



# Potencies and Threats of The Demographic Bonus on The Quality of Human Resources and Economy in Indonesia 2019

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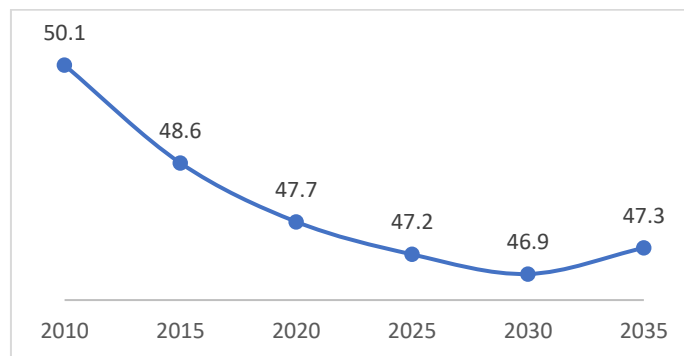
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**Abstract.** The success of Indonesia's development is marked by increasing economic growth, which is in line with the demographic transition, where the number of people who are borne is less than the population which bears it. Indonesia will enter the peak of the demographic bonus in 2030, where every 100 productive aged people bear 46 to 47 non-productive-aged people. The demographic bonus can positively impact on the economy and the quality of human resources if its potential is adequately utilized but becomes a threat if not maximized. Therefore, path analysis is used in this study to analyze the potencies and threats of the demographic bonus and its effect on economic growth, either directly or indirectly through the quality of human resources. The results of this study are the potential index consisting of labor absorption, household savings, and women in the labor market does not significantly influence on the quality of human resources and economic growth. Meanwhile, the threats index, which consists of internet access, migration, and child marriage, has a significant positive direct effect on economic growth and a significant negative indirect effect on economic growth. These results indicate that the threat index has a greater influence than the potential and it is hoped that the government will focus on reducing the threat of the demographic bonus, but it must be accompanied by an increase in the quality of human resources.

## 1. Introduction

Economic growth is one indicator of the success of a country's development. This growth can be seen from GDP growth which continued to increase from 2010 to 2019. Several things can encourage economic growth, one of which is the demographic transition marked by changes in population structure [7]. The family planning program causes the number of births to decline so that the growth of the young population slows down. This causes the dependency ratio to decrease, resulting in a demographic bonus [2].



**Figure 1.** Indonesia's dependency ratio in 2010-2030

A demographic bonus is a condition in which the dependency ratio in a country decreases and reaches below 50 [4]. Meanwhile, the dependency ratio is the number of non-productive age population (age < 15 years and age > 64 years) which is borne by 100 productive age population (15-64 years). According to Central Bureau of Statistics, as shown in Figure 1, Indonesia will enter the peak of the demographic bonus in 2030, where the dependency ratio will reach the lowest of 46.9. It means that 100 people of productive age will only bear 46 to 47 people of non-productive age. However, according to Central Bureau of Statistics, after reaching the peak of the demographic bonus, this dependency ratio will increase again, mainly due to the increasing elderly population (age > 64 years).

Several conditions must be carried out by Indonesia to maximize the opportunity for the demographic bonus, namely increasing employment, household savings, and the high role of women in the labor market [2]. With the fulfillment of these conditions, the demographic bonus can be adequately maximized and become a booster for the Indonesian economy. The demographic bonus must be utilized as well as possible to get maximum benefits for the economy, but if not, the demographic bonus can be a threat, even an economic setback [11].

In addition, there are also several things that can threaten the success of the demographic bonus in Indonesia. Child marriage could harm the demographic bonus because it can cause children to drop out of school, thus affecting their quality of life [8]. In addition, the high in-migration has resulted in various population problems, thus preventing Indonesia from achieving the benefits of the demographic bonus [1]. Then, the lack of internet access, especially for the productive age population, is also a barrier to achieving the benefits of the demographic bonus [11].

To achieve the maximum benefit of the demographic bonus, it is also necessary to improve the quality of human resources (HR) because human resources are the primary foundation for the welfare of every country [17]. The quality of human resources can be described from three factors, namely income, health, and education [38]. These three factors are factors that make up the HDI. Therefore, HDI is used to describe the quality of human resources. The quality of human resources also influences the Indonesian economy. By improving the quality of human resources, Indonesia has a greater opportunity to achieve the benefits of the demographic bonus and improve the Indonesian economy.

