

Exploring The Relationship Between Education Attainment And The Urban–Rural Households Expenditure Inequalities Case Study: Indonesia 2015-2018

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Abstract : This study examines the trend in the urban–rural expenditure inequalities in Indonesia from 2015–2018 based on National Socioeconomic Survey data from the same period. Subsequently, it explores to what extent the educational attainment affects expenditure inequality, by using two inequality decomposition methods, Blinder–Oaxaca decomposition and Theil inequality decomposition. The findings reveal that, first, the difference in educational attainment contributes to more than 39% of urban–rural inequality. Second, according to the results of the hierarchical decomposition of expenditure inequality using the Theil L index, the expenditure inequalities between urban–rural areas are minor. In contrast, those within the areas are more significant. Third, the senior high school group has the highest contribution to overall inequality in urban areas; meanwhile, the elementary school group plays a prominent role in rural areas. Policymakers should therefore focus on narrowing the urban–rural gap through policies aimed at the allocation of “village transfer” for the education sector in rural areas.

Index Terms: Expenditure Inequality, Inequality decomposition, Education, Urban-Rural, Theil L.

1 INTRODUCTION

Inequality is a complex problem involving various parties and dimensions. To some extent, it can be a positive force, because those who work hard, innovate, and take risks are rewarded for their efforts appropriately. However, income inequality becomes unfair when not everyone has an equal opportunity. Such inequality that is left unaddressed and allowed to develop can have severe consequences for the socioeconomic conditions of the community [1]. Most Indonesians are now aware of this issue, and their government has begun to take action. Over one decade, Indonesia has successfully reduced the number of people in absolute poverty. In March 2007 this figure was 37.17 million, and this declined to 25.95 million in March 2018. However, the income gap between the rich and the poor is slightly wider than it was a decade ago, as reflected by the Gini ratio of 0.376 in March 2007 compared to 0.389 in March 2018. The graph below depicts the trend of absolute poverty and the Gini coefficient.

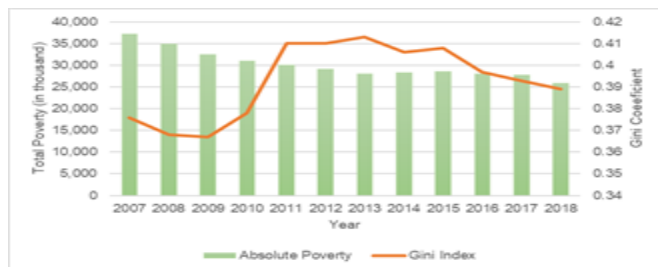


Fig. 1. Total Absolute Poverty and Gini Index in Indonesia, 2007-2018

Source: Statistics of Indonesia

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Since 2008, Indonesia's education budget has totaled 20% of the national budget following Law Number 20 the Year 2003 concerning the National Education System. In 2018, the education budget was 444.1 trillion rupiahs. A key policy is aimed at improving the accessibility of sustainable education (e.g., through the Operational Aid to School Program, Family Hope Program, Bidik Misi Scholarship, and National Education Development Fund). However, education inequality between urban and rural areas in Indonesia is still high, as illustrated by means years of schooling and the literacy rate in the urban and rural areas. Both these are higher in urban areas than in rural areas as depicted in fig. 2.

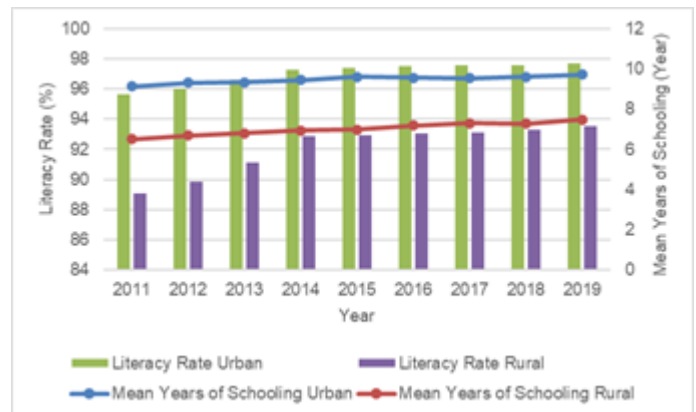


Fig.2 Mean Years of Schooling and Literacy Rate of People Aged ≥ 15 Years by Area of Residence, 2011-2019

