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Educational Progress as a Booster of Economic Growth in Indonesia

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Abstract: *Increasing population growth as a demographic bonus in Indonesia needs to be balanced with improving the quality of human capital so that the demographic bonus can increase economic growth. Improving the quality of human capital investment takes a long time to produce tangible results, but the benefits will last longer for economic growth. The purpose of this research is to find out the link between education in boosting economic growth and formulate efforts that can be made to advance education in Indonesia. The research method used in this research is Systematic Review (SR) with Narrative Review (NR) research type. In realizing the education progress in Indonesia, the government can seek planned education based on the social demand approach, economic return approach, employment generation approach, and supports education for girls' and women's rights. Support from the government is one of the primary keys to developing human capital. Even so, every aspect of the educational environment needs to support and contribute to realizing progress in education together to boost economic growth in Indonesia.*

Keywords: Educational Progress; Economic Growth Booster; Indonesia

JEL: I24, I25, J1

1. INTRODUCTION

In 2030 – 2040 it is estimated that Indonesia will experience a demographic bonus, where the number of productive ages, namely those aged 15 – 64 years, is more than those of unproductive age (Andriani & Yustini, 2021; Ariteja, 2017; O'Neill, 2022). According to Databoks, the demographic bonus in Indonesia has increased by 69% at productive age as of June 2022. The increase in population growth as a demographic bonus in Indonesia needs to be balanced with an increase in the quality of human capital so that the demographic bonus can increase economic growth (Andriani & Yustini, 2021; Kusnandar, 2022; Risandini & Silvi, 2021). Increasing human capital is the main factor in increasing per-capita GDP (Diebolt & Hippe, 2019). Improving the quality of human capital investment takes a long time to produce tangible results. However, the benefits will last longer for economic growth (Sesan, 2018). If human capital is not provided with education, skills, and job training, demographic bonuses will negatively impact declining economic growth (Adam & Negara, 2015; Amornkitvikai et al., 2022).

Educational policies and practices are one way to improve the quality of human capital, especially for productive age because human beings who have potential, are competent, competitive, creative, and have high integrity are produced through good education so that they can meet the criteria needed by the industrial and business sectors in improving the economy (Vandekinderen et al., 2018; Efendi, 2020; Kuzminov et al., 2019). Based on research by Özbal (2021) that countries included in the OECD (Organization for Economic Cooperation and Development) have a relationship that is still changing between educational participation, human capital development, and economic growth which includes national income so that countries the country must pay special attention to areas that can improve the quality of human capital, including higher education.

There is a steady and positive relationship between the degree of education and economic life. The higher the degree of education, the higher the economic life. However, it needs to be made

clear which factors came first, whether educational developments led to economic growth or vice versa. Regarding this problem, there is much evidence showing that there is a relationship of mutual influence between the two, namely that educational growth affects economic growth and vice versa. Economic growth affects educational growth (Osiobe, 2019).

Consensus and conflict theorists agree that the primary function of educational institutions in economic life is to prepare young people to fill productive jobs (Mankiw, 2019). In the case of adult education, the goal to be achieved is undoubtedly no longer to prepare abilities but so that students can deal with existing problems (Mankiw, 2019). They get mental education, attitudes, knowledge, and valuable skills. This process occurs in all societies, from the most traditional to the most modern.

Changes in the quality of education in a country can reflect the country's economic growth (Sesan, 2018). In developed countries, the government's attention to the development of the education sector is considerable; for example, the political commitment of the education sector budget is not inferior to other sectors, so the success of educational investment is correlated with the progress of its macro development. Learning from several developed countries, the Indonesian government must take strategic steps to build national education. Investment in education will significantly encourage economic progress and create social welfare.

2. LITERATURE REVIEW

2.1. Economic Growth

Economic growth in the Asian region will increase by 5.2% in 2022. However, along with increasing economic growth, the inflation rate will also increase by 3.7% due to the Russia-Ukraine war and the new variant of the covid-19 omicron (Asian Development Outlook, 2022). Indonesia is ranked 7th out of 10 countries in ASEN based on GDP levels in 2021 and 2022 (O'Neill, 2022). World Bank data mentioned that GDP growth in Indonesia in terms of the last ten years, namely in 2012 to 2014, has decreased, then stabilized again in 2014 to 2019, experienced a sharp decline in 2020 of -2, 1%, and could bounce back in 2021 at 3.5% in annual.

