

Human Development Index: The Impact of Human Resources Investment in Education and Regional Revenue

Novi Yanti¹, Nurtati², Syamsurizal³

^{1,2} University of West Sumatra, Indonesia, ³Islamic Institutes of West Sumatra, Indonesia

Corresponding Author: Novi Yanti

DOI: <https://doi.org/10.52403/gijash.20220403>

ABSTRACT

Human investment in education and local revenue provides a positive trend towards the development index in West Sumatra Province. For this reason, it is necessary to study the extent to which human investment in education and local revenue can explain the positive trend towards the human development index. This research method is quantitative with a longitudinal research design. The data is obtained from the Report of the Central Statistics Agency of West Sumatra for 2010-2019. Analysis of research data using panel data regression. The results of the study reveal that there is a positive influence between human investment in education and local revenue on the human development index. Heads of districts/cities in West Sumatra need to plan investment in human capital expenditures in the education sector well in order to increase an educated workforce that can be absorbed by the labor market and seek to increase local revenue so as to encourage positive trends in economic growth and directly increase the human development index by increase the allocation of education funds from the regional expenditure budget.

Keywords: Human development index; Human investment in education; locally-generated revenue.

INTRODUCTION

The development paradigm that is currently developing is economic growth as measured by human development as seen by the level of quality of human life in each country. One of the benchmarks used in viewing the

quality of human life is the Human Development Index (HDI) which is measured through the quality of education, health and economic levels (purchasing power). Through the improvement of these three indicators, it is hoped that there will be an increase in the quality of human life. This is due to the heterogeneity of individuals, geographical disparities and diverse social conditions, causing income levels to no longer be the main benchmark in calculating the success rate of development, however, the success of human development cannot be separated from the performance of the government which plays a role in creating regulations for achieving social order.

The role of education is very important in the economic development of a nation. The more highly educated individuals, the more opportunities to get job opportunities and high salaries in the labor market compared to countries with low levels of public education (Breton, 2013). Becker et al stated that employees who have work experience and have received greater incentives play an important role in their workplace. These professionals are highly retained by the company than employees who have no other training, which implies that the rate of layoffs and layoffs of professionals is lower and inversely proportional to the number of unprofessional workers (Becker 2011).

To spur economic growth, to increase people's purchasing power (Household Consumption Expenditure) and also to

equalize income of the population through equitable development in all regions. The size of a country with a large population can be a positive trend for economic growth when the income level of the population is high, but it will be a negative trend if the unemployment rate is high. This is the importance of human capital investment to spur economic growth. The cost of human capital investment is certainly a burden on government spending. This government expenditure on education can be allocated from the amount of Regional Original Income (PAD) general allocation funds, special allocation funds and other routine expenditure funds. Regional Original Revenue is income that comes from the region itself. The amount of PAD obtained by a region also determines the size of the regional economic growth

Aim And Objective of Study

To analyze the effect of investment in human resources in the field of education and Regional Original Income (PAD) on the Human Development Index in the Province of West Sumatra.

MATERIALS AND METHODS

This research is a quantitative research with a longitudinal research design. Longitudinal research is a type of social research that compares changes in research subjects after a certain period of time (Hassett & Paavilainen Mäntymäki, 2013). This type of research is intentionally used for long-term research, because it takes a long time and in this study the data used were secondary data from 2010 to 2019. The research data was obtained from the National Statistics Agency of West Sumatra Province. The research data is the human development index, human investment in education and Regional Original Income (PAD).

Data analysis used panel data regression. The selection of panel data is due to the fact that this study uses a time span of several years and also many regions. First, the use of time series data is intended because this study uses a time span of 10 years, namely from 2010 -

2019. Then the use of a cross section in the form of a Regency / City area consisting of 19 districts / cities in West Sumatra Province which is used as a research sample.

Statistical analysis

In analyzing the data using panel data regression, the first step that needs to be done is to determine the best model. The selection of the best model in the panel data regression test with EViews consists of three test selections, namely Common Effect, Fixed Effect and Random Effect

RESULTS AND DISCUSSION

Data processing and data analysis

Model Determination Test

In the panel data regression test, it is necessary to determine the right model for the analysis data to be tested using CEM, FEM and REM. The determination of the first model is carried out to determine the best model between FEM and CEM with the Chow test. The following are the results of the Chow test.

Table 1. Chow Test Results

Effects Test	Statistic	d.f.	Prob.
Cross-section F	35.222471	(18,169)	0.0000
Cross-section Chi-square	296.107698	18	0.0000

The table above shows that the P-value in the chi-square cross section is $0.0000 < \alpha = 0.05$, so H_0 is rejected, which means that the Fixed Effect model is better than the common effect model. The next model determination test is to determine which model is the best between REM and FEM using the Hausman Test. The following are the results of the Hausman test.

