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The Effect Of The Cash Transfer For Poor Students Program On Student Education Expenditures: Evidence From Indonesia

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ABSTRACT

The Cash Transfers for Poor Students Program (Bantuan Siswa Miskin, BSM)—formerly known as Program Indonesia Pintar—aims to improve financial capacity for poor and vulnerable students. However, there is limited research that measures the effect of the BSM program on student education expenditure by school level in Indonesia. Using pooled cross-section data from the Indonesia Family Life Survey (IFLS), this study examines the effect of the BSM program at three levels of education namely primary, junior secondary, and senior secondary. By conducting the Propensity Score Matching (PSM) and pooled cross-section regression, this study finds that the BSM program has a significant and positive effect by 8.5 percent on student education expenditure at senior secondary level, in contrast, no effect on primary and junior secondary school students. This study suggests that the government needs to adjust the value of program benefits as the burden of student education expenditure continues to be high.

INTRODUCTION

The Cash Transfer for Poor Students (Bantuan Siswa Miskin, BSM) program—now referred to as Smart Indonesia Program (Program Indonesia Pintar, PIP)—have emerged as a key policy instrument to reduce the financial burden of education for poor and vulnerable students. The BSM program was a conditional cash transfer (CCT) for school-going students under the auspices of the Ministry of Education and Culture (MoEC) and the Ministry of Religious Affairs (MoRA) from 2008 to 2014. The government's commitment to intensifying the BSM program can be seen in the increase in the number of beneficiaries from 2.97 million students in 2008 to 14.65 million students in 2014.

The BSM program aims to improve students' financial capacity in providing stationery and books, uniforms and equipment, transportation costs, and pocket money in accordance with school support needs. Since 2013, the value of benefits per year at the primary school level is

IDR 450 thousand, junior secondary level is IDR 750 thousand, and senior secondary level is IDR 1 million with the distribution of benefits twice in academic year. The mechanism for determining this program begins with the utilization of an integrated database, as well as the delivery of Social Protection Cards (Kartu Perlindungan Sosial, KPS) to target households. In addition, the determination of target recipients also has several criteria such as letter of poor (Surat Keterangan Tidak Mampu, SKTM), social security program (Program Keluarga Harapan, PKH), disaster, half-orphan (father), half-orphan (mother), and having other household members who attend school.

Several previous studies found that the BSM program is relatively effective in increasing the likelihood of students attending school (Wardani & Baryshnikova, 2019), student test scores (Purba, 2018), and a negative effect on dropout rate (Setyadharma, 2018). However, according to the National Team for the Acceleration of Poverty Reduction (Tim Nasional Percepatan Penanggulangan Kemiskinan, TNP2K) (2012), this program is ineffective, one of which is due to the low value of benefits compared to students education expenditure. In fact, compared to the average cost of education data from the Central Bureau of Statistics (Badan Pusat Statistik, BPS) in 2015, the value of benefits received by students at the primary school/equivalent level was only 13.99 percent, junior secondary/equivalent by 13.76 percent, and senior secondary/equivalent by 12.28 percent. Therefore, it can be concluded that the BSM program has not been able to meet the relatively increasing cost of education in Indonesia.

Although the BSM program has been widely implemented, few studies have rigorously analyzed its effect on students' educational expenditures. This study, therefore, aims to address this gap by evaluating the program's effect at student level. This study compares the value of program benefits with the average education expenditure of BSM recipients. The unit of analysis in this study is school students aged 5–18 years old at the three levels of education, namely primary school/equivalent, junior secondary school/equivalent, and senior secondary school/equivalent. Since the value of BSM benefits varies by school level, it is important to examine the effect of BSM program on education-level.

To obtain comprehensive results, this study uses Indonesia Family Life Survey (IFLS) wave 3 (IFLS3) data conducted in 2000, IFLS wave 4 (IFLS4) conducted in 2007, and IFLS wave 5 (IFLS5) conducted in 2014. The IFLS data also provides the level of education pursued by students, so that differences in average education expenditure between students become more relevant. Moreover, this dataset is employed because it contains detailed information on student attributes, including grade and gender, which potentially affect educational expenditure (Aslam & Kingdon, 2008; Bray, 2007; Kingdon, 2005; Ulusoy & Yolcu, 2013). Several literatures have found that student education expenditure might be affected by school characteristics such as the type of school (Acar et al., 2016; Addai, 2022; Akaguri, 2014; Hendajany, 2016), book aid, school fee reduction assistance or educational support (de la Fuente & Foster, 2024; Nguyen & King, 2022; Omoeva & Gale, 2016), and the duration of the student's trip (Khan et al., 2012; Ulusoy & Yolcu, 2013).

