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The Impact of The Program Indonesia Pintar on School Participation

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Abstract

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Article Information

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Keywords: Conditional Cash Transfer, Program Indonesia Pintar, School Participation, Education In 2015, the government distributed Conditional Cash Transfer (CCT), called the *Program Indonesia Pintar* (PIP), to reduce education costs for poor households and increase children's school participation. This research aims to assess the impact of PIP on school participation according to recipients' education level and place of residence. The study utilizes National Socio-Economic Survey data from 514 districts/cities throughout Indonesia from 2013 to 2019. Observations are combined with the Propensity Score Matching (PSM) method to address selection bias. Additionally, the author employs the Instrumental Variable method to address indications of endogeneity among PIP recipients. The research findings indicate that PIP recipients exhibit characteristics typical of low-income families. Comparing recipient groups, it can be concluded that most PIP recipients are children living in small households with many household members and with parents of low educational attainment. Furthermore, the study reveals that PIP positively impacts school participation across all levels of education, with the most significant impact observed at the high school level. Moreover, PIP appears to have a greater impact on rural areas than urban ones.

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INTRODUCTION

Education inequality remains significant issue in Indonesia, with disparities evident across various education indicators, such as Angka Partisipasi Murni (APM) and Angka Partisipasi Kasar (APK). APM represents the ratio of students of a certain age attending school at a particular level to the population of school-age children, while APK represents the ratio of students attending school at a certain level to the population of school-age children. APM is consistently lower than APK because it specifically captures children in a certain age group attending school at the appropriate level of education. However, this characteristic of APM tends to result in lower reported school participation rates. For instance, children aged 1-5 attending high school would not be included in the APM for junior or high school. Consequently, APK provides a more accurate representation of school participation rates.

From Figure 1, the inequality grows bigger when the education level increases. The following figure shows that elementary education is already equal in every income group with an APK rate of 100. At the junior high school level,

specifically in high school, the inequality clearly showed it is in the lowest economic income group with an APK of approximately 70. Meanwhile, the highest APK is already in 90. The issue is inequality and low school participation at the high education level (University). For the highest economic group alone, the participation number still does not reach 60, let alone for the lowest economic group, which is still below 20.

Education inequality persists because low-income families face financial barrier to access education (Kilburn et al., 2017; Central Statistics Agency, 2020). Therefore, the government gave additional income to poor society for educational purposes, known as Bantuan Siswa Miskin (BSM) 2008. Furthermore, in 2014, the government tried to broaden the scope of benefit recipients and changed the name to Program Indonesia Pintar (PIP). This program, generally known as Conditional Cash Transfer (CCT), is a relief of additional income given to eligible families. CCT has been implemented in many countries and is claimed to increase children's school participation (Schultz, 2004; Dearden et al., 2009; Attanasio et al., 2010; Dubois, de Janvry, and Sadoulet, 2012).

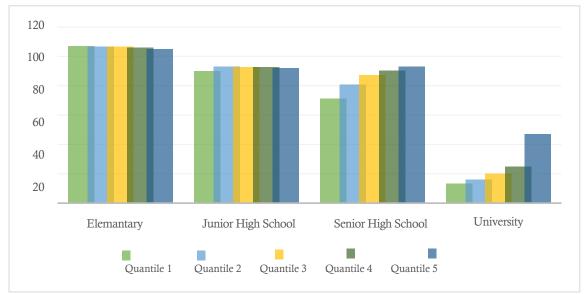


Figure 1 APK by Income Group in 2020

Note: Quantile 1 (lowest economic status) and Quantile 5 (highest economic status)

Source: Central Bureau Statistics & Susenas, 2023 (Processed)



Figure 2 Growth in the Percentage of Population aged 7 – 18 years who are not in School according to Educational Age Groups 2007 – 2020

Source: Central Bureau Statistics & Susenas, 2023 (Processed)

The education indicator in Figure 2 shows that each year, there has been progress in reducing uniform across all regions without considering the number of children aged 7 to 18 who do not attend school. Since the implementation of PIP in 2015, the number of uneducated children has remained relatively stable, although there was a slight increase in 2017, particularly among those not attending elementary and university-level schools. According to Keray (2017) and the Center for Educational and Cultural Policy Research (2017), in the early year of implementation, PIP was considered effective in increasing school participation. However, according to Figure 2, it is necessary to reevaluate the impact of PIP from its inception to the present.

