y0 \mid D = 1) = E(Y1 \mid D = 1) - E(Y0 \mid D = 1) \quad ....(5)$$

Where:

E is an *expected value;* Y1 is the value of the dependent variable after Assistance; Yo is a value dependent variable before granting assistance; D = 1 is a group of treatments; and D = 0 is the control group

However, to get the *expected value value* from the group of treatments before trea t , in this case Giving Assistance or E (Y0 | D = 1), it cannot be directly done.

Using the *propensity score matching* method, you can try a kind of control group, by pairing and matching households with or without giving assistance to a number of observation variables so that the two groups can be compared.

The first thing to do is identify the probability (*propensity score*) of the variables that are thought to affect the household of the beneficiary and who do not receive assistance with the logit model

$$P(D_{it} = 1) = F(X_{it-1}) \quad ..... (6)$$

Where:

D_{it} = 1, if the household receives assistance

D_{it} = 0, if the household does not receive assistance

X_{it-1} = Other demographic factors that are assumed to affect poverty that is Age of head of household, Gender of Household Head , Education of Head of Household , Work of Head of Household , Number of Elderly in the Family , Number of Adults in the Household ,Number of Children in the Household , Job Status of the pair of head of household ,Number of children

working in household, Possession ruma h, use of electricity, access to water resources are protected, Location of residence, number of family members who are school, family b total membership ekerja, Burden member household that work.

Then the installation is done to pair each recipient's family with the comparison family. The installation estimator is defined by:

$$\mu = \sum_{i \in M} \left[y_i - \sum_{j \in C} g(p_i, p_j)\, y_j \right] \quad \text{`.....(7)}$$

Where μ is the ATT value; pi is an opportunity to enter a group of treatments i; pj is an opportunity to enter the control group j; yi is a dependent variable in the treatment group (based on Sakerti data in 2014); yj is the dependent variable in the control group (based on Sakerti 2014); and the function g gives weight to the control family in forming comparisons with the families of the Beneficiaries i.
Because this study uses longitudinal data that is based on Sakerti data in 2007 and 2014, the matching estimator that will be used is the estimator of the *Difference matching differences* modeled as follows.

$$\delta = \sum_{i \in M} \left[\Delta y_i - \sum_{j \in C} g(p_i, p_j)\, \Delta y_j \right] \quad \text{.....(8)}$$

With the same equation to see differences in variables as
=yi = differences in *outcomes* in the household group a Aid Recipients (treatment group) in 2007 and 2014.
Jyj = differences in *outcomes* in household groups without assistance (control group) in 2007 and 2014.

3.2.2 Impact of Giving Aid to Poverty

For the measurement of Poverty is done with 3 poverty index Foster − Green − Thorbecke which can be done with the following formula (Foster − Green − Thorbecke, 1984):

$$P_\alpha = \frac{1}{N} \sum_{i=1}^{N_p} \left(\frac{z - y_i}{z} \right)^\alpha \quad \text{.....(9)}$$

Where Y is consumption per capita for people i, z is pove rty line, n is the total number of people in the population, q is the number of poor people, k is α = 0, we have headcount index, which measures the proportion of the population below the poverty line. When α = 1 and α = 2, we get a poverty gap (P overty Gap), which measures the depth of poverty, and the poverty gap squared P2 that measures the severity of poverty.

The impact of assistance on the household poverty index is calculated as follows:

$$\Delta P\alpha = P\alpha\,(Y_1^A \mid D = 1) - P\alpha\,(Y_0^A \mid D = 1) \quad \text{..... (10)}$$

where the first term on the left side is a measure of the poverty of the household beneficiary from the results of assistance , the second on the right is a counterfactual measure of poverty, that is, the poverty index of beneficiary households if they do not receive assistance.

3. 3 DEFINITIONS OF OPERATIONAL VARIABLES

The following is an operational explanation of the variable variables used in this study:

3.3.1 *Dependent Variables*

Dependent variable in this study is expenditure per capita, then when calculating the impact on poverty which is dependent variable is the poverty index Forster greer thorbecke.

Selection of variable per capita expenditure as a dependent variable follows researches such as study , Nguyen Viet (2009), *Soufias* (2006), and Bazzi, Sudarto, Suryahadi (2013).

The use of per capita expenditure as the dependent variable is to measure the level of household welfare, and also household expenditure shows in more real financial allocations in the household.