Therefore, it is crucial to analyze the effect of the potentials and threats of the demographic bonus on the quality of human resources and the Indonesian economy. This study aims to analyze the general description of the potential and threat variables of the demographic bonus, the quality of human resources, and the Indonesian economy. In addition, this study also aims to analyze the potential and threat of the demographic bonus and its effect on the Indonesian economy, either directly or indirectly through the quality of human resources.

## 2. Methodology

### 2.1. Theoretical framework

Demographic bonus is a condition when a population of productive age (15-64 years) increases. The demographic bonus occurs when the dependency rate is in a low category, which is less than 50. The dependency rate is the ratio between the total productive age population (15-64 years) and the non-



productive age population (age < 15 years and age > 64 years). This figure describes the number of non-productive age population borne by every 100 people of productive age population.

Demographic bonus potential is a condition that must be done to achieve the demographic bonus benefits. These conditions are labor absorption, household savings, and the role of women in the labor market [2]. The success of the demographic bonus can increase human capital, improving the quality of human resources [28]. This improvement in the quality of human resources will then create a balance between the quality of human resources and job qualification standards to improve the economy [3]. The demographic bonus potential is a multidimensional concept that cannot be measured using only one aspect. A composite index can be used to measure multidimensional concepts that are not captured using only one indicator [25]. Based on this theory, the demographic bonus potential index was formed as an indicator to measure the demographic bonus potential. The greater the potential demographic bonus index value, the higher the potential for a province to achieve the maximum benefit of the demographic bonus. The index and indicators of the potential demographic bonus are calculated by adapting the formula made by UNDP (1990), which has a value of 0 to 1. This index value shows the order of each province according to the potential demographic bonus it has. The potential index has three size indicators, namely indicators of labor absorption, household savings, and women in the labor market.

Labor absorption is the sum of all workers scattered to various sectors whose results are goods or services that tend to be extensive [33]. The workforce is 17-60 years who can produce goods/services both inside and outside the employment relationship using the main production tools to meet personal and community needs. The more the working-age population, the lower the ratio of the burden of family dependents so that they have the potential to benefit from the demographic bonus [40]. Therefore, the absorption of labor is one of the causes of the use of the demographic bonus and is one of the indicators that make up the potential index of the demographic bonus.

Savings are part of income that is not spent or consumed, stored to be spent in the future where the amount is determined from current income [35]. Savings are significant for everyone because savings have economic value that is useful for themselves and their families. These savings can be used as an investment in improving household welfare. The greater the percentage of households with savings, the higher the economic benefits obtained to prepare households to face the demographic bonus well [15].

Women in the labor market is the percentage of women included in the labor market. The labor market has two main components: the demand for labor and the supply of labor that must be balanced to avoid labor problems [28]. Women have greater potential in employment in terms of quantity than men [43]. This can be seen from the percentage of the productive age population, which is greater than men, namely 76.84 percent and 75.07 percent (BPS). If this potential is utilized, the possibility of achieving the benefits of the demographic bonus is more remarkable. Therefore women in the labor market are one of the indicators that make up the potential index of the demographic bonus.

The threat of demographic bonus is a condition that can threaten Indonesia to achieve the benefits of Indonesia's demographic bonus. Uncontrolled in-migration [1] and child marriage [8] can cause various population problems that can prevent Indonesia from achieving the benefits of the demographic bonus. Meanwhile, the lack of internet access can also be a barrier for Indonesia to earn the demographic bonus [11]. The demographic bonus that failed to be utilized would have harmful consequences, one of which was the quality of human resources [3]. As a result of this lack of human resources, people of both productive and unproductive age will have difficulty finding work in the future, adversely affecting the Indonesian economy. Based on this theory, the threat of the demographic bonus is a multidimensional concept that cannot be measured using only one aspect, so an index of the threat of the demographic bonus is formed. This index is calculated by adopting the formula made by UNDP [39], which has a value of 0 to 1. This index and indicator of the threat of the demographic bonus show the order of each province according to the magnitude of the threat of the demographic bonus it has. The potential index has three measurement indicators, namely indicators of migration, child marriage, and the internet.

