

# The Influence of Human Capital, Infrastructure Availability and Minimum Wages on Labor Absorption in Eastern Indonesia

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## Abstract

This study aims to determine and analyze the influence of health factors, education, infrastructure availability and minimum wages on labor absorption both directly and through private investment and economic growth. This study uses secondary data in the form of life expectancy data, average length of schooling, distributed energy, provincial minimum wages, private investment (PMA and PMDN), GRDP, economic growth, and the number of working population in each province in Eastern Indonesia. The data is in the form of N The results of the study show that directly health factors, education, and provincial minimum wages have a negative and significant effect on labor absorption while infrastructure availability has a positive and significant effect. Indirectly health factors, infrastructure availability and minimum wages are able to increase labor absorption both through investment and economic growth in contrast to the education factor which has not maximized labor absorption both through investment and economic growth. This is in line with the conditions of KTI which are still dominated by informal sector employment.

**Keywords:** Life expectancy, Economic growth, Provincial minimum wage

## INTRODUCTION

The development paradigm includes a multidimensional process that includes several fundamental changes in the form of strata (structure), values and norms of society and social institutions. In general, economic development has three main (goals) including increasing, availability and expanding the distribution of various necessities, increasing the standard of living (income, providing employment, improving the quality of education, increasing attention to cultural and humanitarian values) and expanding economic and social choices (Todaro, 2006). In addition, development is a process of continuously improving the quality of human resources, both from social and economic aspects. The social aspect is directed to encourage improving the quality of health and education while the economic condition aspect is directed to increasing employment opportunities and community income. These two things are essentially closely related, because economic development and vice versa, so that basically development is a continuous process, towards better progress and improvement.

In fact, the problems that arise in the population aspect are not only in the large quantity alone but also have an impact on the derivatives of the large quantity, including population distribution, population quality, adequacy in terms of consumption, a population structure that is mostly still young, capital and technology owned are also still low and as a result work productivity is decreasing and crucial problems related to employment (Rochaida, 2016).

The problem of employment is a classic problem encountered by every country, especially developing countries, both at the national and regional levels, which is always a major concern in every government period. Unemployment and increasing the quality of workers are one of the indicators of the condition

Employment which is also a focus of attention for the government (Sari, 2016). This issue is an important focus considering that it has a relationship with the unemployment rate both directly and indirectly. This is inseparable from the development of the population growth rate which must be accompanied by many new jobs that can absorb more workers so that it can reduce the number of unemployed. A large population is a burden for a country if it is unable to explore and use the potential of its human resources. With high unemployment, it will increase the probability of crime, poverty and other socio-economic problems in society.

The high and low HDI indicates an impact on the quality of human resources. Period 2010 - 2022. On the island of Kalimantan, it can be seen that West Kalimantan has not experienced a change in moderate status. On the island of Sulawesi, most provinces still have moderate status except Gorontalo. West Sulawesi was even able to grow into a province with a moderate category of provincial HDI from its position 12 years earlier. The moderate category of HDI also still occurs in the islands of Nusa Tenggara and Papua (BPS, 2023). This shows that the quality of human resources in the East Timor region is still low. This condition identifies the existence of human quality problems in the Eastern Indonesia Region.

Workers with low or limited education quality will affect the low bargaining power of workers. This will cause the workforce to not be accommodated in professional jobs that require high skills and qualifications. In line with Kaufman (1999), that someone can increase their income through education. So the higher a person's education, the higher the income they will get. Therefore, there are several assumptions that by pursuing higher education, there will be a greater opportunity to get a better job and a good income.

Education and health are closely related to human capital (Schultz, 1960; Todaro & Smith, 2006). Education and training can be an added value for a person. This can be explained if the higher a person's education or the more training they take, the higher their abilities and skills. Meanwhile, health is a field that is interrelated with education. Higher education without a healthy body will not increase productivity. Meanwhile, higher education can also affect a person's level of health awareness.

Furthermore, overcoming the workforce problem is indeed not easy, the government must include the role of education so that the workforce can meet good qualifications to work. Strengthening human resources (human resources refer to the knowledge, experience, and skills of a worker) is something that needs to be done. The quality of human resources can be improved through improving the quality of education (Suaidah, 2013). In the modern era like today, one of the urgent problems is the accessibility and quality of higher education for various population groups (Gegel, L., Labedeva, I. & Frolova, Y., 2015).

Referring to the World Population Review report entitled Average IQ by Country 2022, Indonesia is ranked 10th out of 11 countries in Southeast Asia, aka the 2nd lowest in Southeast Asia. For the global ranking, Indonesia is ranked 130th. Furthermore, the World Bank through the Human Capital Index 2022 report explains that Indonesia's human capital index is still ranked 130th out of 199 countries, as is our EQ ranking which is ranked sixth in ASEAN below Singapore, Vietnam, Brunei Darussalam, Malaysia and Thailand.

In addition to human capital, the availability of infrastructure is still part of one of the economic problems in the context of Indonesia, especially in the Eastern Region of Indonesia is still inadequate, this indicates that there are signs of lack of function and unmet needs to support social and economic activities in the Eastern Region of Indonesia at this time (Kaming and Raharjo, 2017). In line with (Sukoyo, 2013) explaining that almost all of the Eastern Region of Indonesia has a basic problem, namely the lack of infrastructure availability. In 2022 Indonesia's competitiveness in the global context is ranked 44th, experiencing a decline from the previous position in 37th in 2021, although Indonesia has increased from 57th position in 2021 to 52nd position in 2022, this shows progress in the field of infrastructure, but it is not yet adequate and still lags behind neighboring countries, namely Singapore and Malaysia.

Infrastructure can also have an impact on income inequality. The cause of inequality is the low attractiveness of the region and the resources available due to limited infrastructure facilities, causing low economic activity. A region that does not have resources, both natural resources (SDA) and human resources (SDM) and the lack of incentives offered (infrastructure, hardware and software, and security) will cause a region to lag behind in development (Maqin, 2011).

Conceptually, there is an interesting reason why infrastructure development may have differential effects on the incomes of the poor and their impact on aggregate income. Efficient infrastructure is essential for economic and social development that promotes pro-poor growth. Infrastructure will facilitate the poor's access to productive opportunities, and increase the value of assets. It can also improve education and health outcomes, thereby increasing human capital. The availability of infrastructure is very important in development because it will create strong connectivity between regions, thereby reducing logistics costs, reducing inequality, improving the quality of life of the community, and eliminating economic disparities between regions, which will ultimately lead to increased competitiveness and stimulus for economic growth and more equitable income distribution (Maryaningsih et al., 2014).

Good energy infrastructure also has a significant impact on employment. The construction of power plants, wind power, solar power, hydro power plants, or other energy facilities requires a large workforce during the construction phase. After completion, these facilities also require workers to operate them and carry out routine maintenance. Existing energy infrastructure requires regular maintenance and repair. This creates jobs in the field of maintenance, repair, and inspection of energy facilities.

More broadly, access to and use of infrastructure services will increase labor productivity and reduce production and transaction costs. Infrastructure (transport, energy, information and communication technology, drinking water, sanitation and irrigation, housing, education and health) is key to the integration of individuals and households in socio-

economic life, increasing economic activities that improve the livelihoods of the poor, and contributing to growth. If infrastructure helps increase income levels and reduce income inequality.

The provincial minimum wage in the last three years in Eastern Indonesia has experienced a positive increase with different amounts. Maluku and Papua have the highest minimum wage levels compared to other regions, where in 2022 it reached 3,060.87 thousand. However, the high minimum wage is not followed by high labor absorption in the region (Table 1.1). On the other hand, the Nusa Tenggara region has the lowest minimum wage but labor absorption is in the highest category compared to other regions. In general, in 2022, out of 17 provinces, 5 of them are included in the 10 provinces with the highest UMP, including Papua (Second position / IDR 3.56 million); North Sulawesi (Third position / 3.31 million); West Papua (Fifth position / 3.2 million); South Sulawesi (Seventh position / IDR 3.16 million); and North Kalimantan (tenth position/Rp 3.01 million. Different from West Nusa Tenggara; East Nusa Tenggara, Central Kalimantan and Central Sulawesi are among the 10 provinces with the lowest UMP. When compared with the increase in labor absorption, the increase is not consistent.