Per capita expenditure variable is used as a limitation for the observation group, where the biggest per capita group treatment expenditure becomes the maximum limit for per capita expenditure of the control group, so control households whose total per capita expenditure is greater than the largest number of treatment group per capita expenditure is not included in the observation, this was done to equalize the economic capacity between the treatment group and the control group.

3.3.2 *Independent* variables

The main independent variable is the provision of assistance, a combination of aid programs carried out by the government namely BLT in 2007 and BLSM in 201 4 then education funds, and PKH and the other four assistance funds namely aid funds in addition to the three assistance but still an aid cash from the government. , while the control variable is a vector of household characteristics such as:

Table 2 Research Variable

Variable	**Explanation**
cashtrf	Dummy variable for beneficiary = 1 if receiving assistance
Age_h	Age of Head of Household
Sex_h	Gender of Household Head
Educ_h	Education of Head of Household
Job_h	Work of the Head of the Household
old	Number of elderly people in the family> 60 years
adult	Number of adults in a household> = 15 <60
child	Number of Children in Household <15 years
Job_s	Job Status of the couple's head of household
Job_c	Number of children working in the household
house	Home ownership = 1 if you own a house
electric	Use of electricity = 1 to use
water	Access to protected water sources = 1 if yes
urban	Residence location = 1 if you are in urban areas
hhms	Number of family members who are attending school
hhmw	Number of family members who work
hhmb	The burden on members of the household who work, namely the number of working family members divided by the number of family member

Source Sakerti: 2007-2014

The use of variable dependent variable above is based on a study of previous studies, for example Bazzi, Sudarto, Suryahadi (2013), Cuong, Nguyen Viet *et al* (2009) using variables such as household composition, from the education kepa la family, gender head of the family, education level of the head of household, location of residence, house ownership, and also access to electricity and water, while other variables are modifications of existing variables, such as the burden of household members, household members who attend school, and household members working.

The age of the head of the household shows the ability of the head of the household to work and invest, the gender variable of the head of the household to show the gender of the household head of each household.the level of education of the head of the household shows the capability of the head of the household in the field of

education, the meaning is, the area of origin of each household, the ownership of the house, access to electricity and water to see the possibility of a cost burden if the house is not owned, then the variable another addition is basically also to see the potential cost burden from households.

4. RESULTS

This chapter will explain the estimation results of the model, including the description of the data. The first part will explain the description of the Sakerti data used, the second part will explain the results of estimating the *propensity score matching* with various types of matching methods in this case will be carried out on per capita expenditure, the third part will explain the results of *diff in diff* from providing assistance to per capita expenditure , then on the fourth will be described h acyl *diff in diff* from relief to poverty.

4.1 Description of Statistics

Statistical description will explain about the data used in this research is data from Sakerti 2007 and 2014, at deskrifi these statistics are divided into four blocks of variables, First variable o*utcome* the expenditure per capita, both characteristics of the Head of Household to show maturity in decision the decision is composed of age, sex, and education, third household characteristics to see the potential positive or negative expenditure burden in the household consists of the number of household members both elderly, adults or children, assets, etc., the fourth is become dependent variable, namely participation in assistance programs. More fully can be seen in table 3:

Table 3 Statistical Description

Variable		2007		2014	
Name	**Explanation**	**Mean**	**SD**	**Mean**	**SD**
A. Outcome					
Expenditures per capita	Rupiah	620039	598402	806928	347340
B. Characteristics of Family Heads					
Age of Head of Household	Year	43.99	15.35	45.13	14.56
Gender of Household Head	Male = 1, Female = 0	0.816	0.386	0.834	0.371
Education of Head of Household	0 = no school, 1 = not graduating from elementary school, 2 = graduating from elementary school, 3 = graduating from junior high school, 4 = graduating from high school, 5 = graduating from college	2.53	1.51	2.54	1.40
Work of the Head of the Household	1 = works, 0 = does not work	0.81	0.34	0.83	0.37
C. Household Characteristics					
Number of elderly people in the family	More than 60 years old	0.30	0.58	0.32	0.60
Number of adults	Aged> = 15 and <60	2.33	1.31	2.37	1.24
Number of children	<15 years old	1.10	1.08	1.24	1.04
Job Status of the couple's head of household	1 = works, 0 = does not work	0.44	0.49	0.48	0.49