Migration is the movement of people who aim to settle from the area of origin to the destination area beyond political, state, administrative boundaries, or state boundaries [23]. Uncontrolled in-migration can negatively impact, one of which is unemployment which then affects the economy [1]. This excessive unemployment will prevent Indonesia from achieving the benefits of the demographic bonus, so that migration is one of the indicators that make up the demographic bonus threat index.



Child marriage is the marriage of a boy or a girl before 18 [8]. Child marriage is an example of a violation of human rights and deprives children of their right to a good education, adequate health, and a future [26]. In addition to the number of productive age, it must also be balanced with the quality. Therefore, child marriage is one of the threats to the success of the demographic bonus in Indonesia and is one of the indicators in the demographic bonus threat index.

Easy internet access can help people to obtain the information they need [11]. In the Industrial 4.0 era, many advances in technology will eliminate several types of work and give birth to new kinds of work [21]. The productive age population must adapt to existing technology, starting from the ease of internet access for all regions. Therefore, the lack of internet access can be one of the barriers to achieving the maximum demographic bonus. It becomes one of the indicators for making up the demographic bonus threat index.

The quality of human resources (HR) can be explained by using the Human Development Index (HDI). According to Central Bureau of Statistics, the HDI describes how the population can access development outcomes for income, health, education, etc. HDI is formed from three primary dimensions, namely long and healthy life, knowledge, and a decent standard of living. Therefore, HDI is an indicator that can be used to see the success of developing the quality of human life.

Economic growth can be seen from the value of Gross Regional Domestic Product (GRDP). The high economy in an area can be seen from the large GRDP of the area [18]. In addition, the economic structure of a region can be described by GRDP based on the area's current prices [36]. According to BPS, GRDP at current prices is used to show the added value of goods and services in a province whose calculations are based on prevailing prices every year. Therefore, GRDP at current prices is used to describe the economic structure and level of a region's economy.

Path analysis is an extension analysis method of regression that can explain the influence of a variable on other variables and see the empirical implication based on existing theories. Path analysis was first discovered by Sewal Wright in 1920 and popularized by Otis Dudley Duncan in 1966. Path analysis can not only be used to find the cause of a variable to other variables. Still, it can also be used to explain the patterns of relationships either directly or indirectly from a model [27].

## 2.2. Data

This study uses secondary data from various data sources issued by Central Bureau of Statistics Indonesia (Badan Pusat Statistik/BPS Indonesia). The variable quality of human resources is obtained from each province's HDI (Human Development Index) value obtained from the publication of the Human Development Index in 2019. The economic growth variable is taken from the value of GRDP based on each province's current per capita prices, which is then transformed into a natural logarithm sourced from the Central Bureau of Statistics dynamic table. The labor market absorption variable comes from the February 2020 Labor Market Indicators issued by Central Bureau of Statistics. The variables of household savings, internet, and child marriage are derived from raw data from the 2019 KOR National Socio-Economic Survey. The variable for women in the labor market is obtained from the publication of the 2020 National Labor Force Survey (Survei Angkatan Kerja Nasional/Sakernas) issued by Central Bureau of Statistics. The migration variable is sourced from the publication of the 2019 Susenas Migrant Profiles published by Central Bureau of Statistics. The scope of this research is all provinces in Indonesia in 2019.

## 2.3. Analysis Method

The analytical method used in this research is descriptive analysis and inferential analysis. Descriptive analysis was carried out with thematic maps showing the value of each variable by province. Inferential analysis is done by forming the index of potential and threat of the demographic bonus, followed by path analysis to examine the effect of each exogenous variable on the endogenous variable. The stages of inferential analysis are as follows.

1. Define a path chart. Path diagrams are used to illustrate relationships between variables in path analysis using arrows. The following is the path diagram used in this study.