The minimum wage policy is still a debate, some agree and some disagree regarding this policy (Neumark & Wascher, 2007; Rutkowski, 2003; SR Haughton & Khandker, 2009; Wu & Liu, 1999). Those who agree with this policy argue that the government policy regarding the determination of the minimum wage is one way to increase workers' income in order to meet the standard of living (KHL). Along with the increase in workers' income, the level of workers' consumption also increases. The increasing level of consumption encourages the emergence of new types of businesses that have the potential to add new jobs (Aaronson et al., 2012; Autor et al., 2008, 2016; Luttmer, 2007)

The influence of economic growth on labor absorption is developed from Lewis Theory, its influence starts from investment in the industrial sector, and overall capital accumulation in the modern sector will cause an expansion of output in the modern sector. The transfer of labor from the agricultural sector to the modern sector (industry) will then increase output growth and increase labor absorption in the modern sector.

Furthermore, the influence of wages on investment, economic growth and labor absorption is developed from Dunning's Theory which explains several macro factors that influence investment including market size, creditworthiness, market size, infrastructure and labor costs in the destination country of investment (Dua & Garg, 2015). Based on this theory, one of the factors that determines investment performance is labor costs in this case workers' wages.

Thus, research related to human capital, infrastructure, and wages has a very important role in understanding and increasing labor absorption. Where human capital is related to the quality and quantity of labor, it is expected to help identify the level of quality and quantity of labor available in a region or country. This information is important for companies to match their labor needs with the skills needed and assess whether investment in training and education will help fill the skills gap.

For good infrastructure, such as efficient transportation networks, reliable electricity, and fast internet access, can help attract investment and drive economic growth. Higher economic growth tends to create more job opportunities for local communities and adequate and efficient infrastructure is one of the main considerations for companies planning to invest in an area. This investment can open up new jobs and drive the growth of related sectors. This wage is an attraction for labor, the amount of wages offered affects the attractiveness of a job to workers. Competitive wages can help attract skilled and experienced workers and fair and adequate wages can increase employee motivation and performance, which in turn increases company productivity. Higher productivity can help companies grow and create more jobs.

## RESEARCH METHODS

This research was conducted in 17 provinces in Eastern Indonesia, as stated in Presidential Regulation Number 2 of 2015 concerning the National Medium-Term Development Plan (RPJMN) 2015-2019. Among them are the islands of Kalimantan, Sulawesi, Maluku, Nusa Tenggara and Papua. Because the provinces of Southwest Papua, South Papua, Central Papua and Papua Pegunungan are provinces that were only formed in 2022 and due to limited data, this study determined only 17 provinces in Eastern Indonesia, namely Bali, West Nusa Tenggara, East Nusa Tenggara, West Kalimantan, Central Kalimantan, South Kalimantan, East Kalimantan, North Kalimantan, North Sulawesi, Central Sulawesi, South Sulawesi, Southeast Sulawesi, Gorontalo, West Sulawesi, Maluku, North Maluku, West Papua, and Papua which were used as research objects.

The type of data used in this study is quantitative data. While the data sources used in the study are secondary data sourced from the Central Statistics Agency of each province in Eastern Indonesia, Bappenas simreg, Bappeda of each province in Eastern Indonesia and PLN statistics. The data collected in this study, namely Average length of schooling, Life Expectancy, private investment, Gross Regional Domestic Product (PDRB), economic growth, Population, Labor Absorption, and other data needed to support this study. Data collection using documentation techniques, by tracing various data that have been published by the national/provincial Central Statistics Agency in the form of the Indonesian Statistics Book, BPS publications in the form of Provinces in Figures 2013-2022, PLN Statistics, Bappenas simreg

(<https://simreg.bappenas.go.id/>) as well as from ministries, institutions or agencies related to the provision of data related to the variables in this study.

This study develops a structural model with simultaneous equations based on the conceptual framework depicted in Figure 3.1 and the data used is panel data, where the data used is in the form of concepts rather than constructs. Thus, the most appropriate data analysis technique to answer the problem formulation and hypothesis is path analysis.

## RESULTS AND DISCUSSION

### Results

#### The Impact of Health on Labor Absorption, both directly and through Investment and Economic Growth

##### a. Direct Impact of Health on Labor Absorption

The direct effect of health on labor absorption shows a negative and significant effect. This means that any change in health will affect changes in labor absorption. This result is not in line with the initial hypothesis which states that health has a direct positive and significant effect on labor absorption.

##### b. Indirect Effect of Health on Labor Absorption through Investment

The indirect effect of health on labor absorption through investment shows a positive and significant effect overall with a coefficient value of 0.006. This effect comes from a positive and significant (t value of 3.299 and a coefficient value of 0.126) between health and investment which is then continued with a positive and significant relationship (t value of 2.083 and a coefficient value of 0.044) between investment and labor absorption.

This means that every one percent increase in health will increase investment by 0.093 percent. This increase in investment will then increase labor absorption by 0.044 percent. So that one percent increase in health will cause labor absorption to increase through investment by 0.006 percent. This result is in line with the initial hypothesis which states that health has an indirect positive effect on labor absorption through investment.

##### c. Indirect Effect of Health on Labor Absorption through Economic Growth

The indirect effect of health on labor absorption through economic growth shows a positive and significant effect overall with a coefficient value of 0.013. This effect comes from a positive and significant (t value of 6.987 and a coefficient value of 0.093) between health and economic growth which is then continued with a positive and significant relationship (t value of 2.369 and a coefficient value of 0.136) between investment and labor absorption.

This means that every one percent increase in health will increase economic growth by 0.093 percent. This increase in economic growth will then increase labor absorption by 0.136 percent. So that one percent increase in health will cause labor absorption to increase through economic growth by 0.013 percent. This result is in line with the initial hypothesis which states that health has an indirect positive effect on labor absorption through economic growth.

##### d. Indirect Effect of Health on Labor Absorption through Investment and Economic Growth

The indirect effect of health on labor absorption through investment and economic growth shows a significant effect overall. This significant effect comes from the positive and significant relationship between health and investment, the significant effect of investment and economic growth and then ends with a significant relationship between economic growth and labor absorption.

This means that every increase in health will increase investment. The size of the investment value will affect economic growth and ultimately will also affect labor absorption. This result is not in line with the initial hypothesis which states that health has an indirect positive and significant effect on labor absorption through investment and economic growth.

#### The Influence of Education on Labor Absorption, both directly and through Investment and Economic Growth

##### a. Direct Influence of Education on Labor Absorption

The direct influence of education on labor absorption shows a negative and significant influence. This means that any change in education will affect changes in labor absorption. This result is not in line with the initial hypothesis which states that education has a direct positive and significant influence on labor absorption.

##### b. Indirect Effect of Education on Labor Absorption through Investment

The indirect effect of education on labor absorption through investment shows a negative and insignificant effect overall with a coefficient value of -0.008. This effect comes from the negative and significant (t value of -1.166 and coefficient value of -0.172) between education and investment which is then continued with a positive and significant relationship (t value of 2.083 and coefficient value of 0.044) between investment and labor absorption.

This means that every one percent increase in education will decrease investment by 0.172 percent. This increase in investment will then increase labor absorption by 0.044 percent. So that one percent increase in education will cause labor absorption to decrease through investment by 0.008 percent. This result is not in line with the initial hypothesis which states that education has an indirect positive effect on labor absorption through investment.



**c. Indirect Effect of Education on Labor Absorption through Economic Growth**

The indirect effect of education on labor absorption through economic growth shows a negative and significant effect overall with a coefficient value of -0.028. This effect comes from the negative and significant (t value of -5.859 and coefficient value of -0.209) between education and economic growth which is then continued with a positive and significant relationship (t value of 2.369 and coefficient value of 0.136) between investment and labor absorption.