This study uses the Propensity Score Matching (PSM) method to categorize students into two groups, namely BSM recipients and non-recipients based on the similarity of certain characteristics in 2014. The next process is pooling the data of the three periods and pooled cross-section regression with the addition of province fixed effects. The use of province fixed effects is to capture unobserved provincial characteristics that do not change over time in the model. The regression results are then used to calculate changes in average student education expenditure and compared with the value of BSM program benefits. Thus, this study is expected to offer a more holistic understanding of the effect of the BSM program in Indonesia.

LITERATURE REVIEW

One of the studies that measured the effectiveness of targeting accuracy and the impact of the BSM program on dropout rates was conducted by Yulianti (2015). This study found that there were inclusion and exclusion errors, or as many as 50–70 percent of BSM recipient households did not fall into the eligible category. In addition, the poorest 25 percent of households in the group and only 1–6 percent of eligible households were recorded as BSM recipients.

In Cruz & Ziegelhofer (2014), cash transfers are expected to maintain or increase student education expenditure proportionally. As a cash transfer scheme program, the BSM program is expected to maintain or increase education consumption. Thus, this condition can be reflected in changes in student education expenditure. Several studies have found the BSM program is effective in increasing household education expenditure (Anindita & Sahadewo, 2020; De Silva & Sumarto, 2015). Anindita & Sahadewo's study (2020) found that BSM recipient households had up to 11.5 percentage points higher education expenditure in 2014. Meanwhile, De Silva & Sumarto (2015) found that households receiving education programs including BSM spent 10 to 14 percent more on education, specifically among the poor. With these findings, education programs, including BSM, were quite effective in encouraging people's ability to get an education. Although several studies have been conducted, there remain important aspects that warrant further investigation and refinement. For instance, research by Anindita and Sahadewo (2020) employed household-level data, in which education expenditure was calculated in aggregate, without distinguishing between school levels or children's ages. In fact, the period of the IFLS data used is seven years, allowing students to move up to another level of education with increasing cost requirements. This study also concludes that the program was effective as reflected in increasing education expenditure in line with the value of BSM benefits. However, this study did not specifically calculate the amount of BSM benefit value received since the unit of analysis is household-level. The research by De Silva & Sumarto (2015) used a unit of analysis on children aged 6–18 years who were only actively working in the labor market. In addition, the type of education program studied was not specifically the BSM program, but also scholarships or other forms of education assistance received by students. With these conditions, this study had a limited number of observations because it did not examine all students, especially BSM recipients that risks the estimation results.

METHODS

Data used in this study from the Indonesia Family Life Survey 3, 4, and 5 conducted by RAND in 2000, 2007, and 2014. The unit of analysis in this study is students attending school at the age of 5–18 years at the three levels of education, namely primary school/equivalent, junior secondary/equivalent, and senior secondary school/equivalent. However, since the BSM program has been implemented since 2008, information on program participation is available in the IFLS5 dataset. Therefore, it is necessary to conduct a matching procedure (PSM) to determine the BSM program recipient and non-recipient groups based on certain criteria as covariates. The covariates are the criteria for determining BSM recipients by the government. However, the number of criteria used creates the potential for BSM recipient variations to be too diverse. In this case, the PSM procedure is able to minimize this problem so that the probability of student status in obtaining the BSM program is similar. After the procedure is carried out, student data at each level is pooled, followed by regression and interpretation of the results.

The dependent variable in this study is the natural logarithm of education expenditure. In this case, the cost of education is the amount of expenditure for education that still needs to be borne by each student. In more detail, this expenditure consists of three types, namely school fees, school equipment, and transportation or students daily pocket money. In school fees, the calculated components include registration fees, tuition fees and other activity fees, and

examination fees. As for the cost of school equipment, it consists of book expenses, school supplies, uniforms and sportswear. Meanwhile, transportation costs include school fees, student lodging or dormitory fees, food, and other courses.