In connection with the condition of Indonesia's economic growth, which is still below standard compared to other countries, it is necessary to make improvements that can increase economic growth, one of which is to improve the quality of human capital (Mankiw, 2019). Some economists' thoughts about economic growth are the growth model initiated by the neoclassical economic system, with a closed economy. However, with economists such as Ramsey (1982), Solow (1956), Cass (1965), and Koopman (1965), there is an idea of the rate of economic growth per -capita in the long run that depends on technological developments (Amornkitvikai et al., 2022). However, there is an endogenous model that considers that economic growth depends on investment, savings, human capital, and knowledge or education, namely through research so that from this knowledge, sophisticated technology can be created as innovation in producing goods to increase economic growth. So the endogenous model complements the previous Solow model, which is that technological progress is created because of knowledge that can develop through educated human capital (Mankiw, 2019; Osiobe, 2019).

The macroeconomy book by Mankiw (2019) also explains that the endogenous model means that capital is interpreted broadly and views knowledge as a type of capital. Knowledge capital is the primary input for the production process in the economy, including the production of goods, services, and the development of other knowledge. However, compared to other economic capital, knowledge capital requires a long time and costs a lot. It can be concluded that the endogenous model has a constant return on capital and looks more at long-term economic growth because the growth of knowledge originating from educational institutions such as universities never stops to improve the quality of human capital (Mankiw, 2019).

2.2. Increasing Human Capital through Education

Human capital distributes two things, namely human capital as a factor of production and technological progress (Efendi, 2020). Microeconomics analysis explains that investment in human capital is how human contributes to the level of aggregate income and economic growth. In the traditional view, policy and government spending to increase human capital,

such as health, education, and labor mobility, is considered to reduce government savings that should be invested in factory infrastructure, land, and industrial mobility. Even though the average level of education is more strongly correlated with the level of state income than the size of physical capital per unit of labor.

Knowledge is obtained through formal and informal education at school and home with specific training. Activities like this involve costs that must be spent on education to become quality human capital. It takes a long time and will not produce results directly, but it produces human capital as a long-term investment for a company or industry (Mankiw, 2019). Berger & Fisher (2013) added that education is good for economic growth and can also increase the state budget in the long run. Payment of fees for education as a consumption good also comes from income, and a person will earn more income with education; indirectly, these two things will continue to rotate.

Efendi (2020) explain that humans as production factors are divided into two, namely humans with physical capital and humans with knowledge capital. Efendi also predicts that human capital companies will need more knowledge and skills in the future because it has a long-term effect on economic growth. In contrast, less physical capital is needed, especially in developed countries. Humans with knowledge capital can also create technologies that can help produce goods and services. However, in creating technological innovation, there needs support from outside, such as research institutes within the University and government policies, such as protection of technology, copyrights, and raw materials for manufacturing (Kuzminov et al., 2019; Mankiw, 2019).

2.3. Efforts to Improve Education Quality

Research by Sesan (2018) discusses how developments in education are directly related to each individual's income and economic growth. In their research, they compared by collecting data on the quality of education in developed and developing countries. The quality of higher education can affect economic growth in developed and developing countries by highlighting problems that can significantly affect the low quality of education in developing countries. The results of research found that these problems stem from educational policies made by the government that are inappropriate and ineffective, directly affecting the quality of education in developing countries. Changes in the quality of education in a country can reflect the country's economic growth. It is hoped that the government will be more careful in determining policies for education, especially in developing countries Sesan, 2018; Sun et al., 2018).

The government's role is needed in building education, such as curriculum development policies, granting subsidies and scholarships, awarding certification awards to teachers, and teacher empowerment training through professional teacher training (Jensen et al., 2016). In this regard, Law Number 14 of 2005, Articles 23 and 24 concerning teachers and lecturers, explains that the government regulates and develops an education system for teachers under the auspices of educational staff, institutions, or universities (Kementrian Pendidikan dan Kebudayaan, 2022). Article 24 explains that the government is obliged to equally meet the needs of teachers in terms of numbers, academic qualifications, and competencies to ensure the continuity of education units at all levels of education. However, there needs to be a correlation that is related and aligned between government policies and stakeholders in the education sphere, such as teachers, school principals, other educators, and parents of students (Yan, 2019).

