

Investment and Quality of Human Capital in Economic Development

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Abstract

Economic development is determined by the amount of investment. The form of such investment may be physical and non-physical investment. Physical investments are fast to produce but it also be exhausted faster. Meanwhile, non-physical investments (quality of human resources) take longer to produce but after be generated; its benefits will be longer to be employed by the development. The method of analysis used was a literature review approach which was reinforced with the results of the previous research. The results of the study illustrate that the combination of utilization of these two kinds of investments enhanced economic growth, created employment opportunities and reduced the poverty of the population.

Keywords: Investment of human resources, growth, and poverty

1. Introduction

Population becomes central to development. They were the party who plan and also carry out development for their own the benefits. Development comes from, conducted by, and is for the citizen. They are perpetrators as well as the connoisseurs of the development results. In the study of economics, the population is referred to as the market, which is grouped into the goods market, the capital market, and the labor market. In this context there are 3 (three) experts who have a different view of the population, 2 (two) of which are pro-natalist and anti-natalist group.

The first group suggests that population growth should not be controlled. Let it multiply by nature because the population is a market for the output of goods and services. Without population, the economy will not grow since the goods are not sold so that companies will go bankrupt, resulting in unemployment that eventually leads to hunger, poverty, and crisis. The group believes that technology is capable in creating something that had not originally existed. Technology is able to create value-added output, thereby, multiplying the benefits for the economy. The second group is those who are anti-natalists, led by Thomas Robert Malthus. In Malthusian language (1798), he stated that the population doubled faster (measured = 1,2,4,8,16,32) than the increase in clothing, food, and boards (the calculated series = 1,2,3, 4,5,6). Distribution of clothing, food, and boards becomes uneven. As the result, some citizen will experience a shortage of, even not getting, any clothing, food, and boards, which in turn lead to hunger and poverty that leads to death. This condition is what Malthus worried about, so it is recommended that population growth (birth) should be controlled through a restraint moral approach of: 1) delaying marriage, 2) permanent celibacy, and 3) using contraception.

Population control (low fertility) tends to increase per capita income and savings. Keynes, (1936) mentioned that savings can be used for: 1) transactions, 2) speculation, and 3) anticipating the unexpected needs. Transactions are not only related to the output of goods and services but also for the benefit of education financing.

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Expenditures on education are not merely seen as consumptive spending but also as investment expenditures (Denison, 1967). Human capital investment improves the quality of human capital positively related to economic growth, and income per capita labor (Mankiw, 2003).

Psacharopoulos, (1985) in research in several countries similarly found that education has a positive relationship with economic growth. Japan, Singapore and South Korea have relatively limited natural resources but they are relatively more advanced due to technological factors.

Economic growth leads to a trickle-down effect, which creates jobs, and absorbs labor. Every percent of economic growth are able to absorb 4000 workers (Yustika, 2006). In the last 2 (two) years, thenational economic growth reached: 5 percent, the third highest after India (7.6%), and China (6.7%). Despite the greatest contribution: 55% comes from the household consumption sector and the Non-Profit Household Institution (LNPRIT)). The number of poor people also decreased from 28.51 million people (2015) to 28.01 million people, in 2016 (Badan Pusat Statistik, 2016 & 2017).

2. Method

The forms of physical investment are in the form of facilities and infrastructure, while non-physical investments are human resource development, including health. The two forms of investments have contributed to increase economic growth and reduce the poverty of the population. The method used to find out the relationship referred to the literature review approach. The discussion is supported by the results of previous research.

3. Discussion

3.1. Physical Investment

Investment can be interpreted as an effort to increase the added value of output produced in the future at the expense of the opportunity to enjoy current consumption (Psacharopoulos, 1989). This theory asserts that expenditure in the form of consumption is different with investment. Expenditures for household, private and government consumption are intended to meet the current needs, regardless of the future interests. All that is spent is more related to contemporary interest, more consumptive and was spent rather than to produce. Investments had the nature of producing, but require a relatively long time. This means that the results of current expenditure can only be employed after several years later. The funds required are relatively larger than the consumption expenditures. Investment can come from the government as well as from private parties, (individuals and in the form of institutions). Each has a different purpose. What is conducted by the private sector is aimed more in generating profit, therefore economic and financial factors get more attention.

Investments made by the government are more aimed at meeting the needs of the public (public goods). Adam Smith, in his book *The Wealth of Nations* (Samuelson, 1986) suggested that investments in less-profitable/non-profit public goods are handled by or handed over to the government, whereas activities or jobs that quickly generate benefits are handled by the private sector. The private sector must be given a greater role and freedom to try without government intervention, although in the 1930's the market failed to anticipate the distortions that arise in the economy, which led to the recession of the world economy at that time. Market failure occurred because Say's law (supply creates its own demand) did not apply, that the offer did not automatically create its own request. The demand in this context is an effective demand that has the ability to purchase.

Mankiw (2003) argued that investment is the expenditure for the procurement of production factors and capital goods. Production factors of are objects provided by nature or created by humans, which can be used to produce goods and services. Samuelson (1986: 137), Suparmoko (1992), Sukirno (1985) divided production factors into 4 (four) groups: (i) land, (ii) labor, (iii) capital, and (iv) skill (entrepreneurship) . Land and labor is a direct production factor because it directly affects output, while the relationship between capital and technology to output is indirect because of its influence through land and labor. The value of a land depends on: 1) soil fertility, and 2) the location of the soil (Nicholson, 2002). Barren land has relatively lower exchange rates than fertile and urban land, or strategically located in shops or industrial centers. Treatment of barren land for the agricultural sector for example requires a relatively more expensive cost, compared to fertile soil. Ehrenberg (2003) argued that investment can be grouped into 2 (two): (1) physical investment (non-human capital), and (2) non-physical investment (human capital).