The main independent variable is the status of students as BSM recipients in the form of a dummy, where program recipients are categorized as 1 (one) and non-recipients with a value of 0 (zero). Other independent variables consist of student characteristics, household characteristics, and school characteristics that have a possible effect on student education expenditure. In student characteristics, the variables used are student gender and dummy for class. In household characteristics, the variables consist of father's and mother's secondary and tertiary education levels (primary level as basis), age and gender of the household head, number of household members, natural logarithm of household income, dummy for having other household members who attend school, dummy for poor status, dummy for PKH, dummy for Java and Bali, and dummy for location of student residence. In school characteristics, the variables used are dummy for school type, dummy for book aid, dummy for fee reduction and other support programs, and trip duration.To measure the effect of the BSM program on education expenditure, several analytical methods can be used. However, this study measures the impact of the BSM program using the Propensity Score Matching (PSM) method before regression estimation of pooled cross-section data. In Rosenbaum & Rubin (1983), PSM is a variable matching method using individual or group probability score offsets based on program participation status. In this study, the PSM method can be used to balance the value of covariates or grouping of certain characteristics between recipients and non-recipients of the BSM program. In Brookhart et al. (2006), there are several alternatives in the selection of characteristics in PSM. However, the determination of covariates in this study is based on the BSM recipient criteria set by the government. The characteristics used as covariates include the utilization of letter of poor (Surat Keterangan Tidak Mampu, SKTM), social security card (Kartu Perlindungan Sosial, KPS), conditional cash transfer program (Program Keluarga Harapan, PKH), disaster, half-orphan (father), half-orphan (mother), and other household members attending school.There are several types of PSM approaches that can be used, such as nearest-neighbor matching, radius matching, caliper matching, and kernel matching, yet this study uses the kernel approach. According to Heckman & Vytacil (2007), the kernel method uses all the members in the comparison group that belong to the common support. In addition, the use of this method tends to utilize all information from the non-recipient group, making the use of data more efficient. This study uses a probit regression model to determine the influence of the largest covariates on the probability of BSM recipients only in 2014. In addition, to ascertain whether the two groups are comparable, this study compares the changes in the standard percentage bias and p-value of all covariates before and after matching. If the standard percentage bias is close to zero and the p-value is not significant, there is no difference in characteristics between the BSM recipient and non-recipient groups. Thus, the data pooling process can be carried out with the previous two data periods.

This paper uses regression on pooled cross-section data due to several benefits such as increasing the sample size and capturing temporal changes. By combining multiple years of cross-section data, the sample size will be larger and reduce the standard error, thus producing accurate estimates. In this data, individual-level effects such as student characteristics will be identified by using the large variations present in the micro data (Micklewright, 1994). In addition, this data is also able to capture changes in relationships between variables at the individual level over time, so it is still relevant for measuring policy impact.The use of province fixed effects in this study is necessary to capture province characteristics across time that are not captured in the model. For this reason, the regression model of this study is:

$$\mathbf{Ln\ BP_{it} = \beta_0 + \delta\ BSM_{it} + \alpha p + X'_{it}\ \beta + \varepsilon_{it}}$$

Where:

$Ln\ BP_{it}$: Natural logarithm of education expenditure for student i in the period t

BSM_{it} : Dummy status of BSM recipient is 1, and non-recipient is 0
αp : Province fixed effects
X'_{it} : Vectors of all other independent variables, namely student, household, and school characteristics
ε_{it} : Error term

Thus, the hypothesis of this study is that the BSM program affects higher students education expenditure compared to non-BSM recipients.

RESULTS

PSM Matching Analysis

Table 1 shows the number of observational data by education level for BSM recipients and non-recipients that fall into the common support category after matching the last period of data. Table 2 shows the probit estimation results on the matching covariates by education level. From the estimation results, the covariates of SKTM, KPS, PKH, and other household members attending school significantly affect the outcome variable at all three levels of education. Meanwhile, the covariates of disaster and half-orphan have no effect on the probability of students obtaining BSM status. Despite the insignificant results, these covariates are some of the criteria for determining BSM recipients set by the government. Thus, the use of these covariates is still used in this matching process.

