Rate of Return on Education in Indonesia: The Privilege of A High Economic Group and Urban Areas

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Abstract

Investing in education for an individual is one of the best ways to improve their welfare. However, each individual's returns from education investment vary depending on individual characteristics, household, and regional support. This study aims to analyze the rate of return on education of individuals in Indonesia in general and based on the characteristics of the residence and the individual's economic level. Using the Mincer equation, the results of the study show that urban types functionally and administratively have a higher average rate of return than functional and administrative rural areas of 2.9% and 1.9%, respectively. Besides, the rate of return to education at the economic level of quantile 5 in urban areas is 2 times higher than quantile 1 in urban areas and quantile 5 in rural areas.

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1. Introduction

Education is one of the best solutions for individuals to improve their social status. Through education, each individual can also increase his or her competitiveness compared to others. Besides being beneficial for individuals who get it, education also has benefits for those around them. Some examples of the benefits of education for those around are reduced crime rates, reduced birth rates, and decreased dependence on government financial assistance (Józef, 2015). In addition, education can also improve social relations with the surrounding community and increase democratic participation in society.

According to Psacharopoulos & Patrinos (2018), education is not something that does not have a relation with others. The decision to take education is a general investment decision, which also has a cost and benefit scenario. The costs incurred in the investment process are divided into the costs of obtaining education and other benefits that are lost due to the investment (opportunity costs) (Psacharopoulos, 2006). In deciding to invest, each individual must decide whether investing in something gives them an advantage or not, like investing in education. Opportunity cost that arises is when a person chooses to go to school, that person will lose the income he or she could have earned at the moment. However, if education is over, the income they get will be higher than their current income (Hartog & van den Brink, 2007).

In the education sector, the investment made is subject to several trade-offs. One of the biggest is work experience. Experience in individual work can provide income compared to individuals who are currently receiving education. Meanwhile, in the future, improved work experience can also

provide greater returns than before (Abu-Qarn & Lichtman-Sadot, 2019). Based on this explanation, a profitable return on education investment is a return on investment that can increase future income and is greater than the trade-off held. This also indicates that education is inseparable from human capital. The presence of humans as human capital becomes competitive in the labor market to obtain higher income (Lavrinovicha et al., 2015). The return to higher education encourages individuals to seek more education and earn more lifelong labor income (Strulik, 2017).

Return on investment in education is strongly influenced by how the individual can take advantage of the investment that has been given. Still, these benefits do not necessarily depend on the individual himself. The area of residence, socioeconomic factors, the high level of education, and the work sector after completing the education period can also affect the return on education investment (Psacharopoulos & Patrinos, 2018).

Article 31 of the 1945 Constitution of the Republic of Indonesia has stated that education is a right for every citizen. Moreover, paragraph 2 of the same article states that every citizen is obliged to receive primary education funded by the government. The law has made it clear that every citizen should receive education according to the provisions and is also entitled to the education he wants. However, can the benefits of education that have been previously mentioned be felt by all citizens when the conditions of education, socioeconomic levels, and regional progress differ in Indonesia?

The Central Statistics Agency (2019) states that the average length of schooling for residents who live in different type of areas has quite an enormous difference, as well as the comparison between socioeconomic levels. Figure 1 shows the average length of year schooling according to urban and rural areas to the average household in quantiles 5 and 1. The difference in the average length of year schooling between urban and rural areas is around two years, while for households with high socioeconomic the average is up to 5.5 years compared to lower socioeconomic households.