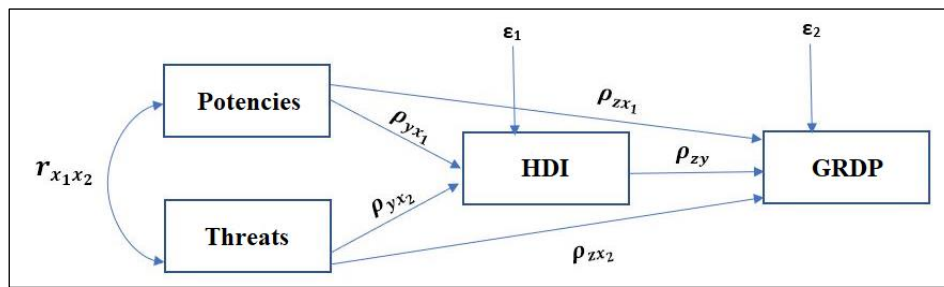


Figure 3. Path diagram

2. Making indicators and indexes of potencies and threats of demographic bonuses. This index is calculated by adapting the UNDP formula [39]. The value of each index and indicator will be 0 to 1, which indicates the order of each province based on the size of the variable. There are several stages to create a composite index [25], which are as follows.

- a. Collect theoretical framework
- b. Data selection
- c. Normalization with the min-max method

The minimum and maximum values used are the minimum and maximum values in all areas of the indicator at that time. The formula is used as follows.

$$I_{ijk} = \frac{a_{ijk} - a_{jk_{min}}}{a_{jk_{max}} - a_{jk_{min}}} \tag{1}$$

with:

- $I_{ijk}$  :  $j$ -th indicator for the  $k$ -th index in the  $i$ -th province
- $a_{ijk}$  : the value of  $j$ -th variable for  $k$ -th index in the  $i$ -th province
- $a_{jk_{min}}$  : the smallest value of  $j$ -th variable for index  $k$  from all provinces
- $a_{jk_{max}}$  : the largest value of  $j$ -th variable for the  $k$ th index of all provinces

- d. Weighting and aggregation

The weighting of these two indices uses the assumption of UNDP [39], where all humanitarian variables have the same weight, while the aggregation method uses an arithmetic method that refers to Decancq and Lugo [9], where most of the indexes on humanity use the arithmetic method. The aggregation formula used is as follows.

$$x_{ij} = \frac{\sum_{j=1}^3 I_{ijk}}{3} \tag{2}$$

with:

- $x_{ij}$  =  $j$ -th index value of  $i$ -th province

3. Classical assumption test. The classical assumptions tested are normality, non-multicollinearity, and homoscedasticity.

4. Perform path analysis modeling. Following are the equations that can be formed from path analysis.

$$\begin{aligned} \text{Structural equation I} & : \text{HDI}_i = \rho_{yx_1} \text{Potencies}_i + \rho_{yx_2} \text{Threats}_i \\ \text{Structural equation II} & : \text{GRDP}_i = \rho_{zx_1} \text{Potencies}_i + \rho_{zx_2} \text{Threats}_i + \rho_{zy} \text{HDI}_i \end{aligned} \tag{4}$$

5. Model testing with simultaneous tests, partial tests, and  $R^2$ .

6. Calculate the value of direct influence, indirect effect, and total effect of exogenous variables on endogenous variables. The direct effect is the direct influence between two variables directly without going through other variables. The indirect effect is the influence between two variables through at least one other variable. Meanwhile, the total effect is the sum of the direct and indirect effects [5]. The following is a table for calculating the direct effect, indirect effect, and total effect.