Table 1. Summary of BSM Recipient and Non-recipient Groups by Education Levels

Level	Group				Total
	BSM		Non BSM		
	Obs	%	Obs	%	
Primary school/equivalent	930	27,417	2.462	75,582	3.392
Junior secondary school/equivalent	300	33,670	892	66,330	1.192
Senior secondary school/equivalent	250	24,752	760	75,247	1.010

Source: Data Processed, 2025

Table 2. Results of Covariate Estimation Using Probit Regression by Education Level

Variables	Education Level					
	Primary /equivalent		Junior secondary /equivalent		Senior secondary /equivalent	
	Coef.	P > z	Coef.	P > z	Coef.	P > z
SKTM	0,730	0,000	0,761	0,000	0,899	0,000
KPS	1,041	0,000	0,990	0,000	0,535	0,000
PKH	0,572	0,000	1,029	0,000	0,461	0,034
Disaster	0,027	0,666	0,078	0,459	-0,094	0,411
Half-orphan (father)	0,033	0,911	0,297	0,482	-0,396	0,457
Half-orphan (mother)	0,154	0,626	-0,325	0,497	-0,087	0,897
Other household members attending school	0,249	0,000	0,364	0,000	0,313	0,002
Cons.	-1,229	0,000	-1,473	0,000	-1,368	0,000

Source: Data Processed, 2025

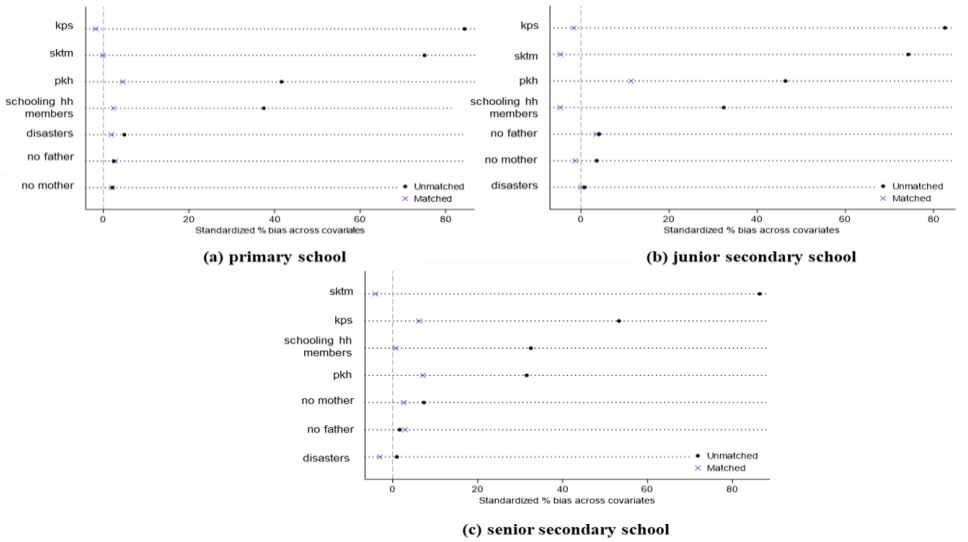
Table 3 shows the comparison results of BSM recipient and non-recipient groups before (unmatched) and after (matched). After matching, the p-value becomes insignificant, indicating that the differences between groups have decreased. Figure 1 shows that all covariates have improved in the percentage bias with values close to zero or balanced. The balance results indicate that the matching method effectively aligned the treated and control groups, producing consistent and robust estimates.

Table 3. Comparison of Covariates Before and After Matching

Variables		Education Level								
		Primary			Junior secondary			Senior secondary		
		BSM	Non	p > |t|	BSM	Non	p > |t|	BSM	Non	p > |t|
SKTM	M	0,515	0,180	0,000	0,553	0,214	0,000	0,656	0,260	0,000
	U	0,515	0,515	0,982	0,553	0,575	0,598	0,656	0,675	0,660
KPS	M	0,407	0,075	0,000	0,417	0,085	0,000	0,288	0,087	0,000
	U	0,407	0,415	0,753	0,417	0,423	0,867	0,288	0,265	0,560
PKH	M	0,135	0,025	0,000	0,140	0,018	0,000	0,096	0,022	0,000
	U	0,135	0,124	0,446	0,140	0,110	0,269	0,096	0,079	0,511
Disaster	M	0,219	0,199	0,200	0,210	0,206	0,897	0,204	0,200	0,891
	U	0,219	0,212	0,686	0,210	0,210	1,000	0,204	0,216	0,735
Half-orphan (father)	M	0,009	0,006	0,515	0,013	0,009	0,514	0,008	0,006	0,814
	U	0,009	0,006	0,555	0,013	0,010	0,675	0,008	0,005	0,736
Half-orphan (mother)	M	0,006	0,005	0,573	0,010	0,007	0,572	0,008	0,003	0,241
	U	0,006	0,005	0,661	0,010	0,011	0,888	0,008	0,006	0,799
Other household members attending school	M	0,684	0,503	0,000	0,743	0,592	0,000	0,740	0,588	0,000
	U	0,684	0,672	0,600	0,743	0,765	0,534	0,740	0,737	0,935