Source: Statistics of Indonesia

There has been a significant amount of research regarding the role of education on income inequality in Indonesia [2], [3], [4], [5]. Previous research has also attempted to analyze the development of income inequality in Indonesia [6], [7], [8], Islamic countries [9], and developing countries [10]. Some studies have attempted to establish the link between education and expenditure inequality with data panel analysis

[11], [12], [13]. Other research has linked education with inequality in the urban area in Indonesia. Hayashi et. al [14] investigated expenditure inequality with a spatial decomposition analysis and the role of education in 2008–2010, whereas Akita [15] examined the role of education in expenditure inequality from 1997 until the premiership of Susilo Bambang Yudhoyono using the Blinder–Oaxaca decomposition, the decomposition of the Gini coefficient, and the hierarchical decomposition of the Theil index. Previous studies have examined inequality between rural and urban areas. In terms of the level of educational attainment, these have examined a limited number of education categories [14], [15]. Therefore, this study attempts to fill the gap by attempting to observe the link between education and income inequality education in the urban and rural areas of Indonesia with newer data from the first term of president Jokowi Widodo and a more specific level of education using the decomposition model. Following the previous study and due to the limitation of the data, this study uses expenditure data as a proxy of income data. Therefore, in the next part of this study, in spite of income inequality, expenditure inequality will be used. Based on the above background, this research aims to answer two questions: (1) How did Indonesia experience urban–rural expenditure inequalities between 2015 and 2018, and (2) To what extent does educational attainment affect expenditure inequality?

2 LITERATURE REVIEW

The traditional human capital model is the standard theoretical framework for analyzing the relationship between education expansion and income inequality. The underlying assumption of the theory of human capital is that a person increases his income through increased education. Every additional one year of schooling means increasing one's ability and level of income, but on the other hand, delaying acceptance of income for one year in attending the school. Thus, educational expansion or increasing public expenditure on education will decrease income inequality and increase intergenerational mobility. However, the empirical evidence shows that educational expansion augments income gaps because the rate of return on higher education is much higher than the rate of return on compulsory education. Besides, when more and more people acquire higher education, the rate of return on higher education remains at a comparatively high position; in other words, educational expansion does not reduce income inequality [15]. Omic argued that education is generally considered to be the most important factor in the field of economics (and complementary fields) that can help a person resolve initial income inequality. However, schooling is heavily affected by the socio-economic circumstances under which disadvantaged families are on average less educated, have less educational opportunities and are more likely to have similar educational outcomes to those of their parents. Educated and wealthy families, on either hand, have many more opportunities for education. It is therefore necessary to ensure that there is a level playing field in which everybody, irrespective of their socio-economic status, has access to the same standard of education – i.e. equality of opportunity for education [16]. There are several empirical studies that discuss income inequality in Indonesia. Some have shown that education plays a significant role in income inequality [2], [3], [4], [5], [14], [15]. According to Hayashi et al. [13], as measured by Theil T, disparity due to educational differences