Number of children working in the household	the child works <= 15	0.013	0.13	0.010	0.10
Home ownership	1 = owning a house, 0 = rent etc.	0.69	0.45	0.72	0.44
Use of electricity	1 = use, 0 = no	0.96	0.19	0.99	0.099
Access to protected water sources	1 = yes, 0 = no	0.89	0.30	0.88	0.32
Location of residence	1 = city, 0 = village	0.54	0.49	0.54	0.49
number of family members who are attending school	Person	0.75	0.92	0.87	0.93
number of family members who work	Person	1.77	1.09	1.83	1.05
Expenses of members of the Household Work	The number of members of the household works divided by the number of family members	0.51	0.28	0.48	0.26
D. Assistance Program					
Recipient of the Assistance Program	1 = accept, 0 = not accept	0.28	0.44	0.30	0.46

Source: Sakerti 2007 and 2014, processed

From these data it can be seen that there are variables that on average have increased and some have experienced a decline among those who experienced an increase was per capita expenditure where it was seen that the increase was quite large, namely ham pir 30 percent, while the other variables were not too large as the number of family members currently in school, assets, location of residence, beneficiaries, etc.

Then the variable which on average experiences a decrease in him is the burden of the household member working, the number of children working in the household, the work of the head of the household and others.

4.2 *Propensity Score Matching*

In this PSM method you can get ATT (*average treatment on the treated*), which is the average received by the *treatment* group due to *treatment* .

In table 4 can be seen various ATT values from various *matching* methods :

First, using the *nearest neighbor* method obtained the value of ATT difference of -119 in 2007 and -60 in 2014. This can be explained that the provision of cash assistance in 2007 had an impact on the decline in the average per capita expenditure growth of cash recipients receiving cash 22.5 percent. Whereas in the year 20-14 it shows a decrease in the average growth of expenditure of per capita RTs receiving better cash assistance, namely 7.5 percent.

Second, using the *Stratification* method yields ATT difference values of -114 in 2007 and -62 in 2014. This can be explained by the fact that the provision of cash assistance in 2007 had an impact on the decline in average per capita expenditure growth of cash recipients receiving 22 , 2 percent. Whereas in 2014 showed a decrease in the average growth of expenditure per capita of RT recipients of better cash assistance, namely 7.75 percent.

Third, using the *radius* method yields ATT difference values of -290 in 2007 and -103 in 2014. This can be explained that the provision of ban cash in 2007 had an impact on the average decline in the average per capita expenditure growth of cash recipients receiving cash 41.2 percent. Whereas in 2014 showed a decrease in the average growth of expenditure per capita of RT receiving a better cash assistance of 12.2 percent.

Then fourth, using the *kernel* method produces ATT difference values of -118 in 2007 and -67 in 2014. This can be explained that the provision of cash assistance in 2007 gave an impact on the reduction in average expenditure growth per RT of cash recipients receiving cash at 22.2 percent. Whereas in 2014 showed a decrease in the average growth of expenditure per capita of RT recipients of better cash assistance, namely 8.3 percent.

Table 4 ATT Calculation Results with Several Methods

Matching method	2007			2014		
	Treated	Control	Diff	Treated	Control	Diff
Nearest Neighbor	412	532	-119	737	797	-60
Stratification	412	526	-114	737	799	-62
Matching Radius	412	703	-290	737	840	-103
Kernel matching	412	531	-118	737	804	-67

Remarks: in thousands of Rupiah
Source: Author estimates from the 2007 and 2014 Sakerti data panels.

Judging from table 4 groups of beneficiaries were still under the non-beneficiary group despite receiving assistance but it was also seen that the difference had begun to diminish, this was caused by the basis of treatment groups which constituted a poverty line, different from treatment groups that are relatively more prosperous.

4.3 Impact of Giving Aid to Expenditures per Capita

The first thing to do is look for the *Propensity Score* (*pscore*) with logit regression, where the *pscore* value will be used when doing the *difference in difference* method , and the results *obtained* that the *pscore* range is between 0.0 45 - 0, 849 with 10 (ten) *pscore* block , the block shows the pair between treated and *counterfactual* groups .

Table 5 Results of the *Propensity Score* Recapitulation

Inferior of block of pscore	Cashtrf		Total
	0	1	
0.0 45	1,188	76	1,264
0,1	1,032	105	1,137
0.1 2 5	811	130	941
0, 15	1,195	261	1,456
0.2	1,898	6 53	2,551
0.3	1,396	826	2,222
0.4	880	698	1,578
0.5	417	493	910
0.6	158	251	409
0.8	3	1 0	13

In table 6 it can be seen that the number of beneficiaries is less than the group that did not receive assistance, in 2007 the *treatment* group numbered 2631 households compared to those who did not receive assistance totaling 5322 households, in 2014 the number of beneficiaries rose to 2818 households and those who did not receive aid dropped to 4081 households.