Source: Data Processed, 2025

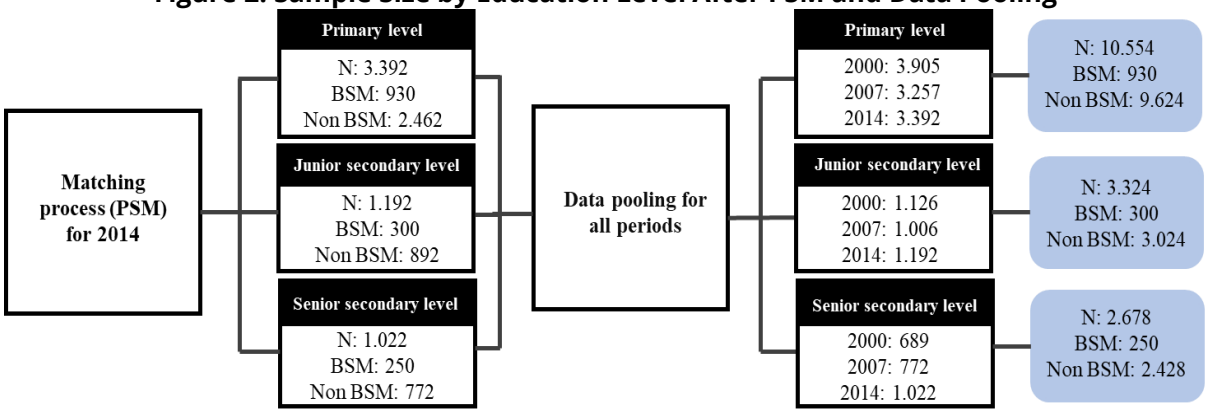
Figure 1. Standardized Percentage Bias of Covariates Before and After Matching



Source: Data Processed, 2025

After the PSM process, this study pooled the data from the previous matching results with IFLS3 and IFLS4 data. As shown in Figure 2, the pooled sample across all education levels and periods consists of 16,556 students aged 5–18 years. Of this total, 1,480 students (8.94%) are BSM beneficiaries, whereas 15,076 students (91.06%) are non-beneficiaries.

Figure 2. Sample Size by Education Level After PSM and Data Pooling

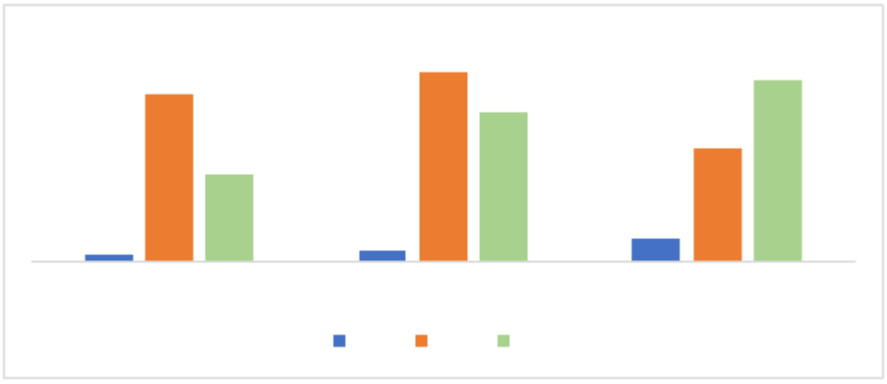


Source: Data Processed, 2025

Descriptive Analysis

Figure 3 shows that the average total expenditure on education at the primary/equivalent and junior secondary/equivalent levels have the same trend, increasing in 2007 yet decreasing in 2014. Meanwhile, at the senior secondary level, the expenditure trend has relatively increased in all periods. This condition occurred in line with the massive government programs, specifically School Operational Assistance (Bantuan Operasional Sekolah, BOS), which was less for the senior secondary school/equivalent level, causing student education expenditures to tend to be higher than other levels. However, in general, the average of education expenditure in 2000 and 2014 tended to be greater as the level increased. Thus, it can be concluded that the higher the level, the higher the education cost required (BPS, 2015; Huy, 2012; World Bank, 2009).

Figure 3. Comparison of Average Education Expenditure by Level in 2000, 2007 and 2014 (IDR)

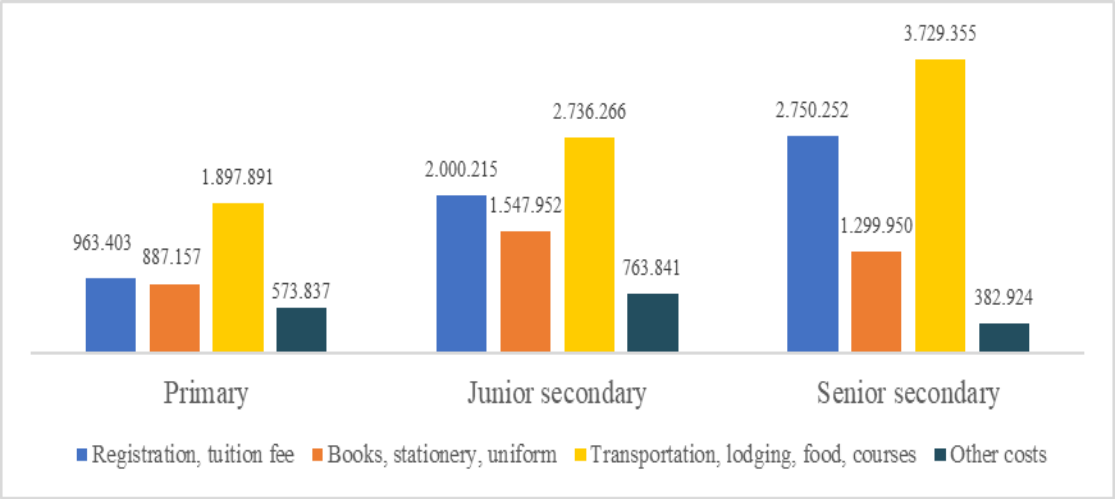


Source: Data Processed, 2025

In 2014, the average education expenditure of BSM recipients was lower than that of non-recipients. However, students at the junior secondary level had the highest expenditure, reaching IDR 5.75 million per academic year. Meanwhile, the education expenditure of primary school students amounted to IDR 2.59 million and senior secondary school students amounted to IDR 5.17 million. Additionally, the value of BSM benefits was only able to cover 17.39 percent

of the education costs of primary school students, 13.03 percent of junior secondary school students, and 19.35 percent senior secondary school students. Figure 4 shows that the highest education expenditure components for all three levels were transportation, lodging, food, and school-related courses. These results imply that daily allowances constitute a larger share of students' educational expenses compared to school fees and other supplies. Consequently, complementary government initiatives are necessary to further ease students' financial constraints, especially in these expenditure categories.

Figure 4. Comparison of Components of Education Expenditure in 2014 (IDR)



Source: Data Processed, 2025

Regression Method Analysis

Table 4 shows that the BSM program has an effect on student education expenditure at the senior secondary school level by 8.5 percent. This is in line with the research hypothesis and the findings of previous studies that the BSM program at both the household and student levels will affect higher education expenditure (Anindita & Sahadewo, 2020; De Silva & Sumarto, 2015). The significant effect of the BSM program observed at the senior secondary level may result from the relatively higher benefit-to-expenditure ratio, as the average educational spending at this level exceeds that of other levels.

Table 4. Regression Estimation Results by Education Level

Variables	Dependent Variable: Ln Students' Education Expenditure		
	Level		
	Primary /equivalent	Junior secondary /equivalent	Senior secondary / equivalent
BSM	-0,035 (0,034)	-0,004 (0,065)	0,085* (0,051)
Student Characteristics			
Student gender	0,026 (0,021)	-0,049 (0,040)	-0,001 (0,033)
Class	-0,028*** (0,007)	0,019 (0,033)	0,289*** (0,020)
Household Characteristics			
Father's secondary education	0,026	0,107**	-0,020

	(0,025)	(0,049)	(0,041)
Father's tertiary education	0,051 (0,057)	0,068 (0,098)	-0,098 (0,095)
Mother's secondary education	0,106*** (0,026)	0,085* (0,049)	0,083** (0,042)
Mother's tertiary education	0,071 (0,062)	-0,032 (0,100)	-0,098 (0,095)
Age of household head	0,007*** (0,001)	0,010*** (0,002)	0,001 (0,002)
Head of household's gender	-0,210*** (0,048)	-0,292*** (0,101)	-0,174** (0,076)
Number of household members	-0,072*** (0,007)	-0,080*** (0,014)	-0,049*** (0,012)
Ln income	0,354*** (0,012)	0,346*** (0,022)	0,230*** (0,019)
Other schooling household members	-0,144*** (0,024)	-0,012 (0,047)	-0,000 (0,041)
Poor	-0,812*** (0,029)	-0,676*** (0,051)	-0,681*** (0,044)
PKH	0,187*** (0,054)	0,092 (0,116)	0,083 (0,117)
Java bali	0,061 (0,070)	0,005 (0,116)	0,299*** (0,085)
Location	0,269*** (0,023)	0,162*** (0,045)	0,062 (0,037)
School Characteristics			
School type	-0,403*** (0,033)	-0,077* (0,045)	-0,020 (0,035)
Fee reduction and other support program	0,710*** (0,026)	0,508*** (0,047)	0,097** (0,043)
Books aid	0,125*** (0,022)	-0,049 (0,045)	0,037 (0,035)
Duration	0,003*** (0,001)	-0,002 (0,002)	0,004*** (0,002)
Constant	8,671*** (0,203)	9,033*** (0,395)	10,805*** (0,340)
Observations	10.554	3.324	2.678
R-squared	0,472	0,367	0,417

Source: Data Processed, 2025

Other independent variables have different effects on education expenditure at each level. However, many variables that consistently affect education expenditure at all three levels include mother's secondary education, gender of household head, income, number of household members, poverty, and fee reduction and other support programs. Students with male-headed households have lower education expenditure than female-headed households. This indicates that female household heads are more concerned about their children's education and tend to spend more on education. The negative coefficient sign on the number of household members variable is in line with several previous studies, where a large number

of household members will limit resources to spend on education (Acar et al., 2016; Becker & Lewis, 1973; Jæger, 2009). Furthermore, a positive income variable indicates that when there is a percentage increase in household income, students will increase their education expenditure (Acar et al., 2016; Glewwe & Patrinos, 1998; Huy, 2012; Rizk & Owusu-Afriyie, 2014).

Table 5 shows that the BSM program has a different effect on three education levels. The BSM program also affects senior secondary students' expenditure components, including school fees (20.3 percent), equipment and uniform costs (13.4 percent), and transportation, lodging, and daily pocket money expenses (13.9 percent). Thus, BSM recipients in senior secondary schools are affected by the implementation of the BSM program.

The BSM program has no significant effect on education expenditure among primary-level and junior secondary-level students for several reasons. At these two levels, the coverage of the benefit value compared to the average education expenditure of BSM recipients is relatively lower than at the senior secondary school level. The BSM program at the primary school level exerts both positive and negative effects—enhancing two components while adversely affecting two others. Meanwhile, the result shows no effect at junior secondary students may be due to the highest education expenditure of BSM recipients at this level. As a result, the BSM program has no effect on overall education expenditure. In addition, only three components are statistically significant: positive effects on transportation and equipment costs, and a negative effect on other costs. This finding is in line with Ferrario's (2014) study, in which the CCT program may only have an effect on certain components of education expenditure, but not on overall education expenditure.

Table 5. Regression Estimation Results by Component

Education level	Dependent Variable			
	Ln registration, tuition fee	Ln books, stationery, uniform	Ln transportation, lodging, food, courses	Ln other costs
	(1)	(2)	(3)	(4)
Primary/equivalent	-0,181* (0,108)	0,339*** (0,036)	0,344*** (0,035)	-2,667*** (0,132)
Junior secondary /equivalent	0,132 (0,162)	0,354*** (0,077)	0,318*** (0,064)	-1,971*** (0,206)
Senior secondary /equivalent	0,203** (0,094)	0,134* (0,080)	0,139** (0,056)	-0,068 (0,172)
Province fixed effect	Yes	Yes	Yes	Yes
All control variables	Yes	Yes	Yes	Yes

Source: Data Processed, 2025

Notes: Robust Standard Error *** Confidence level <0.01, ** Confidence level <0.05, * Confidence level <0,1

DISCUSSION

According to Cruz & Ziegelhofer (2014), cash transfers are expected to maintain or increase student education expenditure. Thus, assuming that all value of benefit is used for educational needs, then expenditures should remain relatively the same or increase education consumption. However, based on previous estimation results, the BSM program actually reduces student education expenditure. Table 6 shows that the education expenditure of the

BSM program has an effect only on students at the senior secondary school level, which amounted to 8.5 percent. Thus, if the average education expenditure of BSM recipients is IDR 5.17 million, the average expenditure of non-recipients is IDR 4.73 million, resulting in a difference of IDR 439 thousand. Assuming that students receive a BSM benefit value of IDR 1 million per academic year, it can be inferred that the average student uses nearly part of the program benefit value for educational purposes. This is in line with Cruz & Ziegelhofer (2014) that the provision of cash transfers should equal or increase education expenditure proportionally. Therefore, this finding indicates the effectiveness of BSM program implementation at a certain level of education.