explains approximately 25% of urban inequality. By using other methods, this increases to 30%. Among the five education groups, the tertiary education group registers not only the highest mean per capita expenditure but also the highest within-group inequality, suggesting that the tertiary group may play a key role in urban inequality. In addition, by using the Blinder–Oaxaca decomposition, it becomes clear that differences in educational ability are a critical determinant of urban–rural disparity, accounting for approximately 36% of the urban–rural expenditure gap. Wahyuni dan Monika [4] analyzed the impact of education on the income inequality of workers in Indonesia. They investigated the National Labor Force Survey (Sakernas) data from six regions in Indonesia in 2013. The findings revealed that returns to education are higher for more skilled individuals (workers who have long years of schooling). In other words, education can reduce income inequality. Income inequality occurs because of over-education, ability–schooling interactions, and school quality or different fields of study. In terms of gender, returns to education for men are lower than for women. Education can therefore reduce the gender-based income gap. Akita [14] examined the role of education in expenditure inequality in Indonesia under educational expansion since the 1997 financial crisis. He used three methods. First, using the Blinder–Oaxaca decomposition, he found that the difference in mean years of education is a significant factor in urban–rural expenditure disparity, accounting for more than 30% of the disparity. Second, based on the decomposition of the Gini coefficient, he found that mean years of education have increased steadily in both urban and rural areas. Meanwhile, overall educational inequality has declined. Furthermore, he found that expenditure disparity between educational groups in the urban sector is a prominent contributor to overall expenditure inequality, and the expansion of higher education in urban areas has played an essential role in the recent rise of overall expenditure inequality.

3 DATA AND METHODOLOGY

3.1 Data

This research uses Susenas data collected in 2015–2018. The variables are the consumption expenditure per capita to measure income inequality and education level. Also, other household socioeconomic variables, such as binary categorical variables (gender, urban-rural area, and east-west region), non-binary categorical variables (marital status, and working sector) and numerical variables (age, household size), as explanatory variables. The classification of east-west region based on Christina and Pratiwi [17]

Table 1. Sample size based in on location and education attainment

Year	Location	No Certificate	Elementary	Junior HS	Senior HS	D1/D2/D3	D4/Bachelor	Master/Doktoral	Total
2015	Urban	18,999	26,641	19,859	40,119	3,857	11,769	1,603	122,847
	Rural	53,413	53,751	25,192	24,172	1,675	4,969	289	163,061
2016	Urban	17,164	44,319	8,297	37,729	3,396	11,984	1,678	124,519
	Rural	48,719	71,275	10,151	29,537	1,649	5,212	348	166,901
2017	Urban	19,420	29,005	19,859	42,185	3,634	11,806	1,773	127,682
	Rural	51,017	59,073	25,611	27,230	1,524	4,754	337	169,566
2018	Urban	19,694	26,983	19,924	42,590	3,848	12,167	1,800	126,966
	Rural	52,661	55,925	24,880	27,282	1,730	5,719	392	168,589
Total		28,1084	366,572	153,789	270,908	21,313	67,967	8,222	1,189,753

Source: Calculated by the authors based on Susenas 2015–2018

3.2 Methodology

To answer the research question regarding the impact of education on income inequality between the urban and rural areas in Indonesia, this study performs a Blinder–Oaxaca decomposition, which was developed by Blinder [18] and Oaxaca [19]. This decomposes the causes of income inequality into two parts. The first part is the difference in characteristics observed (explained variable) or commonly called differences in endowment such as second part is the different treatment and assessment of education groups or differences in unexplained variables.

First, let Y_U and Y_R be the natural log of per capita expenditure of urban and rural area households, respectively. Given the linear regression model,

$$Y_k = X_k\beta_k + e_k, E(e_k) = 0, k = U, R \quad (1)$$

where X_k is a vector of explanatory variables, β_k includes the parameters associated with X_k , and e_k is the error term, which contains unobserved factors, let β_k be a vector of the least-squares estimates for β_k ($k=U, R$), obtained separately from the urban and rural areas samples, and \hat{X}_k be the estimate for $(E(X_k))$. Then, the estimate urban-rural area difference in mean per capita expenditure is then expressed as (twofold decomposition):

$$\hat{D} = \bar{Y}_U - \bar{Y}_R = \left((\bar{X}_U - \bar{X}_R)' \hat{\beta}^* + (\bar{X}'_U (\hat{\beta}_U - \hat{\beta}^*) + \bar{X}'_R (\hat{\beta}^* - \hat{\beta}_R)) \right) \quad (2)$$