The three educational institutions, namely the family, school, and community, each carry out different but complementary roles (Deda et al., 2021). The function of each of these institutions in a society that is still traditional is, of course, different in an advanced society because the demands of the people it serves are different.

In traditional societies, the family plays a significant role in preparing the younger generation to become independent (Ogundari & Awokuse, 2018). Parents and other adults in the traditional family nurture the various skills and traditions. In modern society, the family hands over a number of its functions in education to other institutions specifically assigned to handle this task. Parents and families limit their activities to primary care and cooperate with

schools in encouraging children and supervising their education.

Meanwhile, in modern society, schools prepare a workforce with specific knowledge and expertise to respond to the challenges of increasingly broad and sharp specialization (Ogundari & Awokuse, 2018). The school is open to the broader community. The principle of "equal opportunity" in education is increasingly becoming a reality, although it still contains many hot issues. Elitist schools turned into "populists" through the compulsory education program. By itself, the teaching materials and methods held in modern societies will differ from those held in societies with traditional economic systems. Meanwhile, the selective and allocative functions also have differences. Schools and families play a role in preparing children and youth to hold various positions and jobs.

3. METHOD

The research method used in this research is Systematic Review (SR) with Narrative Review (NR) research type. Researchers use Systematic Review because the number of studies continues to grow over time, so a review of these studies is needed. Reviews of research results are helpful for decision-making and policy-making on an evidence-based basis. Meanwhile, Narrative Review is used to identify a topic written by previous researchers selectively.

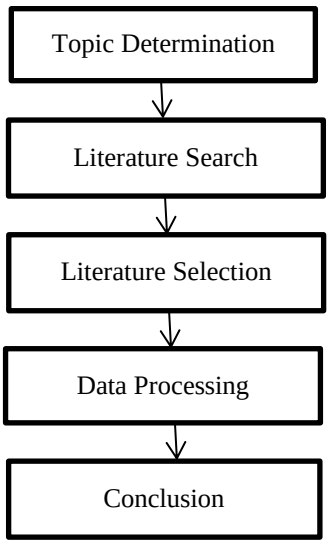

Figure 1. The flow of the Narrative Review Framework

The first step is to determine the topics to be studied, namely "Education" and "Economic Growth." Then, these keywords are searched through Scopus, Taylor & Francis, and Google Scholar. No limit to the literature review period was set. The title and abstract of each journal are carefully checked. In literature selection, the researcher determines the inclusion and exclusion of the literature, so it helps to focus on the relevance of the research. Inclusion criteria are determined by suitability with research objectives, namely to find out the link between education in boosting economic growth and formulate efforts that can be made to advance education in Indonesia.

Meanwhile, incompatibility with the research objectives can identify the exclusion criteria. Furthermore, the researcher analyzed, identified, and summarized the selected literature reviews for data processing to produce comprehensive findings. The conclusion-drawing stage aims to find the meaning and significance of the data obtained. Drawing conclusions are prepared with short and easy-to-understand statements.

4. RESULTS AND DISCUSSION

4.1 Education as a Booster of Economic Growth

Education universally means efforts to change humans to become more innovative, which in the concept of Indonesian educational philosophy states that education is an effort to

educate the nation's life (Adam & Negara, 2015). However, intelligence is not interpreted as mere cognitive or intellectual intelligence but natural human intelligence, real human intelligence in various fields of life. In order to optimize the benefits of the demographic bonus, Indonesia needs to improve its skills education and training system (Andriani & Yustini, 2021). Better education and skills training systems will support poverty alleviation efforts and reduce youth unemployment. Effectiveness government spending in the education sector needs to be increased to improve the quality of education. Indonesia must integrate the human resource development plan with the master plan economy.

The development of the education sector with humans as its core focus has contributed directly to a country's economic growth by increasing the skills and production capabilities of the workforce (Ogundari & Awokuse, 2018). These findings and perspectives have stimulated the interest of several experts to research the economic value of education. In developed countries, apart from being a consumptive aspect, education is also believed to be an investment in human capital and is a "leading sector" or one of the main sectors. Therefore, the government's attention to sector development is considerable. For example, the political commitment of the education sector budget is not inferior to other sectors, so the success of education investment is correlated with the progress of its macro development.

Risandini & Silvi (2021) scientifically reassured the importance of educated people directly supporting economic growth and all other macro development sectors. It is based on this scientific belief that the World Bank finally re-realized its international aid program to various countries. The contribution of education to this growth becomes even more vital after considering the interaction effect between education and other physical investments (Amornkitvikai et al., 2022). The investment in physical capital will double its added value in the future. Simultaneously, human resources are also carried out, which will directly become actors and users in the physical investment.

It is now recognized that developing a country's human resources is crucial for prosperity and growth and the effective use of its physical capital resources. Investment in human capital is an integral component of all development efforts. Education must cover a broad spectrum in the life of society itself.

By looking at and assessing literature related to human capital and economic growth, a comprehensive literature review can be realized for policy formulation and implementation of economic development in the short and long term (Osiobe, 2019). Society believes that individuals with higher education and more work experience can earn more money than those with less education and experience. Osiobe's research (2019) also explains that people with higher levels of education generally earn more, have higher earning potential, and are more able to improve their quality of life compared to people with lower levels of education. The theoretical framework of economic growth analyzes the influence of human capital on economic growth. Education directly impacts improving human resources, which can be measured by the Human Development Index (HDI) and has an impact on income distribution or the Gini Index.

Education can impact economic growth by increasing innovation through the development of science and technology. Increased knowledge and skills in technology can increase people's productivity, leading to short-term and long-term economic growth. Dahal (2016) also analyzes that elementary school education is insufficient to boost a country's economy. Human resources with higher education could drive economic growth and create job opportunities (Özbal, 2021). Of course, this shows that the education system's quantity and quality affect a nation's workforce, government, and employment conditions. Ogundari & Awokuse (2018) observed a significant increase in the economic growth rate when the investment was directed to human capital or resources.

According to Adam & Negara (2015), education significantly contributes to economic development, which is an axiomatic truth. Various academic studies and empirical research have proven the validity of this thesis. Education will not only give birth to quality Human Resources (HR), possessing knowledge and skills, and mastering technology, but it can also foster a healthy and conducive business climate for economic growth. Investments in education

are beneficial not only for individuals but also for the business community and the general public (Sun et al., 2018). The achievement of education at all levels will undoubtedly increase people's income and productivity. Education is the way to progress and achievement of social and economic welfare. Meanwhile, the failure to build education will birth to various crucial problems: unemployment, crime, drug abuse, and welfare dependencies which become a socio-political burden for the government.

At this time, the development paradigm that refers to a knowledge-based economy appears to be increasingly dominant. This paradigm emphasizes three things:

1. Economic progress rests on a scientific and technological support base.
2. The causal relationship between education and economic progress is becoming increasingly robust and solid.
3. Education is the primary driver of the dynamics of economic development, which drives long-term structural transformation processes

As an illustration, Japan is the first Asian country to pioneer knowledge-based economic development. After Japan, other East Asian countries such as Singapore, China, Taiwan, Hong Kong, and South Korea. A solid commitment to building education is one of the keys to successful economic development in Korea. The Korean government took expansive steps between 1960 – 1990 to expand access to education for all citizens. The universal basic education program has been implemented for a long time and was completed in 1965, while Indonesia only started it in 1984. Meanwhile, compulsory education at the junior secondary level was achieved in the 1980s, and the senior high school level was almost universal in the same period (Adam & Negara, 2015). What is impressive at the higher education level is also experiencing a massive expansion. More than half of school-age children at this level have entered college.

The Korean government's commitment to education development is reflected in public expenditure. In 1959, the budget for education reached 15% of total state spending to support universal primary education and continued to increase regularly to 23% in 1971. After this program was successful, the Korean government began to reduce the education budget in the range of 14 – 17% of the total state spending or around 2.2 – 4.4% of GNP. Realizing that primary education is part of the public good, reflected in a higher social return than private returns, the Korean Government allocated a much larger budget for primary education than the middle and high levels.

Apart from a more substantial educational base, the economic middle class in Korea is also well-formed and well-established. Between the 1960s and 1980s, Korean business people established trade links and opened market access to regional countries such as Japan. It has crossed over to America and Europe. Korea is prosperous in carrying out technological innovations (automotive and electronics) because it obtains technology transfer through trade relations with developed countries.

Reflecting on Korea's experience, the Government of Indonesia must take strategic steps to develop national education. Investments in education have significantly succeeded in driving economic progress and creating social welfare. For this reason, investment in the education sector must be supported by adequate funding, especially for the completion of the nine-year compulsory basic education program. At the same time, access to secondary and tertiary education must also be expanded to support efforts to create a knowledge society that is the basis for accelerating economic development.

4.2 Efforts to Improve Education Quality

Along with the development of human civilization, in the demands of modernization and globalization, quality education is an increasingly important requirement so that they survive in increasingly fierce competition. The importance of quality education has been aligned with other primary needs such as clothing, food, and housing. Without quality

education, people will still be left behind and are in the lowest social strata. Parents' enthusiasm to send their children to school to the highest and highest quality level of education is an attitude that all parties must support. However, this spirit ran aground in its helplessness due to the unaffordability of quality education costs.

The government has tried to improve quality, especially for state schools, but the implementation has been uneven. Only certain teachers are included if there is training or upgrading. If there is the procurement of educational equipment, only certain schools will receive it; this was carried out without factual, objective, and detailed studies. A bright spot needs to get a more profound study to realize equitable quality education. The government often needs to pay more attention to private schools, improving the quality of teachers and other facilities and infrastructure (Amornkitvikai et al., 2022; Li et al., 2022; Ogundu, 2022). Weak supervision of quality standards and regulation or determination of various rates, be it school or tuition fees, development money, or other forms of citations, is the thread red that must be found a solution.

The fact shows that equal distribution of quality and affordable education, primary, secondary, and tertiary education, still needs to be questioned. Many quality schools or colleges, both public and private, are filled with children from the upper economic class. Every new academic year comes with an old problem of getting a quality education that generally haunts most parents' minds, especially parents from the lower middle class. The limited capacity of education held by the government makes the competition even tighter so that practices outside the predetermined norms can occur.

Education is expected to produce quality human resources. If not, this sector will also contribute to unemployment. This study will discuss four efforts that can be cultivated.

4.2.1 Education is Planned based on the Social Demand

In this approach, educational programs are made based on demand in society. If the community wants to attend school, various educational programs are offered. If people can reason, this approach is not a problem. However, if people always want to enroll in academic units, even if they are not of good quality, the results will only help a little with the unemployment problem. People who are not critical will be more concerned with diplomas than competence. People can even buy a diploma. This condition has affected several members of the public. In a culture like this, it is clear that the educational process will only contribute to unemployment. For graduates of academic units whose school goals are only to get degrees and diplomas, the results of the education they get will not be able to help them when facing the problem of unemployment.

4.2.2 Education is Planned based on the Economic Return

In this approach, education can be analogous to the production process. By calculating the various costs involved in the education program (input-process-product) and looking at the productivity of the graduates, it can be said whether an education program will only contribute to unemployment or is it capable of producing human resources that genuinely have a positive economic impact on the whole. In this model, education must maintain the relevance and accountability of the programs offered. When graduates cannot play a role in the world of work which is usually marked by their low salary, or even cannot get a job. The education carried out by these educational institutions can be said to be a failure and thus will only contribute to more and more unemployment.

Currently, many educational programs are still looking for economic benefits from their organizers' investment efforts. Graduates who do not have productivity will undoubtedly contribute to unemployment. Moreover, it is challenging in this country to eliminate educational programs that cannot produce graduates with good productivity in society. Not infrequently, education itself is part of a place to make a living for its organizers. Education like this exacerbates the state of unemployment in this country. There are even signs that schools reject pro-quality movements. If many children do not graduate, the school is in danger of failure. When schools and

communities are not pro-quality, they produce graduates who have no economic return. Thus, such education will have an impact on increasing unemployment in Indonesia. Therefore, in the long run, the issue of graduate quality must be in the interest of all parties, including schools, parents, government, and society. The quality of our schools has now entered the yellow light. To overcome this need support from all stakeholders synergistically.

4.2.3 Education is Planned based on the Employment Generation

With this approach, it is hoped that education will not impact unemployment. This program can only be carried out when there is professionalism in the world of education. Graduate competence becomes more important than just having a diploma. The implication is that education must provide meaningful experiences to all students. Therefore, all involved in the educational process must have high professionalism. In addition, education must be empowered according to the characteristics of professionalism, including having a solid knowledge base, having to be based on individual competence (not based on collusion and nepotism), having a selection and certification system, having cooperation and healthy competition between colleagues, high professional awareness, ethical principles (code of ethics), professional sanction system, individual militancy, and professional organization.

4.2.4 Girls' Education and Women's Rights

Education also needs to pay attention to women's opportunities to access it. Education is one way to make women agents of change, not just passive recipients of empowerment programs. Education is one of the factors that allows women to have economic independence by working outside of work at home. This economic independence allows women to have a voice at home and in society, among other things, in regulating the distribution of family "assets" such as food, health expenses, and education. Women with a source of income tend to spend this income for the welfare of their children, the next generation of the nation. In giving women more excellent opportunities to enjoy education, the government must actively carry out its role. Scholarship programs prioritizing girls can also ensure that the gender gap in education does not widen. Of course, this affirmative action will constantly be reviewed so that men and women get justice and equality.

The ministry of education can develop many strategic policies and programs to be able to answer the challenges that are currently developing. Unfortunately, all seem to be lulled by political issues. When individuals involved in politics do not have idealism, eventually, their creativity will become subordinate to the situation that is developing. They tend to be passive and not creative. The government needs to continue to encourage efforts to improve the quality and equity of education, which are the main problems of education in Indonesia, so that its contribution can still be optimally increased for economic growth and equity.

Support from the government is one of the primary keys to developing human capital, such as setting up reserves for educational investment, encouraging social capital and development for education, and providing subsidies and cost reductions for underprivileged people to pursue education through educational policies (Risandini & Silvi, 2021; Sesan, 2018). Policies to advance the education system include providing apprenticeships, curriculum development, building infrastructure, building practical work partnerships, and educational equity (Amornkitvikai et al., 2022; Efendi, 2020; Jensen et al., 2016; Siddiqui et al., 2021). Deda et al. (2021) also stated that the education system, with the help of government policies, has a statistically positive effect on economic growth. Instead of building education policies on a large scale, it is more important to look at and build education policies from basic things, such as organizing teacher training based on teacher needs and difficulties in daily teaching activities and providing motivation to teachers and principals with career advancement and providing incentives, and providing training from outside the school such as a university professor or an expert in a particular field (Siddiqui et al., 2021; Kuzminov et al., 2019). These efforts are significant to be supported by the government because education will not work without an

educator who transfers his knowledge. In addition to educators as facilitators and the main pillars of education, adequate infrastructure and educational facilities can create a comfortable learning environment for students (Efendi, 2020). The creation of a comfortable learning environment for students can improve student achievement.

5. CONCLUSION AND SUGGESTION

CONCLUSION

In realizing the education progress in Indonesia, the government can seek planned education based on the social demand approach, economic return approach, employment generation approach, and supports education for girls' and women's rights. Many parties need to contribute to efforts to improve the quality of the nation's education, both educators, educational institutions, the government, parents, and the students themselves. Each aspect needs to work together to realize efforts to improve the quality of education in Indonesia so that it can boost the country's economic growth. Support from the government is one of the primary keys to developing human capital, such as setting up reserves for investment in education, encouraging social capital and development for education, and providing subsidies and cost reductions for people who are less fortunate to pursue education through educational policies.

SUGGESTION

It is hoped that the government will pay more attention to how education and learning processes are in the field, so that it is not just giving policies which sometimes make educators often confused about implementing them because there is a lack of outreach from the government regarding the policies made. Because changing educational policies can determine how the quality of education in Indonesia, and the quality of education can affect the rate of economic growth of a country.

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