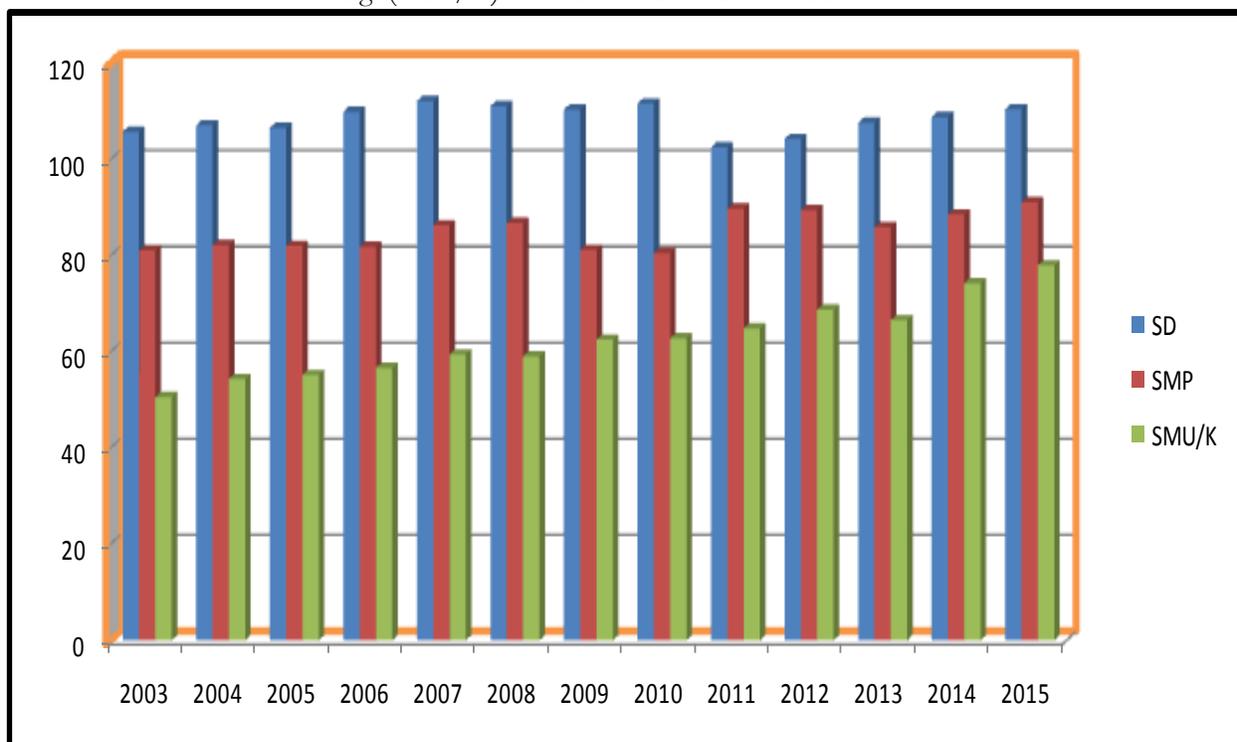
Financing for activities in the fields of education, health, training and migration, are parts of the formation of human resource investment.

This type of expenditure is categorized as direct investment (Elfindri, 2011; Anwar, 2004; Supriadi, 2003; and Alan Thomas, 1974). While indirect investment related to physical development (non-human capital) include: natural resources, buildings, and machinery. The combination of the two forms of investment (non-human capital and human capital investment) by Ehrenberg (2003) referred to a total wealth society.

The formation of investment in the field of knowledge and skills (human capital) of labor, is conducted through 3 (three) stages (Ehrenberg, 2003) as follows: (1) childhood, (2) adolescence before adulthood (teenagers), and (3) the stage of entering the labor market. Brain formation is potentially conducted in the first stage (0-5 years), therefore the child should be given nutritious food and drinks, including health environment and quality. Some basic knowledge such as the introduction of letters, languages, symbols, are experienced in the first stage. Entering young age and growing up (stage 2), they will spend time to attend education, skills training from middle to highest level. Abilities and skills acquired will be used in the third period, entering the labor market. This third stage as a barometer of the assessment of quality, measured from the resulting productivity. Quality improvement through training and skills at this stage continues, but focuses on the areas of employment.

Schultz (1961), and Denison (1967) in their study showed that education as a means of developing the quality of human resources contributed directly to the growth of state revenues through the improvement of labor skills and production capabilities. In this study, Denison (1967) found that 23% of the output growth of American society (1909-1929) can be explained by the increase in the average level of labor education. Blaug (1980), Psacharopoulos (1985), Levin (1980), also found similar results that education had a positive relationship with economic growth. National Gross Enrollment Rate (GER) for primary education up to secondary education tends to increase in the period of 2003-2015 (Figure 1).

Figure 1. GER of Elementary (SD), Junior High (SMP), and Senior/Vocational High(SMU/K) School Year 2003-2015 in Indonesia



Source: [www.https / data.go.id / dataset / number-participation-abusive / resource](https://data.go.id/dataset/number-participation-abusive/resource).
(accessed on January 31, 2018)

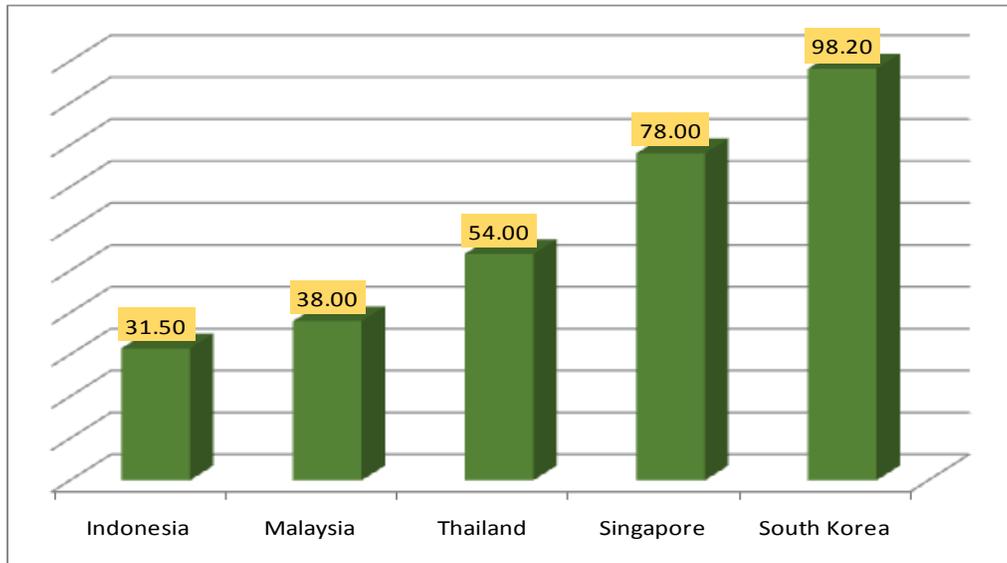
Note : SD = Sekolah Dasar (Elementary School)

SMP = Sekolah Menengah Pertama (Junior High School)

SMU/K = Sekolah Menengah Umum/Kejuruan(Senior/Vocational High School)

The highest GER was elementary school, more than 100%, followed by the junior high of 91.17% (2015), while the highest GER for Senior/Vocational High (SMU/K) was 78.02%, occurred in 2015 (data.go.id/dataset/angka-ponsor-kasar/ resource.access January 31, 2018).