Table 6. Differences in Average Education Expenditure of Recipients and Non-Recipients

Education Level	Non BSM (IDR)	Change in Education Expenditure (%)	BSM Recipients (IDR)	Difference in Education Expenditure (IDR)
	(1)	(2)	(3)	(4)
Primary/equivalent	2.681.429	-3,5	2.587.579	-93.850
Junior secondary/ equivalent	5.798.937	-0,4	5.775.741	-23.103
Senior secondary/ equivalent	4.729.019	8,5	5.168.327	439.308

Source: Data Processed, 2025

Notes: Primary/equivalent and junior secondary/equivalent regression results in column (2) are not significant

At the primary and junior secondary levels, the BSM program had no effect on students' education expenditure. However, when referring to the expenditure of BSM recipients and non-recipients, BSM recipients at the primary school level were 3.5 percent lower than non-recipients. Meanwhile, BSM recipients in junior secondary schools had 0.4 percentage points lower expenditure than non-recipients. Therefore, if these two levels are significant, there is potential for ineffective utilization of BSM, especially for students at the primary school level. However, given the insignificance of the regression estimation results, the effect of the BSM program at both levels warrants further examination.

CONCLUSION

Several previous literatures have found that the BSM program is effective in increasing enrollment rates, test scores, and the probability of continuing school. However, there is limited literature that measures the effect of the BSM program on student education expenditure by education level. Using IFLS data and a combination of PSM and regression methods for pooled cross-section data, this study finds that the BSM program has a significant and positive effect on student education expenditure by 8.5 percent at the senior secondary school level. This finding is in line with the research hypothesis and the objective of the BSM program, which is expected to have a positive effect on increasing student education expenditure. However, the BSM program has no effect on students at the primary and junior secondary levels due to the low changes in student education expenditure by component. This might be due to the low value of BSM benefits compared to the education expenditure of junior secondary school students (13.14 percent), primary school students (17.39 percent) and senior secondary school students (19.35

percent). Thus, there is no difference in education cost expenditure between BSM recipients and non-recipients at the primary and junior secondary levels. This finding indicates that the government needs to consider the adjustment of benefits value of similar programs received by students. With changes in the average expenditure on education costs, the value of the BSM program benefits needs to be adjusted to the needs of students.

The direct distribution of the BSM program, or any form of cash transfer to students is expected to maintain or even increase education expenditure proportionally. However, only senior secondary school students show the indications of using the benefits for educational purposes. Meanwhile, the fact that the BSM program has no effect on the expenditure of primary and junior secondary students indicates the need for policy improvements by the government.

The study recommends that the Indonesian government needs to consider adjusting the value of benefits of similar programs received by students. This should also be carried out regarding the low coverage of the benefit value compared to the amount of student education cost needs at the three levels of education. In addition, the significant result on the poor variable indicates the need for government attention in providing access to education that is more affordable for the poor and reducing educational disparities between poor and non-poor students. Thus, this effort is expected to encourage the education accessibility of the poor and break the chain of poverty in the future. Moreover, to reduce the burden of student education expenses, the government needs to provide transportation facilities to schools, for instance, by optimizing the school bus program or shuttle services at affordable rates in various regions.

LIMITATION

This study makes further knowledge by providing information about the Indonesian education expenditure at the student's level. However, this study analyzes the changes in education expenditure between BSM recipient and non-recipient students based on the regression estimation results. As the pooled cross-sectional dataset involves distinct student observations in each period, this study cannot fully identify the causal impact of the BSM program implementation. In addition, this study has not taken into account the inflationary conditions that occurred between 2000, 2007, and 2014. Therefore, this study still assumes that education expenditure in each period has the same monetary value.

Further studies, qualitative or quantitative with longitudinal data are needed to examine the true impact of related programs on student education expenditure in Indonesia. To contribute to a broader result, a future study needs to capture changes in student education expenditure that are the same over a shorter time span as well as other characteristics that may affect education. Inflationary conditions also need to be taken into account to minimize differences in the value of money between data periods that can affect the estimation results. In addition, modification of control variables such as consumption of food, non-food, or other goods also needs to be considered to capture the possibility of misallocation of the value of BSM program benefit.

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