PIP is provided to individuals aged 6 to 21 years from low-income families or those susceptible to poverty. PIP recipients categorized based on their education levels: elementary (SD), junior high school (SMP), senior high school (SMA), and higher education (university/college). The amount of PIP funds varies depending on the education level; higher levels receive more (Center for Educational and Cultural Policy Research, 2017). The variation in the amount and the number of recipients across education levels results in different impacts from PIP. Hence, it becomes interesting to examine not only PIP's overall impact on school participation but also its impact on school participation according to education level.

Additionally, the amount of PIP was regional characteristics, which is noteworthy. Rural areas, in particular, face higher poverty rates compared to urban areas, not to mention disparities in education facilities. Therefore, further research is needed to explore PIP's impact on urban and rural areas.

This research was conducted to contribute to the literature on Conditional Cash Transfer (CCT) programs, specifically focusing on PIP. This research aims to reinforce understanding of PIP's benefits and lasting impact from a public policy perspective, providing valuable insights for future government deliberations. Previous studies have evaluated PIP's impact on school participation.

However, prior studies have been limited in scope, focusing only on specific regions and thus unable to capture the nationwide impact of PIP (Center for Educational and Cultural Policy Research, 2017; Keray, 2017). On the other hand, this research aims to measure PIP's impact across the entire Indonesian region by utilizing the dataset from Susenas, covering districts/cities. Additionally, previous studies have overlooked selection bias and endogeneity issues in the CCT phenomenon. This research addresses these challenges using Propensity Score Matching (PSM) and Instrumental Variable (IV)

methods. Therefore, this research is expected to yield representative results.

CCT was proven to increase school participation in The United Kingdom, as reported in the pilot study by Dearden et al. (2009). CCT is used to fund educational support. In the United States of America, CCT was given to poor women as a pension program, and the result was that CCT is effective in increasing the school's enrollment number (Aizer et al., 2016). CCT succeeds in developed and developing countries such as Mexico and Colombia. According to Schultz (2004) and Attanasio et al. (2010), the number of school applications has increased since the CCT was implemented. Poor societies can then enroll their children in school because of the additional income from the government.

Although there are many studies discussing the positive impact of CCT, there are also some that have discovered its failure. Many factors cause CCT's failure to increase education quality. According to Dubois and Sadoulet (2012) and Kilburn et al. (2017), CCT has no impact due to the low nominal of CCT funds given, therefore unable to cover whole education costs and causing families to choose not to send their children to school. Unlike in Morocco, the Tayssir program does not seem to impact increasing school participation because, despite additional income, the schools are distant from the residential areas, so the money received from CCT is spent on transportation alone. Even sometimes, it is not enough (Marouane, 2021). Similar to what was found by the Center for Educational and Cultural Policy Research (2017), Kilburn et al. (2017) and Churchill et al. (2021).

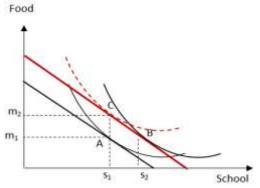


Figure 3 Household Responses on CCTS Source: Kilburn et al. (2017)

Where additional income alone is not enough to take children to School. Parents' role is crucial in pushing children to go to school. Sometimes parents choose to get their children to work instead of School since they do not understand the benefits of education for their future (Schultz, 2004; Attanasio et al., 2010; Dubois, de Janvry and Sadoulet, 2012; Kilburn et al., 2017).

Theoretically, the different impacts of CCT are influenced by household preference for households education. Several prioritize education, so with CCT availability, they feel aided and try to enroll their children in school. On the other hand, some households do not prioritize education, so they use CCT funds for other consumption (Rodriguez-Castelan, 2017). In utility theory, the government expects that household education consumption move from (s1, m1) towards (s2, m1), but the fact is that since there are differences in preferences, there are possibilities for households to move toward (s1, m2).