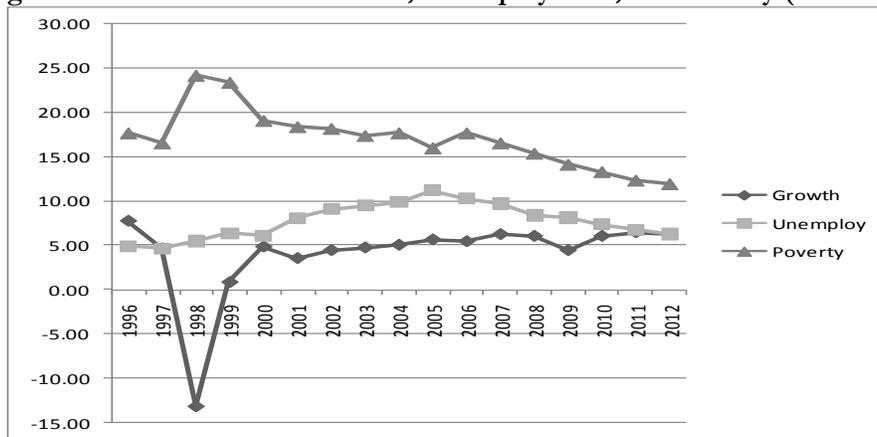
Figure 2. GER for Higher Education in Indonesia and some Asian Countries Year 2016 (%)



Source: www.republica.co.id/ accessed on January 3, 2018

GER of Higher Education for Indonesia in 2016 is 31.50%. IT was the lowest than some countries in Asia. The highest GER was South Korea (98.20%), followed by Singapore (78.00%) (www.republica.co.id/access January 31, 2018) (Figure 2). However, high economic growth itself is not enough, but it must be able to reduce unemployment and poverty of the population (quality growth).

Figure 3. The Growth of Economic, Unemployment, and Poverty (National)



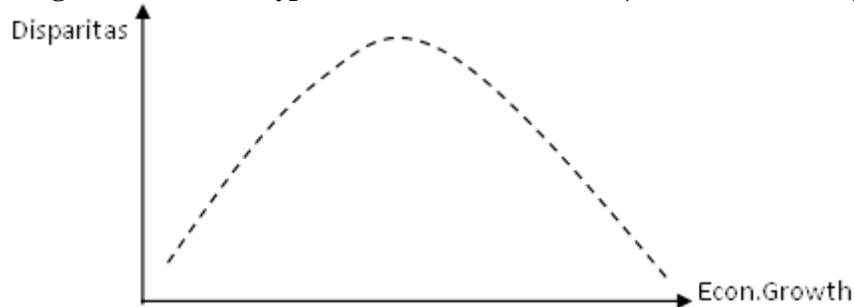
Source: Maipita, 2014.

Dollar and Kraay (2000), Ravallion and Chen (1997), Roemer and Gugerty (1997) in their study, found a negative and significant relationship between economic growth and poverty reduction. This means that the higher economic growth further reduces the poverty rate of the population. In 1998, when Indonesia experienced economic growth -13.19 percent, the population poverty jumped to 24.20 percent, but the low unemployment rate was 5.50 percent, lower than the following years. This condition may occur because in difficult times (monetary crisis, 1998) labor will not be fussy in choosing a job. Whatever the job, they will do it as long as not to burden others. In

difficult/crisis time, people pay less attention/consideration to the type and nature of the job. The main concern is getting money to meet the needs of family life (Figure 3).

High economic growth does not automatically reduce the poverty of the population if it is not accompanied by equitable distribution of income. Kuznets (1955) in his research in Europe found that at a time of low economic growth, the inequality of income distribution is low, but when economic growth is higher, the inequality of income distribution is also higher. However, after reaching the peak of distribution inequality it will tend to decrease along with the higher economic growth or advanced of a nation.

Figure 4. Kuznets Hypothesis inverted U Letter (case in Indonesia)



This Kuznets hypothesis depicted in the form of an inverted U letter. Between the 1960s and 1990s, Indonesia had experienced the Kuznets hypothesis (Tambunan, 2003) (Figure 4). However entering the 2000s Kuznets hypothesis was no longer valid in Indonesia (Seran, 2016), and Tadjoeuddin et al. (2001).

3.2. Education: Non-Physical Investment

Education is one of the basic needs in addition to health. Every citizen has the same right and opportunity to get an education. Education is a planned and systematic action undertaken by a person or group of people to improve the ability of science and technology. Mastery of science and technology is not enough but it must be accompanied by spiritual ability, self-control, personality, intelligence, and noble character (Law of National Education System Number 20 Year 2003). Education can also be viewed as a long process to learn to recognize and negotiate with the outside world (Bachtiar, 2000). The human process of learning is being started since they were born. A baby at the beginning of birth is usually preceded by crying, screaming, or moving. He was surprised that the new world was not as cool as it was in the mother's womb. He must learn to adjust to the outside world and the new environment. Education is an environmental influence on the individual to produce constant changes in his behavioral habits, thoughts and attitudes (Thomson, 1999).

Law of National Education System Number 20 Year 2003 affirms that national education is conducted through 3 (three) channels: formal, non-formal, and informal education channels. The path of school education is known as the path of formal education. Activities relating to the teaching and learning process are conducted on a regular basis and take place on a regular basis. Starting from the curriculum, teaching methods to evaluate the performance of teachers and evaluation of students' graduation is conducted in accordance with applicable standard. This pattern of order is known as behavioristic approach. The opposite is the clutter approach known as the constructivistic approach (Degeng, 2001).