Most of the previous studies related to investment in education in Indonesia only compared the magnitude of one related type, such as differences in education investment between regions and economic statuses. In this study, a deepening analysis will be carried out on how the basic patterns of increasing education investment between individuals based on the area of residence and economic status they have compared to their counterparts. Therefore, this research aims to assess the effect of individual and contextual variables on the return on investment in individual education. Based on that objective, an analysis of the rate of return on investment in education will be carried out using the Mincer equation: (1) national; (2) individual living areas (urban and rural-based on functional and administrative characteristics); (3) the combination of both type of areas and socioeconomic level
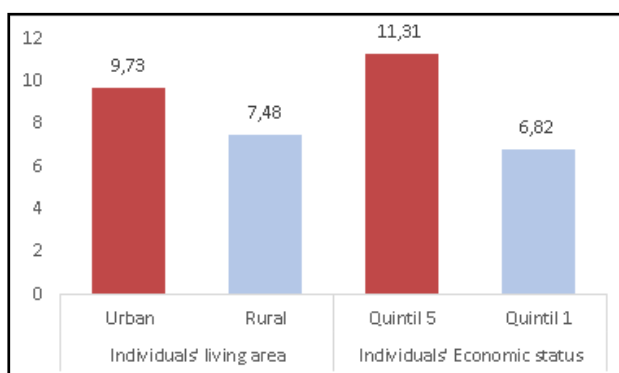

Figure 1 Average length of schooling based on individual living areas and household economic capacity
Source: Statistics Indonesia, 2019

2. Method

This study used microdata from the KOR section of the National Socio-Economic Survey (SUSENAS) in March 2019. SUSENAS is data from the Indonesian Central Bureau of Statistics with a frequency of surveys conducted two times a year, namely in March and September. SUSENAS conducted an enumeration survey of 315,672 households covering 1,204,466 individuals. Broadly speaking, SUSENAS data is the primary data source used in this study because most of the variables used in this research are found in SUSENAS data. Based on these data, the approach used in this study is a quantitative approach using

the mincer equation model to see the amount of return on an individual's education level based on the type of residence and socio-economy.

The mincer equation is a model able to measure the return on education investment for each individual. The explanation is that Mincer is a model that describes the relationship between income and an increase in the individuals' education level. In a brief explanation, the Mincer model will provide an average return on the benefits obtained for increasing educational experience each year (Björklund & Kjellström, 2002; Patrinos, 2016; Psacharopoulos & Patrinos, 2018). The initial function of Mincer is as follows:

$$y = f(S,X) \tag{1}$$

In assumption, the variable length of schooling and work experience is assumed to affect the amount of individual income. Another assumption used in this function is that the only costs incurred as a result of going to school are the loss of the opportunity to get wages or income from working itself (Björklund & Kjellström, 2002). The Mincer model concept is the calculation of the additional return on investment from the education held, so that the dependent variable of the Mincer model is the logarithm of income itself. Therefore, the final equation used is:

$$ln\ earnings_i = \beta_0 + \beta_1\ year\ of\ schooling_i + \beta_2\ Working\ experience_i + \beta_3\ Working\ experience\ square_i + \beta_n X + \varepsilon_i \tag{2}$$

There are additional main variables besides the length of school and work experience, which is the square number of work experience used to eliminate the bias from increasing work experience to increasing individual income. In this analysis, as displayed in Table 1, the Mincer model will be used to measure returns to education based on individual backgrounds to returns for each district/city.

3. Result and Discussion

This study analyzes the return on investment in individual education on their welfare based on their residence and economic level characteristics.

In the analysis of model 1, the results show that the amount of return on education in Indonesia is average in the range of 5.52%, which can be stated that each additional one year of education can increase income by that percentage. However, the averages are different for urban and rural areas and districts compared to cities. In models 2 and 3, the returns to education are quite different, with the mean rates being 7.3% and 4.4%, respectively (Figure 2). Meanwhile, this pattern also occurs in the areas where regencies and cities, where returns are obtained in the city area greater by 1.9% compared to the regency, this difference is still lower than the difference between urban and rural areas reaches 2.9% (Figure 2).