PIP is addressed to people aged 6 – 21 years old who have Social Protection Card (KPS) and Family Hope Program (PKH) as orphans, disabled, and victims of natural disasters/accidents. Before the BSM program, all children were required to be enrolled at formal school to receive relief funds. However, since it became PIP, children in informal schools can access this relief. PIP recipients are categorized based on education levels: elementary, junior high school, senior high School, and high education.

Since the beginning of implementation, the amount of PIP given for elementary is IDR 450.000,- per year, for junior high school is IDR 750.000,- per year for senior high school is IDR 1.000.000,- per year and for high education (university/college) according to the study program's accreditation which ranged from 4,8 million rupiah up to 24 million rupiah per year (Center for Educational and Cultural Policy Research, 2017). PIP differs from the education allowance program the government launched, such as School operational assistance (BOS) and teacher incentives. The BOS program is addressed to fund school operational costs, and teacher incentive is addressed to fund special allowances for non-PNS teachers. Meanwhile, PIP is

addressed directly to children to fulfill their educational needs.

Previous studies did not contain PIP's impact based on the level of education and location of the PIP recipient's residence. Moreover, previous studies only looked at the impact of PIP in certain regions and did not look at the impact of PIP nationally. In terms of methods, previous studies did not consider the problems of selection bias and endogeneity that arise in CCT, so this research tries to improve them using the Propensity Score Matching (PSM) and Instrumental Variable (IV) methods.

RESEARCH METHODS

Data used in this research was from SUSENAS year 2013 – 2019, covering the sample within 514 districts/cities. Data from SUSENAS are individual data and households, while community data such as classification of regional urban/rural areas and quantity of schools were collected from PODES years 2014, 2018, and 2019. This research classified 514 districts/cities into rural areas and urban areas based on the classification set by BPS since this research aims to determine the impacts between people living in urban and rural areas, which surely have several different characteristics. It was explained earlier that PIP was classified

according to education levels. However, since limited information has been acquired, this research covers PIP in elementary, junior high, and senior high school.

Data utilized in this research is divided into two categories: the treatment group as recipients of PIP and the control group as nonrecipients of PIP. The variable outcome in this research is binary, representing participation in children 6 – 18 years old (1 for a child who enrolled in school and 0 for a child who does not). The variable of interest is also binary (1 for a recipient of PIP and 0 for a nonrecipient of PIP). Child characteristics, household characteristics, and community characteristics control this research. Child characteristics are represented by gender and sickness level. Household characteristics are explained by gender, marital status, diploma of the head of the household, number of members in the household, area of the settled house, and status of relief recipient aside from PIP. At the same time, community characteristics are observed from the location of the address in the urban or rural areas and the number of available schools within the residential area.

Table 1. Operational Definition of Each Variables

| Variables Name | Definition | Operational Definition | Data Source |
|----------------------|-------------------------|---|----------------|
| Outcome | | | |
| SCH | School Participation | School participation is categorized as 1 for children who attend School and 0 for children who do not attend school. | Susenas |
| Variabel of Interest | | | |
| PIP | PIP Reciever | Children aged 6 – 18 years old receiving PIP are categorized as 1, while those who do not receive PIP are categorized as 0. | Susenas |
| Instrument | | | |
| AGE_CHILD | Age of child | Age of child in a year. | Susenas |
| Control | | | |
| YEAR | Year | The year is categorized as 1 for 2015 – 2019, namely the year when PIP was implemented, and 0 for 2013–2014 when PIP was not yet implemented. | Susenas |
| SEX_CHILD | Child's Gender | The child's gender is categorized as 1 if the child is male and 0 if the child is female. | Susenas |
| SICK | The child's level of | The child's level of morbidity is assessed | Susenas |