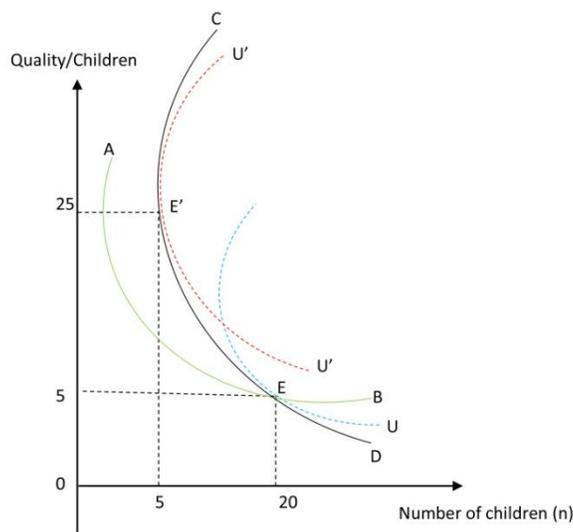
Both approaches have contradictory concepts. Concept of knowledge for example; the behavioristic approach argues that knowledge is objective, precise and fixed, unchanged. Knowledge has been neatly structured. But by the constructive approach, knowledge is non-objective, temporary, constantly changing and uncertain. Behavioristic approach is rigid, does not train students to think critically. Students are expected to understand something of the concept as known and understood by the teacher. The learning process goes one way, from teacher to student that takes place in a patterned environment. Meanwhile, the constructivistic approach is more flexible. Students are trained to think critically, not just accepting what they are but being trained to understand the cause and effect as well as the relationship of things. The learning process runs on the diversity of students and the environment that is not patterned.

Education is a way from which people can learn to be great since they are mastering technology that ultimately sustains life in development. Japan and South Korea become developed countries not because they have abundant natural wealth but they have human resources that master technology.

Technology is not only able to create value added products, efficiency, and productivity, but also create a market for goods and services produced by the economy. Cobb Douglas's production function incorporates technological elements (I) as one of the factors affecting economic growth, in addition to Capital (C), and labor (L) (Nafziger, 1997). Education is classified as an economic good, needed by everyone. The amount between the availability and the required amount is imbalance.

The availability is less than the required. This difference raises the price. Price describes the quality of the value of a good. The higher the quality of the goods, the higher the price concerned. The amount of education costs paid by the citizen varies with each level of education. The higher the level of education and the higher the quality of an educational institution, the cost is more expensive. Backer (1993) explains that the trade off law was applied between the quantity and quality of the children. Each family should make choices, which one is more important, the amount (quantity) of the children or their quality. If a family concerned more on the quality, then the number (quantity) of children to be born should be reduced, or otherwise if they concerned more on the number, then the quality of the child will be sacrificed (Figure 5).

Figure 5. The correlation between the quantity and quality of the children



The lines of AB and CD are the budget lines, convex to the origin as a result of the interaction of choice between the number and the quality of the child. The lines of the UU and U'U' are the indifference lines. Family satisfaction that concerned on the children's quality is determined by the intersection between budget line and indifference line, marked with the letter e and e'. Figure 3 shows that when a family decides to determine/choose a child's quality of 25, then he can only have children as many as 5 people. But when the family prefers the number of children than the quality, it will be reduced from 25 to 5, while the number of children increases from 5 to 20 children. This trade off condition occurs because the family income is assumed to remain constant and unchanged. The Law of National Education System Number 20 Year2003 stated that the education tuition becomes a joint responsibility between parents, private, and Government/Local Government. Thus, it is known that there are 3 (three) community groups that act as educational investors: 1) family (household), 2) private, and 3) Government/Local Government.

1) Family (household)

The costs of investment made by households are grouped into 2 (two): 1) direct costs, and 2) indirect costs. Direct cost is any direct expenditure/financing that is used to support the implementation of the educational process. Tuition, school development cost, money for books and school uniform, and the teachers' salaries are categorized as direct costs. While indirect cost is any expenditure that have nothing to do with the learning process, but affect the participation of students in learning. Transportation costs, boarding fees, living costs, meal costs, health costs, and opportunity costs are included as indirect costs. Both types of costs are also called private costs. The opposite is social cost, which is the cost paid by the community either through direct payments, or through the payment of taxes paid by the public.

The amount of direct and indirect costs paid by the household differs for each family because: (1) differences in parental income, (2) school status, (3) school physical condition, (4)) school location, (5) school's extracurricular activities. Supriadi, (2003) in his study found that family expenditures for education are positively correlated, and significant with family socioeconomic status, with $r=0.58$, with probability value 0.001. Meanwhile in 2013 and 2014, the expenditures of people in East Nusa Tenggara on non-food items were for education and health. Education expenditure was only 2.12% (2013), and 2.10% (2014), while health expenditure was 4.24% in 2013, decreased to 3.82% in 2014 (National Socioeconomic Survey 2014). This condition is a result of the fact that East Nusa Tenggara province was recorded as the third poorest province in 2011: 20.48% after Papua (31.24%) and West Papua (28.53%) (Official Statistics No.:06/01/Th.XV. 2 June 2012).

2) Private

Private parties also have an equally important responsibility to educate the children of the Nation. The amount of investment by the private sector in education can be read from the number of private schools organized by the Foundation ranging from Kindergarten to Higher Education. From the 4450 universities in 2016, there are 4077 (91.62%) private universities, while state univeristy only contributes 373 (8.38%) units. A similar trend also occurs in senior high/vocational scholl and kindergarten, except the level of primary and junior high school education which are more dominant in public schools than private (Figure 7).