This means that every one percent increase in education will reduce economic growth by 0.209 percent. This increase in economic growth will then increase labor absorption by 0.136 percent. So that a one percent decrease in education will cause labor absorption to increase through economic growth by 0.028 percent. This result is in line with the initial hypothesis which states that education has an indirect positive effect on labor absorption through economic growth.

**d. Indirect Effect of Education on Labor Absorption through Investment and Economic Growth**

The indirect effect of education on labor absorption through investment and economic growth shows an overall insignificant effect. This significant effect comes from the negative and insignificant relationship between education and investment, the significant effect of investment and economic growth and then ends with a significant relationship between economic growth and labor absorption.

This means that every increase in education will decrease investment. The size of the investment value will affect economic growth and ultimately will also affect labor absorption. This result is not in line with the initial hypothesis which states that health has an indirect positive and significant effect on labor absorption through investment and economic growth.

**The influence of infrastructure availability on labor absorption, both directly and through investment and economic growth.**

**a. Direct Impact of Infrastructure Availability on Labor Absorption**

The direct effect of infrastructure availability on labor absorption shows a positive and significant effect. This means that any change in infrastructure availability will affect changes in labor absorption. This result is in line with the initial hypothesis which states that infrastructure availability has a direct, positive and significant effect on labor absorption.

**b. Indirect Impact of Infrastructure Availability on Labor Absorption through Investment**

The indirect effect of infrastructure availability on labor absorption through investment shows a positive and significant effect overall with a coefficient value of 0.027. This effect comes from a positive and significant (t value of 6.747 and a coefficient value of 0.620) between infrastructure availability and investment which is then continued with a positive and significant relationship (t value of 2.083 and a coefficient value of 0.044) between investment and labor absorption.

This means that every one percent increase in infrastructure will increase investment by 0.620 percent. This increase in investment will then increase labor absorption by 0.044 percent. So that one percent increase in infrastructure will cause labor absorption to increase through investment by 0.027 percent. This result is in line with the initial hypothesis which states that the availability of infrastructure has an indirect positive effect on labor absorption through investment.

**c. Indirect Effect of Infrastructure Availability on Labor Absorption through Economic Growth**

The indirect effect of infrastructure availability on labor absorption through economic growth shows a positive and significant effect overall with a coefficient value of 0.065. This effect comes from a positive and significant (t value of 13.681 and a coefficient value of 0.481) between infrastructure availability and economic growth which is then continued with a positive and significant relationship (t value of 2.369 and a coefficient value of 0.136) between investment and labor absorption.

This means that every one percent increase in infrastructure will increase economic growth by 0.481 percent. This increase in economic growth will then increase labor absorption by 0.136 percent. So that a one percent increase in infrastructure availability will cause labor absorption to increase through economic growth by 0.065 percent. This result is in line with the initial hypothesis which states that infrastructure availability has an indirect positive effect on labor absorption through economic growth.

**d. Indirect Impact of Infrastructure Availability on Labor Absorption through Investment and Economic Growth**

The indirect effect of infrastructure availability on labor absorption through investment and economic growth shows a significant effect overall. This significant effect comes from the positive and significant relationship between infrastructure availability and investment, the significant effect of investment and economic growth and then ends with a significant relationship between economic growth and labor absorption.

This means that every infrastructure improvement will increase investment. The size of the investment value will affect economic growth and ultimately affect labor absorption. This result is in line with the initial hypothesis which states

that the availability of infrastructure has an indirect positive and significant effect on labor absorption through investment and economic growth.

### **The Influence of Provincial Minimum Wages on Labor Absorption, both directly and through Investment and Economic Growth**

#### **a. Direct Impact of Provincial Minimum Wages on Infrastructure Availability on Labor Absorption**

The direct effect of provincial minimum wages on labor absorption shows a negative and significant effect. This means that any change in the provincial minimum wage will affect changes in labor absorption. This result is in line with the initial hypothesis which states that provincial minimum wages have a direct negative and significant effect on labor absorption.

#### **b. Indirect Effect of Provincial Minimum Wages on Labor Absorption through Investment**

The indirect effect of provincial minimum wages on labor absorption through investment shows a positive and significant effect overall with a coefficient value of 0.045. This effect comes from a positive and significant (t value of 3.634 and a coefficient value of 1.016) between provincial minimum wages and investment which is then continued with a positive and significant relationship (t value of 2.083 and a coefficient value of 0.044) between investment and labor absorption.

This means that every one percent increase in the minimum wage will increase investment by 1.016 percent. This increase in investment will then increase labor absorption by 0.044 percent. So that a one percent increase in the provincial minimum wage will cause labor absorption to increase through investment by 0.045 percent. This result is in line with the initial hypothesis which states that the provincial minimum wage has an indirect positive effect on labor absorption through investment.

#### **c. Indirect Effect of Provincial Minimum Wages on Labor Absorption through Economic Growth**

The indirect effect of provincial minimum wages on labor absorption through economic growth shows a positive and significant effect overall with a coefficient value of 0.044. This effect comes from a positive and significant (t value of 3.248 and a coefficient value of 0.321) between provincial minimum wages and economic growth which is then continued with a positive and significant relationship (t value of 2.369 and a coefficient value of 0.136) between investment and labor absorption.

This means that every one percent increase in the provincial minimum wage will increase economic growth by 0.321 percent. This increase in economic growth will then increase labor absorption by 0.136 percent. So that a one percent increase in the provincial minimum wage will cause labor absorption to increase through economic growth by 0.044 percent. This result is in line with the initial hypothesis which states that the provincial minimum wage has an indirect positive effect on labor absorption through economic growth.

#### **d. Indirect Effect of Provincial Minimum Wages on Labor Absorption through Investment and Economic Growth**

The indirect effect of provincial minimum wages on labor absorption through investment and economic growth shows a significant effect overall. This significant effect comes from the positive and significant relationship between provincial minimum wages and investment, the significant effect of investment and economic growth and then ends with a significant relationship between economic growth and labor absorption.

This means that every increase in the provincial minimum wage will increase investment. The size of the investment value will affect economic growth and ultimately affect labor absorption. This result is in line with the initial hypothesis which states that the provincial minimum wage has an indirect positive and significant effect on labor absorption through investment and economic growth.

### **The Influence of Private Investment on Labor Absorption, both Directly and Through Economic Growth**

#### **1. Direct Impact of Private Investment on Labor Absorption**

The direct effect of private investment on labor absorption was obtained at 0.044 with a significance of 0.037 indicating a significant effect. Every change in private investment will affect changes in labor absorption. This is indicated by a p-value of 0.037 and a coefficient value of 0.044. This means that every 1 percent increase in private investment will have an impact on increasing labor absorption by 0.044 percent. This result is in line with the previous hypothesis which states that private investment has a direct positive and significant effect on labor absorption.

#### **2. The Influence of Private Investment on Labor Absorption through Economic Growth**

The influence of private investment on labor absorption through economic growth shows a significant and positive influence, obtained a coefficient of 0.020 with  $p = 0.000$ . This influence comes from a positive and significant (p value of 0.000 and a coefficient value of 0.143) between private investment and economic growth which is then continued with a positive and significant relationship (p value of 0.018 and a coefficient value of 0.136) between economic growth and labor absorption. This means that every one percent increase in investment will increase economic growth by 0.143. This increase in economic growth will then have an impact on labor absorption by 0.136 percent. These results are in line with

the initial hypothesis which states that private investment has a positive and significant effect on labor absorption through economic growth.

### **Direct Impact of Economic Growth on Labor Absorption**

The direct effect of economic growth on labor absorption was obtained at 0.136 with a significance of 0.018 indicating a positive and significant effect. This means that a 1 percent change in economic growth will affect a change in labor absorption of 0.136 percent. This result is in line with the previous hypothesis which states that economic growth has a direct positive and significant effect on labor absorption.