M. F. Ulfa & J. F. Rezki / Economics Development Analysis Journal Vol. 13 (1) (2024)

| Variables Name | Definition | Operational Definition | Data Source |
|----------------|--|--|----------------|
| | morbidity | by the number of days hospitalized that the child has experienced over the past year. | |
| MARRIED_HHH | The Head of Household is Married | Heads of married households are categorized as 1 and 0 if the head of the household is divorced, divorced, or dead. | Susenas |
| SEX_HHH | Gender of The Head of Household | The gender of the head of the household is categorized as 1 if the head of the household is male and 0 if the head of the household is female. | Susenas |
| EDU_HHH | Education of The Head of Household | The length of time education measures the education level of the head of the household. | Susenas |
| SIZE_HH | Member of Household | The number of household members reflects the burden of responsibility placed on the head of the household. | Susenas |
| FLOOR | Floor Area | The floor area represents a picture of the assets owned by the head household. | Susenas |
| AID | Households receive aid outside of PIP | If the household receives assistance other than PIP assistance, it is categorized as 1 and 0; if they did not receive any outside assistance, it is PIP assistance. The assistance in question is targeted at poor households to help lighten the expenditure burden on poor households. | Susenas |
| CITY | Households live in the city | Areas included in the urban category have a value of 1, while the rural category has a value of 0. | Podes |
| NUM_SCH | Number of Schools | The number of schools reflects the educational facilities available in each region, including elementary, junior high, and senior high schools. | Podes |

Source: Data processed, 2023

In the CCT policy, a selection bias issue usually occurs, which is the inaccuracy policy recipient. Sometimes, the policy recipient is unqualified, which often occurs due to errors on a data basis. To resolve this issue, Ravallion (2008) suggested using the PSM method by classifying treatment and control groups according to similarity scores based on the selected covariate variable, and therefore, later, the formed treatment and control groups will have a balanced distribution (Rosenbaum and Rubin, 2006). The selection of covariate variables used in the observation classification is believed to have influenced the children's participation in receiving PIP. TNP2K (2018) explained that children's participation in PIP, aside from being influenced by family income, is also influenced by family characteristics. Suitable observations will be included in the common support area, indicating the distribution from treatment and control groups that overlap. Later, these observations will be analyzed further.

$$Y_{it} = \mu PIP_{it} + \pi C_{it} + S_{it}$$
 (1)

The causal relationship that we want to see in this research is explained by Equation 1. However, because the data used is survey data, there is no possibility of measurement error. Moreover, the status of PIP recipients is not random. To resolve the occurring endogeneity problems, the instrumental variable (IV) method is utilized by making the variable of children's age an instrument. The children's age as an instrument has already been used in several

studies regarding CCT in Africa (Eyal, Woolard and Burns, 2013; Garman et al., 2022). Ensuring no strong relationship between the children's age variable and the PIP recipient is important in the instrumental variable method. Then, to ensure no correlation between children's age and error term in Equation 3. The existence of the 12-year compulsory education policy proclaimed by the government does not impact the exogeneity of children's age variable because PIP is part of the 12-year compulsory education policy (Center for Educational and Cultural Policy Research, 2017). The probit model becomes the analysis choice due to the outcome variable in the form of dummies. The estimation result of the probit model could only see a relationship. So, to see the impact quantity resulting from PIP, marginal effect calculations are required (Greene, 2002).

$$PIP_{it} = \beta Z_{it} + \sigma C_{it} + u_{it} \qquad (2)$$

Equation 2 explains the relationship between child age as a variable instrument and PIP recipients as variables of interest controlled with control variables. Meanwhile, equation 3 explains the relationship between the expected from the variable of interest with the outcome variable. The most important thing in IV is assumed to be cov (w, Z) = 0, or it can be said that the error in Equation 3 is not correlated with the instrument variable. Equation 4 explains the assumptions that cov (PIP, Z) \neq 0 needs to be fulfilled when there is a relationship between variables instrument with variables of interest (Angrist and Pischke 2016).

$$Y_{it} = \rho \widehat{PIP}_{it} + \alpha C_{it} + w_{it}$$

$$Y_{it} = \Omega Z_i + \pi C_{it} + v_{it}$$

$$(3)$$

 PIP_{it} is the recipient of PIP, where 1 for a recipient of PIP and 0 for a non-recipient of PIP; Z_{it} is the age of the child; Y_{it} represents school participation, where 1 for enrolling School and 0 for not enrolling in school; C_{it} explains vector from control variable; u_{it} is error term equation 1; w_{it} is error term equation 2; i represents 1 for urban areas and 0 rural areas, and t represents about year where 1 for year 2015 – 2019 and 0 for year 2013 – 2014.