3)Government

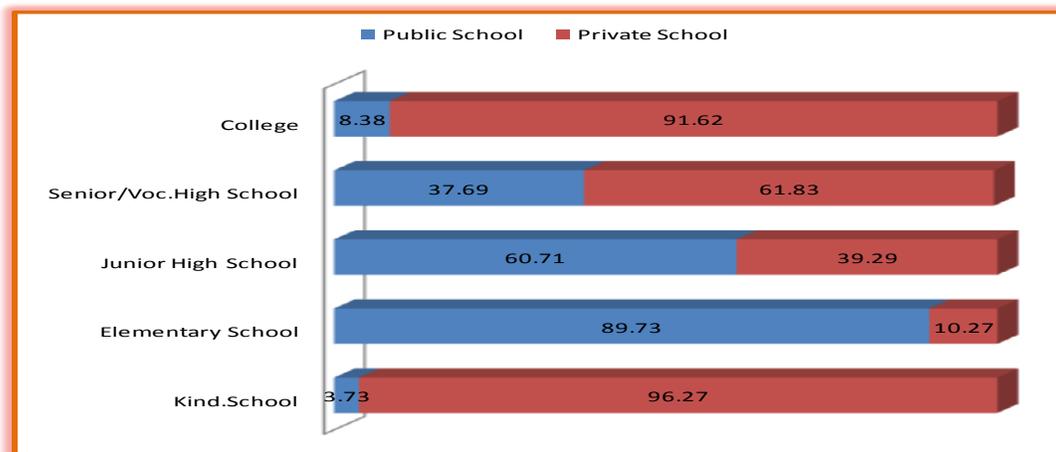
The Government's attention to education development is enormous, marked by the Government's commitment to allocate 20% of the national budget for education (The Law of National Education System Number 20 Year2003) (Table 1).

Table 1. Percentage of National budget allocation on Educational Sector

<u>Year</u>	<u>budget allocation(%)</u>	<u>Year</u>	<u>budget allocation(%)</u>
2010	20.00	2014	20.00
2011	20.20	2015	20.60
2012	20.10	2016	20.00
2013	20.00	2017	20.00

Source : Directorate of National Budget Ministry of National Finance

Figure 7: Percentage of Education in Indonesia based on School Status 2016



Source: Indonesia Educational Statistics in Brief 2015/2016 & Ministry of Research, Technology and Higher Education-Building a Smart Life.Vol 6 / II / 2016

Nevertheless, the contribution of Indonesian GDP to education is still low, only 1.4 percent for public schools, and 0.6 percent for private schools in 1999/2000. It was much lower than other countries such as Zimbabwe, 11.6 percent, followed by Tunisia (6.8 percent), Brazil (4.6 percent) and Malaysia (4.5 percent) (World Education Indicators (WEI) (www.depdiknas.go.id accessed on March 28, 2017)

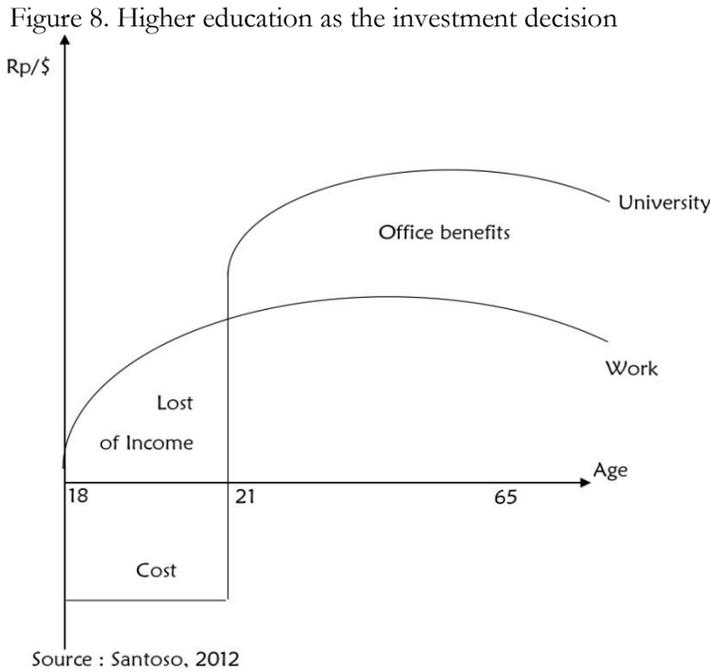
The feasibility assessment of the educational investment is essentially the same as the construction of physical projects. It is assessed by using financial analysis: 1) Net Present Value (NPV), 2) Internal Rate of Return, 3) Benefit/Cost Ratio, and 4) Payback period. People will continue the investment (education) if it is profitable after completing the studies at an educational level. The benefits to be gained from education are grouped into 2, (two): 1) private benefit.

Personal benefit is related to the return value obtained by a person by measuring the amount of income, dignity, and social status in society. In his research, Seran (2017) found that education has a significant relationship (probability 0.004) with employment, obtained the value of regression coefficient (r) of 0.708 while the determinant coefficient (R^2) was 0.501. Employment becomes a proxy variable to revenue. Those who are highly educated, have high quality and productivity so that will earn a relatively higher income/wage than a low-educated workforce. Suryadi, (1997) also found a similar thing that the higher the education/quality and productivity, workforce will earn higher wage/salary.

Figure 8 shows that a person who graduated from senior high/vocational school at the age of 18 who decided to enter the labor market, it means he/she will get a wage. However, if he/she decided not to enter the job market but choosing to pursue higher education, it means he/she loses the opportunity to work. This lost opportunity is called opportunity cost. A number of costs incurred during the college life are referred to as investment costs.

The educational costs referred to in this context are all direct and indirect costs required during the course of the lecture, until the student receives a certificate of graduation (diploma). The length of time required for university students to obtain a diploma is least 4 years. Thus, the student will enter the labor market at 21 years old until retirement at 65. The wage/salary earned is greater than the senior high school graduates. Also, the acceleration of wage/salaries is relatively faster, indicated by the line is greater than those who work with a senior high/vocational school certificate (Figure 8).

Opportunities for career development and positions are relatively more open than those with a high school/vocational degree. 2) Social benefits are the returns enjoyed for the work/service of a person who has obtained higher education. The distribution of social benefit values generated by each level of education is different. Theoretically, the higher the education, the higher the value of social benefits enjoyed by the persons. The observations show that the phenomenon is reversed, that those who are high in education, with a very high level of activities, will be very difficult to follow activities in the community (Seran, 2016).