### **Discussion**

The health sector is one of the important points in encouraging the improvement of the quality of human development. Fulfillment of health needs by the government is one of the government's obligations to meet the basic needs of its population. One of the indicators used to measure the health of the population is Life Expectancy. The higher the Life Expectancy, the better the health of the population and is a valuable investment in development.

### **Direct Impact of Health on Labor Absorption**

The results of the study indicate that increasing health measured by life expectancy has a negative and significant effect on labor absorption. Life expectancy (AHH) is the average of the years of life that are still expected to be lived by a person during their lifetime. High life expectancy indicates that the higher the level of welfare felt by various communities from various components of health, education and economic aspects (Josep et al., 2019). The findings of this study differ from Wasista (2020) who explained that life expectancy has a positive and significant effect on labor absorption. Increasing life expectancy will improve the health felt by the population and result in increased opportunities to get a job.

Often with the growth of technology in the digital era has created new opportunities and challenges for the workforce in Indonesia. The adoption of technology, such as artificial intelligence, automation, and the Internet of Things (IoT), has changed the way of working and requires new skills from the workforce. In an economy that experiences increasing life expectancy, there is often an increase in technology and automation, which can replace human labor, especially in certain sectors. This can reduce the need for direct labor, thereby reducing labor absorption.

The results of this study are in line with research conducted by Maulana et al. (2022) which states that life expectancy has a negative effect on labor absorption. The study explains that this phenomenon can occur due to technological developments in many sectors, both in the transportation, production, and health sectors. Technological developments in the health sector allow life expectancy to increase. Furthermore, technological developments can also cause companies to issue labor efficiency policies and start using this technology to help carry out the company's operational activities. This results in decreasing labor absorption because it is replaced by existing technology.

In the context of increasing life expectancy, the proportion of the older population will increase. This has the potential to reduce the number of people ready to work, as more people enter retirement age. The impact is that even though the overall population has increased, labor absorption has not increased significantly. In line with the results of the 2020 population survey, the Indonesian population is dominated by the productive age (15-64 years) with a total of 191.08 million people (70.72%). This number far exceeds the number of young people (0-14 years) of 63.03 million people (23.33%), and the elderly population (65 years and over) of 16.07 million people (5.95%) (BPS, 2024).

Furthermore, the number of young people tends to decrease as a consequence of the decrease in the total fertility rate which is the impact of the successful control of population quantity through the family planning program. Meanwhile, the number of elderly people tends to increase as an impact of the improvement in the quality of life of the community which is reflected in the increase in the life expectancy of the Indonesian population. The composition structure, it is known that the dependency ratio reaches 41 which means that every 100 productive age population will support 41 non-productive age population. The dependency ratio in 2020 of 41 is also the lowest so far. In addition, the longer the life expectancy, the government and companies can face a higher social burden, especially in terms of health and retirement. This can affect investment in sectors that require a large workforce, because more funds are diverted to finance retirement and health care. As a result, the number of jobs provided tends to be less.

Increased life expectancy leads to preferences for certain jobs. With increasing life expectancy and changes in lifestyle, people tend to seek more stable and quality jobs. This can reduce the number of workers in sectors with high labor needs but with less desirable jobs. Thus, the existing jobs are not fully filled. Eberstadt (2010) suggests that increasing life expectancy can have an impact on reducing labor absorption in several sectors, such as the service sector and the health sector. This is because older workers tend to be less strong than younger workers, so companies may prefer to recruit younger and more physically fit workers.

This shows that increasing life expectancy alone is not enough to increase labor absorption. Increasing life expectancy can have a positive impact on labor absorption in sectors that require high skills and experience, but can have a negative impact on sectors that require high physical strength. In addition, increasing life expectancy can also encourage

labor participation among older people, while currently many jobs are starting to impose age restrictions on their workers to maintain work productivity.

### **The Influence of Health Factors on Labor Absorption Through Private Investment**

The results of this study indicate that health factors have a positive and significant effect on labor absorption through private investment. This result is in accordance with the view (Smith, 1999) which states that poor health affects the ability to save and the urge to save which ultimately affects investment. According to Smith, illness can cause large medical costs, thereby reducing household savings. This condition is experienced in many developing countries where the weakness of the public and private insurance systems causes large out-of-pocket expenses by households for health costs. For example, in India 83 percent of health expenditure comes from individuals and 94 percent of these expenses are unplanned expenses (World Health Organization, 2007).

Furthermore, the availability of healthy and highly educated workers with low wages is a major driver of FDI inflows into a region. Countries with higher levels of education and health will have more productive workers, making them more attractive to foreign investors Alsan et al., (2006). Using life expectancy at birth as an indicator to determine the health of a country's population, Alsan et al., (2006) found that life expectancy ranks second only to GDP per capita in terms of the strength of its correlation with FDI inflows. Then, the effect of population health on FDI inflows FDI inflows are very strong by adding education variables and other control variables. Alsan et al.'s conclusion shows that each additional year of life expectancy results in about a 9% increase in FDI flows to low- and middle-income countries. However, health is not statistically significant among high-income countries. This indicates that the effect of worker productivity as a result of health differences mainly appears in developing countries. Furthermore, the implications of better population health on FDI inflows to a region, in addition to providing employment opportunities and financial capital, FDI can generate positive externalities, such as technology and skills transfer and increased access to global markets (Lim, 2001; UNCTAD, 2003). Moreover, FDI inflows to a region will potentially increase economic activity through increased productivity and job creation, which in turn will provide opportunities for the population of the region to improve the quality and standard of living (and thus employment absorption).

### **The Direct Impact of Health on Labor Absorption Through Economic Growth**

The results of this study indicate that health factors have a positive and significant effect on labor absorption through economic growth. This indicates that increasing life expectancy supports economic growth through various channels such as higher productivity, increased investment, and a large consumer market. This economic growth ultimately increases labor absorption, creates more jobs, and improves the welfare of society as a whole. Increasing life expectancy is often associated with improvements in general public health. With better health, workers can work longer and be more productive. High levels of productivity contribute to increased economic output, which then creates greater demand for goods and services. This demand can encourage companies to expand their production capacity and open more jobs, resulting in increased labor absorption.

At the macroeconomic level, a number of studies have shown that population health is a strong predictor of per capita income growth (Barro, 1991; Bhargava et al., 2001; Bloom et al., 2004). However, countries may benefit from different levels of health; (Bhargava et al., 2001) argue that economic growth due to improved health is more pronounced in developing countries than in industrialized countries.

Similarly, Weil (2011) in his study calculated the impact of health on economic performance using the adult survival rate indicator found that a 10 percent increase in adult survival rates would lead to an increase in productivity per worker of 6.7 percent and in GDP per worker of around 4.4 percent. The estimated increase in GDP per worker is much smaller than the findings of several previous studies. Weil calculated that around 9.9 percent of the variance in log GDP per worker is due to health and nutrition disparities between countries. Furthermore, Cooper & Fogel (2004) found that increasing the availability of calories for work contributed to per capita income growth. Through increased labor productivity and adequate calorie provision, Fogel estimated that nutritional improvements contributed as much as 30 percent to per capita income growth.

The results of this study are also consistent with the findings of Avcı & Çalışkan (2023) who investigated the impact of health on economic growth in Turkey between 1960-2014 through the production function that includes human capital. Health and education are included in the production function as two main components of human capital. Using the Multivariate Auto-Regressive Distributed Lag (ARDL) Bounds Test. As a result, a significant long-run cointegration relationship was found between these variables. The results also show that a 1% increase in life expectancy at birth causes a 0.67% increase in GDP, a 1% increase in the number of students per teacher in vocational and technical secondary education causes a 0.21% decrease in GDP, and a 1% increase in the number of students per teacher in higher education causes a 0.21% increase in GDP.