RESULTS AND DISCUSSION

The matching process is necessary to obtain a balanced distribution between treatment and control groups due to the frequent problem of selection bias appearing in the CCT program. The matching process is carried out using several covariate variables with the aim of matching observations of PIP recipients and non-PIP recipients. The covariate variables used include characteristics of households represented by the marital status of the head of household, gender of the head of household, education of the head of household, number of household members, floor area of the house occupied and status of receiving assistance outside PIP.

Based on Propensity Score of Treatment and Control Group the matching result between the treatment and control groups shows an overlapping distribution, indicating that the distribution was already balanced (Rosenbaum and Rubin, 2006). Furthermore, it can be assumed that the treatment and control groups are similar, so if a comparison is made, it will have a different and unbiased impact. The sample quantity before matching was approximately 1,87 million, comprising 252 thousand in the treatment group and 1,61 million in the control group. After the matching process, the sample became 252 thousand, comprising 64 thousand in the treatment group and 187 thousand in the control group. From the overall sample, the matching results of 55,10% were children 6 – 12 years old, 24,97% were children 13 -15 years old, and 19,92% were children of age 16 - 18 years old.

According to the result of descriptive statistics, there is no difference in the average characteristics between the treatment and control groups. Table 2 shows that PIP recipients attend school more often than non-recipients. Looking at the children's characteristics, most PIP recipients are male and have higher sickness levels than non-recipients. Furthermore, based on community characteristics, most PIP recipients live in rural areas. This is because the poverty rate in rural areas is higher than in urban

areas. Until now, the poverty rate in rural areas is still above 10 % (Central Statistics Agency, 2018). However, looking at the household characteristics, it could be summarized that PIP recipients tend to have KRT with less educated, bigger household members, live in small houses, and receive many reliefs other than PIP. The household characteristics of PIP recipients reflect the characteristics of low-income families, as Aizer et al. (2016) explained. The finding in Table 2 indicates that PIP recipients already met the target of children from low-income families.

This research uses the IV method to estimate the impact and avoid the endogeneity problem. However, although this method successfully avoided the endogeneity problem, it still cannot handle a problem like selection bias, which frequently occurs in CCT policy (Kalkhoran, Sara; Benowitz, Neal L .; Rigotti, 2018). Therefore, the data used was a matched sample collected from the matching process, which is believed to accommodate the problem of the occurring selection bias.

Table 2. Average Characteristic Sample According to PIP Recipients Status After Matching

| Variables | Treatment | Control | Diff | | |
|-------------|---------------------------|---------|---------|--|--|
| Child | Characteristics | | | | |
| SCH | 0,98 | 0,88 | 0,10 | | |
| SEX_CHILD | 0,51 | 0,53 | -0,02 | | |
| SICK | 0,08 | 0,07 | 0,01 | | |
| Househo | old Characteristics | | | | |
| MARRIED_HHH | 0,90 | 0,89 | 0,01 | | |
| SEX_HHH | 0,90 | 0,89 | 0,01 | | |
| EDU_HHH | 6,94 | 7,25 | -0,31 | | |
| SIZE_HH | 5,41 | 5,26 | 0,15 | | |
| FLOOR | 58,22 | 61,40 | -3,18 | | |
| AID | 0,83 | 0,74 | 0,09 | | |
| Commun | Community Characteristics | | | | |
| CITY | 0,24 | 0,26 | -0,02 | | |
| OBS | 64.879 | 187.150 | 252.029 | | |

Note: *** p < 0.01, ** p < 0.05 * p < 0.1

Source: Microdata processing result from SUSENAS year 2013 – 2019 (Processed)