The greater number of control groups is a natural thing because basically the poor are indeed fewer than the non-poor, apart from the lack of assistance both on a budget and other causes, there are poor people who cannot get help.

The addition of the number of treatment groups is caused by the increase in the number of recipients of education funds, while the other types of assistance are relatively stable and some even decline like BLT recipients.

Table 6 Recapitulation of Total Treatment Group Data that Has a Pair with a Control Group

Group	2007	2014
Control	5322	4081
Treatment	2631	2818
Total	7953	6899

Source: Sakerti 2007 and 2014, processed

To find out the impact of giving assistance to per capita expenditure of each household using the *difference in difference* method , the results can be seen in table 7 :

Table 7 Calculation Results *difference-in-differences* Giving Assistance to Expenditures per Capita

Variable	2007			2014			diff in diff
	Treated	Control	diff	Treated	Control	diff	
Expenditures per capita (thousand Rupiah)	346	4 2 0	- 74 ***	730	794	- 64 ***	10

Description: *** p <0.01

Source: Author estimates from the 2007 and 2014 Sakerti data panels .

As a comparison, the *difference in difference* calculation that does not use *pscore* can be seen in table 8 .

Table 8 Calculation Results *difference-in-differences* Giving Assistance on per capita expenditure without *pscore*

Variable	2007			2014			diff in diff
	Treated	Control	diff	Treated	Control	diff	
Expenditures per capita (thousand Rupiah)	340	470	-130 ***	730	830	-100 ***	30 ***

Description: *** p <0.01

Source: Author estimates from the 2007 and 2014 Sakerti data panels .

With *diff in diff* using *pscore, the* impact received by treatment groups in 2007 was - 74 or lower by 17.6 percent compared to the control group, while in 2014 the impact received by the treatment group was - 64 or 8 percent lower, while in *diff in diff* an increase of 10 or in other words the provision of assistance has an impact on the average per capita expenditure of household treatment increased by 10 thousand between 2007 and 2014 or only increased by 2.9 percent. Although there is an increase but is not statistically significant, it can therefore be concluded that the provision of assistance does not have a significant impact on per capita expenditure.

While using *diff in diff* without *pscore the* impact received by the control group in 2007 was -130 or 27.6 percent lower than the control group, while in 2014 the impact received by the treatment group was -100 or lower 12 percent, while in *diff in diff* an increase of 30, or in other words membe aid offered are the average impact per capita household expenditure treatment increased by 3 0 thousand between 2007 to 2014, an increase of 8,8 percent.

It appears that there are differences in the *difference in difference* results , in *diff in diff* without *pscore it* has a better impact than those using *pscore,* however the implications are still the same, there is an improvement on the *treated* group , even though in diff in diff with pscore it has no effect significant.

4.4 For Giving Aid to Poverty

The impact of aid provision still does not look better for beneficiaries compared to the control group seen from the three poverty indexes of Forster Green Thorbecke which shows that the index value of the treate d group remains lower than that of the treatment group.

In poverty headcount index (P0), in 2007 the difference between the recipient group and those who did not receive assistance was 6 percent and then decreased in 2014 to only 2 percent, *diff diff diff* from 2007 to 2014 a decrease of 4 percent.

Then in the poverty gap index (P1), the difference between beneficiary groups and those who did not receive assistance in 2007 was 0.010, then decreased in 2014 to 0.006, and in *diff in diff* from 2007 to 2014 there was a decrease 0.005.

The Poverty severity index (P2), for 2007 the difference between beneficiary groups and those who did not receive assistance was 0.003, then decreased in 2014 to 0.002, and in *diff in diff* from 2007 to 2014 a decrease of 0.001.

Table 9 Difference Calculation Results in Difference Giving Assistance to Poverty (*kernel matching* with *pscore*)

Variable	2007			2014				
	Treated	**Control**	**diff (TC)**	**Treated**	**Control**	**diff (TC)**	**diff in diff**	**Percentage**
P0 (%)	11.6	6.1	5 , 5 ***	6.2	4, 4	1.8 ***	- 3.7 ***	31
P1	0.022	0.012	0.010 ***	0.013	0.00 8	0.00 5 ***	-0.004 *	18.1
P2	0.007	0.004	0.003 ***	0.00 5	0.002	0.002 ***	-0.001	14.2