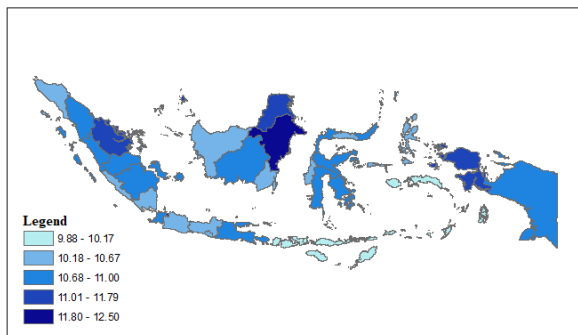


**Table 1.** Calculation of direct, indirect, and total effects

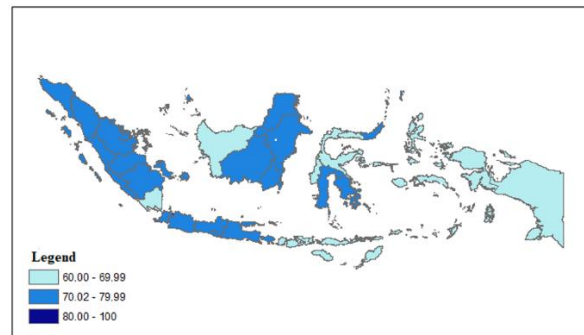
Variable Effect	Direct	Indirect		Total
		Through	Score	
Potencies to HDI	$\rho_{yx_1}$	-	-	$\rho_{yx_1}$
Threats to HDI	$\rho_{yx_2}$	-	-	$\rho_{yx_2}$
HDI to GRDP	$\rho_{zy}$	-	-	$\rho_{zy}$
Potencies to GRDP	$\rho_{zx_1}$	HDI	$(\rho_{yx_1}) \times (\rho_{zx_1})$	$(\rho_{zx_1}) + ((\rho_{yx_1}) \times (\rho_{zx_1}))$
Threats to GRDP	$\rho_{zy}$	HDI	$(\rho_{yx_2}) \times (\rho_{zx_2})$	$(\rho_{zy}) + ((\rho_{yx_2}) \times (\rho_{zx_2}))$

### 3. Results And Discussion

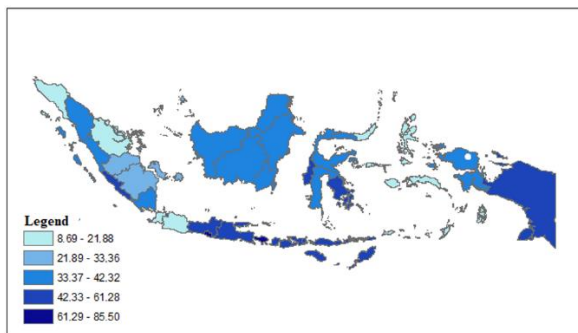
#### 3.1. Results



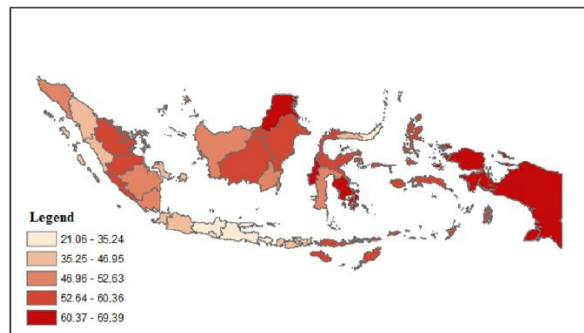
**Figure 3.** Distribution of Indonesia's GRDP growth by the province in 2019



**Figure 4.** Distribution of Indonesia's HDI by the province in 2019



**Figure 5.** Distribution of Indonesia's potencies index by the province in 2019



**Figure 6.** Distribution of Indonesia's threats index by the province in 2019

Figure 3 shows the distribution of GRDP by the province in Indonesia in 2019, which has a positive value, where the greater the value, the better the economic growth in the province. The highest GRDP was found in DKI Jakarta and East Kalimantan Provinces, were valued at 12.5 and 12.08, respectively. Meanwhile, the provinces with the lowest GRDP were East Nusa Tenggara and Maluku, respectively 9.88 and 10.15. Most of the provinces in Indonesia, namely 14, have moderate GRDP values, ranging from 10.68 to 11.

Figure 4 shows the distribution of HDI by the province in Indonesia in 2019, which has a positive value, where the greater the value, the better the quality of human resources in the province. In general, HDI in Indonesia has reached a minimum value of 60 or in the medium category. There is one province in Indonesia that has reached the very high category, namely DKI Jakarta. In most of the provinces in



Indonesia, as many as 22 provinces have HDI in the high category, while the rest, namely 11 provinces, have HDI in the medium category.