where $\hat{\beta}^*$ is a vector of the least-squares estimates for the slope parameters and the intercept, which are obtained from the pooled sample of urban and rural areas households. The first term in Equation 2 is the part of the urban-rural difference in mean per capita expenditure that is explained by urban-rural areas differences in the explanatory variables (endowments or quantity effect), and the second term is the unexplained part. The explanatory variables in this study are the household head's years of education, age, age squared, east-west region, household size, gender, marital status, and working sector (agricultural and non-agricultural). To answer the second question of how education impacts income inequality in the urban area and rural areas of Indonesia, this study employs the hierarchical decomposition of expenditure inequality using the Theil L index, referring to Akita [14]. In this method, we show the two-stage decomposition. Firstly, all samples are grouped into the urban and rural area sectors. Secondly, samples in each of these sectors are classified into the seven education groups: Not attending a school or not graduating from elementary school, Elementary School, Junior High School, Senior High School, Diploma I/II/III, Diploma IV, and Bachelor, Master and Doctor. (groups 1, 2, 3, 4, 5, 6 and 7, respectively). Let y_{ijk} , Y and N_{ij} denote, respectively, the per capita expenditure of household k in education group j in sector i , the total per capita expenditure of all households, and the number of households in education group j in sector i . Then overall inequality in per capita expenditure is given by the Theil index L as follow:

$$L = \sum_{i=1}^2 \sum_{j=1}^7 \sum_{k=1}^{N_{ij}} \left(\frac{1}{N} \right) \log \left(\frac{1/N}{y_{ijk}/Y} \right) \quad (3)$$

Next, let y_{ij} and y_i denote, respectively, the total per capita expenditure of households in education group j in sector i and the total per capita expenditure of households in sector i . Then, the Theil index L in Equation (3) can be decomposed hierarchically into the between sector inequality component (L_{BS}), the within-sector between-group inequality component

(L_{WSBG}), and the within-sector within-group inequality component (L_{WSWG}) as follows:

$$\begin{aligned} L &= L_{BS} + \sum_{i=1}^2 \left(\frac{N_i}{N} \right) L_i \\ &= L_{BS} + \sum_{i=1}^2 \left(\frac{N_i}{N} \right) L_{BGi} + \sum_{i=1}^2 \sum_{j=1}^7 \left(\frac{N_{ij}}{N} \right) L_{ij} \\ &= L_{BS} + L_{WSBG} + L_{WSWG} \end{aligned} \quad (4)$$

where L_i , L_{BGi} and L_{ij} are, respectively, inequality within sector i , inequality between education groups in sector i , and inequality within education group j in sector i . Equation (4) presents the hierarchical inequality decomposition equation for location and education.

4 RESULTS

This study performed the Blinder–Oaxaca decomposition to examine the extent to which there is a difference in the level of educational attainment between the urban and rural areas. In Table 4.1, the mean of the natural log per capita expenditure in 2015 is 13.664 for urban areas and 13.273 for rural areas, resulting in an urban–rural expenditure difference of 0.391. In other years, the values are at approximately the same level. The expenditure gap is divided into two parts. The first is the explained part, which implies an increase in mean per capita expenditure if rural areas have the same contribution as urban areas, assuming that urban and rural households have the same coefficients, obtained from the pooled sample of urban and rural households. The second part is an unexplained component that catches all potentials effects of differences in unobserved variables. The total explained part of 0.211 in 2015 indicates that differences in contribution (education, age, age squared, east–west area, household size, gender, marital status, and working sector) as a whole account for 53% of the urban–rural spending gap. However, the differences in the contribution of the explained part to the urban–rural expenditure gap decrease in the following years, which account for 41, 42, and 43%, respectively.

