

# Impact of Education as Human Capital Investment on Economic Growth in Malaysia

Askar<sup>1</sup>, Andik Priyanto<sup>2</sup>, Refina Sawitri<sup>3</sup>, Adita Taufik Widiyanto<sup>4</sup>

<sup>1,2,3</sup>STIE Jaya Negara Tamansiswa Malang, Indonesia

<sup>4</sup>Universitas 17 Agustus 1945 Banyuwangi

## Abstract

This study examines how technology, human resources, and education affect economic growth in Malaysia using annual time series data from 1984 to 2019. This research investigates the relationship between technology, human capital investment (education as a proxy for human capital), and economic growth using an autoregressive distribution gap to cointegration technique. The estimation findings demonstrate that human capital investment in education, as a proxy for good human capital, has a considerable influence on long-term economic growth. However, it is not significant for the short term. However, human capital boosts economic productivity when the human capital formation process is complete. Technology is very supportive in accelerating the formation of human capital and is very good at boosting an economy supported by labor and financial capital.

**Keywords:** Human Capital, Economic Growth, Technology, Education.

**JEL Code :** A1,A2,J24

Received: May 6,2022 Accepted: June 1,2022

DOI : 10.54204/TAJI/Vol612022007

## Background

Education as an investment has components. Components of future consumption and components of future income (Sulisnaningrum, Widarni, & Bawono, 2022). Investment in skills and knowledge raises future income, while the satisfaction derived from education is a component of consumption. As a constant component of consumption, education is a source of future uses that are not included in the measured national income (Priyanto, Widarni, & Bawono, 2022). So in calculating the return on investment in education, the components of future income must be carefully considered. The method used is based on a comparison between the average living income of more educated people and less educated people who work in the same profession (Widarni & Bawono, 2020).

The quality of the population in the field of education is very important to know because it can describe the ability of the population to master the development of science and technology (Harnani, Rusminingsih, & Damayanti, 2022). In education, one of the problems facing Indonesia is the high dropout rate. Whatever the difficulties involved in investing in human capital, it is now fully recognized that the growth of developing countries is stunted not because of a lack of physical capital but because of a lack of skills and knowledge. Consequently, according to popular belief, the growth of human capital is even more crucial than the development of material capital (Damayanti & Rusminingsih, 2021). So we need to realize that the importance of the role of education as Human Capital because human capital to stay alive is not only determined by material capital, but education is needed to bridge humans who are broad-minded, highly dedicated, and have qualified skills to face current global challenges (Rusminingsih & Damayanti, 2022). Today, the business world today has a lot of demands for people who have

specific skills to take part in increasing production, therefore education is required to be able to create quality, competitive human resources who have expertise and skills (Prabowo, Puspaningtyas, & Murniati, 2019).

Developing countries with a desire to develop higher education have opened too many universities without trying to raise their educational standards (Puspaningtyas & Harnani, 2021). The absence of restrictions imposed on higher education results in a very high proportion of failures at secondary and university levels. This results in a waste of human resources. Few developing countries will face one of the most explosive problems of discontent and frustration. Given the high cost of education, educated unemployment is a huge waste of human and material resources (Ochoa-Mora & Bawono, 2021). Apart from a poor education system, other factors related to this are the lack of a labor bureau, a low salary and wage structure, reluctance to accept jobs in rural areas or jobs that are considered low-status positions, and drop out of school. Every country is beginning to feel that the expansion of the education sector to boost human capital is the key requirement for growth of other development sectors, as the idea of education as an investment in the form of human capital has grown quickly (Harnani, Widarni, & Bawono, 2022). The process of acquiring and growing the population of individuals with the knowledge, training, and experiences that determine a nation's progress is referred to as "human capital creation." Investment in people and their growth as a creative and productive resource is consequently connected to the production of human capital (Sagala, 2017).

The process of acquiring knowledge and skills through education is not just a consumptive activity, but a form of investment in human resources. Education, as a means of developing human quality, has a direct contribution to the growth of state income by increasing the skills and abilities of labor production (Astuti & Prabowo, 2021). Human capital is an ability that a person has through education, training, and/or experience in the form of knowledge and skills necessary to carry out certain activities. Human capital is created by changing humans by giving them skills and abilities that enable them to act in new ways (Tommi Elang & Prabowo, 2021).