Tabel 2. Hausman Test Result

Tess Cross section random effect			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	8.793904	2	0.0123

Based on the table above, it shows that the p-value is $0.0123 < \alpha = 0.05$, meaning that H_0 is not rejected, so the Fixed Effect model is better used than the random effect model. From the results of these two tests, the best

model for testing data analysis is using the Fixed Effect or FEM test model. Following

are the results of the panel regression analysis of the FEM model.

Table 3 Regression Results of the Panel Model FEM

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.871656	0.126215	38.59797	0.0000
IM	0.032485	0.018824	-1.725726	0.0117
PAD	0.016654	0.006225	-2.675157	0.0082
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.809313	Mean dependent var	4.274469	
Adjusted R-squared	0.786747	S.D. dependent var	0.069682	
S.E. of regression	0.032179	Akaike info criterion	-3.931098	
Sum squared resid	0.174994	Schwarz criterion	-3.572217	
Log likelihood	394.4543	Hannan-Quinn criter.	-3.785721	
F-statistic	35.86353	Durbin-Watson stat	1.955317	
Prob(F-statistic)	0.000000			

Based on the table above, the estimation results using the fixed effect model obtained the following regression equation:

$$Y = 4.871656 + 0.032485 \text{ IM} + 0.016654 \text{ PAD}$$

The partial interpretation of the model can be explained that the level of investment in human resources in the education sector has a positive and significant effect on the human development index. This means that every 1 unit increase in the human development index will increase human investment in education by 0.032485%. Meanwhile, local revenue (PAD) has a positive and significant effect on the human development index. This means that every time there is an increase in the human development index by 1 unit, it will increase local revenue by 0.016654%. Simultaneously obtained a number of 0.786747. this means showing that 78.67% of the human development index can be explained by the variables of human investment in education and local revenue. While 21.33% can be explained by other variables outside this study.

DISCUSSION

Investment in human resources in education has a positive effect on the human development index. When a region allocates large amounts of human capital investment in education, it means that the region is trying to increase the human development index. This impact also reduces poverty. Reducing poverty brings added value to the region to income tax revenues. Investment in human

capital in education not only reduces unemployment but also affects the value of wages where the increase in wages for educated workers is higher than for educated workers.

Thus, an increase in education investment spending will increase the supply of an educated workforce in the future. The large number of educated workers who can be absorbed by the labor market will increase regional income which has an impact on improving the welfare of people's lives for long-term economic development planning and increasing the human development index.

Regional original income (PAD) has a positive and significant effect on the human development index. There is a positive relationship between the amount of PAD and economic growth, which directly affects the human development index due to the addition of PAD causing GRDP to increase. The increase in GRDP clearly affects the increase in economic growth as well as related to the human development index. The higher the regional PAD, the higher its contribution to GRDP each year. The more GRDP increases every year, the more it causes a positive trend of economic growth as well as the human development index.

By increasing the economic activity of the community, there will be an increase in the amount of output of goods or services followed by an increase in the amount of money circulating in terms of spending made by the regional government. Furthermore,

this will increase the value of GRDP and the level of community welfare.

RESULT

Human resource investment in education has a significant positive effect on the human development index in West Sumatra. When a region allocates large amounts of human capital investment spending in the field of education, it means that the region is trying to reduce the unemployment growth rate in their area which at the same time encourages an increase in the population's per capita income in the long term by increasing the number of new workers who get jobs and earn high wages. for an educated workforce. This impact also reduces the poverty rate (Aminah, 2019). Reducing poverty brings added value to the region to income tax revenues. Human capital investment in education not only reduces the unemployment rate but also affects the value of wages where there is an increase in wages for educated workers, so that the human development index can increase. Therefore, to the head of the district/city government in West Sumatra Province to plan investment in human capital expenditure in the education sector properly in order to increase the participation of the educated workforce which can produce a positive trend for the human development index. This is one of the strategies that can be carried out by local governments by increasing the participation of the workforce of educated women who are still not absorbed by the labor market and increasing the allocation of education funds from the APBD to 20% of total regional expenditures.

Regional Original Income (PAD) affects the human development index in West Sumatra. The increasing rate of GRDP clearly affects the increase in the rate of economic growth, because economic growth is measured by the GRDP growth rate of a region. The higher the regional PAD, the higher its contribution to GRDP each year. The more GRDP increases every year, the more it causes a positive trend of economic growth and a positive trend towards the human

development index. To the district/city government of West Sumatra province in order to further intensify sources of local original income (PAD) in order to increase economic growth, because the increase in PAD directly affects economic growth which will ultimately improve community welfare and increase the human development index.

Acknowledgement: None

Conflict of Interest: None

Source of Funding: None

REFERENCES

1. Adesiyani, O.C (2017). The impact of public spending on education in Nigeria. University of Cape Town
2. Aminah, S. (2019). Pengaruh Tingkat Pendidikan dan Jumlah Penduduk terhadap tingkat kemiskinan di Kabupaten Bone tahun 2008 – 2017. *Jurnal Ekonomi Pembangunan STIE Muhammadiyah Palopo*, 5(1)
3. Baah-Boateng, W.(2013) Determinan of unemployment in Ghana. *African development review*, 25(4),385-399
4. Becker, G.S (2011). *The Oxford handbook of human capital*. Oxford University Press
5. Biddle,J & Holden L (2014). *Walter heller and the introduction of human capital theory into education policy*
6. Breton, T.R (2013). *The role of education in economic growth. Theory, history and current return*. *Educational research*, 55(2), 121-138
7. Cirillo, R(2012). *The economic of vilfredo pareto*. Routledge
8. Gini, C. (1929). The Theoretical Bases of Economic Policy. *Journal of Political Economy*, 37(6), 633–660
9. Goldin, C. D. (2016). *Human capital*
10. Hanushek, E. A. (2013). *Economic growth in developing countries: The role of human capital*. *Economics of Education Review*, 37, 204–212
11. Hassett, M. E., & Paavilainen-Mäntymäki, E. (2013). *Longitudinal research in organizations: an introduction*. In *Handbook of longitudinal research methods in organisation and business studies*. Edward Elgar Publishing

12. Kolomiets, U., & Petrushenko, Y. (2017). The human capital theory. Encouragement and criticism. *SocioEconomic Challenges*, (1, Iss. 1), 77–80.
13. Mankiw, N.G (2014). *Macroeconomia*. Antoni Bosch editor
14. Mankiw, N. G. (2016). *Principles of economics*. Cengage Learning
15. Mays, A. (2015). *Toward the Application of Constructivism and Constructionism to Work- Related Training in Service of the Enhancement of Human Capital Development in Postsecondary Education Settings in the United States*. Online Submission.
16. Myrdal, G., Keynes, J. M., Marshall, A., Modigliani, F., Robertson, D., Smith, A., Sraffa, P. (2009). *Great Thinkers in Economics Series*
17. Nowak, A. Z., & Dahal, G. (2016). The contribution of education to economic growth: Evidence from Nepal. *International Journal of Economic Sciences*, 5(2), 22–41
18. Oluwatobi, S. A., & Ogunrinola, I. O. (2011). Government expenditure on human capital development: Implications for economic growth in Nigeria. *Journal of Sustainable Development*, 4(3). (2011). Government expenditure on human capital development: Implications for economic growth in Nigeria. *Journal of Sustainable Development*, 4(3).
19. Prévost, J.-G. (2015). The long Great War of the Italian statisticians. *Lettera Matematica*, 3(1–2), 63–71.
20. Ratha, D. (2013). The impact of remittances on economic growth and poverty reduction. *Policy Brief*, 8(1), 1–13.
21. Riddell, W. C., & Song, X. (2011). The impact of education on unemployment incidence and re-employment success: Evidence from the US labour market. *Labour Economics*, 18(4), 453–463.
22. Singh, R. (2018). Impact of GDP and inflation on unemployment rate: “A study of Indian Economy in 2011–2018.” *International Journal of Management, IT and Engineering*, 8(3), 329–340.
23. Teixeira, P. N. (2011). A reluctant founding father: Placing Jacob Mincer in the history of (labor) economics. *The European Journal of the History of Economic Thought*, 18(5), 673–695.
24. Urbankova, E., & Maitah, M. (2015). The effect of education on unemployment in the Czech Republic. *International Business Management*, 9(6), 1285–1289
25. Urhie, E. S. (2013). *Public Education Expenditure and Economic Growth in Nigeria: 1970-2010*. Covenant University, Ota, Ogun State.
26. Xin-xian, L. I. (2013). The Study of Contribution of Higher Education to Economic Growth in the BoHai Sea’s Region. *Journal of Shandong Polytechnic University (Natural Science Edition)*, (2), 25

How to cite this article: Novi Yanti, Nurtati, Syamsurizal. Human development index: the impact of human resources investment in education and regional revenue. *Galore International Journal of Applied Sciences & Humanities*. 2022; 6(2): 15-19. DOI: <https://doi.org/10.52403/gijash.20220403>