Table 2. Blinder–Oaxaca decomposition of urban-rural difference in mean per capita expenditure, 2015–2018

	Coef.	z value	Contrib. (%)	Coef.	z value	Contrib. (%)
	2015			2018		
Differential						
Prediction for Urban	13.664	4731.82		13.778	4784.98	
Prediction for Rural	13.273	6995.04		13.361	6929.47	
Difference	0.391	113.08	100.00	0.417	120.45	100.00
Explained Part						
Education	0.204	105.78	52.27	0.166	95.04	39.80
Age	-0.018	-11.91	-4.71	-0.022	-13.43	-5.32
Age squared	0.015	11.24	3.80	0.018	12.49	4.31
East-West Area	-0.003	-10.8	-0.87	-0.007	-2.177	-1.77
Household size	-0.005	-4.98	-1.16	-0.003	-3.23	-0.75
Gender	-0.001	-6.02	-0.35	-0.001	-4.43	-0.31
Married	0.006	13.95	1.52	0.007	14.12	1.59
Hhagri	0.014	16.72	3.49	0.015	18.07	3.50
Total	0.211	95.06	53.99	0.171	81.76	41.05
Unexplained Part						
Total	0.180	56.14	46.01	0.246	75.84	58.95
	2017			2018		
Differential						
Prediction for Urban	13.869	4792.28		13.944	4971.06	
Prediction for Rural	13.467	7050.73		13.552	7123.96	
Difference	0.402	115.95	100.00	0.393	115.88	100.00
Explained Part						
Education	0.161	93.97	40.03	0.161	94.08	40.95
Age	-0.020	-13.24	-4.97	-0.021	-12.96	-5.31
Age squared	0.015	11.64	3.79	0.017	11.76	4.31
East-West Area	-0.008	-21.65	-1.95	-0.006	-18.17	-1.61
Household size	0.002	1.62	0.41	0.000	0.31	0.08
Gender	-0.002	-6.64	-0.44	-0.001	-6.41	-0.34
Married	0.009	17.48	2.19	0.007	15.59	1.74
Hhagri	0.015	18.61	3.70	0.015	18.68	3.74
Total	0.172	81.5	42.77	0.171	82.11	43.55
Unexplained Part						
Total	0.230	69.08	57.23	0.222	68.61	56.45

Source: Calculated by the authors based on Susenas 2015–

2018

The finding shows that the urban–rural difference is mainly related to educational attainment. This finding is in accordance with Omic [16] that education is generally considered to be the most important factor that can help a person resolve initial income inequality. Also, in line with Akita [14], reducing the urban-rural gap in educational attainment will therefore minimize the discrepancy in urban–rural expenditure to a certain level. The proportion of rural households with either no education or incomplete elementary school education is still very high at 32% in 2015 compared to urban areas at only 10%. It is therefore crucial to increase the level of educational attainment to at least elementary school level in rural areas. However, it will take time to narrow the gap. Furthermore, this study uses the hierarchical decomposition of expenditure inequality by Theil index to answer the question of how education gives impact income inequality in the urban and rural areas in Indonesia. The first finding is that the expenditure inequalities between urban-rural areas are minor. In contrast, those within the areas are much larger — the contribution of interregional expenditure inequalities between urban and rural range between 11% and 12%. (see Table 4.2) Second, the within-urban area inequalities show higher values than the within-rural area inequalities. For example, in 2015, the corresponding value in urban was 0.315, whereas for rural it was 0.192. Moreover, the within-urban area inequalities remained higher than overall inequality. Third, the expenditure inequalities between education groups show smaller values than those within education groups. Fourth, regarding within-education inequalities, the expenditure inequalities in the higher education group tend to show greater values than the lower education group. This finding conforms with the results of Akita [14]. The present study assumes that the greater inequality value in the higher education group is due to the type of working sector in this group, which is mostly the tertiary sector. The expenditure per capita of households with higher education and work in the tertiary sector is higher and more diverse than in other groups.