In addition, Morgado (2014) investigated the causality between growth and several health indicators such as life expectancy at birth and infant mortality rate for Portugal and found that growth is a cause of health. Aslan et al., (2016)



used the ARDL Bounds Test approach in their time series analysis for 7 countries and showed that a 1% increase in health spending could increase GDP by about 0.40% in France.

### **The Influence of Health Factors on Labor Absorption Through Private Investment and Economic Growth**

Indirectly, it was found that health factors measured by life expectancy have a positive and significant effect on labor absorption through investment and economic growth showing a significant effect overall. This significant effect comes from the positive and significant relationship between health and investment, the significant effect of investment and economic growth and then ends with a significant relationship between economic growth and labor absorption. High life expectancy is usually associated with greater investment in the health and education sectors, both by the government and the private sector. These investments not only improve the quality of life, but also improve the skills and competitiveness of the workforce, which contributes to economic growth. With a growing economy, more job opportunities will be created in various sectors, increasing labor absorption and having a positive impact on the overall economy.

Areas with high life expectancies tend to have larger and more stable populations. This creates a larger and more sustainable consumer market, as healthy, longer-living populations tend to have stronger purchasing power. This consumption demand drives economic activity in sectors such as retail, services, housing, and entertainment. Economic growth driven by consumption drives companies to hire more workers, increasing employment. High life expectancies create a need for better infrastructure and supporting technology to maintain the well-being of the population. Investments in technology, healthcare infrastructure, housing, and transportation increase as life expectancy increases. This drives the construction, information technology, and other services sectors to expand, creating new jobs and driving overall economic growth.

With higher life expectancy, people tend to have the ability to work longer, which extends their working lives in various sectors of the economy. This increases labor force participation and employment, especially in sectors that require mature skills and work experience. With increased labor force participation, the economy also grows faster because more people are involved in productive economic activities. High life expectancy is often an indicator of better social and economic stability. This stability attracts foreign investors to invest in the country, which in turn drives economic growth and creates new job opportunities. With foreign investment, economic sectors such as manufacturing, services, and technology develop, increasing local employment. Foreign investment can also bring new technologies and skills, which contribute to long-term economic growth.

Immurana et al., (2023) provide empirical evidence on the impact of population health on net FDI inflows in Africa. The study uses data from 1997 to 2017 on a sample of 35 African countries. Life expectancy and mortality rates are used to proxy for population health while Instrumental Variable Fixed Effects (IVFE) regression and Generalised Method of Moments (GMM) system are used as the basic and robust empirical estimation techniques. The study finds that life expectancy and mortality rates have significant positive effects on net FDI inflows respectively, regardless of the estimation technique used. Our findings imply that, instead of lowering health and safety standards, improving population health (through for example, increasing access to quality health services, improving water and sanitation and vaccination against diseases, among others) should be used as a strategy to achieve higher net FDI inflows, especially to Africa.

### **The Influence of Education on labor absorption both directly and through Private Investment and Economic Growth**

#### **1.1.1 Direct Influence of Education Factors on Labor Absorption**

The results of the study show that increasing education measured by the average length of schooling has a negative and significant effect on labor absorption. This figure shows that the average length of schooling has a negative or inverse effect on labor absorption. This means that the higher the average length of schooling, the lower the labor absorption. The lower the average length of schooling, the greater the labor absorption. The results of the analysis are in line with the empirical facts presented previously in Chapter 5. Regions that have a low average length of schooling, the labor absorption rate is actually very high. This finding is supported by W. & Masjkur, (2020) who explained that the variable average length of schooling has a significant negative effect on labor absorption. This does not mean that education is not needed to increase labor absorption, but because labor absorption occurs more in the agricultural sector which relatively does not require higher education.

Average years of schooling is a figure that describes the length of schooling that has been completed by the population aged 25 years and over. RLS can be used to determine the quality and level of education of the community in an area. This indicates a delay in the entry of the workforce into the workforce. The higher the average years of schooling, the longer a person has been educated before entering the labor market. As a result, the new workforce is delayed in entering the workforce, which causes a lower labor absorption rate in the short term. When many people are still in formal education, the number of people available to work decreases, so that labor absorption is not optimal. In addition, an increase in the average length of schooling often makes individuals have higher expectations of the jobs they want to

enter, both in terms of salary and job status. This makes them tend to avoid jobs that are considered less appropriate to their level of education or expectations. As a result, positions in sectors that absorb large numbers of workers, such as manufacturing or manual labor, become less desirable, resulting in low labor absorption rates in these sectors.

As the economic structure changes to the high-tech sector towards the era of soviet 5.0, the high average length of schooling often shifts to knowledge-based and high-tech sectors, which require specialized skills. However, these sectors usually absorb fewer workers than traditional labor-intensive sectors, such as agriculture or manufacturing. With the decline of labor-intensive sectors, employment absorption at a broader level decreases, because only a small portion of the workforce with specialized skills can be absorbed in the high-tech sector.

When highly educated individuals find it difficult to find formal jobs that meet their expectations, many turn to informal or freelance work, which is not recorded in formal employment statistics. This can create the illusion that formal employment is declining, even though people are still working outside conventional or formal jobs.

In contrast, the results of this study are in line with the findings of Griliches (1970) who estimated that one-third of the Solow (1957) residual (i.e. the part of output growth in the US economy that cannot be attributed to growth in hours worked or the capital stock) can be accounted for by improvements in the educational attainment of the labor force. In a similar vein, Matthews & Denison (1981) reported the effect of education on per capita income in the US, while others - including Baumol et al. (1989), (Barro, 1991) and (Gregory et al., 1992) - have confirmed this positive relationship through cross-country studies covering all levels of development. (Bartel & Lichtenberg, 1987) and (Wolff, 2001) found that education/skill levels are positively related to technological change in related sectors. Also Crouch et al. (1999) provide evidence that highly educated workers are more likely to work in sectors exposed to international competition, indicating a close relationship between workers' education/skill levels and the technological activities they undertake.

### **1.1.2 Direct Influence of Education on Labor Absorption Through Private Investment**

The results of the study found that the education factor measured by the average length of schooling did not have a significant effect on labor absorption through private investment. Private investment in KTI tends to focus on sectors that are intensive in technical skills or primary sectors, such as mining, fisheries, plantations, and tourism. These sectors generally require specific practical or technical skills that may not result from an increase in the average length of schooling in general. Longer formal education does not necessarily provide skills that are relevant to the needs of this sector, so companies often still need additional training for local workers or even choose to recruit workers from other areas with appropriate skills. In line with Hasan, R., & Mitra, D. (2006) in their study showed that in several developing country contexts, formal education that is not accompanied by specific technical skills often does not have a significant impact on increasing employment or wages, especially in industries that are oriented towards special skills.

Private investment in Eastern Indonesia is often directed at large projects such as infrastructure development or natural resource exploration. The types of jobs created by these projects tend to be labor-intensive and focus on manual work that does not always require a high level of formal education. As a result, average years of schooling are not a crucial factor in labor absorption, as many jobs do not require high levels of formal education. The level of education in Eastern Indonesia is still low compared to Western Indonesia, both in terms of access and quality. Therefore, even if average years of schooling increase, the quality of skills produced may not be adequate to meet the specific labor needs of the private investment sector. This reduces the relevance of the average years of schooling indicator as a determinant of labor absorption in the region, especially for jobs that require specialized skills.

Private companies operating in the Eastern Indonesia region often have a pragmatic approach to recruiting workers, prioritizing workers who are ready to work and have hands-on skills over those who have formal education but lack practical experience or expertise. Thus, average years of schooling are not a major determinant for companies in absorbing labor, so this indicator is less significant in determining the level of labor absorption through private investment. Sukarsa & Wiyasa (2020) in their research stated that work skills have a greater influence on labor absorption in the tourism sector than the average length of schooling, especially in areas that depend on the tourism sector and require skilled labor in specific skills. Simanjuntak (2001) stated that education and training are important factors in human resource development.