Figure 5 shows the distribution of the potencies of demographic bonus index value by the province in Indonesia in 2019, which is positive, where the greater the value, the better the potential for the demographic bonus in the province. As can be seen from the figure, the provinces that have the highest potencies value are DI Yogyakarta and Bali, with 80.49 and 85.5 percent, respectively. Meanwhile, the provinces with the lowest potencies values were Banten and West Java, namely 8.69 and 10.69 percent. Most provinces in Indonesia have medium and high potencies index, which ranges from 33.38 to 61.28 percent.

Figure 6 shows the distribution of the threats index value by the province in Indonesia in 2019, which is negative, where the greater the value, the worse the conditions in the province that can threaten the success of the demographic bonus. The figure shows that the threats index values are randomly distributed throughout the province. Provinces with the most extensive threats index are West Papua and West Sulawesi, worth 69.39 and 67.78 percent. Meanwhile, the provinces with the smallest threats index were Bali and DI Yogyakarta, with 21.06 and 25.47 percent.

These index is calculated by adopting the index from UNDP. After calculating the index, the next stage is testing the classical assumptions on the residual equation. The assumptions tested are the assumptions of normality, non-multicollinearity, and homoscedasticity. Based on the residual normality test of the two equations with the Shapiro-Wilk test, the p-value obtained is greater than the significance value (5 percent), 0.280 and 0.828, respectively, which means that both residuals follow a normal distribution. The non-multicollinearity assumption test was also carried out on the two equations. All the VIF values of each variable were below 10, which means that both equations met the non-multicollinearity assumption. Finally, the equations homoscedasticity test resulted in a p-value greater than the significance value (5 percent), 0.56, and 0, respectively. The model uses path analysis to analyze the potential and threats of the demographic bonus on the quality of human resources and economic growth.

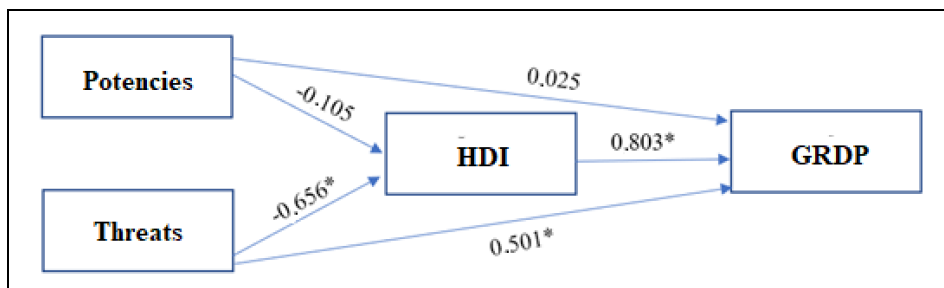


Figure 5. Path diagram of path analysis results

$$HDI_i = -0.105 Potencies_i - 0.656 Threats_i^* \tag{5}$$

$$GDRP_i = 0.025 Potencies_i + 0.501 Threats_i^* + 0.803 HDI_i^* \tag{6}$$

(\*) = Significant at the 5 percent level

The next step is to perform a simultaneous test on each of the resulting equations. This test was conducted to determine the simultaneous influence of the potential and threat variables on HDI in structural equation I and the potential, threat, and HDI on GDRP in structural equation II. Simultaneous test results can be seen from the following table.

Table 3. Simultaneous test results of structural equations I and II

Equation	df	F	Sig.	R <sup>2</sup>
Structural equation I	2	10.656	0.000	0.407
Structural equation II	3	6.280	0.002	0.386



From the resulting simultaneous test, it can be seen that the two structural equations have a p-value that is less than the significance value, which is 0.05. This can be interpreted that with a significance level of 5 percent, it can be stated that the potencies and threats variables together have a significant influence on HDI in structural equation I. Meanwhile, with a 5 percent significance level, it can be stated that the potential, threat, and HDI together have a significant influence on GRDP.

In addition, it can be seen that the  $R^2$  value of the structural equation I is 0.407, which means that 40.7 percent of the HDI variable can be explained by the potential and threat of the demographic bonus, while other variables explain the rest. Then, the  $R^2$  value of structural equation II is 0.386, which means that 38.6 percent of the GRDP variables can be explained by the potential and threat of the demographic bonus and HDI, while other variables explain the rest.