Physical capital is tangible, it is manifested in a clear material form. As for intangible human capital, it is manifested in the skills and knowledge that individuals learn. Physical capital facilitates productive activities, as well as human capital. Recognition of human capital through formal education is manifested in the form of an educational certificate (Irawan, Sasongko, & Afriani, 2022). Meanwhile, recognition of human capital obtained through non-formal education is shown by acceptance of the certificates they have. And informal education is usually not through a diploma or certificate but tends to be informal. In other words, society recognizes that a person has knowledge, skills, abilities, or other similar attributes required by society such as the ability to massage or alternative medicine. (Machado, 2015). Like other developing countries with market economies, Productivity growth is Malaysia's main source of per capita output (Rodionov, et al., 2020).

### **Literature review**

Education has a high and strategic role in improving human resources. Furthermore, it has been able to increase economic growth, both for individuals, communities, and governments. This is based on the consideration that education is an institution that provides workers according to their expertise and/or even prepares the community with the acquired skills so that they are able to open and expand their own employment opportunities (Widarni & Wilantari, 2021). Educational development is the development of human resources from uneducated to educated humans. Humans who have received improved quality education from those who have general education are directed at the education of certain skills or skills. Education-related investments

are those in human capital, whose returns are slower than those in the economy (Widarni & Mora, 2021). But it's thought that the superior human capital that education generates would spur economic growth. Human resource development through high-quality human education and in turn will increase the quality and national productivity for the progress of the nation. One indicator of the progress of a nation is the development and growth of a country's economy and industry. In addition, other factors such as employment opportunities, equitable income distribution, and a socio-political climate that supports human resource development appear to be closely related to economic growth which emphasizes meeting human needs (Odden,2011).

The rate of return increases with a person's degree of education, both for individuals and society. The distribution and level of income generated by the world of education are likely to be greater when compared to other investments. The distribution of educational resources, such as income generated through education, is likely to be greater (Widarni, 2017). Thus the economic background of the community will be able to determine the level of community income. The socioeconomic background of the community greatly affects the cost of education. The problem of using funds, especially education funds, is indeed complex and not easy. Education administrators must think that in building education it is necessary to determine carefully what priorities are prioritized so that there are guidelines for allocating funds that are clearer and more directed to achieve the goals (Ray,et al.,2015).

The objective of providing education is for equal distribution of educational opportunities, of course, priority must be determined on education which touches educational opportunities for all levels of society, meaning that the quantity aspect of education delivery gets attention (Rebele & Pierre, 2019). However, if the concept that is considered is the connection between education and manpower, what must be considered is modifying which educational programs and which ones can directly support the needs of manpower in various development sectors. So education as an institution that provides labor in accordance with the economic field, industry, and services has a direct link to economic development and growth (Koval, Polyezshayev, & Bezkhlibna, 2018). Educational development means the development of human resources from uneducated people to educated people. Humans who have received education are upgraded from those who have general education which is directed at specialization education for certain expertise or skills. Educational development like this feels very important to increase economic growth and meet the needs of various fields of life and market demands. Investment in education is called investment in human resources. In an economy, there are investments that generate profits more quickly such as construction projects, housing, and so on. All of these investments are aimed at producing a faster financial economy (DeMoss & Wong,2004).

Investments in education and human capital are not as fast as economic returns. The more individuals follow formal and informal education, the more social networks that individuals get will also be more numerous and wider. Especially in formal education, when a person completes studies at a school or university, that person gets the title of an alumnus. Social capital processed from alumni network resources will be stronger if the person is able to create a degree of trust between himself and other alumni. In addition, while still a student or student, that person also acquires certain values and norms. Usually, values and norms about hard work, honesty, courtesy, etc. are needed in everyday life. If all of that can be managed properly, the social capital owned will be stronger (Han & Lee 2020).

It is becoming more widely understood that the development of human capital namely the process of raising all of a nation's citizens' knowledge, skills, and abilities, depends in part on the expansion of the real capital stock. The reason why emerging nations' economies are growing

slowly is a result of a lack of investment in human capital. Without developing education, knowledge, and skills and raising the skill level and physical efficiency of the people, the productivity of physical capital will decline (Oyedokun, 2018). By developing the skills that people need to be a productive source of energy and giving them access to lucrative employment, the production of human capital seeks to solve issues. Most of the industrial growth we are getting today is not obtained from the greater capital investment but from investment in humans. Technological knowledge and skills are immaterial tools or intangible assets of society, without which physical capital cannot be utilized productively. In other words, the reform or process of change requires a large amount of human capital because physical capital becomes more productive if the state has adequate human capital (Banerjee and Roy (2014)

### Methods and Data

ARDL with the cointegration technique was chosen as the method used to investigate the long-term cointegration connection between variables in this research and to determine the dynamics of short-term variables to concurrently acquire short- and long-term coefficients. We just utilize a small sample of 30-80 observations based on the perspective of the human capital theory model with using the subsequent equation:

$$Y_t = f(K_t, L_t, H_t)$$

where the output ( $Y_t$ ), money capital ( $K_t$ ), labour ( $L_t$ ), and human capital ( $H_t$ ) are present. Specifically incorporating technology into the following models:

$$Y_t = f(K_t, L_t, H_t, T_t)$$

econometric model that is created from the equation function is as follows:

$$\ln Y_t = \beta_0 + \beta_1 \ln K_t + \beta_2 \ln L_t + \beta_3 \ln H_t + \beta_4 \ln T_t + \epsilon_t$$

Where,

$Y_t$  = output

$K_t$  = money capital

$L_t$  = labor

$H_t$  = human resources

$T_t$  = Technology

$t$  = time

$\Delta$  = operator for differences one

$k$  = length of optimum lag.

Based on the availability of the data, the Malaysia's central bank and World Development Indicators database were used as the study's data sources for the 35-year period between 1984 and 2019.

### Results and Discussion

Economic growth will be accelerated by an increase in human capital since human resources are crucial for economic progress. Economic growth is positively and significantly impacted by the technology variable. The human capital variable has no bearing in the near term. This demonstrates that, in the near run, human capital does not significantly affect economic development. As a result, human capital is not a powerful factor that can spur growth in the near future. But at the 5% level, technology is beneficial and substantial. That is, even in the near term, technical advancements speed up growth. At the 5% level, the labour and monetary capital variables have short-term significance.

**Table 1.** Coefficients for the Long and Short Runs as Assumed

Long term		
	Coeff.	T ratio and [p value]
ln Kt	0.789	4.246 [0.000]
ln Lt	3.265	4.182 [0.000]
ln Tt	0.536	4.952 [0.000]
ln TEt	0.52	3.329 [0.002]
Constant	-119.246	-5.414 [0.001]
Short term		
$\Delta \ln Y_{t-1}$	-0.213	-3.063 [0.039]
ln Kt	0.359	3.136 [0.006]
ln Lt	4.718	4.101 [0.000]
ln Tt	0.513	8.321 [0.000]
ln TEt	0.241	3.309 [0.003]
Constant	-59.722	-3.617 [0.003]
Adj R	0.821	
Durbin-Watson stat.	1.732	
F stat.	20.262 [0.000]	

The Model's long- and short-term outcomes are shown in Table 1. Results over the long run indicate a direct and significant association between human capital and economic growth at the 5% level, although this relationship is not present in the near term. Because the pace of development of the Malaysian economy has accelerated and remained relatively sustainable over the past ten years, this is compatible with both theory and reality. At the 5% level, the technology variable is positive and substantial. The capital and labour coefficients are both substantial and positive. R<sup>2</sup>, Durbin-Watson, and F statistics that have been changed show that the model is appropriate.

### Conclusion

Economic growth is long-term and depends on human capital. This demonstrates that investing in human capital needs a procedure to produce returns on investment. However, human capital boosts economic productivity when the human capital formation process is complete. Technology is very supportive in accelerating the formation of human capital and is very good at boosting an economy supported by labor and financial capital. So it can be concluded that human capital is a long-term investment in driving the economy.

### References

- Astuti, I., & Prabowo, B. (2021). Economic Growth, Human Capital and Technology Inclusion in Indonesia. *Splash magz*, 1 (3), 23-26.
- Banerjee, R., & Roy, S. S. (2014). Human capital, technological progress and trade: What explains India's long run growth? *Journal of Asian Economics*, 30, 15-31.
- Damayanti, L., & Rusminingsih, D. (2021). Human Identity Factors in Human Capital Investment in Driving Financial Performance, Case Study of the Islamic Hospitality Industry in Indonesia. *Tamansiswa Management Journal International*, 1(1), 3-5

- DeMoss,K., Wong,K.K.(2004).Money, Politics and Law: Intersections and Conflicts in the Provision of Educational Opportunity. New York: Eye On Education
- Han,J.S., Lee,J.W.(2020).Demographic change, human capital, and economic growth in Korea.Japan and the World Economy.3(53),1-13.  
<https://doi.org/10.1016/j.japwor.2019.100984>
- Harnani, S., Rusminingsih, D., & Damayanti, L. (2022). The Role of Human Capital in Education, Environment, and Economic. *Asia Pacific Journal of Management and Education (APJME)*, 5(2), 87-99.
- Harnani,S., Widarni,E.L., & Bawono,S. (2022). The Role of Human Capital in Natural Sustainability and Economic Growth in Indonesia A Dynamic ARDL Approach. *Tamansiswa Accounting Journal International*, 5(1),28-35
- Irawan, C. B., Sasongko, B., & Afriani, I. A. (2022). The Role of English and Technology on Human Performance in International Business. *International Journal of Applied Business and International Management (IJABIM)*, 7(2), 30-40.
- Koval, V., Polyezhayev, Y., & Bezhklibna, A. (2018). Communicative competences in enhancing of regional competitiveness in the labour market. *Baltic Journal of Economic Studies*, 4(5), 105-113.
- Machado,C.(2015).International Human Resources Management: Challenges and Changes.Cham : Springer
- Ochoa-Mora,A.G, & Bawono,S.(2021). Science Development of Psychology and Economics in Business - A Systematic Literature Review.*Tamansiswa Accounting Journal International*,3(1),25-29
- Odden,A.R.(2011).Strategic Management of Human Capital in Education: Improving Instructiona and Student Learning in Schools.London : Routledge
- Oyedokun, G. E. (2018). Human capital formation and economic growth in Nigeria. *International Journal of Finance & Banking Studies*, 7(3), 44-65.
- Prabowo, B. H., Puspaningtyas, M., & Murniati, M. (2019). Analysis of The Influence of Competence, Work Environment, and Work Discipline on The Performance of The Staff of The Regional Civil Service Agency in Malang City. *Review of Behavioral Aspect in Organizations and Society*, 1(2), 141-148.
- Priyanto, E., Widarni, E. L., & Bawono, S. (2022). The Effect of Internet Inclusion on Financial Inclusion in P2P Lending in Indonesia Based on Human Capital Point of View. In *Modeling Economic Growth in Contemporary Indonesia* (pp. 107-121). Emerald Publishing Limited.
- Puspaningtyas, M., & Harnani, S. (2021). Education and Technology in Human Capital Management Studies in Indonesia. *Tamansiswa Management Journal International*, 1(1), 1-2.
- Ray, N., Das,D.K., Chaudhuri,S., Ghosh,A.(2015).Strategic Infrastructure Development for Economic Growth and Social Change. Hershey : IGI Global
- Rebele, J. E., & Pierre, E. K. S. (2019). A commentary on learning objectives for accounting education programs: The importance of soft skills and technical knowledge. *Journal of Accounting Education*, 48(1), 71-79.
- Rodionov,D., Kudryavtseva,T., Berawi,M.A , Skhvediani,A.(2020).Innovations in Digital. Economy. Cham : Springer
- Rusminingsih,D., & Damayanti,L.(2022).The Role Of Financial Literacy On Economic Growth And Human Capital In Thailand.*Tamansiswa Accounting Journal International*,4(1),52-57

- Sagala, S. (2017) Human Capital: Building Human Capital with Superior Character Through Quality Education. Depok: Kencana
- Sulisnaningrum, E., Widarni, E. L., & Bawono, S. (2022). Causality Relationship Between Human Capital, Technological Development and Economic Growth. *Organization*, 6(2), 1-12.
- Tommi Elang, H., & Prabowo, B. H. (2021). Strategic Planning for Human Resources, Technology, and Organizational Performance. *Splash Magz*, 1(2), 101-104
- Widarni, E. L. (2017). Relationship between Intellectual, Social and Emotional Capital: Its Impacts to Performance. *Australian Journal of Basic and Applied Sciences*, 11(10), 145-150.
- Widarni, E. L., & Bawono, S. (2020). Human Capital Investment For Better Business Performance. Singapore : Triplenine Communication
- Widarni, E. L., & Mora, A. G. O. (2021). How to Understand and Develop Humans: Based on Psychology and Management Perspectives For Better Human Resources and Organizational Performance. Malang : Janega Press
- Widarni, E. L., & Wilantari, R. N. (2021). The relationship between human capital development and economic growth: Evidence from Malaysia. *The Journal of Asian Finance, Economics and Business*, 8(6), 641-650.