findings of Akita [14], wherein the household whose head had completed junior high school or senior high school (secondary education group) made the largest contribution to overall inequality in the urban sector, ranging between 19.4% and 29.8%. In our period study, the contribution of the junior high school groups ranges between 5.33% and 9.32%, whereas senior high school groups account for 17.76%–18.98%. Thus, our study shows that the senior high school group's contribution to overall inequality in urban areas is higher than that of the junior high school group. The within-inequality of the senior high school group shows a downward trend from 0.248 in 2015 to 0.221 in 2018. However, due to it being the largest population share, the corresponding contributions to overall inequality increased from 17.76% in 2015 to 18.98 in 2018. Thus, the decrease of overall inequality appears to be not only because of a decrease in inequality between education groups but also the decrease in inequality within senior high school groups in the urban area. This means that if these inequalities are reduced, overall inequality will decrease. The highest within-educational groups in urban areas differs in every year of our study, e.g., the highest is diploma 4 or the bachelor group in 2015 and 2016, the senior high school group in 2017, and the master or doctoral group in 2018. The high within-inequality in the senior high school group is possibly due to the difference in skills between household heads who graduated from senior high school and vocational high school. Vocational high school graduates are prepared to work after graduating from school; meanwhile, senior high school graduates are prepared to continue with higher study. The Ministry of National Education Strategic Plan (Renstra) 2005–2009 states that the target for the ratio of vocational secondary education and general secondary education is 50:50 in 2010 and 70:30 in 2015. This policy is expected to solve one of the key unemployment problems. Increased vocational education aims to prepare skilled workers to meet the needs of the workforce, following the demands of the industrial world. The results imply the success of the plan in reducing within-senior high school inequality. Another possible cause of high expenditure inequality in the high school group is due to tight job seeking competition so that many high school graduates work in the low skill sector so they get low incomes. The mismatch between education and the work done is often called over educated. The difference in the quality of education between regions in Indonesia could also cause this inequality to occur. Some people get a good quality education, while some Indonesian people, especially in remoted areas, only get a modest education. This lead this causes differences in ability or skill among fellow high school graduates. In contrast, Akita [14] discovered that the primary education group (no education, incomplete primary education, or primary education) made the biggest contribution to overall inequality in rural areas. The current study specifically found that the elementary school group made the highest contribution to overall inequality. The contribution of the elementary school group ranged between 11–14%. This is slightly smaller than the contribution of the primary education group in Akita [14], which ranged between 11–17%. This is because the population share of those two groups was the biggest in rural areas. To conclude, in this study, urban inequality is associated with differences in the quality of senior high school education, and rural inequality is linked with differences in the quality of elementary school education. This is similar to the argument of Hayashi et al. [13] that the issues of inequalities

Table 3. Decomposition of Expenditure Inequality by location and educational group by Theil L index