**Table 4.** Results of partial test of structural equations I and II

Variable	Path Coefficient	t	Sig.
Structural equation I			
Potencies	-0.105	-0.734	0.468
Threats	-0.656	-4.596	0.000*
Structural equation II			
Potencies	0.025	0.169	0.867
Threats	0.501	2.614	0.014*
HDI	0.803	4.321	0.000*

From the results of the partial test of structural equation I showed in table 4, with a significance level of 5 percent, it can be stated that the potencies variable has no significant effect on HDI. In contrast, the threats variable has a significant influence on HDI. Furthermore, in structural equation II, with a significance level of 5 percent, it can be stated that the potencies variable does not have a significant effect on GRDP. In contrast, the threats variable and HDI have a significant influence on GRDP. This partial test, can calculate the effect of each variable on GRDP, either directly or indirectly, through HDI. The magnitude of this direct and indirect relationship can be seen in the following table.

**Table 5.** Values of direct, indirect, and total effects

Variable Effect	Direct	Indirect		Total
		Through	Score	
Potencies to HDI	-0.105	-	-	-0.105
Threats to HDI	-0.656	-	-	-0.656
HDI to GRDP	0.803	-	-	0.803
Potencies to GRDP	0.025	HDI	0.003	0.028
Threats to GRDP	0.501	HDI	-0.329	0.172

Based on the path coefficient calculation results, the potencies variable does not have a significant direct effect on HDI. This result is in line with previous research, namely the potencies demographic bonus consisting of the level of job absorption [12], household savings [24], and the number of female workers [6] that do not have a significant influence on the quality of human resources described by HDI. In addition, the demographic bonus potencies variable also does not have a significant direct influence on GRDP. These results are in line with previous research, namely the potencies demographic bonus consisting of the role of women in the labor market [32], household savings, and labor market absorption [22].

### 3.2. Discussion

Several reasons that can explain why the potencies demographic bonus does significantly influence on the quality of human resources described by HDI and economic growth described by GRDP. In terms





of labor absorption indicators, there may be a labor force that does not belong to the poor status population but does not work, so it is not included in the scope of labor market absorption [34]. Although he has good quality human resources and can support economic growth, he is not included in the absorption of the labor market. These variables have no significant effect on the quality of human resources and economic growth.

In terms of household savings, most of the population who have savings are likely non-poor. According to Mankiw [19], saving is one of the supporters of economic growth, but the growth will be constant when the steady-state is reached. The steady-state level of capital occurs when the investment is worth the same as depreciation, so the savings saved will have value due to inflation and other factors. Therefore, even though the percentage of the population with savings is high, if the population has reached a steady-state, it will not help increase (constant) economic growth even though the quality of human resources is good.

Finally, in terms of women in the labor market, assuming the same type of work, even though women participate in the labor market, the wages they receive are often lower than men because women are considered to have limited capacities [40]. This is also supported by Sakernas 2015-2019 data, where women's net wages/salaries are always lower than men, with an average difference of around IDR460,000 per month. In addition, households with female household heads are more at risk of becoming poor than male household heads because of the limitations of women [42]. The limitations in question are in the form of energy, time, physical, and so on because women have more complex reproductive cycles, such as pregnancy, giving birth, etc. Therefore, although many women participate in the labor market in a province, due to limitations and their wages are also lower than men, it is more difficult for women to improve the quality of human resources. This makes it difficult for women to develop and is unable to increase economic growth.

Based on the calculation of the path coefficient, the threat variable has a positive direct effect on economic growth. In contrast, the threat variable has a negative indirect effect on economic growth through the quality of human resources. This means that the smaller the threat of the demographic bonus will lead to a decrease in economic growth if it is not accompanied by an increase in the quality of human resources. However, if it is accompanied by an increase in the quality of human resources, it will increase economic growth. This is in line with the results of previous studies, where the threat of a demographic bonus consists of migration [20], the percentage of the population who do not use the internet [14], and child marriage [37] have a significant influence on economic growth in the region,

Several reasons can explain the threat variable that significantly influences economic growth, either directly or indirectly. The internet is needed in almost all fields of work, even today, many jobs will not be created without internet access [31]. Besides supporting work, the internet could also improve the quality of human resources, for example, to support teaching and learning activities in schools. However, internet access can also negatively impact excessive online game addiction, illegal transactions, online buying and selling fraud, and credit card burglary. The misuse of internet access can potentially damage the population's morale, causing harm to others and themselves. Therefore, even though the percentage of internet users in an area is high, it will reduce economic growth if it is not used to improve the quality of human resources. On the other hand, if the percentage of internet users in an area is high but used to enhance the quality of human resources, it will help increase economic growth in that area.