4. Integration of Population in Development Planning

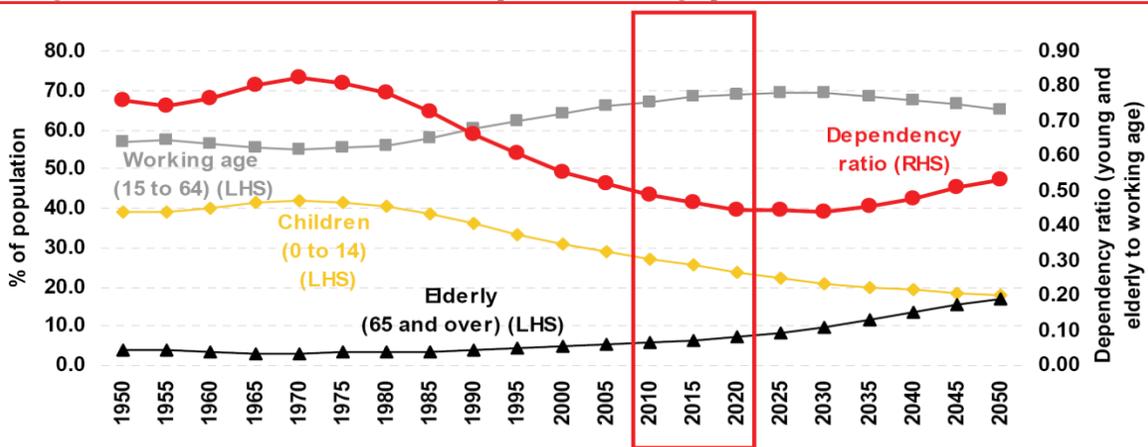
Society has two roles, as the basic capital of development and as the scourge/burden of development. Demographic theories classify the population into three groups: 1) young age group: 0-14 years, 2) productive age group: 15-64 years, and 3) old age group: 65 years or older. The first and third group do not productive yet for national development, so that all the necessities of life are borne by the productive age group (15-64 years).

This trend has the potential to increase the amount of spending on consumption, thus reducing savings, and investment for development.

However, since 2010 Indonesia has experienced a period of "Demographic Bonus", is a condition which describes that the population of productive age (15-64 years) is beyond the young and old age (not productive).

This means that the Dependency Ratio (DR) which represents the number of people who depend on their lives tends to decrease, which reaches the lowest DR peak in 2020.

Figure 9 Characteristics of Indonesian Population: Demographic Bonus



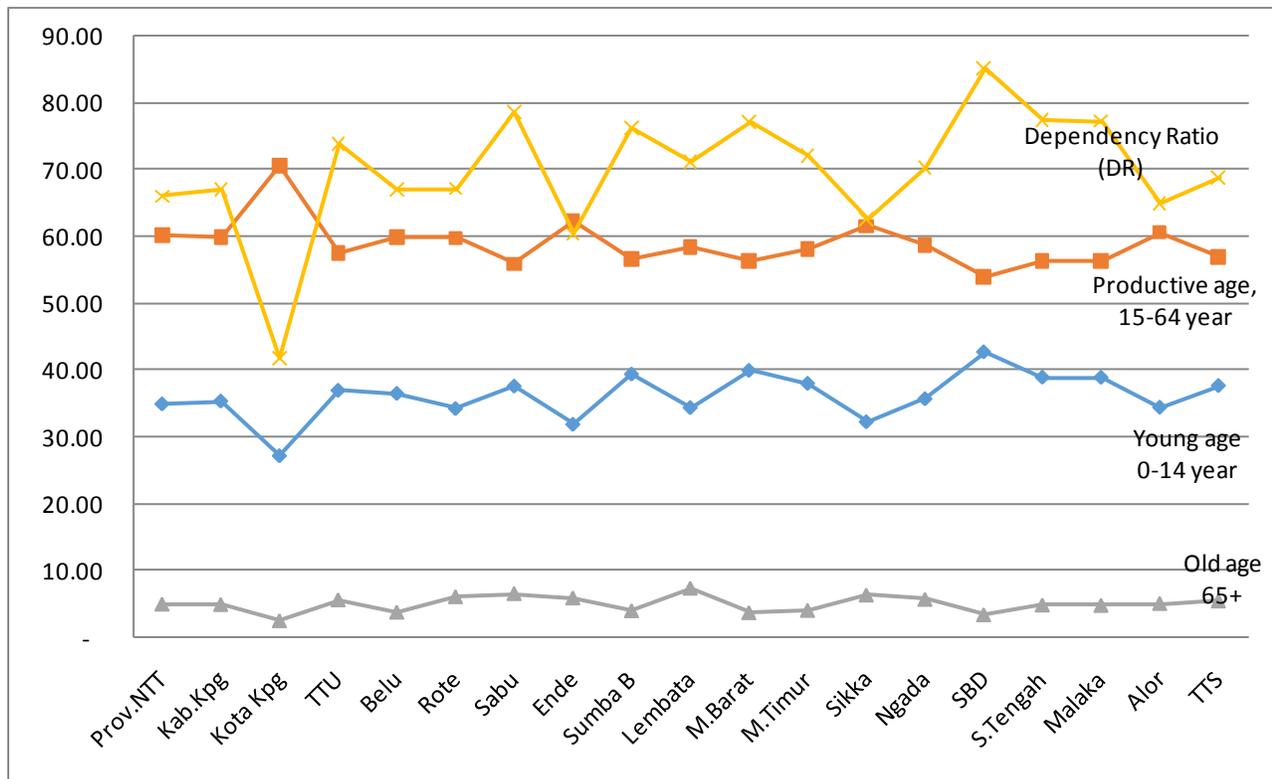
Source: Presentation of the Minister of Education and Culture on public test of Curriculum 2013 (December 2012). Snamira27.blogspot.co.id/ accessed on February 2, 2018

Not all of the provinces have experienced this period due to the differences in population characteristics. Until 2015 in East Nusa Tenggara Province, only Kupang City experienced this Demographic Bonus.

The DR rate of each district is still relatively higher than the young age group. The highest DR rate is Southwest Sumba District (85.13) and the lowest is Kupang District (41.77). Nevertheless, East Nusa Tenggara Province is still conducive because the number of productive age groups is greater than the unproductive (young and old age). This condition is experienced by all districts in East Nusa Tenggara Province (Figure 10).