Overall, education as measured by average years of schooling is not significant to labor absorption through private investment in Eastern Indonesia. This is due to the mismatch of skills needed with formal education, the tendency of the private sector to focus on labor-intensive jobs, and the reliance on technical skills that are not always generated by an increase in average years of schooling.

### **1.1.3 Direct Influence of Education on Labor Absorption Through Economic Growth**

The results of the study found that the education factor measured by the average length of schooling has a negative and significant effect on labor absorption through economic growth. In the context of the Eastern Indonesia Region (KTI), the education factor measured by the average length of schooling can have a negative and significant effect on labor absorption through economic growth. Several basic reasons can be given, including: because of the mismatch between

skills acquired through formal education and the needs of the local workforce, which prioritizes technical skills or field work in the primary and informal sectors.

The findings of this study are in line with Arango & Flórez (2021) who showed that high formal education is not always positively correlated with labor absorption in markets dominated by the informal sector. This is relevant in areas with informal or primary sector-based economies that may not require higher education, so that increasing the average length of schooling can actually hinder labor absorption in these sectors. Supriadi (2015) examined the impact of education on labor absorption in Indonesia and found that average length of schooling does not always have a positive impact on labor absorption in sectors that require practical technical skills, which are more common in certain regions in Indonesia.

The higher a person's level of education, the higher their expectations of getting a formal job with better wages and more comfortable working conditions. In KTI, job opportunities in the formal sector, such as government or large corporations, tend to be limited and concentrated in certain cities. When more educated graduates do not find suitable formal jobs, they tend to be reluctant to work in the informal or primary sectors. This has led to a decline in labor absorption in the main economic sectors, even though KTI's economic growth continues. High average years of schooling are often correlated with the level of skilled labor migration to other areas with more job opportunities, such as large cities in Indonesia or even abroad. This labor migration causes the KTI region to lose many educated individuals who are very much needed to support local economic growth. As a result, even though the average years of schooling have increased, the workforce that remains in KTI is often those who work in the informal sector or do not have the skills needed to maximize job opportunities in KTI.

In areas with limited formal employment opportunities, entrepreneurship opportunities can be an alternative for labor absorption. However, graduates with a high average length of schooling may be more interested in formal employment than entrepreneurship. Since formal employment is limited in KTI, this low interest in entrepreneurship has the potential to limit local economic growth and reduce labor absorption, which ultimately has a negative impact on productivity and long-term economic development in KTI.

#### **1.1.4 The Direct Influence of Education on Labor Absorption Through Private Investment and Economic Growth**

Education as measured by average years of schooling is not significant to labor absorption either directly or through private investment and economic growth. Overall, education as measured by average years of schooling is not significant to labor absorption in Eastern Indonesia due to limited formal employment opportunities, mismatch between acquired skills and market needs, uneven quality of education, and focus of investment in sectors that do not require higher education. To overcome these challenges, a development strategy is needed that integrates education with local labor market needs, including the development of technical and vocational skills that are more relevant to leading sectors in Eastern Indonesia.

One of the main reasons is the mismatch between the skills acquired from formal education and the needs of the labor market in Eastern Indonesia. Although the average length of schooling has increased, many graduates do not yet have the skills needed by local industries. Many sectors in the region, such as fisheries, agriculture, and tourism, require technical or practical skills that are often not taught in formal education. As a result, high average length of schooling does not directly correlate with an individual's ability to find employment in these sectors.

Eastern Indonesia still faces challenges in attracting large private investment, especially in sectors that require skilled or highly educated workers. Much of the investment that occurs in this region is still concentrated in sectors that do not require high levels of formal education, such as agriculture or extractive industries (e.g., mining). Without knowledge- and skill-intensive sectors, graduates with high average years of schooling often do not have job opportunities that match their level of education, making higher education less significant in increasing labor absorption through private investment.

In Eastern Indonesia, the quality of education remains a major challenge. The average length of schooling may be high, but the quality of education is often still low, both in terms of facilities, curriculum, and teacher quality. As a result, even though the average length of schooling has increased, school graduates do not yet have sufficient competence to contribute effectively to the labor market or to meet the needs of investors who require quality workers. This also contributes to the low significance of education in labor absorption.

The education system in Indonesia, including in Eastern Indonesia, still tends to focus on theoretical aspects rather than practical ones. Formal education tends to ignore technical and entrepreneurial skills training that are relevant to the local job market. Many jobs available in Eastern Indonesia actually require technical skills, such as mechanics, heavy equipment operators, or seafood processing, which may not be obtained from formal education. This explains why the average length of schooling is not significant to labor absorption, because formal education is less relevant to the needs of the local job market.

## **The Influence of Infrastructure Availability on Labor Absorption Both Directly and Through Private Investment and Economic Growth**

### **Direct Impact of Infrastructure Availability on Labor Absorption**

The results of this study indicate that the availability of infrastructure has a positive and significant effect on labor absorption. The availability of infrastructure, as measured by distributed electrical energy, does have a positive and significant effect on labor absorption, both directly and through private investment and economic growth, especially in the Eastern Indonesia Region. Electrical energy is a basic prerequisite for various economic sectors, such as industry, trade, and tourism, which require energy to run daily operations. In areas that previously had minimal electricity supply, the presence of electricity increases economic opportunities that can directly create jobs. For example, sectors related to small and medium industries (SMEs) will be helped in terms of productivity, which ultimately increases the need for labor.

In contrast to the findings of Amalia, Madris, and Razak (2015) indicating that infrastructure has not been able to directly encourage increased absorption of labor (employment opportunities). However, this finding is supported by Kabib (2012) that one of the efforts to expand employment opportunities to absorb labor can be done through various public works or infrastructure projects, for example the construction of water channels, dams, bridges. In implementing infrastructure projects, government intervention is needed, one of which can be in the form of providing funds through government spending policies for infrastructure functions.

This finding is also in line with Nugraheni (2012) that capital expenditures made by local governments can contribute to the regional economy if they are truly prioritized for infrastructure development. Infrastructure development is believed to be able to drive the real sector, absorb labor, increase public and government consumption, and trigger production activities. The same thing with (Hull, 2009) explains that infrastructure is an important key to overcoming poverty, because the impact of infrastructure can make it easier for people to access new jobs.

### **The Influence of Infrastructure Availability on Labor Absorption through Private Investment**

The results of this study indicate that the availability of infrastructure has a positive and significant effect on labor absorption through private investment. The availability of adequate electrical energy is an attraction for private investment because it creates stable business conditions and reduces operational costs. The Eastern region of Indonesia, which still faces limited electricity infrastructure, is often considered less attractive by investors. With the increase in electricity distribution, the private sector is more encouraged to invest in various industries, including manufacturing, agribusiness, and tourism. In these sectors, the presence of investors will create new jobs and trigger a chain effect, because the companies that are established also require labor for their operations. The influence of infrastructure availability on private investment indicates that infrastructure availability is one of the factors driving regional productivity. The availability of infrastructure is one of the factors that attracts investors to invest in a region. Increased investment means increased employment opportunities and income which ultimately drives economic competitiveness in the region in a better direction. Moreover, inadequate infrastructure also affects the attractiveness of the investment climate in Indonesia. Foreign investors are full of concerns about investing, for example, in the manufacturing sector in Indonesia if the electricity supply is uncertain or transportation costs are very high. In fact, Indonesia is often plagued by power outages, even though Indonesia is said to have abundant energy resources. Power outages are quite common in areas other than Java and Bali. This fact clearly makes investors think twice before deciding to invest in Indonesia.

In line with the results of Sahoo's research (2010) it shows that electricity and transportation infrastructure play a significant role in driving economic growth and creating jobs. The availability of electricity helps increase productivity and attract private investment, which ultimately increases employment absorption. This finding is also supported by Carfora et al., (2019) who explained that there is a relationship between energy consumption and economic growth, with evidence showing that increasing energy access drives economic growth in developing countries. This growth has an impact on increasing investment interest and job creation. Calderón et al., (2015) demonstrated that infrastructure that includes electricity distribution drives productivity and private investment, which in turn increases employment opportunities. These findings support the importance of investing in electricity infrastructure to attract private investors.

### **The Influence of Infrastructure Availability on Labor Absorption through Economic Growth**

The results of this study indicate that the availability of infrastructure has a positive and significant effect on labor absorption through economic growth. The availability of electricity allows regions to develop productive sectors that have the potential to absorb a lot of labor, such as the processing industry, fisheries, and tourism. In Eastern Indonesia, which has great potential in these sectors, electrical energy allows people to utilize technology that increases the added value of products. The growth of these sectors not only increases labor absorption but also develops skills and improves the welfare of the workforce. When the productive sector develops, the demand for labor also increases, both for direct labor and supporting jobs in other sectors such as services and logistics.



Increasing access to electricity in Eastern Indonesia can boost economic growth by increasing productivity and diversifying the local economy. A well-growing economy will create more job opportunities in the formal and informal sectors. With adequate access to electricity, Micro, Small, and Medium Enterprises (MSMEs) in sectors such as fisheries, agriculture, and trade can thrive. As MSMEs and small-scale industries grow, they will absorb local labor, thereby reducing unemployment in the region. In addition to the direct impact, better distribution of electricity also contributes to improving the quality of life of the workforce, including access to education and skills training. With electricity, schools and training centers can operate better, which ultimately improves the quality of human resources in the region. Improving the quality of education and skills of the workforce due to the availability of electricity will increase the competitiveness of the workforce in Eastern Indonesia. This is important for long-term labor absorption because companies will be more encouraged to invest in areas with skilled labor and good access to infrastructure.

Again, related to the role of infrastructure in the regional economy, Nijkamp (1986) emphasized that infrastructure is one of the tools for regional development. This can directly or indirectly affect socio-economic activities and other regional capacities, as well as production factors. Nijkamp emphasized that infrastructure policy is a condition of regional development policy that does not guarantee improvements in regional competitiveness, but creates the conditions necessary to achieve regional development goals. Snieska & Bruneckiene (2009) explained that economic competitiveness is determined by various factors, and infrastructure indicators are one of them. Furthermore, Snieska and Bruneckiene (2009) identified infrastructure as one of the indicators of domestic regional competitiveness. This refers to physical infrastructure as an indicator of production factors, competitive conditions in a region. Martinkus & Lukaševičius (2008) consolidated that infrastructure services and physical infrastructure are factors that influence the investment climate at the local level and increase regional attractiveness.

### **The Influence of Infrastructure Availability on Labor Absorption through Private Investment and Economic Growth**

The results of this study indicate that the availability of infrastructure has a positive and significant effect on labor absorption through private investment and economic growth. Overall, better electricity availability will strengthen the economic environment in Eastern Indonesia, spur economic growth, attract private investment, and create new job opportunities. Initiatives to improve electricity infrastructure must continue to be encouraged, especially in areas with great economic potential but still have limited infrastructure. In line with the theory of endogenous growth, infrastructure, including electricity, plays a role as a major driver of economic growth through increased productivity and efficiency. Economic growth supported by electricity infrastructure will increase economic activity and create opportunities for labor absorption. The same thing with the theory of investment in development economics also shows that good infrastructure will attract private investment. This investment will trigger a multiplier effect on the local economy through job creation and increased purchasing power of the local community.

### **The Influence of Provincial Minimum Wages on labor absorption both directly and through Private Investment and Economic Growth**

#### **Direct Impact of Provincial Minimum Wages on Labor Absorption**

The results of the study show that increasing wages have a significant impact on labor absorption. This shows that every wage increase will affect labor absorption. This means that from the demand side of labor, the minimum wage set by the government is considered still appropriate. While on the supply side, it is not only the minimum wage that makes workers want to offer their services, but there are other incomes such as incentives. So wages are not one of the factors that can affect the size of labor absorption.

The results of the study indicate that the provincial minimum wage has a negative and significant effect on labor absorption, this means that if there is an increase in the provincial minimum wage, it will potentially reduce the amount of labor absorption, especially workers with low productivity. This result is in line with Malthus's Theory. As quoted from (Pangastuti, 2015), the relationship between wages and labor absorption has two sides, namely wages can reduce labor absorption and wage increases can also increase labor absorption.

This finding indicates that the minimum wage set by the provincial government through the Regional Wage Council (DPD) will have a negative impact on the decline in the number of people working in the workforce. This condition is illustrated empirically showing that the minimum wage in each province from 2013 - 2022 has increased significantly (Appendix) but on the other hand the number of people working tends to decrease or decrease. Theoretically, companies will only pay wages to workers according to their productivity, meaning that workers with low productivity will receive low wages and vice versa. In reality, the minimum wage set is more determined by the aspect of price level increases than by productivity increases. In line with what was stated by (Sumarsono, 2003) changes in wage levels will affect the high and low production costs of the company. Assuming that if wages increase, it will increase the company's production costs, which will then also increase the price per unit of goods produced. Usually consumers will respond quickly if there is an increase in the price of goods, namely reducing consumption or even not buying the goods in

question. As a result, many products are not sold, and producers are forced to reduce their production volumes. The decrease in production targets results in a reduction in the workforce needed. In addition, if wages increase (assuming the prices of other capital goods do not change), then some entrepreneurs prefer to use capital-intensive technology for their production processes and replace the need for labor with the need for capital goods such as machines and so on.

### **The Influence of Minimum Wages on Labor Absorption Through Private Investment**

These results indicate that minimum wages affect labor absorption through investment. Where wages have a positive and significant effect on investment, followed by investment value affecting labor absorption. This shows that increasing wages can increase investment value because increasingly productive labor can create greater output. So it can be said that increasing wages becomes an incentive for workers to improve their quality through additional income they earn. Wages here are still a contributing factor influencing investment from the labor demand side. However, investment cannot affect labor absorption because investment is more capital intensive, which then causes the size of the investment value to affect the addition of new workers who work. Therefore, the minimum wage policy has a significant effect on labor absorption through investment.

This finding is in line with research conducted by Tapparan (2017) and Putri (2018) which states that there is a significant relationship between wages and labor absorption. The same thing is explained by Neumark & Wascher (2007) that much empirical evidence contradicts the traditional theory that explains that increasing the minimum wage will cause unemployment. Likewise (D. Card & Krueger, 1995b) that the increase in the minimum wage in California did not find a decrease in young workers (low skill) and no job losses were found. In line with Rama (2001) who found a positive effect of the minimum wage on labor absorption. The implication is that the government needs to encourage labor-intensive investment so that wage increases that can increase investment can absorb a larger workforce.

### **The Effect of Minimum Wages on Labor Absorption Through Economic Growth**

These results indicate that the provincial minimum wage has a positive and significant effect on labor absorption through economic growth. Where this effect comes from the positive and significant effect between the provincial minimum wage on economic growth followed by the positive and significant effect of economic growth and labor absorption. This effect shows that increasing the provincial minimum wage has a positive and significant effect on labor absorption, if this wage is directed at economic growth.

This influence shows that changes in provincial minimum wages have a significant influence on economic growth. This finding indicates that the provincial minimum wage set by the provincial government has a significant influence at a level below 0.05. It can be explained that an increase in the nominal value of the provincial minimum wage has an impact on high purchasing power. So with this ability, workers are able to consume goods and services in limited quantities, as a result the demand for consumer goods tends to increase.

In contrast to the findings (Brown, 1982, 1999; D. Card & Krueger, 1995a; Wang & Gunderson, 2011), if there is an increase in the minimum wage it will result in an increase in output prices, which is responded to by a reduction in output in conditions of declining purchasing power of the community. The same thing was stated (Baskaya, YS, & Rubinstein, 2015; Clemens & Wither, 2019; Hoffman, 2014; Huang et al., 2014; Neumark et al., 2014; Powell, 2017; Zipperer, 2016) wages have a negative effect on employment.

### **The Influence of Minimum Wages on Labor Absorption Through Private Investment and Economic Growth**

The findings of this study indicate that the indirect effect of provincial minimum wages on labor absorption through investment and economic growth shows a significant effect overall. This significant effect comes from the positive and significant relationship between provincial minimum wages and investment, the significant effect of investment and economic growth and then ends with a significant relationship between economic growth and labor absorption.

Harrod-Domar tries to explain that additional capital in one period  $t$  becomes the basic source for increasing production results in a certain period  $(t + 1)$ . Investment at this time increases production capacity and increases income in the future. Investment activities in an economy can drive up and down the economic level of the country concerned because they are able to increase production and employment opportunities. Investment is the overall expenditure of companies and governments to purchase real capital goods either to establish new companies or to expand existing businesses with the aim of obtaining greater profits than the cost of capital incurred to make investments.

## **Discussion and Implications of the Influence of Private Investment on labor absorption both directly and through Economic Growth**

### **The influence of investment on labor absorption**

The results of the study show that private investment has a direct positive and significant effect on labor absorption. This means that an increase in investment can increase labor absorption, conversely a decrease in investment results in a decrease in labor absorption. The findings of this study are in line with the theory put forward by Keynes,

namely that there is a positive influence between investment and labor absorption. The greater the investment, the higher the labor absorption. The results of this study are consistent with research conducted by (Alisyahbana et al., 2022; Putri, 2018; Suharto & Wiyono, 2017; Wahyuni et al., 2024) which explains that an increase in investment value has a significant positive impact on labor absorption. According to (Hariyadi et al., 2020), efforts to encourage investment are one strategy to increase employment opportunities. With increased investment, production capacity will increase, thereby increasing the demand for labor (Putri, 2018). Economic growth along with the amount of investment that is evenly distributed can create prosperity and increase the number of labor absorption (Putri et al., 2019).

Increased investment in large industries can be utilized to strengthen production factors such as technology and labor with the aim of increasing production value. Investment can also be allocated to build new large industrial units, creating new demand for labor that can be utilized in the production process. With the increasing number of requests for capital goods, it can increase the demand for labor. The demand for labor can create wider employment opportunities in the Eastern Indonesia Region so that it can increase labor absorption, especially in the large industrial sector.

### **The Influence of Private Investment on Labor Absorption through Economic Growth**

The results of the study show that private investment has a positive and significant effect on labor absorption through economic growth. Private investment has a positive and significant impact on labor absorption through economic growth, especially in the Eastern Indonesia Region (KTI), which includes provinces such as Sulawesi, Maluku, Nusa Tenggara, and Papua. Private investment in Eastern Indonesia, especially in sectors such as mining, energy, agriculture, tourism, and fisheries, opens up many job opportunities. New jobs in the area. With limited formal employment opportunities previously available, private investment directly increases employment opportunities, which has a positive impact on labor absorption. The growth of this sector stimulates local economic activity as other supporting sectors, such as transportation, food services, and accommodation, also grow along with increasing demand. As stated by Miar et al., (2024) explains that there is a long-term relationship between Domestic Investment, Foreign Investment and Labor Absorption in Central Kalimantan.

Much of the private investment in the Eastern Indonesia region comes from large companies that bring new technologies and modern work practices. For example, investment in nickel mining or processing in Sulawesi and Papua not only increases productivity but also requires a trained workforce. With new job skills training, the local workforce becomes more skilled and productive, which improves the quality and competitiveness of the local economy. In the long run, this supports regional economic growth and sustainably increases employment. Based on the findings of the study by Anisiobi et al., (2022) on foreign direct investment and job creation in Nigeria, the results of this study recommend that the Government seek to attract more foreign direct investment into the country in order to create more job opportunities through multinational companies.

Eastern Indonesia has enormous tourism potential, including destinations such as Labuan Bajo, Raja Ampat, and Wakatobi. Private investment in the tourism sector, such as the construction of hotels, resorts, restaurants, and other tourist facilities, creates many job opportunities for local communities, especially in the service sector. Increased employment in this sector has a direct impact on the local economy and significantly increases employment, especially among local communities who may not have high formal skills. The growth of the tourism sector also creates a multiplier effect for other sectors, such as transportation, retail, and handicrafts, which increases economic activity and employment more widely.

Sustainable private investment increases local revenue through taxes and levies, which allows local governments to invest more in public services such as education and health. With a better local economy, people's incomes also increase, which increases their purchasing power. This increase in purchasing power drives the consumption of goods and services, creates greater demand in the local market, and encourages more companies to invest and create jobs. As a result, regional economic growth accelerates, which has a positive impact on employment absorption.

In line with investment-led growth theories, such as Investment-Led Growth Theory, investment drives increased productivity and economic capacity, which are the basis of economic growth. Private investment creates new jobs that increase labor demand, especially in developing regions that have high economic potential but have not been fully explored, such as Eastern Indonesia. This growth further strengthens the local economic structure and produces a positive cycle for economic growth and labor absorption.

Overall, private investment in Eastern Indonesia accelerates local economic growth by creating new jobs, improving workforce skills, and developing infrastructure. These impacts ultimately increase employment and community welfare in the region, creating a positive and sustainable cycle of economic growth.

### **Discussion and Implications of the Direct Influence of Economic Growth on Labor Absorption**

The results of the analysis show that economic growth has a positive effect on labor absorption. The higher the economic growth, the higher the labor absorption rate. This shows that economic growth is one of the most important indicators in assessing the performance of an economy, especially for analyzing the results of economic development that

has been implemented by a country or region. The economy is said to be growing if the production of goods and services increases from the previous year. Thus, economic growth shows the extent to which economic activity can generate additional income or public welfare in a certain period. The economic growth of a country or region that continues to show an increase, then it illustrates that the economy of the country or region is developing well. The occurrence of economic growth will drive other sectors so that from the production side it will require production labor. A general view states that the level of economic growth (growth) is positively correlated with the level of labor absorption (employment rate). Descriptively, this is illustrated in Tables 5.1 and 5.2 showing that the increase in GRDP is also responded positively by an increase in the number of people working.

In the development of science using Okun's law, further research on the relationship between unemployment and economic growth shows a relationship that varies substantially in each country and region. In Macedonia (Andonova and Petrovska, 2019); In India (Abubakar and Nurudeen, 2019); In Kosovo (Misini and Badivuku-Pantina, 2017); Nigeria (Ajakaiye et al., 2016); Czech Republic and Slovakia (Durech et al., 2014); India (Kiran. R, Subashini K, 2014); Canada (Adanu, 2005); France (Marie-Estelle and Facchini, 2013); In Spain (Villaverde and Maza, 2009); In Greece (Apergis and Rezitis, 2003); Developing countries (Sögner and Stiassny, 2002); OECD countries (Lee, 2000) and several other countries not found.

## CONCLUSION

Based on the research results and discussion, here are some conclusions, including; Directly, health factors (life expectancy) have a negative effect on labor absorption, which may be due to the characteristics of the workforce in Eastern Indonesia. However, indirectly, life expectancy has a positive effect on labor absorption through its role in encouraging private investment and economic growth; Education Factor (Average Years of Schooling) has a significant negative effect on labor absorption directly, but its effect is not significant through private investment and economic growth. This shows that increasing education does not necessarily increase labor absorption in this region, due to the mismatch of skills needed by the labor market; Infrastructure availability (electricity distribution) has a positive and significant influence both directly and through private investment and economic growth on labor absorption. Good electricity infrastructure can attract investment and encourage economic growth, which ultimately increases employment opportunities; Directly, minimum wages have a negative effect on labor absorption, perhaps because high minimum wages burden labor costs for companies. However, indirectly, minimum wages have a positive effect on labor absorption through increased private investment and economic growth. Private investment shows a positive and significant influence on labor absorption, both directly and through economic growth. This indicates that increasing private investment can be the main driver in creating jobs in Eastern Indonesia; Economic growth has a positive and significant influence on labor absorption, indicating that sustainable economic development can increase employment opportunities in the KTI region.

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