Description: *** p <0.01; ** p <0.05; * p <0.1

From Table 9 can be seen that :

1. The biggest impact of assistance is found in the poverty headcount index (P0) , where there is a decrease of 31 percent, while the impact on the poverty gap index (P1) and poverty severity index (P2) has decreased by 18.1 percent and 14 , 2 percent.
2. The impact received as a result of the assistance is only found in the Headcount index (p0) and the poverty gap index (p1) whereas in the poverty severity index (p2) the impact of providing assistance is relatively insignificant, this can happen because the number of beneficiaries is really poor relatively little so that it has little impact on the severity of poverty (p2).
3. In 2007 and 2014, not all beneficiaries were poor, where in 2007 the total number of beneficiaries who were really poor was only 11.6 percent, and in 2014 the truly poor beneficiaries declined to 6.2 percent. This situation can mean 2 (two) things, first, that the aid program has succeeded in reducing the number of poor people and, secondly, it can also mean that there is aid that is not right on target where the recipient of the assistance is in fact the majority are not really poor people.
4. But there are also poor people who do not receive aid, amounting to 6.1 percent in 2007 and by 4, 4 pe rsen in 2014, indicating an error in identifying the beneficiaries, however these errors can be corrected with a fewer percentage of the population poor who are not downloading e rima help.

5. In general, improvements were made to groups of beneficiaries in the entire poverty index even though the improvements were not able to make it better than the group that did not receive assistance.

As a comparison, we show the results of the impact of giving assistance with *diff in on ff* without using *pscore* as in table 10:

Table 10 Difference Calculation Results in Difference Giving Assistance to Poverty without *pscore*

Variable	2007			2014			
	Treated	Control	diff (TC)	Treated	Control	diff (TC)	diff in diff
P0 (%)	11, 6	4.5	7.1 ***	6.2	4, 0	2.2 ***	- 4.9 ***
P1	0.022	0.0 09	0.01 3 ***	0.013	0.008	0.005 ***	-0.00 8 * **
P2	0.007	0.003	0.004 ***	0.00 5	0.002	0.00 2 ***	-0.002 **

Description: *** p <0.01; ** p <0.05; * p <0.1

Source: Author estimates from the 2007 and 2014 Sakerti data panels.

From the two tables, it can be seen that there are differences in each *difference in difference* result , in *diff in diff* without *pscore it* has a better impact than those using *pscore,* however the implications are still the same, there is an improvement on the *treated* group side .

5. DISCUSSION

In this study The provision of cash assistance from the government has succeeded in reducing the gap between the targeted households who received cash assistance and those who did not receive assistance, this is different from the findings of Bazzi, Sumarto, and Suryahadi in 2013, who found that cash assistance was provided it does not have too different impacts on the beneficiaries and those who do not receive benefits, whereas in this study it can be seen that the beneficiaries have a positive impact by reducing the per capita expenditure gap with those who do not receive benefits.

6. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSION

The provision of cash assistance from the government has succeeded in reducing the gap between the target households of recipients of cash assistance and those who did not receive assistance, in more detail as follows: First, The results obtained from this study are that the beneficiary group is still unable to be able to increase the growth of recipient expenditure to a level comparable to that of non-beneficiaries, this is because aid provision still acts as a "safety net" to prevent some poor families from decreasing purchasing power the big one . There is also an inaccuracy in the determination of beneficiaries where the recipients of assistance are in fact mostly people who are not really poor, besides that there are also poor people who actually do not get assistance. And the second is The impact of providing assistance is more visible in the poverty headcount index (p0) and poverty gap index (p1), preferably on per capita expenditure and poverty severity index (p2), the impact that occurs even though there is insignificant.

B. SUGGESTIONS FOR POLICIES

The Aid Program is a government program to be able to maintain the welfare of certain households that are vulnerable to shocks to have a positive impact on welfare.

Even though the program is relatively successful, improvements are still needed, namely: First, the Program which has only been a safety net to prevent the poor from being affected more deeply by a policy, requires a more continuous program so that the

impact felt by the poor more significantly, Secondly, the need for more comprehensive data preparation so that the target households are truly households that are entitled to receive assistance.

C. SUGGESTIONS FOR NEXT RESEARCH

Research conducted by the author is limited to looking at the impact of providing cash assistance on per capita expenditure and poverty so that other research can be done that looks at the impact of providing assistance on for example Assets, Health, education and others, then research can also take a regional approach and culture for example separating the results between the islands of Java and outside Java to see the differences in the characteristics of the two regions.

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