Year	Inequality	Contrib. (%)	Pop. share (%)	Year	Inequality	Contrib. (%)	Pop. share (%)
2015				2015			
Total	0.288	100.00	100.00	Total	0.288	100.00	100.00
Between Sector	0.033	11.37		Between Sector	0.033	11.37	
Urban	0.215	55.15	50.16	Urban	0.215	55.15	50.16
Rural	0.050	17.04		Rural	0.050	17.04	
Within Group	0.220	40.20		Within Group	0.220	40.20	
No Certificate	0.200	69.37		No Certificate	0.200	69.37	
Elementary	0.202	12.32	7.61	Elementary	0.202	12.32	7.61
Junior HS	0.214	18.09	8.18	Junior HS	0.214	18.09	8.18
Senior HS	0.243	17.59	16.43	Senior HS	0.243	17.59	16.43
D 100003	0.219	4.50	4.29	D 100003	0.219	4.50	4.29
D 4013	0.228	0.74	0.55	D 4013	0.228	0.74	0.55
D 2013	0.228	0.74	0.55	D 2013	0.228	0.74	0.55
2016				2016			
Total	0.272	100.00	100.00	Total	0.272	100.00	100.00
Between Sector	0.034	12.37		Between Sector	0.034	12.37	
Urban	0.238	87.43		Urban	0.238	87.43	
Rural	0.002	0.42	51.28	Rural	0.002	0.42	51.28
Within Group	0.054	11.99		Within Group	0.054	11.99	
No Certificate	0.215	42.29	6.29	No Certificate	0.215	42.29	6.29
Elementary	0.226	12.52	15.10	Elementary	0.226	12.52	15.10
Junior HS	0.233	17.76	16.55	Junior HS	0.233	17.76	16.55
Senior HS	0.258	18.22	18.22	Senior HS	0.258	18.22	18.22
D 100003	0.231	4.72	4.41	D 100003	0.231	4.72	4.41
D 4013	0.231	4.72	4.41	D 4013	0.231	4.72	4.41
D 2013	0.231	4.72	4.41	D 2013	0.231	4.72	4.41
2017				2017			
Total	0.264	100.00	100.00	Total	0.264	100.00	100.00
Between Sector	0.032	12.05		Between Sector	0.032	12.05	
Urban	0.234	89.30		Urban	0.234	89.30	
Rural	0.002	0.58	53.08	Rural	0.002	0.58	53.08
Within Group	0.227	41.34		Within Group	0.227	41.34	
No Certificate	0.220	18.51	8.34	No Certificate	0.220	18.51	8.34
Elementary	0.227	19.03	18.41	Elementary	0.227	19.03	18.41
Junior HS	0.236	18.98	16.33	Junior HS	0.236	18.98	16.33
Senior HS	0.221	1.50	1.49	Senior HS	0.221	1.50	1.49
D 100003	0.219	4.50	4.29	D 100003	0.219	4.50	4.29
D 4013	0.219	4.50	4.29	D 4013	0.219	4.50	4.29
D 2013	0.219	4.50	4.29	D 2013	0.219	4.50	4.29
2018				2018			
Total	0.262	100.00	100.00	Total	0.262	100.00	100.00
Between Sector	0.029	11.05		Between Sector	0.029	11.05	
Urban	0.233	89.50		Urban	0.233	89.50	
Rural	0.002	0.58	54.71	Rural	0.002	0.58	54.71
Within Group	0.219	15.19		Within Group	0.219	15.19	
No Certificate	0.219	15.19	6.25	No Certificate	0.219	15.19	6.25
Elementary	0.203	12.61	12.13	Elementary	0.203	12.61	12.13
Junior HS	0.221	15.88	17.97	Junior HS	0.221	15.88	17.97
Senior HS	0.221	15.88	17.97	Senior HS	0.221	15.88	17.97
D 100003	0.216	4.73	4.48	D 100003	0.216	4.73	4.48
D 4013	0.216	4.73	4.48	D 4013	0.216	4.73	4.48
D 2013	0.216	4.73	4.48	D 2013	0.216	4.73	4.48

Source: Calculated by the authors based on Susenas 2015–2018

Fifth, the senior high school group contributes the most to overall inequality in urban areas. This is slightly different to the

in educational attainment and urban inequality are related to disparities in the quality of higher education, and rural inequalities are related to differences in the quality of lower education.

5 CONCLUSIONS

From these findings, some policy implications can be highlighted. First, education is still the major factor of expenditure disparity between urban and rural areas. Policymakers should therefore focus on narrowing the gap. President Jokowi has already provided a "village transfer" (dana desa) to reduce the inequality between rural and urban areas. However, only a small portion of the village transfer allocation is for education, and it is not for formal education. Thus, a new policy regarding the allocation of village transfer for the education sector should be designed. Second, regarding the important role of high school graduates reaping inequalities in urban areas, policy maker should increase the coverage of Kartu Prakerja program so that it can be reached and accessed by all levels of society in Indonesia. In term of formal education, the government must continue to harmonize and equalize the quality of high school education throughout Indonesia in order to create evenly qualified graduates. Third, in addition to optimizing village transfer allocation, to reduce inequality in rural areas, policymakers should provide a new opportunity of lifelong learning for the heads of households, offering them the attainment of elementary education to improve their skills and competitiveness. Furthermore, policymakers must encourage children to finish higher education to secure a better future for them.

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