The productive age population consists mainly of young people, who have the spirit and creativity to move forward. If they have skills (quality) and be participated, they will increase productivity for development. They are classified as capital for national development. But if they have no skills and not participate, then they are a burden for development.

Figure 10 Characteristics of the population of East Nusa Tenggara-2010 & 2015: Demographic Bonus



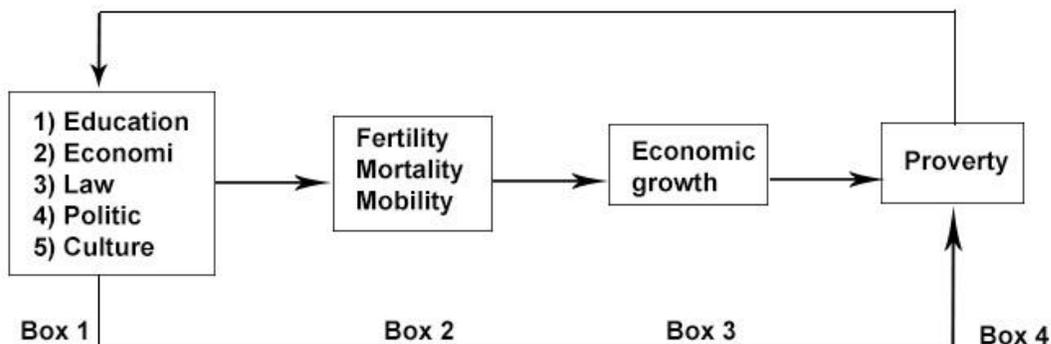
They do not productive but at the same time they need clothes, food and shelter produced by the productive people (productive age). It reduces the income per capita and savings that ultimately lead to unemployment and poverty because of the absence of investment. This is the negative result of the high DR rate. Efforts to overcome the problem of poverty of the population should use an integrated approach (integral), begins with integrating the problems of the population into the development planning. Analyzing the issue of the population is not only from its human element but must be seen as a unity that is not separate from all the elements/what exist on earth, including the environment, social, economic, culture, and politic. Figure 11 illustrates the interconnectedness of the population with all the social issues in the community that affect each other.

Interventions to influence population poverty (box 4) can start from box 1, and or can start from box 2, to influence economic growth (box 3), which ultimately affects box 4. Economic growth reduces poverty, improves education, law, politic, and culture. Between box 1 and box 4 are mutually reciprocal (interactive). Box 1 can act as independent variable (independent = X), which determines the size of box 4 (Y), but at any given moment, the value of box 1 can also be determined by box 4. Box 4 acts as an independent variable (X), and box 1 acts as a dependent variable (Y). The race among food, clothes and shelter with the population, are eventually won by the population.

The population grew by the geometrical progression, two times faster than the addition of clothes, food, and shelter (the arithmetic series). This imbalance creates inequality in development, some residents may not get sufficient clothes, food, and shelter to sustain their lives. Therefore, hunger and poverty are inevitable. Along with this condition, then social problem such as theft, robbery, and murder will continue to occur. Nature and the environment will be an easy target for most of the unfortunate population.

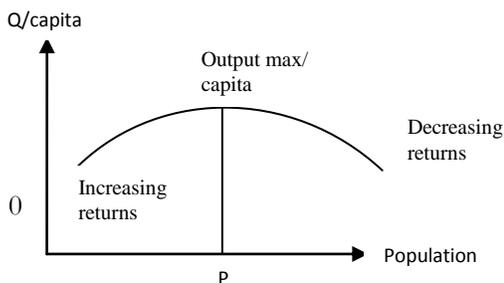
Exploitation of excessive natural wealth to meet the needs of life without regard to the nature and the environment preservation can cause natural disasters. These disasters lead to the death of the population. This is exactly what Malthus has to say that if the additional population is not controlled then nature will in its own way to solve the population problems.

Figure 11. Population integration in the developmen planning



Discussions about the link between the population, the environment, and development often end with the question of how many people should be, and are needed by development. How many people are in balance with the carrying capacity of the environment, clothing, food and shelter? In Malthusian (Ananta, 1995) the question will be how many people who would not cause environmental damage? How many people will not cause competition for food? In this context, a theory is introduced: the optimum population theory. This theory does not propose a certain number of population, but rather is a population that can provide/generate real wage rates or maximum per capita real income (Figure 12).

Figure 12. The correlation between optimum population and maximum output



The vertical line shows the output per capita, the horizontal line describes the population (=labor), whereas point P describes the optimum population. If the increase of production continues to occur between the point 0 (origin) and point P, then the resulting output has not reached the maximum point, because by increasing the population to reach point P, the output will continue to increase (increasing returns) to reach maximum point. Under these conditions, the population is still a development capital. However, if the population increase exceeds the optimum population (P), the resulting output decreases (decreasing returns), even will continue to decline, reaching the minus point if the population continues to grow. In this case the population is no longer a capital but has become a burden for the development. This is how the unemployment and poverty raise.

5. Conclusion

Non-physical and physical investment increases economic growth and reduces the poverty of the population. The formation of non-physical investment in human (HR) takes a relatively long time to generate for development.

However, when it has produced then the longer we enjoy the results than the physical investment. Physical investment produces fast but does not last long. It will quickly become extinct over time.

References

- Allan, J.T.1974. *The Productive School, A Sistem Analysis Approach to Educational Administration*. John Willey & Sond Inc, New York.
- Ananta Aris.1995. *Ciri Demografis, Kualitas Penduduk dan Pembangunan Ekonomi*. Lembaga Demografi Fak.Ekonomi.Universitas Indonesia. Jakarta.
- Anwar, M.I. 2004. *Administrasi Pendidikan dan Manajemen Biaya Pendidikan Alfa Beta Bandung*.
- Bachtiar, S. 2000. *Hubungan Karakteristik Individu dan Produktivitas Wanita Pe kerja di Propinsi Sulawesi Tenggara*. Disertasi tidak diterbitkan. Malang : Program Pascasarjana Universitas Negeri Malang.
- Badan Pusat Statistik.2011 & 2016. <http://repository.ipb.ac.id/> accessed on August 28, 2017
- Becker, Gary.S. 1975.*Human Caoital, A Theoretical and Empirical Analysis, With Special Reference to Education*, Secon Edition. Columbia University. New York.
- Berita Resmi Statistik. (<http://ntt.bps.go.id/index.php.berita>), accessed on February 5, 2017
- Blaug, P,P., 1980. *The Education Dilemma,Policy Issues for Developing Countries*. Ed. John Simmons. Washington, D.C : World Bank
- Bongaarts John. 1995. *The Role Of Family Planning Programs in Contemporary Fertility Transtion-Research Devison*. Lembaga Demografi Universitas Indonesia. Jakarta.
- Charles, Jorge.2011. *Understanding Income Inequality : Concept, Causes, and Measurment International Journal of Economics and Management Sciences*. Vo.1, No.3 2001, pp.17-28.
- Directorate of National Budget Ministry of National Finance. <http://www.anggaran.depkeu.go.id/content/Publikasi/bidang>. Akses 23 February 2018
- Denison E.F.1967. *Why Growth Rates Differ : Postwar Experience In Nine Countries*. Washington DC The Brooking Institution.
- Degeng, I.N.S. 2001. *Malang. Menuju Pribadi Unggul*. Kumpulan Bahan Pembelajar an. Tidak terbit.
- Ehrenberg, R.,G., & Robert S.,S.2003. *Modern Labor Economics-Theory and Public Policy*. Eighth Edition. Addison Wesley. New York.
- Elfindri. 2011. *Pendidikan sebagai Barang Ekonomi*. Lubuk Agung.Bandung.
- Indonesia Educational Statistics in Brief 2015/2016 & Ministry of Research, Technology and Higher Education-Building a Smart Life.Vol 6 / II / 2016.<http://publikasi.data.kemdikbud.go.id>.Akses, 24 Maret 2017
- Kuznets.1955. *Economic Growth and Income Inequality*. American Economic Review,45(1)
- Levin, H.M. 1980. *Educational Production Theory and Teacher Input dalam The Analysis of Educational Productivity, Volume II : Issue in Macroanalysis* oleh Bidwel and Windham. Massachussets : Balinger Publishing Company.
- Maipita, Indra. 2014. *Mengukur Kemiskinan & Distribusi Pendapatan*. UPP STIM YKPN. Yogyakarta.
- Malthus, T. Roberth. 1979 <https://biografi-tokoh-ternama.blogspot.co.id/biografi-thomas-robert-malthus-ekonomi-Penulis-Esai-Prinsip-Population>. Accessed on June 5, 2017.
- Mankiw N.G.2003. *Teori Makro Ekonomi-Edisi kelima (Terjemahan)*. Erlangga. Jakarta.
- Nafziger, W. E. 1997. *The Economics of Developing Countries*. International Edition, third edition. Prentice-Hall International,Inc, New Jersey.
- Nicholson, W. 2002. *Mikroekonomi Intermediate dan Aplikasinya –edsi kedelapan (terjemahan)*. Erlangga. Jakarta.
- Presentation of the Minister of Education and Culture on public test of Curriculum 2013 (December 2012). Snamira27. blogspot.co.id/ accessed on February 2, 2018
- Psacharopoulous George -1985.*The Contribution of Education to Economic Growth : International Comparisons/www.sus.edu/indiv/I/langd/Psacharopoulous2.pdf*. / Accessed on February 22, 2016.
- Psacharopoulos, G. and Ana M. A. 1989. *Determinants of Early Age Human Capital Formation : Evidence form Brazil*. *Economic Development and Culture Change*, 683-708.27.
- Philip Stevens dan Martin Weale.2003. *Education and Economic Growth*. National Institue of Economic and Social Research2 Dean Trench Street, London Swip 3He/cee./ se.ac.uk/comference_papers/28_11_2003/martin_weale.pdf/accessed on February 22, 2016.

- Samuelson, A. P dan William D.N. 1986. *Ekonomi - Edisi 12 Jilid 1* Erlangga.
- Santoso, Rokhedi Priyo.2012. *Ekonomi Sumberdaya Manusia dan Ketenagakerjaan*.UPP STIM YKPN. Yogyakarta.
- Schultz, T.W. 1961. *Investment in Human Capital*. The American Economic Review.
- Sukirno, S. 1985. *Ekonomi Pembangunan-Proses dan Masalah dan Dasar Kebijakan sanaan*. Fakultas Ekonomi-Universitas Indonesia-Jakarta. 33.
- Supriadi, D. 2003. *Satuan Biaya Pendidikan – Dasar dan Menengah*. PT. Remaja Rosda karya-Bandung.
- Suparmoko, M. dan Irawan. 1992. *Ekonomika Pembangunan*. BPFE-Yogyakarta.
- Suryadi, A.1997. *Pendidikan, Investasi SDM dan Pembangunan*. Pusat Informatika Balitbang Dikbud-Jakarta
- Seran, Sirilius. 2016. *Pendidikan & Pertumbuhan Ekonomi versus Kemiskinan Penduduk(Kasus Provinsi Nusa Tenggara Timur)-Deepublis-Budi Utama*. Yogyakarta.
- Seran, Sirilius. 2017. *Hubungan antara Pendidikan, Pengangguran, dan Pertumbuhan Ekonomi dengan Kemiskinan*. *Jurnal Ekonomi Kuantitatif Terapan*. Vol.10 No.1, Februari 2017. Fak.Ekonomi UNUD Denpasar.
- Tadjoeddin, Moh.Zulfan, Widjajanti I.Suharyo, dan Satish Mishra.2001. *Aspirasi Terhadap Ketidakmerataan. Disparitas Regional dan Konflik Vertikal di Indonesia*. Working Paper : 12/01/02-1.Februari. UNSFIR. Jakarta.
- Tambunan Tulus T.H. *Perekonomian Indonesia-Beberapa Masalah Penting*. Ghalia Indonesia. Jakarta.
- Thomson, Warren Simpson and David T.Lewis.1999. *Population Problems*. 5th ed. Graw-Hill.New York.
- Undang-Undang No.20 Tahun 2003. *Tentang Sistem Pendidikan Nasional*. CV.Tamita Utama. Jakarta.
- Yustika Ahmad Erani. 2006. *Perekonomian Indonesia, Deskprisi, Prediksi, dan Kebijakan*. Bayu media publishing. Jawa Timur-Surabaya.