Several programs to improve comprehensive internet access have been carried out by the government. One of which is the Ministry of Communication and Information, which targets the construction of 5,000 BTS (base transceiver systems) in remote areas. The result can be seen from 2017 to 2019. According to data from Central Bureau of Statistics, the proportion of individuals who can access the internet both in urban and rural areas has increased to more than 10 percent.

In terms of migration, higher in-migration will increase economic growth. However, the large number of in-migrations can cause other socio-economic problems, such as high housing needs, exploitation of natural resources, high population density, and economic disparities [16]. To overcome other issues, in-migration must also be accompanied by improving the quality of human resources so that the competitiveness of migrants becomes high. In addition, the indigenous people of the area must also improve the quality of their human resources so that they do not only rely on incoming migrants.



Therefore, even though in-migration in an area is low, if the migrants and indigenous people have high competitiveness, it can increase economic growth in that area.

Finally, in terms of child marriage, if there is child marriage, the child is forced to work to meet the needs of his life so that the child can drop out of school and cannot improve the quality of human resources [8]. This is in line with data from Central Bureau of Statistics, namely children who have their first marriage when they are less than 18 years old have a lower average length of schooling than children who have their first marriage at the age of 18 years and over, with an average difference 1 to 2 years on average. High child marriage will increase in economic growth because children are required to work [8]. However, the high number of child marriages has many disadvantages, such as increasing stunting rates, maternal and infant mortality, and others [8].

Based on the path coefficient calculation results, the variable quality of human resources has a significant positive effect on the variable of economic growth. The higher the value of the quality of human resources in a province, the higher its economic growth. Research Lonni et al. [17] is in line with the results of this study, where the quality of human resources as measured by HDI has a significant influence on economic growth.

The HDI value, which has a significant positive effect on economic growth, can be caused by several things. In terms of health, to achieve maximum productivity for a country, a population must have good health [10]. In terms of education, education has an important role in increasing economic growth. Through education, humans can have the skills and knowledge that will help them obtain the ideal job to increase economic growth [29]. Finally, in terms of purchasing power, if the population's purchasing power is high, the per capita consumption will also be higher. This high per capita consumption will trigger production to also increase so that economic growth described by GRDP will also increase [13].

## 4. Conclusions and Suggestions

### 4.1. Conclusions

The conclusion drawn from this study is that the potential demographic bonus consisting of labor market absorption, household savings, and women in the labor market does not directly affect the quality of human resources and economic growth, so there is no significant indirect effect on economic growth through the quality of human resources. Meanwhile, the threat of a demographic bonus consisting of the internet, migration, and child marriage significantly influence on economic growth, both directly and indirectly, through the quality of human resources compared to the potential demographic bonus. When viewed from its influence, the reduction in the threat of the demographic bonus will directly reduce economic growth. However, if the reduction of the threats can increase the quality of human resources, this can significantly increase economic growth.

### 4.2. Suggestions

Based on these results, several suggestions can be given to reduce the threats of the demographic bonus. First, to facilitate internet access to all corners of Indonesia by increasing internet access points and improving the quality of human resources, making it easier for the public to access health information from trusted sources. Then, regulate migration patterns well by conducting closed city programs for prominent cities and improving the quality of human resources. Last, preventing child marriage by socializing to parents about the eight functions of the family and the dangers of child marriage so that children can focus on improving their quality of life.

For further research, it is possible to develop an index of the potential and threat of the demographic bonus to describe the demographic bonus better. In addition, it can consider the dependency ratio of the demographic bonus at the provincial level because each province has a different demographic bonus period. For example, in 2015, the Province of NTT had a dependency rate of 69.3, but DKI Jakarta had reached a value of 39.41.

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