Table 3. Estimation of Impact of PIP on School Participation

| Variables | Model 1 | Model 2 | Model 3 |
|---------------------------|--------------------|--------------------|--------------------|
| | Second Stage | | |
| PIP | 2,47*** (0,004) | 2,47*** (0,004) | 2,47*** (0,004) |
| Child Characteristics | V | V | V |
| Household Characteristics | | V | V |
| Community Characteristics | | V | V |

| Variables | Model 1 | Model 2 | Model 3 |
|---------------------------|-------------|-----------|-----------|
| | First Stage | | |
| AGE_CHILD | -0,015*** | -0,015*** | -0,015*** |
| | (0,000) | (0,000) | (0,000) |
| Child Characteristics | V | V | V |
| Household Characteristics | | V | V |

| Variables | Model 1 | Model 2 | Model 3 |
|---------------------------|-------------|---------|---------|
| | First Stage | | |
| Community Characteristics | | | V |
| OBS | 252.029 | 252.029 | 252.029 |
| F-STAT | 1.149,27 | 744,63 | 692,95 |

Note: *** p < 0.01, ** p < 0.05 * p < 0.1

Source: Microdata processing result from SUSENAS year 2013 – 2019 (Processed)

The endogeneity in the PIP recipient variable can disturb impact estimation results, so it is necessary to estimate it in two stages (first and second stages), known as 2SLS. The first stage is a term to see the correlation between instrument and interest variables. Next, an estimate is made between the expected variables of interest obtained at the first stage and variable outcomes. This process is also called the second stage.

Table 3 shows the causal impact of giving PIP on school participation. Processing results in the second stage are consistent after being controlled by the individual, children, and community characteristics, as well as a period before and after the policy to observe the time effect. Table 3 shows a strong, significant positive relationship between children's age and PIP recipients, as shown at the first stage. Next, the estimation result in the second stage shows that PIP has significant positive impacts.

Then, looking at the value of marginal effect in Table 4, one can agree that PIP recipients have more opportunities, 11,42 %, to go to school than non-PIP recipients. This condition was supported by the APK, which

raised in 2015 at around 88,14 % and raised to 89,24 % in 2020. This result goes in line with studies conducted by Schultz (2004), Dearden et al. (2009), and Attanasio et al. (2010), which explained that CCT has a positive impact on school participation.

Table 4. Marginal Effect

| Variables | All Sample |
|---------------------------|------------|
| Variables | Matching |
| PIP | 0,1142*** |
| | (0,0035) |
| Child Characteristics | V |
| Household Characteristics | V |
| Community Characteristics | V |
| OBS | 252.029 |

Note: *** p < 0.01, ** p < 0.05 * p < 0.1Source: Microdata processing result from SUSENAS year 2013 – 2019 (Processed)

Table 5 presents PIP impact according to education levels and summarises that PIP significantly positively impacts school participation at every level. Compared to non-recipients of PIP, recipients in elementary have the opportunity of 2,6 % to enroll in a school, junior high school recipients have 9,8 %, and senior high school recipients have 34,2 %.

Table 5. Marginal Effect by Education Level

| Variables | Elementary | Junior | Senior |
|---------------------------|------------|----------|----------|
| PIP | 0,026*** | 0,098*** | 0,342*** |
| | (0,007) | (0,038) | (0,026) |
| Child Characteristics | V | V | V |
| Household Characteristics | V | V | V |
| Community Characteristics | V | V | V |
| OBS | 138.871 | 62.944 | 50.214 |

Note: *** p < 0.01, ** p < 0.05 *p < 0.1

Source: Microdata processing result from SUSENAS year 2013 – 2019 (Processed)

Children's school participation in elementary school is already in good condition. The APK rate in elementary school is above 100, indicating that children aged 6-12 years old

have already attended elementary school (Central Statistics Agency, 2020). This statement is supported by the available number of at least two elementary schools in every district/city.

Also, the government has waived the education costs in elementary school and even junior high school.