The results previously mentioned show that the benefits of education to improve the community's welfare based on the area of residence are relatively greater in areas where they have more access to utilize the education, in this case, cities and urban. The findings obtained from the analysis regarding the comparison of the rates of return on investment in individual education that is differentiated between areas of residence are also supported by previous studies such as Bao (2006) and Zhang (2003). They also stated that the findings are possible because education in cities and urban areas has a better quality education and a balanced labor market than villages and rural areas. Also, differences in wage rates provide differences in rates of return on education (Wang & Wu, 2018).

Apart from comparing the returns to education based on residence, an analysis was also carried out by comparing the economic level of the people living in urban and rural areas. The results show the return on education investment for the urban population is much lower for the economic groups in the 1st and 2nd quintiles than the 4th and 5th quintiles. The return on education level in the 1st and 2nd quintiles is only 1.07%, while for the high economic status, it is 3.60%. The pattern in urban areas is not much different from that in rural areas, where the return on education investment in quantiles 1 and 2 in rural areas is smaller than in quantiles 4 and 5. However, the difference is not as big as in urban areas.
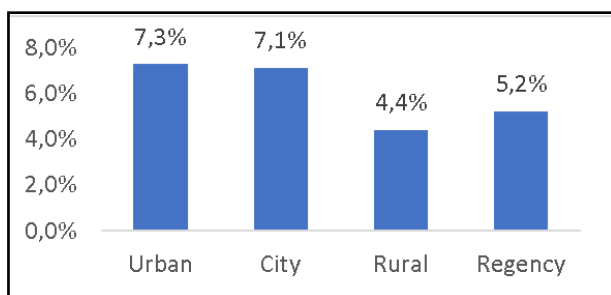
Figure 2 The coefficient of rate of return on education divided by individual living areas
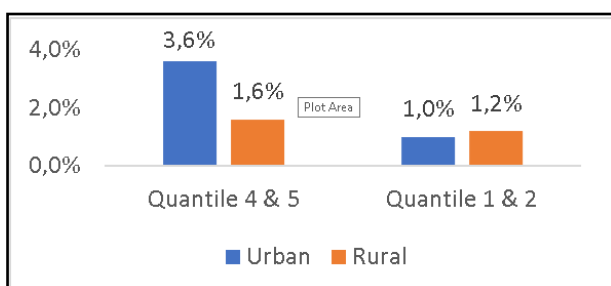

Figure 3 The coefficient of rate of return on education divided by individual living areas and individual economic levels

4. Conclusions and Suggestion

Education is a solution for every individual to improve their economic status. Besides being beneficial for individuals, education also has benefits for the surrounding environment. However, education is no different from an investment decision because there are trade-offs that must be released if someone takes education, which is the opportunity for someone to get a job. If investing in education can increase future income much more than choosing to work, then investing in education is profitable.

The benefits of investing in education are influenced by many things: the area of residence, socio-economy, education level, to the absorption of workers from that level of education (Psacharopoulos & Patrinos, 2018). Using the Mincer model at the individual household level, this study finds that the return on investment in urban Indonesia education is higher than in rural areas. Besides, people with low economic levels also have a lower return to education than those with high economic levels.

To overcome the problems, the government need to make several new regulations, especially those closely related to supporting the welfare of vulnerable groups, such as (1) Equalization of wages for workers that have been calculated based on different regions, characteristics, and levels in different areas, characteristics and levels different and has been adjusted to the amount of the cost of living and other needs in the region; (2) Increasing the ease of access for graduates of the same level of education who come from low-income families to get qualified jobs so that the benefits of education investment are not different for each economic class; (3) The establishment of cooperation between education providers and job seekers so that the skills possessed by vulnerable groups have more value than before.

In order to develop studies related to the comparative analysis of returns to education among individual characteristics, future studies can include several other criteria that are relevant to the phenomenon of differences in the benefits of education itself, such as the type of individual work juxtaposed with regional characteristics or economic status. It should be done considering that the type of work is closely related to the rate of return. Also, conducting analysis by distinguishing each individual residential area, for example, an analysis of each district is needed considering that each region has a different rate of return on individual education.