Furthermore, PIP has also increased school participation at junior and senior high school levels in recent years. A study by the Center for Educational and Cultural Policy Research (2017) found that a PIP fund of 1 million rupiahs per semester for senior high school students is really helpful in fulfilling their education needs. Senior high school students use PIP funds to pay tuition, considering that the government has not waived the tuition fee at that level. Aside from that, the PIP fund was also used to pay for allowances and transportation costs (Central Statistics Agency, 2018).

Children from low-income families have greater opportunities to work. When families cannot afford education costs and cannot even afford daily needs, they tend to encourage their children to work (Amin, Quayes and Rives, 2004). Children aged 15 -17 years or at the high school level are more likely to become child workers than children aged under 15 years at the elementary and middle school levels. Children over 15 are considered better prepared to face the world of work even though they generally only work as unskilled laborers in the informal sector.

In 2019, child labor at the high school level reached 10.50%, and in 2021, there was a decline to 5.92% (Central Statistics Agency, 2022). Based on the results of the 2019 and 2021 Susenas data processing carried out by (Handayani and Ariana., 2022), the decline in child labor is related to the provision of PIP. So, it can be said that the government has successfully reduced the number of child workers while increasing children's school participation through PIP.

Table 6. Marginal Effect Between Urban and Rural.

| Variables | Urban | Rural |
|-----------------|-----------|-----------|
| PIP | 0,0868*** | 0,1219*** |
| | (0,0063) | (0,0043) |
| Child | V | V |
| Characteristics | | |
| Household | V | V |
| Characteristics | | |
| Community | V | V |

Characteristics

| OBS | | 64.541 | 187.4 | 88 |
|--------------------------------------|----------------|---------------|--------|------|
| Note: ** | * p < 0.01, ** | * p < 0.05 *p | < 0. 1 | |
| Source: | Microdata | processing | result | from |
| SUSENAS year 2013 – 2019 (Processed) | | | | |

Previous research did not address the impact of PIP on recipients living in urban and rural areas. It turns out that this research found that PIP has an impact based on where they live. PIP also significantly affected children's school participation in urban or rural areas. However, comparing the two, PIP recipients who live in rural areas have more potential to go to school than PIP recipients in urban areas. The result of this study is in line with the findings by Attanasio et al. (2010), who stated that CCT has a greater impact on people who live in rural areas. PIP's huge impact on rural areas also applies to every education level.

This phenomenon occurs because PIP relief can fulfill education costs more in rural than urban areas. Remember that the cost of living in rural is much smaller than the cost of living in urban areas. So, with the same nominal PIP, the PIP feels more impactful for recipients who live in rural areas. In urban areas, PIP can fulfill 12 to 14 % of education costs, while in rural areas, PIP can fulfill 21 to 27 % (Central Statistics Agency, 2018). This research suggests that the government is expected to allocate large amounts of PIP differently between recipients who live in urban and rural areas.

CONCLUSION

In order to solve the selection bias issue that occurred in PIP, an initial analysis was conducted using the PSM method by matching the characteristics of recipients and non-recipients of PIP. According to the matching process, the characteristics of PIP recipients have represented low-income family characteristics. If one compares the groups, it could be summarized that most PIP recipients are children who live in smaller houses, have many household members, and have less educated parents.

To summarize, the study results show that PIP recipients have opportunities of 11,42 % to go to school. For each education level of PIP recipients, the opportunities for going to school are elementary at 2,6 %, junior high school at 9,8 %,

and senior high school at 34,22 % compared to non-PIP recipients. Moreover, PIP also positively impacts school participation in urban and rural areas. If one compares PIP impact based on residential areas, it could be said that PIP impacts children living in rural areas more.

Although the PIP has a positive impact on school participation at every education level, the government still needs to improve the coverage of PIP recipients, especially in junior high school (SMP) and senior high school (SMA), considering the APK rate on those levels are still far below 100. Besides, the government must observe the amount of PIP funds for every level. Since the implementation of PIP, the government has not changed the amount of PIP yet, whereas according to the Central Statistics Agency (2018), inflation is happening in the education sector every year. In the previous commentary, it was found that there was a significant difference in education costs between rural and urban areas. Thus, the government must distinguish the amount of relief available in rural and urban areas.

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