5. Acknowledgement

6. References

Abu-Qarn, A., & Lichtman-Sadot, S. (2019). Connecting Disadvantaged Communities to Work and Higher Education Opportunities: Evidence from Public Transportation Penetration to Arab Towns in Israel. *IZA Discussion Papers*.

Adelman, C. (2006). Paths to Degree Completion From High School Through College Paths to Degree Completion from High School Through College. *Adult Education*, 223. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.108.495

Bao, C. (2006). Policies for compulsory education disparity between urban and rural areas in China. *Frontiers of Education in China, 1*(1), 40–55. https://doi.org/10.1007/s11516-005-0003-y

Björklund, A., & Kjellström, C. (2002). Estimating the return to investments in education: How useful is the standard Mincer equation? *Economics of Education Review*, *21*(3), 195–210. https://doi.org/10.1016/S0272-7757(01)00003-6

Byun, S. yong, Meece, J. L., & Irvin, M. J. (2012). Rural-Nonrural Disparities in Postsecondary Educational Attainment Revisited. *American Educational Research Journal*, *49*(3), 412–437. https://doi.org/10.3102/0002831211416344

Dello-Iacovo, B. (2009). Curriculum reform and "Quality Education" in China: An overview. *International Journal of Educational Development*, *29*(3), 241–249. https://doi.org/10.1016/j.ijedudev.2008.02.008

Hartog, J., & van den Brink, H. M. (2007). *Human Capital: Theory and Evidence*. Cambridge University Press.

Józef, D. (2015). Measurement of Rate of Return in Education. *FIKUSZ '15 Symposium for Young Researchers*, 39–56.

Lavrinovicha, I., Lavrinenko, O., & Teivans-Treinovskis, J. (2015). Influence of Education on Unemployment Rate and Incomes of Residents. *Procedia - Social and Behavioral Sciences*, *174*, 3824–3831. https://doi.org/10.1016/j.sbspro.2015.01.1120

Patrinos, H. (2016). Estimating the return to schooling using the Mincer equation. *IZA World of Labor*, (July), 1–11. https://doi.org/10.15185/izawol.278

Psacharopoulos, G. (2006). The value of investment in education: Theory, evidence, and policy. *Journal of Education Finance*, *32*(2), 113–116.

Psacharopoulos, G., & Patrinos, H. A. (2018). *Returns to Investment in Education: A Decennial Review of the Global Literature*. (April). Retrieved from http://econ.worldbank.org.

Strulik, H. (2017). The return to education in terms of wealth and health. *Journal of the Economics of Ageing*, *12*, 1–14. https://doi.org/10.1016/j.jeoa.2017.11.001

Wang, F., & Wu, H. (2018). Returns to Education in Rural and Urban China: An Empirical Study. *Asian Journal of Social Science Studies*, *3*(4), 18. https://doi.org/10.20849/ajsss.v3i4.499

Zhang, X., & Kanbur, R. (2005). Spatial inequality in education and health care in China. *China Economic Review*, *16*(2), 189–204. https://doi.org/10.1016/j.chieco.2005.02.002

Zhang, Y. (2003). The Allocation of Education Resources and the Gap in Education Between Urban and Rural Areas. *China Rural Survey*.

7. Appendix

Table 1. Variables and Models Used

Variable	Model 1: All level	Model 2: Urban area	Model 3: Rural area	Model 4: City area	Model 5: Regency area	Model 6: Urban & quantile 4,5	Model 7: Urban & quantile 1,2	Model 8: Rural & quantile 4,5	Model 9: Rural & quantile 1,2
Main variables of Mincer equation									
Year of schooling	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Work experience	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Work experience^2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional variables									
Urban (functional) (1=yes)	Yes								
City (administrative) (1=yes)	Yes								
Male (1=yes)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Population in 1 district	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes