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## Editor's Foreword

Best regards to the readers of Splash Magz. Here I am Dr. Eny Lestari Widarni as Editor in Chief conveying my pleasure and pride for all the hard work of the parties who helped publish the April 2021 edition of SPLASH MAGZ.

In this edition, we focus on human resource research, education, and corporation. We do not display many photos in this edition because we want to present the hard work of our contributors from various universities in Indonesia, France, Germany, and Spain. We would like to thank the contributors who contributed their ideas in the form of scientific works that are very interesting to read and provide contemporary ideas from various points of view.

Enjoy reading and we look forward to the contributions of thoughts and ideas from readers and contributors from around the world.

Best Regards  
Editor in Chief  
Dr. Eny Lestari Widarni

## Photos and Illustrations



Human Capital is a combination of knowledge, experience, expertise, and creativity that enables people to work and create something beautiful, Photo by Karolina Grabowska from Poland.



One thing about humans that cannot be replaced by machines is the combined feeling of art and creativity to make life more colorful and interesting, Photo by Andrea Piacquadio from Budapest, Hungary.



The combination of hard work and human craftsmanship with machines is a masterpiece, Photo by Ono Kosuki from the USA.

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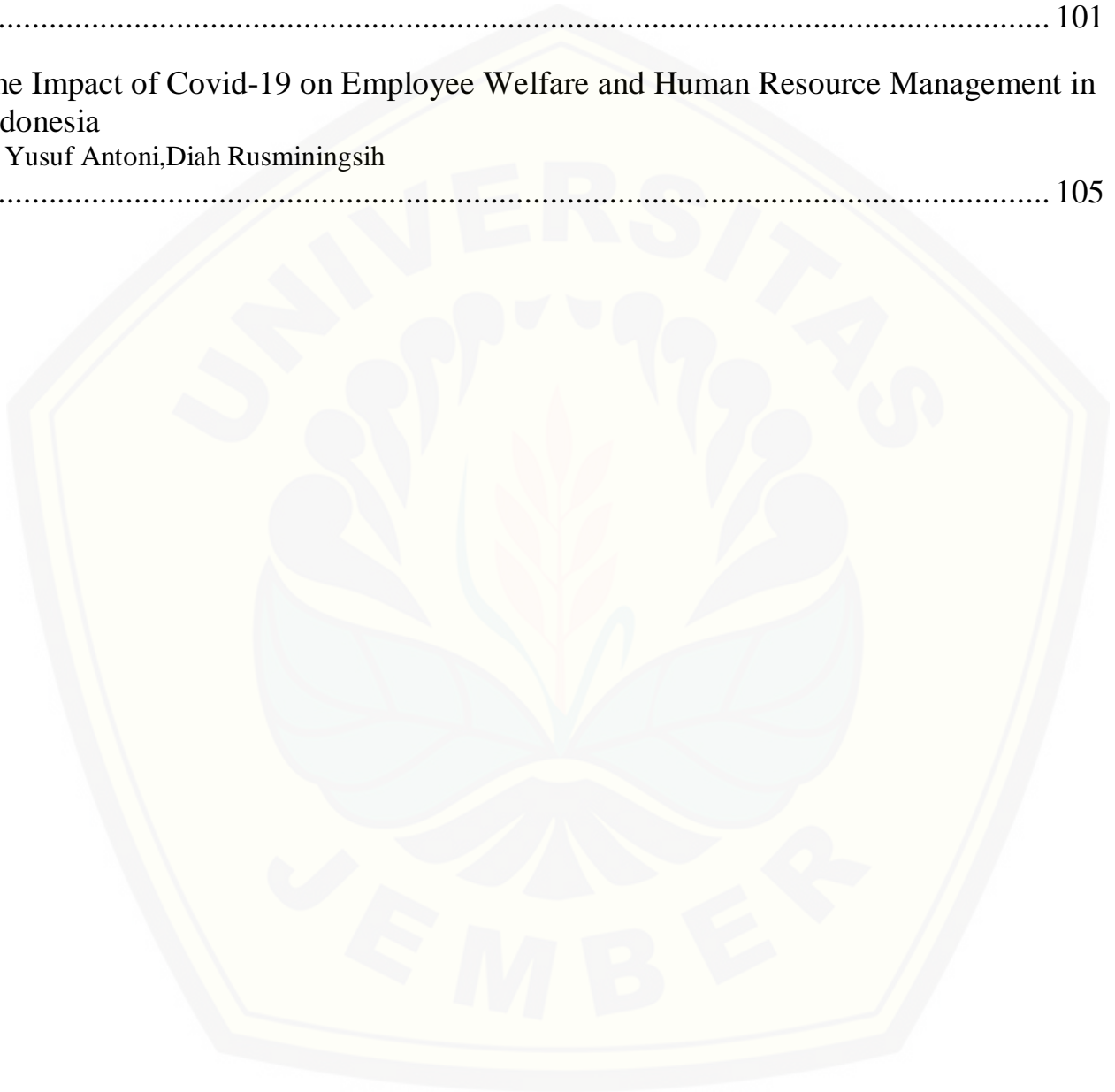
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# Challenges and Opportunities for Human Resource Management in Indonesian Dairy Farms

Ely Estiningtyas, Abdul Malik  
(STIE Jaya Negara Tamansiswa Malang)

## Abstract

This study aims to examine the development of dairy farming in Indonesia by using the online interview method as a method of data collection, which is then quantified based on the results of the interview. We conducted online interviews with 120 cattle breeders in Indonesia by random sampling and then quantified them for analysis using the narrative quantitative method with the ordinary least square model to perform data regression. This research focuses on looking at the growth of the dairy business which is reflected in the monthly average farmer income calculated from 2000 to 2019, the number of cows, the number of employees and the welfare of employees. We find that the development of the dairy business is influenced by the number of dairy cows, the number of employees and the welfare of the employees which is a reflection of the level of employee job satisfaction.

**Keywords :** Dairy Cows, Livestock, Employees

## Background

Dairy farming in Indonesia has grown (Experts,2020), from family-based businesses to group businesses helping cooperatives such as the Bogor milk production cooperative, the South Bandung Pangalengan Animal Husbandry Cooperative and others. To meet the domestic demand for milk in Indonesia, of course, requires a lot of breeders and there needs to be an organization that manages it with various forms of organization. Generally, milk management organizations in Indonesia are cooperatives (Park & Haenlein,2013). Successful dairy farming tends to grow and the number of dairy cows it raises continues (Flanders & Gillespie,2015). This of course requires an increasing number of workers and needs to be managed properly. When the cattle farm develops and manages more dairy cows, the management of human resources will also become more complex (Mutinda et al,2015). Cooperatives in Indonesia, from cooperatives in West Java to cooperatives in East Java, based on the author's observations, tend to manage the final product to be marketed, namely milk. However, the management of dairy cows is managed by members who are cattle breeders. This is good enough to ensure that the final product of the farmer, namely milk, can be managed quickly and marketed properly. However, there is another thing that needs to be understood, namely the business development of dairy farmers, which is likely to continue to grow and produce more milk. Cooperatives must increase their milk capacity and require large investments and need to be borne by cooperative members. However, when there is a disparity in cattle management, of course, this becomes a challenge.

Another challenge is also in the field of livestock welfare management. The low level of livestock welfare certainly affects the quantity and quality of milk produced (Makkar,2013). When more and more cows are managed, it requires additional farmland and pens and feed. Adding land and stables also requires a lot of investment. The desire of breeders who increasingly want to develop collides with the need for capital and an increase in the price of livestock land. The growing livestock situation also has the risk of having an impact on the stress level of farmers and potentially impacting the mental health of breeders (Halachmi,2015).This research tries to present a quantitative narrative from the point of view of cattle breeders by conducting interviews with 120 dairy farmers who have experienced good development or addition of livestock. We try to analyze the number of livestock, the stress level of farmers, the number of workers or pen children, the welfare of workers or pen children, the income of farmers.

## Literature Review

The welfare of dairy cows is very important to produce quality milk. Because the level of cow stress will affect the amount of milk and milk quality (Rushen et al,2007). Training for livestock and livestock workers is very important to improve the management of dairy cows so that they are able to maintain cow stress levels to maintain cow milk production in Indonesia. Employees are an important asset in a dairy farm because employees or workers manage and operate a dairy business (Indiresan,2003). Especially when livestock is growing rapidly. The quality of the workforce on a dairy farm greatly affects the success rate of the dairy business. The challenge for farmers is recruitment and training. Employee training is very important in the dairy farming business. Dairy cow employees must understand the task and have sufficient skills to carry out the task. Dairy cow employees must understand the handling and management of dairy cows properly. So that technical and operational training must be obtained by employees of dairy entrepreneurs (Moran & Chamberlain,2017). Another important factor is that the organizational structure of the dairy business must also be clear so that there is a clear capital structure. So that a clear division of duties and supervision and responsibility is formed.The organizational structure is also related to the distribution of wages and welfare according to the level of contribution to the company. Good milk business management can increase the success of the dairy business.

## Reserach Method

Collecting data in this study using interviews with 120 cattle breeders in Indonesia using random sampling. The interview aims to extract data in the form of the number of dairy cows owned by the farmer, the farmer's stress level, the number of workers, the welfare of the workers, and the farmer's income. We use total data or all the data obtained is summed based on the group of variables determined based on literature review and background, after which regression is performed using the ordinary least squares (OLS) method with the following equation:

$$F_i = C_t + \beta_1 N_{d_{t1}} + \beta_2 N_{w_2} + \beta_3 W_{w_{t3}} + e_t$$

Where,

$F_i$  = Farmer's income

$N_d$  = Number of Dairy Cows

$N_w$  = Number of Workers

Ww = Welfare of the workers  
 e = Error Term

**Result and Discussion**

The estimation results are as follows:

$$FI = -67040083.4533 + 2572273.38696*ND + 11449367.5918*NW + 10.1967714032*WW$$

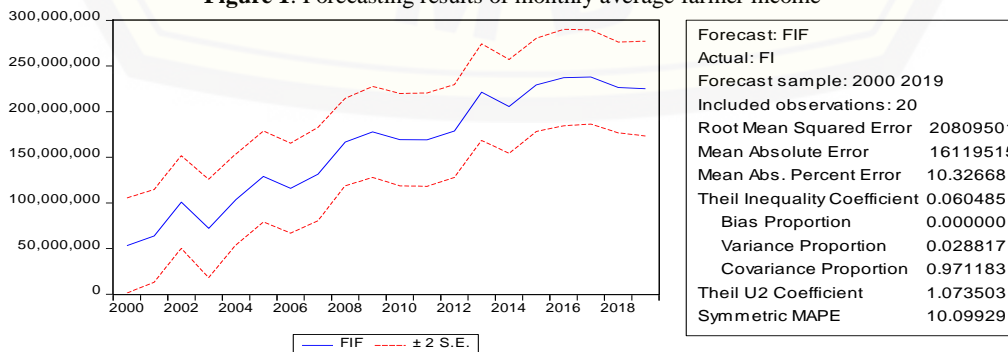
From the OLS estimation, the farmer's income is influenced by the number of dairy cows, the number of workers and the job satisfaction of the employees as reflected by the welfare of the farm employees. Where every 1% increase in farmer's income is followed by an increase in employee welfare by 10%. Where the level of job satisfaction and employee quality greatly affects the income of the breeders plus the number of dairy cows and the number of farm employees which are briefly described in Table 1 illustrates the estimation results as follows:

**Table 1.** Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-67040083	31699047	-2.114893	0.0505
ND	2572273	1334262	1.927863	0.0718
NW	11449368	3351666	3.416023	0.0035
WW	10.19677	4.238306	2.40586	0.0286
R-squared	0.8911	Mean dependent var	1.61E+08	
Adjusted R-squared	0.870681	S.D. dependent var	64697178	
S.E. of regression	23265729	Akaike info criterion	36.93972	
Sum squared resid	8.66E+15	Schwarz criterion	37.13886	
Log likelihood	-365.3972	Hannan-Quinn criter.	36.97859	
F-statistic	43.64113	Durbin-Watson stat	1.244223	
Prob(F-statistic)	0			

Based on the estimation results described in Table 1. This shows that the development of the number of dairy cows, the number of employees and the job satisfaction of employees is positively related to the farmer's income, so that land challenges and recruitment of quality employees must be anticipated by setting aside income for land and human capital investment including recruitment costs new hires and employee turnover costs. Based on the estimation, it can be estimated that the average farmer income growth per month from 2000 to 2019 is in Figure 1 as follows:

**Figure 1.** Forecasting results of monthly average farmer income



Source: Author's computation



Based on the forecasting results in Figure 1, the development of dairy farms in Indonesia tends to increase during the study period which is reflected in the results of the average monthly income of each farmer who is the research sample.

## **Conclusion**

Dairy farming in Indonesia tends to develop from year to year. However, the development of the cattle business is always followed by an increase in the number of dairy cows being raised and additional employees so that it must be followed by additional land for the needs of cow care, stables, green land and employee housing. is a challenge in addition to the challenge of providing quality employees.

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# **Corporate Social Responsibility and Corporate Performance in Indonesia**

Sri Wahyuni, Eny Lestari Widarni  
(STIE Jaya Negara Tamansiswa Malang)

## **Abstract**

This study examines company profits, sales (product price multiplied by total products sold), employee performance as reflected by total production x product price, corporate social responsibility funds and employee welfare as reflected in employee income in 25 public companies listed on the Stock Exchange. Indonesia randomly sampling uses secondary data from annual reports published by related companies which are then processed. quantitatively using the moving average autoregression method. We find that corporate social responsibility along with sales, employee performance and employee welfare is positively related to company profits.

**Keywords :** Corporate Social Responsibility, Indonesia, Corporate Performance

## **Background**

Corporate Social Responsibility is an obligation that must be fulfilled by a company to participate in protecting the environment and improving the welfare of the community around the company which ultimately has a positive impact on the company (Žukauskas et al,2020). Corporate social responsibility has an impact on the sales level of most companies in various business fields (Idowu & Vertigans,2016). Corporate social responsibility provides a positive image for the company and gives employees a sense of pride and loyalty (Thornton et al,2018).

Employee involvement in corporate social responsibility or CSR programs has an impact on improving performance within the company. The CSR program has a psychological impact on employees which has an impact on increasing work performance. Corporate social responsibility also has an impact on improving the safety of the company's environment and increasing employee satisfaction with the company (McWilliams et al,2019).

Corporate social responsibility is a corporate social concern outside the company. However, company concern must also be applied to a fair management system. Fair human resource management is a management system that cares, develops and improves employee welfare. In addition, human resource management must also be oriented towards preserving the environment and society so that employees can also behave well and with respect to the surrounding community (Hopkins,2012).

Increasing employee performance has an impact on increasing production with the same resources. This also needs to be supported by increased sales and fair rewards to employees. So there are four complementary and related factors, namely company income, sales, employee performance, corporate social responsibility funds and employee welfare in the form of employee income (Kaydos,2020).

## Literature Preview

The decision on corporate social responsibility depends on the decision-maker in the company. Company actions reflect the people who are in the company from leaders to employees. Corporate social responsibility does not only have a positive impact on the company's image but also has a positive effect on the image of the employees who work in it (Tench et al,2018).

Corporate social responsibility is a reflection of the concern of the people who work at the company for their environment so that social responsibility corporates from the sense of caring of company employees for the environment and for their fellowmen. When corporate social responsibility has a spirit of concern for fellow humans and the environment, it becomes the spirit of all employees, it will have an impact on better customer service, better employee confidence levels and better performance (McWilliams et al,2019).

Psychologically, corporate social responsibility has an impact on all employees and encourages employees to work better in order to increase their care and concern for others and the nature around the company. Corporate responsibility with a sense of care has an impact on better and more environmentally friendly waste management. As well as an increased sense of security and calm at work. Corporate social responsibility becomes a program that brings together people as consumers and companies as producers to form loyal consumers (Schein,2016).

Consumer loyalty, increased employee performance have an impact on increased production that goes hand in hand with product sales and ultimately increases company revenue and profits. Where when there is an increase in profits, the company will be encouraged to issue more Corporate social responsibility and have an impact on increasing profits in the future. It continues to rotate and makes the company progress and develop (Widarni & Bawono,2020).

## Research Method

This study examines company profits, sales (product price multiplied by total products sold), employee performance as reflected by total production x product price, corporate social responsibility funds and employee welfare as reflected in employee income in 25 public companies listed on the Stock Exchange. Indonesia randomly sampling uses secondary data from annual reports published by related companies which are then processed. quantitatively using the moving average autoregression method with the following equation:

$$Y_t = C_t + \beta_1 S_{t1} + \beta_2 EP_{t2} + \beta_3 EI_{t3} + \beta_4 CSR_{t4} + e_t$$

Where,

Y = Company Profits

C = Constant

S = Sales (product price x total products sold)

EP = Employee Performance (Total production x product price)

EI = Employee Income

CSR = Corporate Social Responsibility



e = Error Term

All variables are calculated in USD.

### Result and Discussion

The estimation results are as follows:

$$Y = 7.41467073089 + 10.9006539088*CSR + 0.000971846692976*EI + 1.78346594393e-05*EP + 6.03891235084e-06*S$$

From the estimation results, Corporate social responsibility (CSR) is a variable that is positively related to company profits along with employee welfare (EI), employee performance (EP) and sales (S) variables. Where the variable that most strongly influences profit is sales. When sales increase by just 0.00000604%, it can increase profits by 1%. And the CSR variable is a variable that has a positive relationship with company profits but is not too strong. Where to increase profits by 1% required an increase in CSR by 10%. Table 1 illustrates the estimation results as follows:

**Table 1.** Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.414671	2.862275	2.590482	0.0205
CSR	10.90065	0.019991	545.2883	0
EI	0.000972	0.003648	0.266423	0.7935
EP	0.0000178	8.79E-05	0.202821	8.42E-01
S	0.00000604	2.57E-05	0.235215	8.17E-01
R-squared	0.8521345	Mean dependent var		578336.7
Adjusted R-squared	0.8421352	S.D. dependent var		207669.3
S.E. of regression	3.37E+00	Akaike info criterion		5.480499
Sum squared resid	170.435	Schwarz criterion		5.729432
Log likelihood	-49.80499	Hannan-Quinn criter.		5.529093
F-statistic	1.80E+10	Durbin-Watson stat		1.703837

Based on the estimation results described in Table 1., it can be seen that the R-square is very high so that changes in sales, employee performance, corporate social responsibility funds and employee welfare have a significant positive impact on company profits and can be accounted for with a true level of 85%.

### Conclusion

Corporate social responsibility activities have a strong influence on company profits. Where every 10% increase in corporate social responsibility funds will be followed by a 1% increase in company profits. This proves that corporate social responsibility activities are proven to be able to increase company profits.

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# **Education, Work Participation and Economic Growth in Indonesia**

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## **Abstract**

This study examines government investment in education, job opportunities as reflected in work participation and its impact on economic growth by using secondary data from world banks using the moving average autoregression method. We find that work participation, education investment is positively related to economic growth.

**Keywords :** Education Investment, Economic Growth, Work Participation

## **Background**

Students after graduating from college are expected to be able to enter the world of work based on their respective majors and study concentrations. Higher education graduates are expected to have sufficient human capital to work and contribute to the economy (Belasco et al,2020). Higher education graduates are expected to have a certain expertise in accordance with the field being studied. Education is one of the determinants of human capital owned by a person (Staneva,2020).

Investment in education is expected to be able to get a return on investment in accordance with that invested in education. With the increase in knowledge and skills, it is hoped that it will be able to increase a person's ability to get a job and be able to complete his job (Widarni & Bawono,2020).

Theoretically, education investment, work participation and economic growth are positively related. This means that higher investment in education will increase work participation and economic growth (HATIRLI,2020).

## **Literature Review**

Education policy is a very vital policy in the economy because education has an impact on the development of a country's human resources. Educational policies affect the quality of education and the number of school enrollments in a country. A high level of education reflects the level of education of a person, which reflects the social capital a person has based on educational quality standards (Smith ,2013).

Education from elementary school to college is very important in shaping a person's mental, character and skills. Education is one of the important mechanisms in building human capital. Human capital is needed in the world of work and it is very important to know someone's human capital. With high human capital, certain skills and expertise needed in the world of work will be formed so that in the



end the best human capital owners will find it easier to get a job. So that education and work participation are positively related. When someone already has a job they will participate in the development and promote economic growth (Claxton & Lucas,2015).

Economic growth itself is the result of all the economic activities of a country within one year. Where all citizens and humans who live in a country carry out economic activities and participate in the economy with their respective roles so that economic growth is formed (Gupta,2020).

### Research Method

This study examines government investment in education, job opportunities as reflected in work participation and its impact on economic growth using secondary data from world banks using the moving average autoregression method with the following equation:

$$GDP_t = C_t + \beta_1 LP_t + \beta_2 EI_t + e_t$$

Where,

GDP = Economic Growth

C = Constant

LP = Workforce Participation

EI = Educational Investment

e = Error Term

### Result and Discussion

The estimation results are as follows:

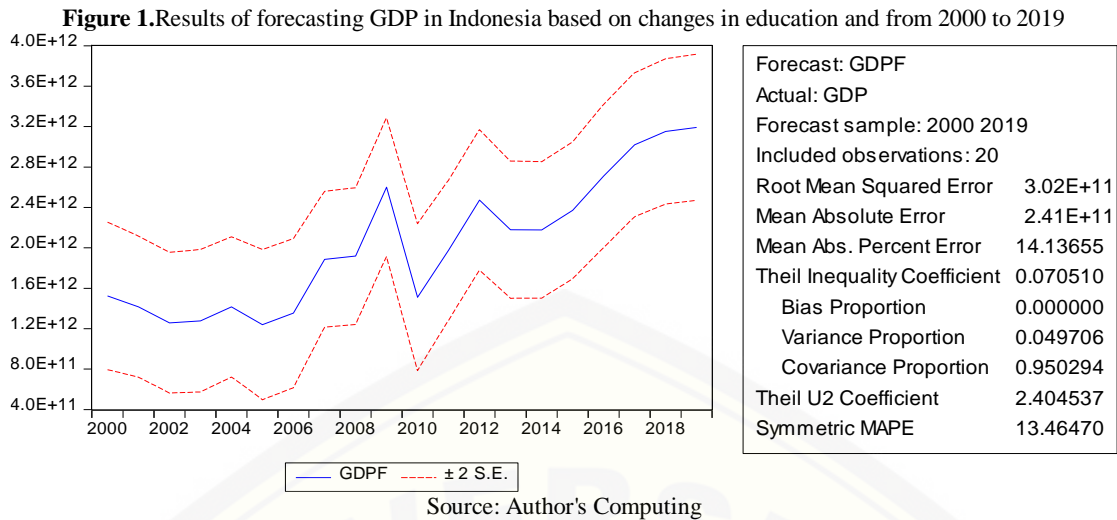
$$GDP = -1.33529132783e+13 + 435356963450*EI + 167582243536*LP$$

From the estimation results, work participation (LP) and education investment (EI) have a positive relationship with economic growth. which is briefly described in Table 1 which describes the estimation results as follows:

**Table 1.** Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.34E+13	4.59E+12	-2.910699	0.0097
EI	4.35E+11	6.64E+10	6.557606	0
LP	1.68E+11	7.30E+10	2.296623	3.46E-02
R-squared	8.20E-01	Mean dependent var		2.03E+12
Adjusted R-squared	7.98E-01	S.D. dependent var		7.30E+11
S.E. of regression	3.28E+11	Akaike info criterion		56.00635
Sum squared resid	1.83E+24	Schwarz criterion		56.15571
Log likelihood	-557.0635	Hannan-Quinn criter.		56.0355
F-statistic	38.60707	Durbin-Watson stat		1.482181
Prob(F-statistic)	0			

Based on the estimation results described in Table 1., it can be seen that the R-square is very high so that changes in employment and education have a significant impact on economic growth which can be predicted in the study period in Figure 1 as follows:



Based on the forecast results in Figure 1, Indonesia's GDP in the 2000 to 2019 period of changes in economic growth as a result of changes in education and work participation tended to improve even though it was volatile.

## Conclusion

Education is important in developing human resources to increase economic growth and development. Education is very important to educate the nation's life and develop knowledge and technology which in turn increases work participation and economic growth. As the economy grows and participation increases, the general welfare will also increase.

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# The Effect Of The Ratio Of The Money Supply, The Ratio Of Bank Credit, And The Ratio Of Domestic Savings To Economic Growth In Malaysia

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## Abstract:

The purpose of this study was to determine the effect of the money supply ratio, bank credit ratio, and domestic saving ratio on economic growth. both in the short and long term. Empirically, this study uses secondary data in the form of quarterly data during the 2008 - 2018 period with the Error Correction Model (ECM) method. We find that the money supply ratio, bank credit ratio, and domestic saving ratio have a positive and significant effect on economic growth in Malaysia.

**Keywords:** Economic Growth, Money Supply Ratio, Banking Credit Ratio, Domestic Savings Ratio, ECM

## Introduction

Financial deepening is one of the financial sector instruments that can pay attention to the development of the Malaysian economy. The dynamics of the Malaysian economy during the 2008-2018 period fluctuated. This was due to economic turmoil which had an impact on economic conditions. At the end of 2008, an economic phenomenon that hit the global economy did not escape from Malaysia, namely the phenomenon of the global financial crisis or so-called Subprime Mortgage which caused the economy to weaken. This phenomenon was marked by several financial institutions that went bankrupt because the Fed raised interest rates to suppress ongoing inflation. This policy causes debtors to be unable to pay interest so that the financial sector is volatile and has an impact on the economy of a country.

Financial deepening can be measured by using monetary aggregate indicators, the money supply and the ratio of total credit to GDP as a representation to measure the level of monetization and intermediation in the economy to increase real interest rates (Habibullah, 2019) Deepening in the financial sector can reduce dependence on foreign deposits because the financial sector can mobilize public savings to become an alternative source of funding in times of crisis. So that the existence of productive activities in the financial sector means that the financial deepening ratio of a country has increased (Liu, et al., 2020).



Economic growth is considered stable if the economic variables do not fluctuate in an extreme way, especially price or inflation variables (Liu, et al., 2020). The function of the financial sector, especially banking, is to stabilize and drive the economy (Greenbaum, 2019).

Theoretically, in Keynes's theory, the economy needs a driving force. One of the factors driving the economy is income and investment. In line with Keynes's theory (Keynes, 2019), Harrod-Domar explains that economic growth requires stable income growth accompanied by investment growth (Gordon, 2019). Investment is influenced by inflation and investor expectations (Garg, 2020). Financial stability and prices are affected by the value of the currency used (money) for goods and services (Bawono & Prestianawati, 2019).

Economic growth is an increase in production capacity as reflected in an increase in national income due to the production of goods and services that produce the same amount of output (goods and services) (Dorsman, 2012). According to Solow (Solow Neoclassic Growth Model), what affects economic growth is the level of capital accumulation, population growth rate, and level of technological development (Akansel, 2019). Keynes explained that economic growth is influenced by aggregate demand, where aggregate demand includes: consumption spending, investment spending, and government spending (Foxon, 2017).

The amount of money demand is influenced by the average price level in the economy, and the amount of money demanded by the public to make transactions is influenced by the price of goods and services (Mankiw, 2014). Financial deepening is the accumulation of financial assets that is more liquid than the accumulation of wealth. Financial deepening is a strategy to increase the rate of economic growth by deepening the financial sector (Lapavitsas, 2013).

Every country has a different financial system depending on the exchange rate system applied. Because the financial system plays a role in mobilizing and allocating more productive savings, it provides utility in the management structure for monetary management. As well as being the basis for managing liquidity in the system (Forrest, 2014). The exchange rate has an impact on investor behavior, which in turn has an impact on the economy (Bawono, et al., 2019).

The occurrence of bank credit or it can be called a loan fund; credit occurs because of the demand and supply of loanable funds. In the end, it has an impact on the demand and supply of loan funds, namely the interest rate. The difference from income minus consumption will be saved, giving rise to offers of loan funds (Warjiyo & Juhro, 2019).

## Method

This research uses quantitative descriptive analysis method to support the analysis results and answer empirical questions in the study. Quantitative research is the result of processing data collected and then analyzed to produce new facts and produce actual information. The quantitative analysis in this study is used to analyze the effect of the dependent variable on economic growth in Malaysia using the Error Correction Model (ECM) analysis in the econometric model, namely

$$GDP_t = \alpha_0 + \alpha_1 M2_t + \alpha_2 BC_t + \alpha_3 DS_t$$

information:

$GDP_t$  = determinant economic growth in period  $t$

M2t = the ratio of the Money Supply in period t  
 BCT = total bank credit ratio in period t  
 DST = the ratio of total domestic savings in period t  
 $\alpha_0, \alpha_1, \alpha_2, \alpha_3$  = short term coefficient

**Results and Discussion**

The ECM estimation results are presented in the following table:

Table 1. Short Term ECM Estimation Results

Variable	Coefficient	t-statistic	Probability
C	0.003015	0.111672	0.9117
D(Total Money Supply)	-0.782150	-9.108111	0.0000
D(BC)	0.094254	2.320644	0.0258
D(DS)	0.068408	7.761726	0.0000
U(-1)	-0.712055	-4.531226	0.0001
Adjusted R-squared	0.925862		
Prob. F-statistics	0.000000		

Table 2. Long-term ECM Estimation Results

Variable	Coefficient	t-statistic	Probability
C	7.263661	223.7143	0.0000
Total Money Supply	-0.659067	-5.646251	0.0000
BC	0.109789	1.934084	0.0602
DS	0.054446	4.662681	0.0000
Adjusted R-squared		0.817514	
Prob. F-statistics		0.000000	

Using the Error Correction Model (ECM) method produces a dynamic model. The probability of getting the coefficient of quantity and standard savings in the long run. From the results of this long-term estimate, it will reflect the time period required for full adjustment when changes occur. To get the long-run regression coefficient and standard deviation, we first have to go through the short-run model estimation.

Short-term Error Correction Model (ECM) test results, the money supply ratio (Total Money Supply) variable has an effect on economic growth. This is reflected in the probability value <5%, namely 0.0000. The independent variable money supply ratio (Total Money Supply) has an effect on Y (GDP), reflected in a significant p-value at the level of  $\alpha = 5\%$  with a coefficient value of -0.782150. These results indicate that in the long run, the money supply ratio (Total Money Supply) is detrimental to economic growth (GDP). Meanwhile, the bank credit ratio and domestic savings ratio have a positive and significant effect on economic growth. Evidenced by the probability value  $<\alpha = 5\%$ , the bank credit ratio with a probability value of 0.0258, and the domestic savings ratio with a probability value of 0.0000. And it can be seen by comparing the t-statistic value with the t-table.

This shows that partially the independent variable, namely the ratio of the money supply (Total Money Supply), bank credit ratio, and the ratio of domestic savings have a short-term effect on economic growth. If the independent and dependent variables are not in the same direction, partially the

independent variables, namely the ratio of the amount of money based on, the bank credit ratio, and the domestic savings ratio have a proportion that can explain the dependent variable. With an Adjusted R-square value of 0.925862, the independent variable explains the dependent variable by 92%. The rest is influenced by other factors outside the research model, which are reflected in the calculation of degrees of freedom. In estimating long-term relationships, the money supply ratio (Total Money Supply) variable affects economic growth. This is reflected in the probability value  $<5\%$ , namely 0.0000. The independent variable money supply ratio (Total Money Supply) has an effect on Y (GDP) which is reflected in the significant p-value at the level of  $\alpha = 5\%$  with a coefficient value of -0.659067. These results indicate that in the long run, the money supply ratio (Total Money Supply) is detrimental to economic growth (GDP). It is also assumed that every 5% change in the money supply ratio will reduce economic growth (GDP) by 0.6%. Another independent variable is the ratio of domestic saving which is significant to GDP. This is evidenced by the probability value  $<5\%$ , namely 0.0000. The independent variable of the domestic saving ratio has a positive effect on Y or economic growth (GDP). It is also estimated that every 5% change in the domestic saving ratio will increase economic growth (GDP) by 0.05%.

Based on the estimation results, the bank credit ratio variable has no effect on GDP. The probability value of this proof is  $> 5\%$ , that is, the bank credit ratio variable is 0.0602. The independent variable of bank credit ratio does not affect variable Y or economic growth (GDP) in the long run. The result is that the p-value is not significant at the 5% level. It can be concluded that partially the bank credit ratio does not affect economic growth in the long run. The strength of the F-statistic probability value reflects the strength of the independent variable in influencing the dependent variable simultaneously. And the Adjusted R-square value of 0.817514 reflects the calculation of degrees of freedom, where all independent variables can explain in detail the dependent variable of 81% and the remaining 19% is explained by other factors in the research model. The existence of a reciprocal relationship between financial deepening and economic growth in Malaysia is known by using the Error Correction Model (ECM) approach, which shows that 3 variables are indicators of financial deepening, namely the ratio of the money supply, bank credit, domestic saving ratio and ratio. In research, of course, it has an influence both in the short and long term, which results in a positive or negative response from each of the variables used in the study. This response can be seen from the short-term estimation results and the long-term estimation results in the Error Correction Model (ECM). By looking at the results of these estimates, it can be read that the influence and deepening of the financial sector's response to economic growth and empirical conditions in Malaysia can be taken into consideration in making government policies related to financial deepening as one of the sectors that contribute to the formation of the Malaysian economy.

## Conclusion

In the short and long term tests, the money supply ratio (M2) has a negative and insignificant effect. positive, which means that an increase in the ratio of the amount of money circulating in society can reduce economic growth. The bank credit ratio variable, in the short-term ECM test, bank credit has a positive and significant effect. On the other hand, in the long run, the bank credit ratio has a negative and insignificant effect on economic growth in Malaysia. The domestic savings ratio variable using ECM both in the short and long term has a positive and significant effect on economic growth in Malaysia.



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# Green Human Resource Management, Employment and Social Corporate Responsibility in Asia

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## Abstract

This study aims to investigate the quality level of green human resource management, employment and corporate social responsibility in Asia. Collecting data in this study using interviews with 200 employees in 12 multi-national companies in Asia by random sampling using the LinkedIn application then quantifying for regression using the autoregression moving average model. The interview aims to extract data in the form of quality levels of green human resource management, employment and corporate social responsibility. We find that there is a positive relationship between corporate social responsibility quality level of green human resource management and employment.

**Keywords:** Green Human Resource Management, Employment, Corporate Social Responsibility

## Background

The development of human resource management is very rapid in the Asian continent. Asian economic development is very fast with China and India having very good economic growth (Wu,2012). Good economic growth in the Asian continent is also accompanied by business and economic uncertainty with economic diversity between countries across the Asian continent (Hsiao & Hsiao,2017). Asia is a continent with a diversity of inhabitants, not only racial or ethnic diversity but also cultural diversity and social perspectives including religion. This diversity can be both an opportunity and a threat. Diversity can be a strength that can be used together in the common interest. However, without tolerance and mutual understanding will be a threat or a challenge in itself. Human resource management in Asia is very concerned about managing the diversity of human resources, especially in multi-national companies (Francine,2017). Diversity of human resources requires management that respects and understands each other so that it can make diversity a unifying and enormous strength to be used in the common interest to achieve common goals. Asia is a unique continent with all the diversity in it. Managing people in Asia must also manage the environment and culture around the company so that there is a management synergy between environmentally friendly human resource management, known as green human resource management, employment and corporate social responsibility (Dainty & Loosemore,2013).

## Literature Review

Human resource management in managing the diversity of human resources can use a group psychological approach so that in the long term groups of employees who work together can form the

same bond in the organization. This group's psychological approach serves to build mutual strength through diversity and mutual respect and understanding of common goals so that mutual bonds are formed in achieving common goals. When a social group realizes that there are common interests and goals, a sense of mutual help and cooperation can be formed so that social forces or social capital are formed in completing work to achieve common goals (Werner,2021).

Social capital can be built and developed not only among employees or company stakeholders but also society and consumers. So that a sense of social responsibility is formed in a corporate environment that can foster social capital. This corporate social responsibility can be used as a means to establish communication and mutual understanding between the company and the community and employees. This can have an impact on the emergence of mutual solidarity and minimize the risk of conflict in the business environment (Lerbinger,2018). Social capital and a comfortable working environment are indispensable for multi-national companies. Because multinational companies will inevitably meet with cultural and ethnic diversity in the organizational environment. Including the community around the company. Therefore, social capital is needed to be built inside and outside the company. Communication between the head office and branch offices or subsidiaries in remote areas must be carried out properly. So that the working relationship can be well established. In multi-national companies in Asia, there is a close relationship between green human resource management, employment and corporate social responsibility (O'Toole & Mayer,2013).

**Research Method**

Collecting data in this study using interviews with 200 employees in 12 multi-national companies in Asia by random sampling using the LinkedIn application, then quantifying for regression using the autoregression moving average model. The interview aims to extract data in the form of quality levels of green human resource management, employment and corporate social responsibility. We use average data or all the data obtained is averaged based on a group of variables determined based on literature review and their background and time series, that we perform regression using the moving average model autoregression method with the following equation:

$$CSR_t = C_t + \beta_1 E_{t1} + \beta_2 GHRM_2 + e_t$$

Where,

CSR = Corporate Social Responsibility

E = employment

GHRM = Quality level of green human resource management

e = Term Error

We calculate CSR based on the CSR index by using the following calculations: Corporate Social Responsibility fund budget divided by company profits in a period of one year with the following equation:

$$CSR = CSR_B / CI$$

Where CSR is the CSR index. CSR<sub>B</sub> is a Corporate Social Responsibility budget. And, CI is the company's advantage. Our workforce calculates the following: average employee income divided by company profits divided by total employees, with the following equation:



$$E = S / (CI / N)$$

Where E is employment, CI is the company's profit. N is the total employees. We calculate the GHRM by dividing the total environmental cases that have been resolved by the company by the condition that if there has never been an environmental case, it will be added by 1. With the following equation:

$GHRM = CS / TC$ , if  $TC = 0$ , then  $GHRM = 1$ . Where CS is the total environmental cases that have been resolved. And, TC is the total environmental case facing the company.

### Result and Discussion

The estimation results are as follows:

$$CSR = -0.0417905623788 + 0.617323852618 * E + 0.409825468649 * GHRM$$

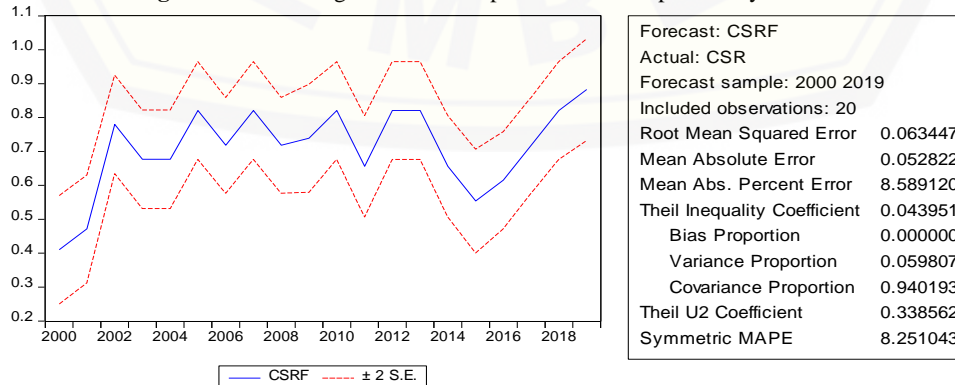
From the estimation results, employment (E) and the level of quality of green human resource management (GHRM) have a positive effect on Corporate Social Responsibility (CSR). Where every 1% increase in the level of Corporate Social Responsibility is followed by an increase in employment of 0.6% and a level of quality of green human resource management of 0.4% which is briefly described in Table 1 illustrates the estimation results as follows:

**Table 1.** Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.041791	0.100751	-0.414792	0.6835
E	0.617324	0.211414	2.919978	0.0095
GHRM	0.409825	0.221318	1.851748	0.0815
R-squared	7.87E-01	Mean dependent var		0.71
Adjusted R-squared	0.761951	S.D. dependent var		0.141049
S.E. of regression	0.068818	Akaike info criterion		-2.377221
Sum squared resid	0.080511	Schwarz criterion		-2.227861
Log likelihood	26.77221	Hannan-Quinn criter.		-2.348064
F-statistic	31.40776	Durbin-Watson stat		1.924514
Prob(F-statistic)	0.000002			

Based on the estimation results described in Table 1. Corporate Social Responsibility reflects employment (E) and the quality level of green human resource management (GHRM). The following is a forecasting of Corporate Social Responsibility in Asia from 2000 to 2019 in figure 1 as follows:

**Figure 1.** Forecasting Results of Corporate Social Responsibility in Asia



Source: Author's computation

Based on the forecasting results in Figure 1, the development of employee job satisfaction levels in Asia tends to fluctuate according to work conditions. This proves that human resource management is important for protecting the environment and for the sustainability of the company.

## Conclusion

Corporate social responsibility has an impact on environmental sustainability, community satisfaction with the company and minimizes economic inequality and opportunity in the community. This certainly has an impact on increasing consumption and community loyalty to the company which has an impact on the company's business growth.

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# Green Sustainable Human Resource Management in Malaysia

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## Abstract

The purpose of this study is to study environmentally friendly human resource management including employee behaviour in the workplace and the environment around the workplace. We used secondary data on 216 companies in Malaysia by conducting online interviews with 2160 employees about human resource and environmental management practices by quantifying them using the Likert scale and analyzing them using the ordinary least square model. We found a positive relationship between the level of environmental and social concern for the organization as reflected in environmentally friendly regulations and Standard Operating Procedures with human resource management as well as the level of employee compliance with company regulations and the level of employee welfare.

**Keywords:** Industry, Corporate Social Responsibility, Employees

## Background

The environment and humans are a unity that should complement and protect each other. Where the environment is created to be empowered by humans. However, preserving the environment is a human obligation. Human resources are important resources in running a business and maintaining environmental and social sustainability. Human resources must be developed with knowledge and skills in order to be able to run a healthy business while protecting nature and the surrounding community (Yudanin,2020).

Nature provides useful materials for humans in the form of biological materials such as animals and plants and non-living materials such as mining goods. Nature provides good things for humans so that it is the duty of humans to protect nature. Nature that is awake provides continuous and sustainable good (Park & Greenberg,2020). Humans can make use of nature so that it is beneficial for human interests. However, the use of nature that damages the environment will also be bad for humans. Caring for nature begins with an awareness of the importance of preserving nature and its benefits in protecting the environment.

Humans and nature can coexist and complement each other in life. Nature can continue to be used while maintaining natural sustainability. The existence of business activities in utilizing nature is important for human life to provide for human needs. However, preserving nature and preserving nature are also very important things too.



## Literature Review

The basic principle of this green economy is an effort to strengthen the risk management capacity of banks, particularly in relation to the environment and to encourage banks to increase their environmentally friendly financing portfolios, such as renewable energy, energy efficiency, organic agriculture and environmentally friendly transportation. By being involved in the development of an environmentally-based green economy, the banking sector is involved in efforts to promote more sustainable and inclusive growth to address gaps. A green economy is the enhancement of the quality of human life and social equity, while significantly reducing environmental risks and ecological scarcity. In its simplest terms, a green economy can be viewed as low carbon, resource efficiency and social inclusiveness (Akinsemolu,2020).

Environmental issues of sustainability and green organizations are increasingly being developed in management plans. This creates a green revolution (green revolution or environmentally friendly) in specific traditional ways, such as human resources. Recently in the field of Human Resources, the issue of Green Human Resource Management or what can be interpreted as “Environmentally Friendly Human Resource Management” has emerged which has identified itself as a new line of research and has become a new competitive dimension (Huque & Zafarullah,2017).

Corporate environmental problems are complex, changing, and multifaceted. For example, there is a growing awareness of the implications of using plastics extensively in production systems for wildlife. Companies producing food packaging that rely on plastics as the main raw material may require complex knowledge of product redesign and new biodegradable materials to adapt company processes to less polluting raw materials. The problem is changing because, for a long time, plastic was considered a recyclable and more sustainable solution than other options. New evidence requires adaptation from both employers and employees. Finally, the problem is mixed because microplastics have implications for wildlife, but customers may also perceive the microplastics to come into contact with food, endangering their personal health. Approaching complex, changing and multifaceted environmental problems requires training, motivation and retention of a talented workforce (Susskind et al,2020).

Green management, with an emphasis on environmental protection, including conserving water, air, land, and the use of clean energy and renewable natural resources, will create significant opportunities for cost savings of goods and services and reduce negative and damaging effects on the environment. Nowadays, employees tend to work in such companies and feel happy because they are environmentally friendly. Furthermore, the company's strategy for environmental management and sustainable development will be successful if it is in line with its HR practices (Yang,2017).

## Research Methods

This study examines the impact of business management, employee income, the level of employee compliance with company regulations on environmental sustainability around the company using the Ordinary Least Squares (OLS) method with the following equation :

$$ES_t = C_t + \beta_1 Bm_{t1} + \beta_2 Ei_2 + \beta_3 Ec_{t3} + e_t$$

Where,

ES = Environmental Sustainability  
 Bm = Business Management  
 Ei = Employee Income  
 Ec = Employee Compliance  
 e = The term error

Business management in this study is a management factor calculated based on the results of interviews about the level of environmentally friendly business management and seeing the impact of business on the environment using the Likert scale to quantify the results of the interview. Environmental sustainability is calculated by comparing the condition of the environment before the business or company was founded with environmental changes due to company activities within a certain period of time using a Likert scale to quantify the results of the interview. Employee income is a reflection of the employee's welfare by adding up salaries and bonuses as well as other income obtained from the company which is compared with the minimum wage in the area of each area where he works and his family live so that a fair comparison is obtained for each. sample of employees even though they have different operational areas working in Malaysia. Employee compliance is a quantification of the employee management level Likert scale against the company's standard operating rules and procedures.

### Results and Discussion

The estimation results are as follows:

$$ES = 0.231421 + 0.402161 * Bm + 0.321425 * Ei + 0.223614 * Ec$$

From the OLS estimation results, business management has an effect on environmental sustainability of 0.402161. If Business Management increases by 1%, then Environmental Sustainability will increase by 0.413172%. Employee income and employee compliance have a positive effect on environmental sustainability. Table 1 illustrates the estimation results as follows:

**Table 1. Estimation Results**

Dependent variable ES			
Variable	Coefficient	t-Statistic	Prob.
C	0.231421	0.101781	0.0004
Bm	0.402161	0.121491	0.0015
Ei	0.321425	0.120189	0.0012
Ec	0.223614	0.112460	0.0018
R-squared	0.850301	Mean dependent var	2.18131
Adjusted R-squared	0.862161	S.D. dependent var	4.13021
S.E. of regression	1.0130	Sum squared resid	2.21173
F-statistic	1.1211	Durbin-Watson stat	0.41421
Prob(F-statistic)	0		

Based on the estimation results described in Table 1. This shows that the level of environmental sustainability is influenced by business management, employee welfare, and the level of employee compliance with company regulations. Where the level of environmental concern in business activities needs to be owned by all employees so that nature remains sustainable.

## Conclusion

Environmental care is an awareness that needs to be instilled so that business activities can be managed without damaging the environment and preserving nature in Malaysia. A sustainable nature will provide well for all humans so that humans can live well. Malaysia is a large country with abundant natural wealth. Green human resource management is important in Malaysia because the preservation of nature has an impact on the Malaysian economy.

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# Human Capital and Business Growth in Indonesia

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## Abstract

This study investigates 84 companies in Bandung and Jakarta (Indonesia) related to business growth, human capital investment including education investment, health investment and work equipment using secondary data collection methods from related companies and in-depth interviews with 84 employees who are very familiar with the company's business operations then quantified using the autoregression moving average method. We found that investment in education and investment in health had a significant positive relationship with business growth. However, investment in work equipment is negatively related. This shows that the higher human capital in the company is related to the efficiency of investment in work equipment.

**Keywords :** Human Capital, Indonesia, Business Growth

## Background

Company development requires both human and non-human factors. Where human resources are a key factor in company development. Company development, of course, requires careful preparation and thorough investigation in terms of preparing the development of technology, human resources equipment and financial resources. Organizational structural capital must also be strong to ensure there are no irregularities in the flow of funds and the health of the company's cash flow (Singla, 2020). Human capital is the key capital in the development of a company where the human resources that are owned must also be ready for the change to progress and develop (Pease et al, 2014).

Comprehensive integration in every part of the organization in company development must be ready. Due to the company's development, there are definitely many changes from various factors that must be considered (Howson, 2020). The development of the company reflects that the company's growth needs to be prepared for human resource development through investment in human capital through training, education and work equipment as well as health (Ehnert et al, 2013). This study tries to investigate the relationship between business growth as reflected in company income, education investment, health investment and work equipment investment in 84 companies in Jakarta and Bandung.

## Literature Review

In business cycle theory, the company will grow, develop and end. However, to extend the life of the company it is necessary to carry out continuous innovation and development to sustain the business (MacKay et al, 2020). In business development and change management in terms of profitable

innovation in the long term, careful preparation is needed. It is necessary to develop and train human resources to ensure that the human resources that are owned and available have sufficient human capital in managing innovation and developing technology so that the company can survive and be able to develop the company so that the company can continue to grow (Baporikar,2021).

Companies that do not grow and develop will be threatened with extinction and will close down. So there are only two choices left to develop and grow or die or end (Nautiyal et al,2016). Increasingly fierce business competition demands business changes and increased company competitiveness. In increasing competitiveness and growing, one of the keys is increasing human capital through human capital investment. Increasing human capital means increasing the quality of human resources owned. Increasing human resources owned can provide increased business competitiveness. Increased competitiveness can be increased through training, education, health services and improvements to equipment and technology (Zondervan et al,2020).

**Research Method**

This study tries to determine the relationship between business growth as reflected in company income, education investment, health investment and work equipment investment in 84 companies in Jakarta and Bandung by collecting secondary data from internal companies and in-depth interviews with 84 employees online after the data. collected were grouped and average was then processed quantitatively using the moving average autoregression method with the following equation:

$$Y_t = C_t + \beta_1 HI_{t1} + \beta_2 EI_{t2} + \beta_3 T_{t3} + e_t$$

Where,

Y = Business Growth

C = Constant

HI = Health Investment

EI = Educational Investment

T = Equipment Investment

e = Error Term

**Result and Discussion**

The estimation results are as follows:

$$Y = -6669066.99737 + 167.376465051*HI + 1385.08941439*EI - 4122.64231657*T$$

From the estimation results, health investment (HI) and education investment (EI) are positively related to economic growth. However, investment in equipment (T) has a negative relationship. This indicates that the higher the human capital the need for equipment decreases with a steady performance. Table 1 illustrates the estimation results as follows:

**Table 1.** Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6.67E+06	2.40E+06	-2.776141	1.35E-02

HI	1.67E+02	76.14797	2.198042	4.30E-02
EI	1.39E+03	52489.91	0.026388	9.79E-01
T	-4.12E+03	157470.9	-0.02618	0.9794
R-squared	0.819737	Mean dependent var		1016281
Adjusted R-squared	0.785938	S.D. dependent var		364962.9
S.E. of regression	168856.7	Akaike info criterion		27.08834
Sum squared resid	4.56E+11	Schwarz criterion		27.28749
Log likelihood	-266.8834	Hannan-Quinn criter.		27.12722
F-statistic	24.25315	Durbin-Watson stat		1.481825

Based on the estimation results described in Table 1., it can be seen that the R-square is very high so that changes in health investment and education investment have a significant positive impact on business growth. The estimation results show that business growth must be accompanied by investment in human capital, especially education and health.

### Conclusion

Business growth is very important to maintain a company and human capital is absolutely necessary for a company to grow and develop. Human capital investment must be sustainable to maintain sustainable business growth.

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# Human Capital and Economic Growth in Indonesia

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## Abstract

This study examines government investment in education and health, as well as job opportunities as reflected in work participation and its impact on economic growth by using secondary data from world banks using the moving average autoregression method. We find that work participation, education investment and health investment positively related to economic growth.

**Keywords:** Education Investment, Health Investment, Work Participation

## Background

The ASEAN economy continues to grow and develop well before COVID-19 hits ASEAN in 2020. ASEAN Plus Three cooperation with Japan, China and South Korea encourage economic growth in ASEAN with a large population and abundant natural resources. ASEAN has sufficient resources to grow economically (Chen & Kimura,2019). Indonesia is one of the ASEAN member countries with a very large population. Indonesia has a population of more than200 million people. Such a large population is a resource that must be managed properly in order to participate in economic development (Tay & Tijaja,2017).

To create a strong economy, of course, it must be supported by superior human resources. Modern human resource management makes human capital a performance driving factor and a very valuable asset for modern humans today. To encourage economic growth and rise during a pandemic, of course, education is not enough, health factors and access to employment are needed to increase work participation (Casademunt,2016). This study examines these three factors, namely investment in education, investment in health and job opportunities, which are reflected in work participation and their impact on economic growth using secondary data from word banks.

## Literature Review

The population is a valuable human resource that needs to be managed and developed properly through education, health services and job opportunities. Residents can participate in economic growth through the real sector where residents can become investors, business managers and employees. When the population optimally participates in the economy, the economy can grow and develop properly (Dames,2020).

Indonesia is a country with a very large population which is a strength in its own right. The large population means abundant human resources. However, the population must also be balanced with

human capital owned by the population so that it can make the population productive and contribute to the economy (Shambaugh,2020). The population can provide the opportunity to increase the economy with a very large market and an abundant workforce. Of course, after having sufficient human capital to create added economic value. So it is necessary to understand that the population is one of the country's most valuable assets (Oberman,2012).

**Research Method**

This study examines government investment in education and in the health sector, as well as job opportunities as reflected in work participation and its impact on economic growth by using secondary data from world banks using the moving average autoregression method with the following equation:

$$GDP_t = C_t + \beta_1 LP_t + \beta_2 EI_t + \beta_3 HI_t + e_t$$

- Where,
- GDP = Economic Growth
- C = Constanta
- LP = Labor Force Participation
- EI = Education Investment
- HI = Health Investment
- e = Term Error

**Result and Discussion**

The estimation results are as follows:

$$GDP = -3.95200662454e+12 + 45402319843.2*EI + 6639715823.4*HI + 59389338724.4*LP$$

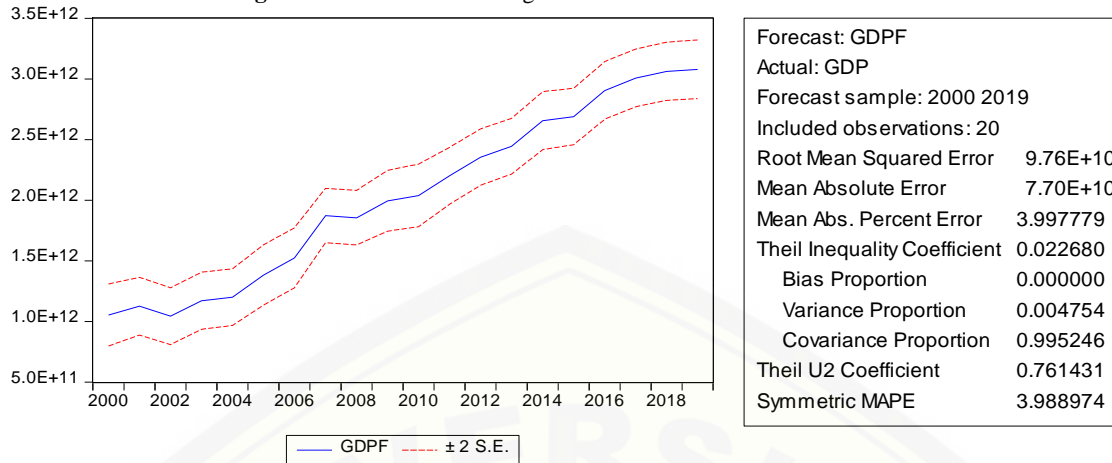
From the estimation results of work participation (LP), education investment (EI) and health investment (HI) are positively related to economic growth. which is briefly described in Table 1 which describes the estimation results as follows:

**Table 1.** Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.95E+12	1.73E+12	-2.290152	0.0359
EI	4.54E+10	4.00E+10	1.13629	0.2726
HI	6.64E+09	5.67E+08	11.71666	0
LP	5.94E+10	2.60E+10	2.284551	0.0363
R-squared	0.981165	Mean dependent var		2.03E+12
Adjusted R-squared	0.977633	S.D. dependent var		7.30E+11
S.E. of regression	1.09E+11	Akaike info criterion		53.84667
Sum squared resid	1.91E+23	Schwarz criterion		54.04581
Log likelihood	-534.4667	Hannan-Quinn criter.		53.88554
F-statistic	277.8266	Durbin-Watson stat		1.112105

Based on the estimation results described in Table 1., it can be seen that the R-square is very high so that changes in employment, education and health in the community change the economic growth significantly which can be predicted in the study period in Figure 1 as follows:

**Figure 1.** Results of forecasting GDP in Indonesia from 2000 to 2019



Based on the forecast results in Figure 1, Indonesia's GDP before the corona pandemic took place tended to increase and the management of human resources, especially in human capital investment in Indonesia, also improved from year to year. This can be seen from the increasing graph which indicates that the Indonesian economy is healthy, education and health also contribute positively and community work participation in economic growth also continues to increase.

### Conclusion

The population is an important asset for the country and needs to be managed properly. Education, health and work participation or employment opportunities are three things that need to be maintained and developed through human capital investment so that the population can make the best contribution to their country.

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# Urbanization and Human Capital Development in Malaysia

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## Abstract

This paper investigates the impact of urbanization in Malaysia and human capital development in Malaysia in particular urbanized areas. We argue that the presence of urbanites at the turn of the 20th century has had a positive impact on human capital in Malaysia today. This is evidenced by empirical evidence using the Ordinary Least Squares (OLS) method by adopting the Índice Firjan de Desenvolvimento Municipal (IFDM) method to calculate the human capital development index in Malaysia. We find that the urbanization program has a positive impact on human capital development in Malaysia.

**Keywords:** IFDM, OLS, Urbanization, Human Capital

## Background

The economic position of Malaysian society today spans a wide range, Malaysia has a unique or unusual diverse group with diverse ethnicities and cultures. The aim of this paper is to describe the channels through which urbanization programs can influence human capital formation in Malaysia. To do so, we studied the characteristics of urban skills in the urbanization period 1969 to 2019 which may affect the demand and supply for education in the first few decades after their arrival and the mechanisms of urban persistence and skills in managing urbanized land.

The literature on the long-term economic effects of the turn of the 20th century, urbanization in Malaysia has grown significantly in the last decades. Since human capital is a major determinant of economic development (Bucci, et al., 2019), the question of what determines or builds it is a question which is very relevant. The motivation of this paper is to understand the long-term effects of demographic change by studying specifics. National cultural characteristics, here defined narrowly, as customary beliefs and values passed on by ethnic, religious and social groups that have not changed from generation to generation. Although we do not imply that our statistical analysis is evidence of causality, we provide historical evidence of immigrant heterogeneity in the “market” for education and estimate the effect of historical immigration on current human capital. We used a simple OLS model and found that although the immigration effect was positive, it also depended on the nationality of the groups. We address a potentially serious endogeneity issue. This urbanization episode did not occur directly as a result of changes in the workforce (Kebschull, 2020). The influence of their presence on the formation of human capital in Malaysia has changed the face of Malaysia. Immigrant's high initial

human capital, measured by a higher numerical score in 1969, has a spillover effect throughout the economy.

The human capital possessed by urbanites has a higher level effect on the accumulation of human capital they have, meaning that the human capital stock increases per capita as urbanites on average mingle and assimilate with local residents both formally and informally including education and training that is better because of the assimilation of culture, knowledge and skills. Urbanization increases the level of entrepreneurship in Malaysia, which means that entrepreneurial immigrants are more likely to educate themselves and their families so that they can develop including developing their economic conditions. The human capital of urbanites has spread to the indigenous population as they initiate successful behaviour as migrants. Human capital owned by urbanites can have positive implications for intergenerational transfers. The experience of urbanites can change the importance of education and create economic growth (Genevey et al,2013).

We formulate our main hypothesis, that the effect of urban presence on the formation of human capital is heterogeneous between groups of urbanites and local residents through a process of assimilation. At this point, we limit our empirical analysis to the main hypothesis without explicitly testing these mechanisms, although we are encouraged by the possibility to explore these questions empirically on a smaller scale in the future. Such as the extent to which universal access to general education is available in urban areas of Malaysia of origin, the religious affiliation of each group, religious education, and demographics of urban population and assimilation of urbanites with local residents. The level of social capital available in each urban community and the size of the community encourages the creation of cultural and knowledge exchanges between urbanites and local residents.

## Literature Review

The available education is endogenous to human capital development (Lightfoot-Rueda, et al., 2016). In the case of the implementation of exogenous formal education, the longer the period of exposition to public education and the wider this provision, the more likely it is that citizens will expect the provision of education in migrant areas in the future (Erb, et al., 2013). The religious and cultural affiliation has received little attention from social scientists trying to understand its relationship to the formation of human and social capital. A common argument is that religiosity has a positive influence both by operating as a community organizer and motivator (Thomä, et al., 2014). The difference in religious affiliation in the context of this paper from its standard treatment in social capital research is that the religious mechanism highlighted in this paper rests on the different roles of religious education among urban communities. The desire for religious preservation is the driving force for the demand for education such as Islamic boarding schools for the Muslim community and churches for the Catholic community as well as centres for other religious education in urban areas in accordance with the religions and beliefs of the group.

The element of religiosity is present in almost all groups of immigrants, except for non-religious groups. The relationship between religious affiliation and the social context in which these urban groups find themselves may explain much more of the variation in the formation of human capital than the relationship between religiosity and social capital. The further away a person's religion is from a Muslim group that makes up the majority of the population in Malaysia, the more likely that community is involved in religious education. In addition, the more closely the concept of group

identity is related to religion and religious traditions, the more likely it is that the community will organize schools or religious education.

urbanites who already have a family create different educational demands from young single urban men (Cohen & Sirkeci, 2011). Urban groups with families and early childhood have a greater incentive to invest in education and to pressure local politicians to get school opportunities for their children than young single men who tend to work hard to prepare for the future those on urbanized land, which are more likely to return to their home areas. Local governments that need to maintain a workforce within their jurisdiction will be more likely to invest in public education if urban groups have a higher proportion of families. The widest mechanism by which national urbanization traits can supply education is social capital. Social capital is a persistent and shared belief and value that helps a group overcome the problem of free riders in pursuing activities of social value. Unlike a broader definition of social capital, civil capital includes only informal institutions that facilitate coordination within groups to solve long-lasting and collective action problems. There are two main ways in which social capital affects the provision of education and thus contributes to the formation of human capital. First, social capital increases the cost of free-driving behaviour in urbanized groups and thereby increases the ability of these groups to organize into associations to provide education and other services to the community, by reducing externalities. Urban associations are essential for the provision of early education in urbanized areas, where public provision is scarce because urbanized areas generally tend to be still empty.

Social capital can be used to take advantage of a group's ability to generate political pressure and obtain public goods through the political process (Caramani, 2014). Social capital increases the introduction of elections in terms of public goods provided by the government. More generally, they suggest that existing informal institutions can play an important role in determining the success of formal political institutions.

The shift from informal to formal institutions is fundamental to understanding the persistence of the heterogeneous effect of national characteristics in Malaysia, namely the diversity of Malaysian ethnicities and cultures. Urban associations can influence politicians to increase education spending at the local level, turning social capital into political capital over time. In areas where the social capital of the urbanites is low, such a transformation does not occur. The effectiveness of each group's ability to organize depends on the size of each community in an area.

## Research methods

In the previous section, we described the mechanisms by which immigrant groups can influence the formation of human capital in Malaysia. We hypothesize that a greater positive effect on the formation of human capital will occur in urbanization as a result of the assimilation of culture and skills between urbanites and local residents.

To test our hypothesis empirically, we use secondary data from Malaysia's Central Statistics Agency which is triangulated with data from the world bank as well as data from the Social, Labor and Urbanization Service related to education ranging from kindergarten, primary, secondary and tertiary education. from 1969 to 2019, We also investigated Malaysian demographic data from 1967 to 2019. Health, employment & income data in Malaysia. We process all data by adopting processed immigrant data in Brazil Índice Firjan de Desenvolvimento Municipal 2018. We process education, health,



employment and income data into an index which we make as a dependent variable which we call IFDM which stands for Índice Firjan de Desenvolvimento Municipal.

Índice Firjan de Desenvolvimento Municipal is an index used in Brazil taking into account employment and income, education and health which are the main components of forming human capital. In the IDFM employment and income are calculated by considering the generation of formal jobs, the level of formalization, the job market, income, real wage claims on the market, formal employment and the Gini index of income inequality informal jobs. The education includes the frequency of school-age children, the number of elementary school dropouts, the distortion of class age in primary schools, teachers with higher education in primary schools, the average daily lesson hours in primary schools, the results of the education development index in primary schools For health, consider the proportion of adequate prenatal care, death due to unknown causes, infant mortality due to preventable causes, hospitalization that is sensitive to primary care (Vieira, 2018).

To estimate the influence of urbanites on human capital, a simple OLS model is used which adopts the research of Craig and Faria (2020) as follows:

$$IFDM_t = C_t + \beta_1 P_{t1} + \beta_2 AL_{t2} + \beta_3 SH_{t3} + \beta_4 TL_{t4} + \beta_5 GDPP_{t5} + e_t$$

Where,

IFDM = Human capital index adopts Índice Firjan de Desenvolvimento Municipal

P = Education

AL = Assimilated Literacy

SH = Basic Education Participation

TL = Urbanization Literacy

GDPP = Gross Domestic Product Per Capita

## Results and Discussion

The estimation results are as follows:

$$IFDM = 0.471341 + 0.638012*AL + 1.012511*GDPP + 1.542112*P + 0.876354*SH + 0.875954*TL$$

From the OLS estimation results, the Assimilation Literacy (AL) affects the human capital development index in Malaysia by 0.638012. If the assimilated literacy in Malaysia increases by 1%, the human development index will also increase by 0.638012. Per Capita Gross Domestic Product has a positive effect along with other variables. Table 1 describes the estimation results as follows:

**Table 1.** Estimation Results

Dependent variable IFDM			
Variable	Coefficient	t-Statistic	Prob.
C	0.471341	2.232926	0.0008
AL	6.43E-01	-0.686029	0.5039
GDPP	1.01E+00	-0.922318	0.372
P	1.542112	3.58E+14	0.0241
SH	0.876354	2.655914	0.0217
TL	0.875954	-2.7151	0.0003
R-squared	0.781253	Mean dependent var	73.75184

Adjusted R-squared	0.776204	S.D. dependent var	44.6114
S.E. of regression	202.5159	Sum squared resid	8.41E-26
F-statistic	902.0832	Durbin-Watson stat	0.903212
Prob(F-statistic)	0		

The estimation results and table 1 indicate that urbanization that occurred in Malaysia from 1969 to 2019 had a positive impact on Malaysia's human capital development.

### Conclusion

The Urbanization Program from 1967 to 2019 in Malaysia has a positive impact on the development of human capital in Malaysia.

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# Human Capital, Income and Job Opportunities in Indonesia

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(STIE Jaya Negara Tamansiswa Malang)

## Abstract

This study used interviews with 150 online informal workers in Jakarta. 80% of the respondents we interviewed were high school graduates and 20% did not have a high school diploma. Based on the results of interviews, 70% of respondents who had high school certificates had worked in the formal sector and chose to work in the informal sector and respondents who did not have high school certificates had never worked in the formal sector. To anticipate the interview results, we collected secondary data from world banks and the Indonesian Central Bureau of Statistics regarding data on unemployment in Indonesia, high school graduation and high school labor demand. Then we process all data in the form of an employment opportunity index which is calculated based on the supply and demand for labor where the supply of labor is the number of unemployed and graduated high school and the demand for labor in the demand for labor is high. school level. The income index is obtained from interviews with 150 informal workers by taking into account income while working in the formal sector, income in the informal sector and investment in education in the form of education from primary to final education. The human capital index is obtained from the difference in income and forecasting the difference in income of respondents who have a high school diploma and those who do not have a high school diploma. We use average data or all the data obtained is averaged based on a group of variables determined based on literature review and background and time series, then regression is carried out using the moving average autoregression method. We find that human capital and job opportunities have positive relationship with income.

**Keywords :** Human Capital, Income, Job Opportunities

## Background

Generally, in developing countries such as Indonesia, there are very many informal workers. Informal workers are very vulnerable to microeconomic shocks such as loss of work or lack of social protection. Informal workers generally work in the informal business sector such as micro-level businesses or in the household sector (Cornia,2020). Generally, informal workers do not have a sufficient degree of education to be able to work in the formal sector (Bradley & Green,2019).However, based on the results of interviews with 150 informal workers online in Jakarta 80% of the respondents we interviewed were high school graduates and 20% did not have a high school diploma. Based on the results of the interview 70% of the respondents who have a high school diploma have worked in the formal sector and choose to work in the informal sector and respondents who do not have a high school diploma have never worked in the formal sector. To anticipate the results of the interviews, we collected secondary data from the world bank and the Indonesian Central Bureau of Statistics regarding data on unemployment in Indonesia, high school graduation and labour demand for senior high school levels. Then we process all data in the form of a job opportunity index which is calculated



by labour supply and demand where labour supply is the sum of unemployment and high school graduation, and labour demand in labour demand for high school level. Income index obtained from interviews with 150 informal workers by taking into account income while working in the formal sector, income in the informal sector and investment in education in the form of schooling from primary level to the last level of education taken. The human capital index is obtained from the difference in income and forecasting the difference in income from respondents who have a high school diploma and those who do not have a high school diploma. Based on the results of interviews and literature studies, we conclude a provisional conclusion or hypothesis that income levels are influenced by human capital and job opportunities.

## Literature Review

Wages increase in line with rising prices in developing countries such as Indonesia. Every time there is an increase in the minimum wage, the price increases in general. This has the effect of rising shadow wages. Where the increase in labour wages does not improve the welfare of workers. So that income must take into account the increase in real prices when there is an increase in wages (Kozul-Wright & Rayment,2007). When a worker wants to increase his income, he has to work harder (Etherington,2020). However, sometimes the opportunity to work harder does not exist so that the impact on income is similar over time and when there is an increase in wages it cannot compensate for the increase in prices in general (Lavoie & Stockhammer,2013). To increase income, a worker must have the ability to increase his human capital so that he can do something that can improve his welfare(Bucci,et al.,2019).(Job opportunities ,of course ,have certain skill criteria that must be met .Human capital investment is one way to increase job opportunities to increase one's income (Widarni & Bawono,2020).

## Research Method

Data collection in this study used interviews with 150 online informal workers in Jakarta. 80% of the respondents we interviewed were high school graduates and 20% did not have a high school diploma. Based on the results of interviews, 70% of respondents who had a high school diploma had worked in the formal sector and chose to work in the informal sector and respondents who did not have a high school diploma had never worked in the formal sector. To anticipate the results of the interviews, we collected secondary data from world banks and the Indonesian Central Bureau of Statistics regarding data on unemployment in Indonesia, high school graduation and labour demand for senior high school levels. Then we process all data in the form of an employment opportunity index which is calculated based on the supply and demand for labour where the supply of labour is the sum of unemployment and high school graduation and demand for labour in the demand for labour for the high school level. The income index is obtained from interviews with 150 informal workers by taking into account income while working in the formal sector, income in the informal sector and investment in education in the form of education from primary to final education. The human capital index is obtained from the difference in income and forecasting the difference in income of respondents who have a high school diploma and those who do not have a high school diploma. We use average data or all the data obtained is averaged based on a group of variables determined based on literature and background reviews and time series, then the regression is carried out using the moving average autoregression method with the following equation:

$$I_t = C_t + \beta_1 JO_{t1} + \beta_2 HC_2 + e_t$$

Where,

I = Income

JO = Job Opportunities

HC = Human Capital

e = Term Error

### Result and Discussion

The estimation results are as follows:

$$I = -0.0795628049075 + 0.410577219098*HC + 0.649492205423*JO$$

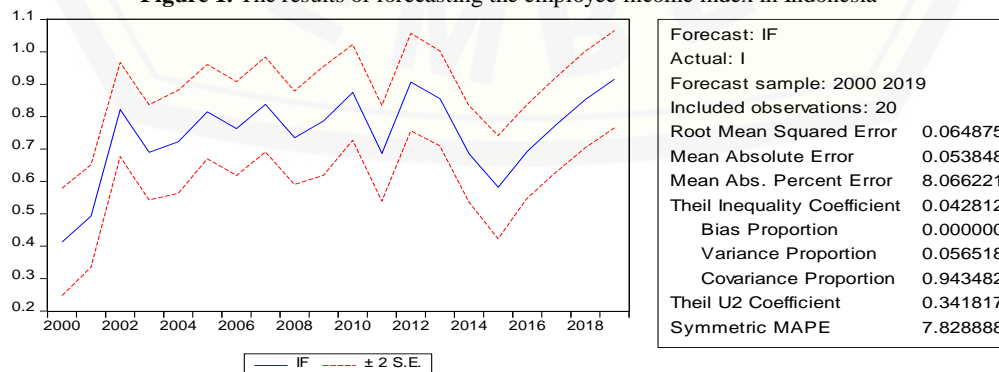
From the estimation results, Human Capital and job opportunities have a positive effect on income. Where every 1% increase in income is followed by an increase in Human Capital of 0.41% and job opportunities of 0.65% which are briefly described in Table 1 illustrates the estimation results as follows:

**Table 1.** Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.079563	0.107221	-0.742047	0.4682
HC	0.410577	0.20889	1.965522	0.0659
JO	0.649492	0.197846	3.282813	0.0044
R-squared	0.79747	Mean dependent var		0.74525
Adjusted R-squared	0.773643	S.D. dependent var		0.147902
S.E. of regression	0.070367	Akaike info criterion		-2.332696
Sum squared resid	0.084176	Schwarz criterion		-2.183336
Log likelihood	26.32696	Hannan-Quinn criter.		-2.303539
F-statistic	33.46902	Durbin-Watson stat		2.126381
Prob(F-statistic)	0.000001			

Based on the estimation results described in Table 1. Income reflects Human Capital and job opportunities. The following is the forecast for the employee income index in Indonesia from 2000 to 2019 in Figure 1 as follows:

**Figure 1.** The results of forecasting the employee income index in Indonesia



Source: Author's computation

Based on the forecast in Figure 1, the development of employee income in Indonesia tends to fluctuate according to economic conditions in Indonesia. This proves that employee income or human income is influenced by various factors and in the results of this study human capital and job opportunities obtained contribute to the amount of a person's or human income.

## Conclusion

Human income is the result of work that can be sold or generate income where it is influenced by human capital owned and the opportunity to work or the opportunity to sell their skills for income.

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# Human Resource Management System and Internet Technology Revolution in Malaysia

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## Abstract

This study tested the Human Resource Management System model in 2612 small and medium scale companies in Malaysia by selecting the sample by random sampling method using an online interview system. We examine four aspects of management, namely income, human capital investment, technology investment, investment in operational aids using the quantitative descriptive method of the ordinary least square model. We find that there is a positive relationship between investment in human capital, technology and operational aids and income.

**Keywords:** Technology, Human Capital, Malaysia

## Background

The internet revolution since its birth in 1990 has continued to develop and penetrate various fields, including human resource management (Guttman, 2016). Not only the internet but the supporting components of the internet have also developed for the better, starting from personal computers, laptops, iPhones to smartphones, all interacting as one unit. This continues to develop and makes it easier for humans to work, including managing human resources so that Machine-To-Machine (M2M) or computer to computer communication is formed.

The internet transcends national borders, which allows companies to connect with their employees anywhere and anytime (Anton-Haro & Dohler, 2017). This extraordinary technological development was transformed into an information technology-based human resource management system. The sophistication of the internet revolution is being adopted and is very supportive of business. Especially businesses in large companies that are very fast embracing technology. Not only large scale companies, micro small and medium scale companies also have an impact on micro, small and medium enterprises.

This study examines the uptake of technology or technology inclusion in micro, small and medium scale companies in developing countries, namely Malaysia. Malaysia is economically supported by micro, small and medium enterprises so the growth and development of micro, small and medium enterprises are very important for Malaysia.

## Literature Review

The industrial revolution has been going on for hundreds of years. The industrial revolution occurs due to technological developments and technological inclusion (Veblen, 2017). 1784 is widely believed by experts to be the beginning of the industrial revolution where Henry Cort succeeded in perfecting the Thomas Newcomen steam engine. The steam engine is a sophisticated technology at that time where a steam engine is a machine that has developed since that year and facilitates human work and encourages the industrial revolution (Milward & Saul, 2013). The money machine led to an industrial revolution in the textile sector, and various factories were established in the world massively. In the early 20th century, electrical technology was discovered and there was a revolution in the use of electricity in the industry since 1870 (Spielvogel, 2011). Technology has continued to develop after the discovery of electricity. The computer was invented in the 1960s, the computer was born from the previous industrial revolution and the use of electricity in industry. Computers are a series of various revolutions and technological developments which are very influential technologies until this time. Computers became the forerunner to the development of programming languages and the use of computers and programming languages in the industry until the 1990s. The internet is found and continues to develop today in business and industry (Neri, 2020).

The industrial revolution occurred in Europe since the invention of the steam engine (Evans & Rydén, 2017). Where previously the European community lived by farming, most of which were farmers. At that time, there was no large-scale machinery or industry like today. It was until the Middle Ages that there were significant changes in the industry there (Delbeke & Vis, 2019). Before the steam engine or industrial revolution was invented, European society relied on manual tools to complete its work, including agricultural activities. There was no large-scale industry at the time, and trade between villages was also sporadic. The Industrial Revolution changed many things in the life of European society and spread throughout the world. Historically, the industrial revolution developed from the invention of the manual machine and developed mechanically and then began to lead to automatic equipment. It is unclear when the industrial revolution started. However, history records the invention of the mechanical loom and the steam engine, which led to massive industrial changes on earth (Sage, 2011).

In the 1712s, Thomas Newcomen invented a steam engine that helped miners pump water faster, but the steam engine was less than perfect and fuel-intensive (Noble et al, 2013). In 1784, Henry Cort succeeded in perfecting the Thomas Newcomen steam engine (Byrn, 2020), and James Watt created a new engine called the Beelzebub in 1781 (Willems, 2018). Steam engines popular in mining developed their use in cotton mills, which later replaced horsepower and water in the textile industry. Since then, the invention of new industrial machines has emerged until now. Since the industrial revolution, industrial and technological developments have continued to develop rapidly. In 1990 internet-based websites were found and developed rapidly until now (Khan & Ally, 2015). Information systems continue to be built, including information systems in terms of human resource management. Or a human resource management system based on information technology. This is very efficient, and of course, information technology has penetrated various lines of business. In the perspective of equations and solow growth theory, technology can improve human performance so that it can have an impact on increasing the company's output and income with the function  $Y = f(C, T, L)$  where Y is production output, C is financial. Capital, T is the mastery of technology and manpower or human resources.

**Research methods**

We tested the Human Resource Management System model for 2612 small and medium scale companies in Malaysia, with the sample selection using the online interview method random sampling method. We examine four aspects of management: income, human capital investment, technology investment, and investment in operational aids using the quantitative descriptive method of the ordinary least squares model. We formulate all data into a regression formula as follows:

$$Y_t = C_t + \beta_1 HCI_{t1} + \beta_2 TI_{t2} + \beta_3 OI_{t3} + e_t$$

Where,

- Y = Income
- HCI = Human capital investment
- IT = Technology Investment
- OI = Investing in operational aids
- e = error term

**Results and Discussion**

The estimation results are as follows:

$$Y = 0.421121 + 0.432124 * HCI + 0.212241 * TI + 0.412412 * OI$$

From the OLS estimation results, human capital investment (HCI) affects the income of micro, small and medium enterprises in Malaysia by 0.432124 on the calculated scale. If human capital investment (HCI) increases by 1%, then operating income (Y) will also increase by 0.432124%. Technological investment has a positive effect along with other variables. Table 1 illustrates the estimation results as follows:

**Table 1.** Estimation Results

<b>Dependent variable IFDM</b>			
Variable	Coefficient	t-Statistic	Prob.
C	0.421121	0.213120	0.0006
HCI	0.432124	0.412227	0.3113
TI	0.212241	0.700118	0.1422
OI	0.412412	0.321111	0.1211
R-squared	0.822021	Mean dependent var	31.14074
Adjusted R-squared	0.812111	S.D. dependent var	24.5223
S.E. of regression	70.3122	Sum squared resid	6.02141
F-statistic	32.2610	Durbin-Watson stat	0.31012
Prob(F-statistic)	0		

The estimation results and table 1 show that investment in human resources, investment in technology, and investment in operational aids increases operating income. This is in line with the equations and solow growth theory.



## Conclusion

Investment in human capital, investment in technology and investment in operational aids have a positive effect on the income of small and medium enterprises in Malaysia. This proves that human resource development within the framework of human capital investment supported by investment in technology and work equipment can boost human performance which has an impact on increasing company revenues. This also applies to micro, small and medium enterprises in Malaysia.

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# Impact of Human Capital on Aggregate Organization Performance in Malaysia

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## Abstract

This study examines the impact of human capital on the aggregate performance of companies in Malaysia using the OECD's Human Capital Acquisition Index (OECD) using the Ordinary Least Squares (OLS) qualitative method. Based on the estimation results we find that human capital acquisition has a positive relationship with company performance in Malaysia.

**Keywords:** Human Capital Acquisition, Human Capital, Southeast Asia

## Background

Human capital is a very important capital in today's modern era. Human capital determines the competitiveness of companies. Increasing human capital becomes important by training and educating employees. Education and training are ways to increase human capital (Widarni & Bawono, 2020). Payroll and education taxes can influence investment in human capital in the workplace. Payroll taxes are negatively related to human capital investment. Taxes increase the cost of investing in human capital because of reduced income. An increase in the payroll tax imposed on employee salaries will suppress human capital investment due to reduced income for workers (Ratten, 2021). On-the-job training in the workplace by working while practising can also be used in improving human resources. This can be done where junior employees learn from their senior employees. This kind of training can increase the company's performance in the aggregate. Human capital is a very important factor in determining the productivity of an economy. The different qualities of human capital are believed to be able to cause two economies that have identical amounts of labour, physical capital, natural resources and technology to produce different outputs.

Humans are a form of capital, like physical capital and technology. Human capital is a qualitative dimension of human resources. The qualitative dimension of human resources, such as expertise and skills, possessed by a person will affect that person's productive ability. Skills, skills and knowledge can be improved through a good educational process and maintained health conditions. Expenditures for education and health are investments because, like investing in buildings or land, they will generate returns in the future. Expenditures on education, training and health will improve one's health and knowledge so that the productivity and income of that person will increase in the future. The skills that exist in humans will increase productivity directly and increase the ability of an economy to develop and adopt new technology. From the results of this explanation, it can be concluded that the initial hypothesis or conclusion is as follows:

Human capital accumulation has an impact and is positively related to Aggregate performance.

## Literature Review

Work experience reflects on-the-job training and on-the-job learning or learning. Training and knowledge in the workplace can improve employee performance so that work experience is positively related to performance (Birkhead, 2020). Work experience has an impact on performance. The more experiences a person has the better or better the performer.

Formal education and taxes have an impact on productivity. Formal education is a description of the human capital investment made by employees (Alemán, 2020). Formal education develops a mindset and critical thinking power so that formal education can have an impact on increasing learning which in turn has an impact on increasing the absorption of learning so that the development of human capital is faster and better. Employee education is an important consideration in employee recruitment. Formal education is one of the mechanisms for increasing human capital (MacKay et al, 2020). Apart from formal education, work experience is also an important factor in determining employee recruitment. Work experience is a reflection of on-the-job training. Formal education needs to be accompanied by job training or work experience. So that human capital can be formed from education, training, and experience at work (Parker & Crabtree, 2020).

Highly skilled employees, of course, can perform better than unskilled employees. Training for less experienced employees is needed to improve performance and ensure that these employees perform well. Expertise can be formed from experience, education, and training (Preber, 2014). Worker tax or income tax is a tax levied by the government on employee income or employee salary. Of course, this tax will reduce employee income so that taxes are negatively related to human capital investment. So that taxes can be said to have an effect on increasing human capital, but are negative. The higher the tax, the more hindered the increase in employee human capital will be (Booth et al, 2016).

Human capital is a collection of human expertise and abilities in completing work obtained through the process of education, training and experience so as to form certain skills that can be used to complete work to earn income. Human capital investment certainly requires financing that can be obtained from previously earned income so that it is hoped that an increase in income through increased performance is expected (Widarni, 2020).

## Research methods

This study examines the acquisition of human resources based on an index from the OECD, which includes income tax or worker tax, formal education, work experience, and job training. We investigate the relationship between income tax, formal education, work experience, and job training on aggregate firm performance in Malaysia using Ordinary Least Squares (OLS) with the following equation:

$$Y_t = C_t + \beta_1 T_{t1} + \beta_2 E_{t2} + \beta_3 ER_{t3} + \beta_4 J_{t4} + e_t$$

Where,



Y = Performance  
 T = Tax  
 Ed = Education  
 Er = Experience  
 M = Job Training  
 e = error term

**Results and Discussion**

The estimation results are as follows:

$$Y = 0.431617 - 0.421242*T + 0.701224*Ed + 1.223724*Er + 0.961361*Jt$$

From the OLS estimation results, tax affects the aggregate performance of -0.421242 counting scale. If the tax increases by 1%, the performance will decrease by 0.421242. Education has a positive effect along with other variables. Table 1 describes the estimation results as follows:

**Table 1.** Estimation Results

Dependent variable Y			
Variable	Coefficient	t-Statistic	Prob.
C	0.431617	1.121623	0.0008
T	-0.421242	-0.124107	0.0039
Ed	0.701224	0.613127	0.0072
Er	1.415131	1.314521	0.0041
Jt	0.961361	1.412621	0.0017
R-squared	0.811412	Mean dependent var	4.31416
Adjusted R-squared	0.806181	S.D. dependent var	6.17255
S.E. of regression	12.2131	Sum squared resid	8.23195
F-statistic	52.1211	Durbin-Watson stat	0.94391
Prob(F-statistic)	0		

Based on the estimation results described in table 1. It shows that the acquisition of human capital has a positive impact on performance. Taxes are a factor that must be determined wisely in fiscal policy because they have a huge impact on the real sector. Improving the quality of education and employment opportunities are the main keys in improving performance which in aggregate drive economic growth.

**Conclusion**

Human capital is an important factor in improving performance. Human capital can be developed and shaped through education and training mechanisms as well as work experience. The acquisition of human capital has an impact on the performance of companies on an aggregate basis in Malaysia.

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# Impact of Macro Economy on Financial Stability in Malaysia

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## Abstract

Research studies the influence of macroeconomic factors (inflation, exchange rates, and interest rates) and bank-specific factors (credit) on Non-Performing Loans (NPLs) in Malaysia for the period 2015 to 2018. This study uses the Vector Error Correction Model (VECM) to determine the effect of variables. independent consisting of macroeconomic factors and bank-specific factors. Based on the VECM estimation results, three variables that have a positive and significant effect on long-term NPL are credit, inflation and interest rates. Meanwhile, in the short term, there are only two variables that have a positive and significant effect on NPL, namely credit and interest rates. Inflation and exchange rate variables have a negative and insignificant effect on NPL in the short term.

**Keywords:** Rural Banks, Macroeconomic Indicators, NPLs, Financial System Stability, VECM

## Background

Several factors that affect financial system stability, in theory, are capital flows, exchange rates, interest rates, inflation, the ratio of non-performing loans (Non-Performing Loans), and others. The ratio of non-performing loans (NPL) to total credit, commonly known as the ratio of NPL to total credit, is the ratio between the number of loans classified as substandard, doubtful, and non-performing, to total credit (Lehner, 2016). In line with the increase in the amount of credit to microfinance institutions, there are indications that financial risk will also increase. Thus, it turns out that this increase is still not effective in resolving economic problems, especially its effect on financial system stability, so this study was conducted to determine the level of financial risk in Malaysia and the effect of credit from microfinance institutions, as well as the influence of several macroeconomic variables, namely inflation, interest rates, and value exchange rate against credit risk (NPL). Macroeconomic variables are taken because macroeconomic indicators can affect bank liquidity so that they become one of the determining factors for the level of bad credit (Cornock, 2018).

Macroprudential and macroprudential can act as indicators of financial system stability (Dombret & Lucius, 2013). Macroprudential indicators include capital flows, exchange rates, interest rates, and the ratio of bad loans. Meanwhile, according to Akerlof's 1970 research in Ramlall (2018), financial system stability rests on three pillars, namely information asymmetry, adverse selection, and moral hazard. The three pillars are traditional factors that cause bad credit. The existing theoretical gaps are caused by differences in the assumptions used in the study.

## Literature review

Microfinance is a financial service for low-income groups of people that includes credit, savings, installment, payment, and money transfer services. In general, microfinance services are aimed at low-income groups of people (Schmidt, et al., 2016).

Microfinance institutions help low-income people access financial services. Where low-income people generally cannot access banking services. Microfinance institutions generally operate with easier and simpler terms than services provided by banks because they are intended for people who have not been able to access banking services, small companies, or micro-companies that do not have banking access or cannot access banking services are also included in the target. microfinance services that aim to help micro enterprises develop and succeed in managing and developing their businesses through microfinance services. Micro companies certainly need capital services. However, because banks have not been able to serve micro-businesses, microfinance services have become an alternative financial service that can help micro businesses to obtain capital services and other financial services.

According to Keynes in Cammarosano (2016), he explains that money is a form of wealth that a person has. In this study, the authors emphasize the speculative motive as a derivative of Keynes' grand theory of money demand. Keynes differs from the classics in his emphasis on speculative motives and the role of the interest rate in determining the demand for money for speculative purposes.

The theory of bank behavior is a derivative of Keynes's theory of money demand. The theory of bank behavior states that human interactions determine the interest rate in banks. Public behavior in using banking products can cause banks to become more or less liquid so that every banking product offered has risks. This risk will be detrimental to all aspects involved. Moreover, it will disrupt financial system stability. The theory of bank behavior is a derivative of Keynes' money demand theory with speculative motives (Fontana & Setterfield, 2016).

An increase in interest rates will worsen the quality of the loan, the higher the cost of debt, the more difficult it will be for debtors to repay the loan. In addition, high-interest rates are an alternative that has the potential to harm debtors (Bofondi, et al., 2011).

Inflation is a macroeconomic factor that affects the efficiency of banking activities. Inflation lowers the value of money, which reduces the general rate of return. The decline in capital investment has a negative impact on economic performance. The inflation rate is an indicator that is often used to measure the stability of the prices of goods and services. Inflation is defined as a continuous increase in the general price level over a certain period.

According to Mankiw (2013), currency exchange rates are the exchange rates of currencies against other currencies in international trade. NPL theory related to bank stability rests on three pillars: (i) information asymmetry, (ii) adverse selection, and (iii) ) moral hazard theory. The theory mentions the traditional causes of bad credit loans which translate into banking system instability (Scardovi, 2015).

The definition of credit is the provision of money or an equivalent bill, based on a loan agreement or agreement between the lender and the borrower, which requires the borrower to pay off his debt after a certain period of time with interest (Green, 2016). According to several types of literature, excessive



credit growth is often associated as a key factor causing crises in the financial sector, particularly in developing countries. The major banking crisis in the last 30 years that occurred in Chile in 1982 (Oberfield, 2013), Denmark, Finland, Norway, and Sweden was called The Nordic Banking Crisis occurred in the early 1990s (Schweiger, 2014), the Mexican crisis in 1994 ( Sosa & Ortiz, 2015), the Asian financial crisis in 1997 (Joe & Oh, 2018) and the Rakyatime mortgage credit crisis in the United States that occurred in 2008 (Flavin & Sheenan, 2015) and the European debt crisis that occurred in 2010 - 2013 (Keddad & Schalck, 2020) also began with a credit boom period.

## Research methods

Based on the research objectives, namely to determine the effect of bank-specific factors (credit) for Rural Banks and macroeconomic variables (inflation, interest rates, exchange rates) on Non-Performing Loans without ensuring the existence of cause and effect in Malaysia, the type of data used in this study is secondary data in the form of time series data with the period 2015 January to 2018 in December with all Rural Banks in Malaysia as objects.

Then the data is analyzed to determine the effect between variables using the Vector Error Correction Model (VECM). This type of research is a type of quantitative research because this study aims to find results in the form of data in the form of numbers which are used as a means of analyzing information about what you want to know.

The model specification used is the VAR method adopted from the research of Sigh and Sudana (2017). Sigh and Sudana (2017) in their research include the variable Non-Performing Loan (NPL), credit, bank size, ROA, IRL, and CAR as proxies of bank-specific factors. And using the variables GDP, exchange rates, inflation, and interest rates as proxies of macroeconomic variables. Sigh and Sudana (2017) consider that this model can explore the relationship between direct aspects and models that are relevant for the analysis of the effect of macroeconomic variables and bank-specific factors on Non-Performing Loans (NPL).

The models used in Sigh and Sudana (2017) are as follows:

$$NPL = \beta_0 + \beta_1GDP_1 + \beta_2INF_2 + \beta_3EX_3 + \beta_4Bank\ Size_4 + \beta_5ROA_5 + \beta_6CAR_6 + \beta_7IRL_7 + \mu_i$$

Specifically, the above equation is formed in the econometric model as follows:

$$NPL = \beta_0 + \beta_1CDR_1 + \beta_2INF_2 + \beta_3NTR_3 + \beta_3SBA_4 + \mu_i$$

Where:

NPL = Non Performing Loan

CDR1 = Credit growth of microfinance institutions

INF2 = Inflation rate

NTR3 = Exchange rate

SBA4 = Interest rate

ui = Error rate

$\beta_0$  = Parameter constant / Intercept

$\beta_1, \beta_2, \beta_3,$  = The coefficient of the independent variable is x1, x2, x3

## Results and Discussion

The unit root test results as shown in the table below show that all the variables to be estimated are: NPL, credit, inflation, exchange rates, and interest rates are not stationary. Whereas in the unit root test at the first different level, all the variables to be estimated do not contain unit roots so they are stationary. Following are the results of the stationarity test:

**Table 1:** Stationarity Test Results

	Level		First Different	
	Probability	Caption	Probability	Caption
NPL	0.2432	not stationary	0.0000	stationary
CDR	0.7136	not stationary	0.0000	stationary
INF	0.0000	stationary	0.0000	stationary
NTR	0.2441	not stationary	0.0000	stationary
SBA	0.0010	stationary	0.0000	stationary

Information: 5% probability

### Optimal Lag Test

The selection of lag four as the optimal lag in this study is based on the use of the minimum Akaike Information Criteria (AIC) value of the variables estimated in the equation, namely Non Performing Loans (NPL), credit, inflation, exchange rates, and interest rates. The fourth lag was chosen because it produced a minimum Akaike Information Criteria (AIC) value, meaning that the model was able to explain the relationship between variables in this study.

**Table 2:** Optimal Lag Test Results

Lag	LR	FRE	AIC
0	NA	1.99E+10	36.8121
1	312.4715	13314138	30.3215
2	28.75294	15512162	30.6531
3	41.7045	12231412	30.3214
4	43.06198	8094131	<b>29.6743*</b>

Note: The asterisk and bold type indicate the smallest AIC value

### VAR Stability Test

VAR modeling is declared stable if in determining the optimum lag, all variables have a Modulus Roots of Characteristic Polynomial value that is smaller than one (Levendis, 2019). If the VAR system is unstable, the results obtained, such as IRF and VD, are invalid. After testing the stability of the VAR, the VECM can be estimated. In this study, the VAR model is stable; that is, the average modulus value of the variable is 0.896584, which is less than 1.

### Cointegration Test

The results of the Johansen Cointegration Test show that the Trace Statistic value has a greater value than the Critical Value. So based on these four equations, the Vector Error Correction Model (VECM) model can be used in this study.

**Table 3:** Cointegration Test Results

	Eigenvalue	Trace Statistic	0,05 Critical Value	Probability
None*	0.759435	149.5263	69.81899	0.0000
At most 1*	0.580723	88.26137	47.8561	0.0000
At most 2*	0.529874	50.8847	29.7971	0.0001
At most 3*	0.347615	18.43027	15.4947	0.0175

Information: 5% probability

### Granger Causality Test

The test results indicate that credit causes NPL and vice versa NPL causes credit. Followed by interest rates cause inflation and vice versa inflation causes interest rates. Then the interest rate causes credit and credit to also generate interest rates because these variables have a probability value that is smaller than the Critical Value of 5% so that it is stated to have a causal relationship.

**Table 4:** Granger Causality Test Results

NPL	Credit	Inflation	Exchange rate	Interest Rates
-	0.0321*	0.0517**	0.1597**	0.7711**
0.3324**	-	0.6226**	0.5870**	0.0010*
0.0215*	0.6018**	-	0.8444**	0.3304**
0.9287**	0.6841**	0.6247**	-	0.0885**
0.2772**	0.0341*	0.7206**	0.5135**	-

Information: 5% probability

Note: \* (has a causality relationship), \*\* (does not have a causality relationship)

**Table 5 :** Short Term VECM Estimation Results

Variable	Coefficient	T-statistics
<b>Long-term</b>		
D(CDR(-1))	0,00011	-4,70396
D(INF(-1))	0,39959	-5,93812
D(NTR(-1))	0,00026	-0,05960
D(SBA(-1))	0,16596	-0,240687
C	-0,048474	
<b>Short-term</b>		
CointEq1	0,20325	-4,36820
D(NPL(-1),2))	0,19307	-2,05044
D(NPL(-2),2))	0,24322	-3,22031
D(CDR(-1),2))	0,00017	0,99419
D(CDR(-2),2))	8,2E-05	1,21928
D(INF(-1),2))	0,32772	-4,99535
D(INF(-2),2))	0,38153	-5,57208
D(NTR(-1),2))	0,00013	-0,76731
D(NTR(-2),2))	0,00019	-0,47660
D(SBA(-1),2))	0,07707	-4,31502
D(SBA(-2),2))	0,09106	-1,15329
C	0,03106	-1,38357

In the short term, the credit variable has a significant effect on NPL. This result causes the credit growth of the People's Credit Bank to increase in the short term so that the NPL, which is an indicator of financial system stability, will increase. This means that the higher the NPL, the instability of the financial system or in other words, the financial system stability will be disrupted. The short-term variable inflation does not have a significant effect on the NPL level. This is known by looking at the T-statistics value of the inflation variable below the T-table value. This means that if there is an increase in the inflation rate in the short term it will not affect the NPL level. Another macroeconomic

variable that does not affect the NPL rate is the exchange rate. In this study, the interest rate variable affects the NPL level. This happens because if the interest rate is raised, the debtor will not be able to pay the installments that he borrowed, causing the NPL level to increase.

In this study, the regression test results state that there is a relationship between variable credit and variable NPL. In the long run, there is a relationship between inflation and NPL. Inflation and NPLs have a significant positive relationship in the long run. Inflation and NPL have a significant positive relationship in the long term of 0.39959. This means that if there is an increase in the exchange rate by one percent, in the long term the NPL will increase by 0.39959 percent. There is a positive relationship between interest rates and NPLs. Then, in the long run, the increase in the exchange rate does not have a significant effect on NPL.

In this study, it can be seen that exchange rate fluctuations are inversely proportional to the NPL level from 2015 to 2018. This is because other NPL variables such as credit, inflation, and interest rates in Malaysia have increased.

In this study, in the 2015 to 2018 period, there were various kinds of economic turmoil which caused credit figures, inflation, exchange rates and interest rates for non-performing loans (NPLs) to fluctuate. So far, there have been at least a number of macroeconomic symptoms affecting the Malaysian economy which can directly affect the banking sector, especially Rural Banks. Several monetary events that occurred in the 2015-1 to 2018-12 period were financial pressures and global political uncertainty related to the global economy. Based on this study, where macroeconomic indicators are measured using inflation, exchange rates, and interest rates, specific factors for rural banks are measured using credit growth, and NPL shows that there is a good long-term and short-term relationship.

Credit variable as an indicator of bank-specific factors which in this study is more devoted to microcredit, namely Rural Banks throughout Malaysia have a significant positive effect on NPL of Rural Banks. An increase in credit caused by public consumption, an increase in public income, or for the productive sector in micro-business development raises the risk of an increase in the level of NPL (bad credit) which will disrupt the stability of the financial system in Malaysia. the banking sector itself. The high credit growth of Rural Banks was also accompanied by high quality, where the NPL ratio was able to be maintained up to 0.3%. According to Financial Authority, this crisis did not really disrupt credit growth; However, credit at rural banks, rural banks, and conventional banks is experiencing a slowdown.

## Conclusion

Test results for macroeconomic variables and bank specific factors for Non-Performing Loans (NPL) in Malaysia using VECM. Provides results that the NPL Variable provides a positive and significant response to credit increases in the short and long term. This means that high and low credit levels lead to high and low NPL levels.

The inflation variable used as a macroeconomic indicator has different effects on the level of NPL in the short and long term. In the short run, variable inflation is detrimental to the NPL level. This means that the increase in the inflation rate does not affect the NPL level. Meanwhile, in the long term, inflation has a positive and significant effect on the NPL level. That is, an increase in the inflation rate increases the NPL level. Inflation that increases this increase is caused by government



policies to increase the price of goods which causes prices to also rise. Then this can affect people's purchasing power so that the business world weakens. Resulting in hampered credit.

The next macroeconomic variable is the exchange rate variable. The exchange rate has a negative and insignificant effect on NPL in the long and short term. This means that depreciation or exchange rate appreciation does not affect credit payments provided by Rural Banks / Non-Performing Credit Rates (NPLs) in the long or short term.

Interest rate variable has a positive and significant effect on the NPL level. This means that an increase in interest rates will also increase the level of long-term and short-term non-performing loans (NPL) in Malaysia.

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# Performance, Technology and Human Capital

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## Abstract

This study examines technology inclusion, education investment, health investment and economic growth in Indonesia using secondary data from world banks processed quantitatively using the moving average autoregression method. We find that investment in health, investment in education, and technology inclusion are positively related to economic growth. This shows that in Indonesia it is in accordance with the solow growth theory where technology in Indonesia has a positive impact along with Indonesia's human capital.

**Keywords :** Human Capital, Indonesia, Technology

## Background

Computer technology has now penetrated into communication technology, commonly known as cellular technology, from cell phones, tablets, notebooks, laptops, all of which can be multi-functional (Wallace et al,2020). Cloud computing technology is also increasingly sophisticated, which stores real-time data ranging from device location information to face-to-face online communications. These technological advances support work coordination and communication in almost all areas of business (Schwab,2017).

Computing human resource management is also inevitable where everyone can have data entered into cloud computing. So that all employees can coordinate and communicate with each other to complete the project (Buyya & Dastjerdi,2016). Companies with high technology adaptation tend to have more advanced progress than those less adapted to high technology. However, the adaptation of high technology in the business sector demands human resources who have high human capital as well (Alvesson & Sveningsson,2018).

Increasing the competitiveness of companies, apart from requiring high technology adaptation also requires increasing human resources through human capital investment mechanisms (Pigato,2020). Managing human resources with computer technology can be more efficient and effective in developing human resources for measuring the performance of individual human resources (Widarni & Bawono,2020).

## Literature Review

In solow theory, technology is one of the drivers of performance through improving the performance of human resources (Stimson et al,2013). Where production is a function of capital and human

resources. Technology can make human work easier so that people can work more and faster with technology. However, in operating and controlling technology, humans must have sufficient human capital. Only human resources with sufficient human capital can operate and control technology (Hoffman et al,2020).

Education is one mechanism in terms of increasing human capital through teaching and information transfer. Training is a mechanism to increase human capital by providing direction in doing something right and providing experience in doing something that is trained. So that training and education can be done while working. In other words, a person's experience in the field of work is a process of training and education that he has experienced in doing his job (Popkova et al,2018).

A monotonous experience without any new experiences makes a person an expert in his field of work in a way he knows. Technology sometimes changes old ways so that employees need to get new training and education beyond what they know and experience. So that tiered and continuous training and teaching is a necessity in modern business (Sweet & Meiksins,2020).

**Research Method**

This study examines technology inclusion, education investment, health investment and economic growth in Indonesia using secondary data from world banks processed quantitatively using the moving average autoregression method with the following equation:

$$GDP_t = C_t + \beta_1 IT_{t1} + \beta_2 EI_{t2} + \beta_3 HI_{t3} + e_t$$

- Where,
- GDP = Economic Growth
- C = Constant
- HI = Health Investment
- EI = Educational Investment
- T = Technology Inclusion
- e = Error Term

**Result and Discussion**

The estimation results are as follows:

$$GDP = 19159.5632908 + 0.00070556615177*EH + 6.72536001725e-05*EI + 5211.99867699*IT$$

From the estimation results, health investment (HI), education investment (IE), and technology inclusion (IT) are positively related to economic growth. This shows that in Indonesia it is in accordance with the solow growth theory where technology in Indonesia has a positive impact along with Indonesia's human capital on economic growth. Table 1 illustrates the estimation results as follows:

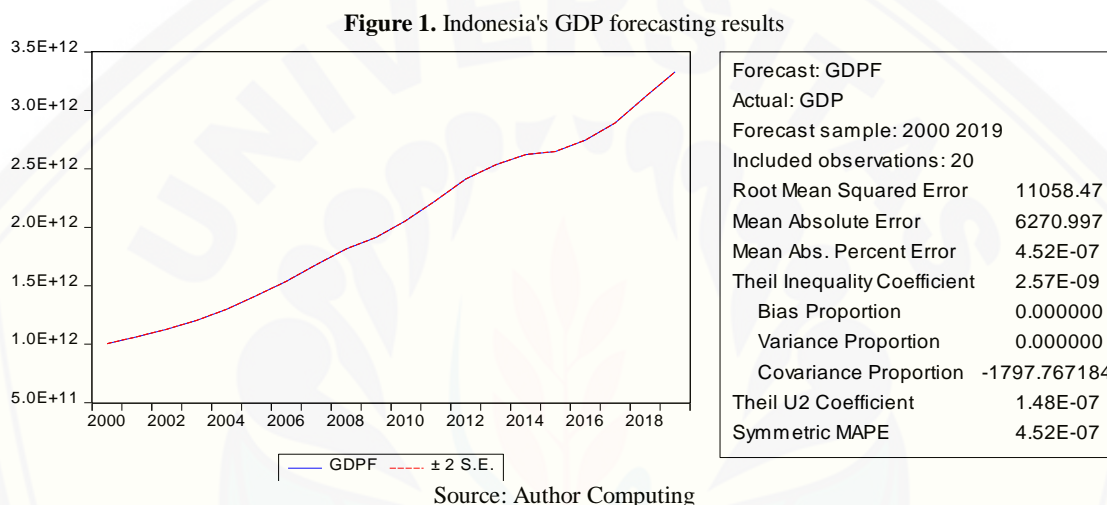
**Table 1.** Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	19159.56	10031.88	1.909868	0.0742
EH	0.000706	0.000591	1.19379	0.25



EI	0.0000673	0.000118	0.572007	0.5753
IT	5211.999	0.00103	5059951	0
R-squared	0.8125123	Mean dependent var		2.03E+12
Adjusted R-squared	0.8025123	S.D. dependent var		7.30E+11
S.E. of regression	12363.75	Akaike info criterion		21.85978
Sum squared resid	2450000000	Schwarz criterion		22.05893
Log likelihood	214.5978	Hannan-Quinn criter.		21.89866
F-statistic	2.21E+16	Durbin-Watson stat		2.29537

Based on the estimation results described in Table 1., it can be seen that the R-square is very high so that changes in health investment, education investment and technology inclusion have a significant positive impact on economic growth in Indonesia. The estimation results show that economic growth can be boosted through the inclusion of sustainable technology and human capital investment. Figure 1 shows the results of forecasting Indonesia's GDP.



Based on Figure 1. Human capital and technology investment in Indonesia has a positive impact on the Indonesian economy. Economic growth can be encouraged through investment in human capital and technology.

**Conclusion**

The development of technology is very fast and affects almost every line of human life. Technological investment that encourages technological inclusion can increase economic growth along with investment in human capital through investment in education and health.

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# Poverty Alleviation, Education and Economic Growth in Indonesia

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## Abstract

This study examines government spending on education, economic growth and poverty in Indonesia. Where investment in education and economic growth reflected in GDP is calculated in USD and poverty is calculated per person or poor population using the mobile average autoregression method using secondary data from world banks. We find that education is able to reduce the number of poor people in Indonesia.

**Keywords :** Poverty Alleviation, Indonesia, Education  
**JEL Classification :** C0, J24, J64

## Background

Education is important in poverty alleviation. Education has long been recognized by most economic researchers as important for poverty alleviation. Quality education and equal distribution of education have a positive impact on economic growth, equal distribution of income and poverty alleviation (Wang,2020).

Improving the quality of education certainly requires investment from government spending to procure public goods in the form of schools and educational support facilities and infrastructure. Education is a cost that sometimes also has to be borne by the community. Education is proven to be able to increase human capital and improve skills, knowledge and human self-development (Pamuk,2018).

Human capital is very important for economic development and improving the welfare of society. Increased human capital as a result of the role of education in educating the nation's life. Human capital has an impact on improving population performance (Fischer & Strauss,2021).

This study investigates government spending on education, economic growth and poverty. Where investment in education and economic growth reflected in GDP is calculated in USD and poverty is calculated per person or poor population.

## Literature Review

In general, there are two kinds of education in Indonesia, namely formal education, known as school. Non-formal education such as private lessons or religion-based education such as Islamic boarding schools. Both formal and non-formal education provide their own color in the development of Indonesian human capital (Tan,2012).

Early childhood education plays an important role in character building and early provisions to embrace an increasingly established education and improve children's knowledge and skills. Children with various interests and talents certainly need different kinds of education. Each person's role will be different depending on the skills and talents that each person has (Mafukata,2020).

The diversity of education and increased talent training in the informal education sector supports formal education that is standardized. Access to education and education costs is a must so that it can be reached by all people so that everyone has the same opportunity to get education and increase the human capital of everyone since early stage. Regarding the role in society, of course, it is adjusted to the skills and knowledge obtained from childhood or learning to adulthood and having entered the world of work (Topidi,2020).

Poverty that should be eliminated in society so that people can get a decent life. And everyone gets the same opportunity to improve their welfare. Education is a way that can be taken to alleviate poverty and distribute income even though it requires a long time in the process of developing human capital through educational mechanisms (Stern et al,2020).

### Research Method

This study examines government spending on education, economic growth and poverty in Indonesia. Where investment in education and economic growth reflected in GDP is calculated in USD and poverty is calculated per person or poor population using the moving average autoregression method with the following equation:

$$GDP_t = C_t + \beta_1 P_{t1} + \beta_2 Ed_{t2} + e_t$$

Where,

GDP = Gross Domestic Product

C = Constant

P = Poverty

Ed = Education

e = Error Term

The data source comes from the World Bank.

### Result and Discussion

The estimation results are as follows:

$$GDP = 1.97943292443e+12 + 4.33170339321*ED - 17989.3580567*P$$

From the estimation results, education (Ed) is positively related to gross domestic gross (GDP) and negatively related to poverty. This proves that education through the mechanism of increasing human capital is proven to be able to reduce poverty in Indonesia. Table 1 illustrates the estimation results as follows:



**Table 1.** Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.98E+12	4.37E+11	4.530642	0.0003
ED	4.331703	9.23E-01	4.690558	2.00E-04
P	-17989.36	5.32E+03	-3.382455	3.50E-03
R-squared	0.980726	Mean dependent var		2.03E+12
Adjusted R-squared	0.978458	S.D. dependent var		7.30E+11
S.E. of regression	1.07E+11	Akaike info criterion		53.76971
Sum squared resid	1.95E+23	Schwarz criterion		53.91907
Log likelihood	-534.6971	Hannan-Quinn criter.		53.79887
F-statistic	432.5055	Durbin-Watson stat		0.880297
Prob(F-statistic)	0			

Based on the estimation results described in Table 1., it can be seen that the R-square is very high so that education in Indonesia quantitatively shows that it is able to reduce the number of poor people in Indonesia significantly and can be accounted for with a 98% level of truth.

**Conclusion**

Education is able to increase human capital, where human capital can be used to improve their welfare. Education is very important for poverty alleviation programs and enhancing economic growth. Education can effectively reduce the number of poor people in Indonesia.

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# Social Responsibility and Human Resource Management in the Hotel Industry in Malaysia

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## Abstract

The purpose of this study is to understand social responsibility and human resource management in the Malaysian hospitality industry based on social cognitive theory. This study used an online survey method of 295 employees in 61 hotels throughout Malaysia with a random sampling method by maintaining the privacy and confidentiality of the identity of the hotel employees we surveyed. We used the Linkert scale to compute the survey results before we regressed using ordinary least squares. We find that the level of social responsibility is positively related to the level of hotel income, employee income, and employee morale.

**Keywords:** Hotel Industry, Corporate Social Responsibility, Employees

## Background

Social responsibility encourages industry to participate in preserving nature. Natural damage that afflicts countries in the hemisphere continues. Earth seems to be in a lot of pain because of this fact. The destruction of nature has caused the balance of the environment to experience imbalances that are no longer underestimated. Global warming accompanied by erratic climate change is one proof that the earth is sick. A series of disasters such as floods, landslides, fires and deforestation, pollution and so on add to the list that worsens the condition of the earth. Not to mention the discovery of mining materials which in the last two centuries have become the main commodity for humans in carrying out their lives. The rapid growth and human need in mastering civilization ultimately ignored natural factors. So that nature and the environment experience a shift in position in life. In the past, humans were very obedient and valued nature as a gift. Until the previous civilization, the harmony between nature and humans was very thick. The development of local wisdom in every human activity to worship nature is an incarnation of God. Human-generated culture is never separated from natural inspiration. But after humans invented machines that run on mineral fuels, gradually the changes have become more pronounced. Nature, earth, environment become objects by humans to be exploited on a large scale. Overcoming the environmental crisis that is currently hitting the world is not only a technical, economic, legal and socio-cultural issue, it also requires a solution from a religious perspective. Given the efforts that have been carried out by both the government and community social institutions, to overcome environmental damage that has been so severe has not yielded maximum results (Lindsay &

Martella,2020). Human resource governance influences employee behaviour through psychological and social processes. The success of an organization, both large and small, is not solely determined by the available natural resources but is largely determined by the quality of human resources who play a role in planning, implementing and controlling the organization concerned. Human resource management is unique, humans are the main source in running an organization/company/business because humans function as actors, managers and as executors in the production process in business (Tallón-Ballesteros,2020).

The cognitive social theory was first built by psychologist Albert Bandura around the 1960s. This theory focuses on how and why people tend to imitate what is seen through the media. It is a theory that focuses on our capacity to learn by experiencing it firsthand. This process of learning through observation depends on a number of factors. Includes factors of the subject's ability to understand and remember what he saw, identify media characters, and various things that guide the process of modelling behaviour. Social cognitive theory is one of the most frequently used theories to research media and mass communication. Social cognitive theory is the development of social learning theory that provides a framework for understanding, predicting, and changing human behaviour. The social cognitive theory emphasizes our capacity to learn without going through direct experience. The cognitive social theory which is also called observational learning theory depends on a number of things including the ability of the subject to understand and remember what he saw, identify by mediating character, and circumstances or situations that affect the imitation of behaviour. As a learning theory, the social cognitive theory is often used to study media and mass communication, health communication, and interpersonal or interpersonal communication. The purpose of social cognitive theory is to explain how people regulate their behaviour through control and reinforcement or reinforcement to achieve goal-directed behaviour that can be sustained over time (Bjorklund,2020).

The governance of human resources in the company affects the morality and behaviour of individuals in the company or employees in the company. Management of human resources based on environmental preservation can encourage organizational behaviour, in this case, the company for business activities without destroying nature. Malaysia is one of the countries in Asia which has abundant natural resources with good economic growth. Malaysia has a variety of ethnic groups living in it, so managing human resources in Malaysia must understand the unique culture of each individual. However, all differences of each individual can be a driving force for creative creations which, when combined with a social cognitive concept based on nature preservation, will be good for business and nature.

## Literature Review

Social Cognitive Theory explains that there is a reciprocal relationship between cognition, personal factors and the environment. Social Cognitive Theory is a new name for the Social Learning Theory developed by Albert Bandura. The new naming with the name Social Cognitive Theory was carried out in the 1970s and 1980s. The main idea of Bandura's (1962) thought is also the development of Miller and Dollard's idea of imitative learning. In several publications, Bandura has elaborated the social learning process with cognitive and behavioural factors that influence a person in the social learning process. This theory is instrumental in studying the effects of mass media content on media audiences at the individual level (Schunk,2012). During the 1980s, education specialists turned their interest to look at motivation in cognitive processing and information processing in human functioning. This shift is a "cognitive revolution" influenced by advances in learning technology and the presence of



computers, which serve as a metaphor for signatures and models/forms of reasoning/intelligence. The concept of building a good self-perception in individuals is included in the controversy of self-esteem which has become the subject of deep dialogue and has been accompanied by many debates. Meanwhile, an important issue that stands out in educational psychology has shown that there is a change in focus such as human function and student self-confidence which is once again the subject of cognitive process motivation research in behaviour in academia. This change was considered successful after going through the analysis of knowledge statements related to the theory and principles of academic motivation (Perloff,2016).

Bandura's research covers many issues that are central to social learning theory, and through these studies, his theory is sharpened and broadened. This research includes the study of imitation and identification, social strengthening, self-reinforcement and monitoring, and behaviour change through modelling. Environmental and social interactions can shape individual behaviour and character along with emotions and individual points of view. The environment shapes individual cognitive, social and behavioural abilities. Emotional reactions, moral behaviour and environmental factors influence each other and shape the character, habits and behaviour of the individual. This includes the doctrines, dogmas and beliefs that the group and individual sphere assume to be true. Humans are active individuals who are able to think and organize themselves so that they are not only formed through the environment but can control and control the environment. Bandura admits that to understand personality is to see the reciprocal relationship and mutual influence between behaviour, cognition, and the environment. This means that all the behaviour of personal factors and social forces are interconnected with one another where behaviour is influenced by the environment but the individual can also play a role in creating social behaviour in everyday life. Bandura emphasized that human behaviour can be done through an observational learning process, namely by observing the behaviour of others and individuals learning to imitate or imitate the behaviour of others who become a model for themselves (Allan,2017).

Human resource governance aims to improve company performance with fair compensation based on good ethical and moral values. Human resources are one of the most important assets for a company or institution. Every human being has different abilities, skills and creativity. Ability, expertise and creativity will not be optimal if they are not honed and developed with the development of human resources. Human resource development is one of the important activities in a company, where employees and the company work together in a balanced manner for the existence of the company. Human resource development can be done in several forms, usually, each company has different characteristics according to the situation and the needs of the company. This can be done by increasing skills with training and coaching, increasing employee knowledge by means of education. Human resource development is an effort with the aim of improving employee skills through education, training and final development in order to carry out duties as employees and have a long-term cycle (El-Saharty et al,2020).

## Research Methods

This study examines the impact of human resource management as reflected in employee income, employee ethics and company income on corporate social responsibility in protecting the environment using ordinary least squares (OLS) with the following equation:

$$CSR_t = C_t + \beta_1 Y_{t1} + \beta_2 E_{t2} + \beta_3 Em_{t3} + e_t$$



Where,

- CSR = Corporate Social Responsibility
- Y = Hotel Revenue or Company Revenue
- Ei = Employee Income
- Em = Employee Morality
- e = The term error

### Results and Discussion

The estimation results are as follows:

$$CSR = 0.412354 + 0.456125*Y + 0.231521*Ei + 0.462754*Em$$

From the OLS estimation results, Company Revenue or Hotel Revenue affects corporate social responsibility by 0.456125 on a count scale. If the company's revenue increases by 1%, then CSR will increase by 0.456125%. Employee income and employee morality have a positive effect on corporate social responsibility. Table 1 describes the estimation results as follows:

**Table 1.** Estimation Results

Dependent variable CSR			
Variable	Coefficient	t-Statistic	Prob.
C	0.412354	0.210512	0.0005
Y	0.456125	0.013016	0.0021
Ei	0.231521	0.101015	0.0031
Em	0.462754	0.203112	0.0032
R-squared	0.700301	Mean dependent var	3.20305
Adjusted R-squared	0.715070	S.D. dependent var	5.06143
S.E. of regression	2.1021	Sum squared resid	3.12084
F-statistic	2.0102	Durbin-Watson stat	0.30282
Prob(F-statistic)	0		

Based on the estimation results described in table 1. It shows that the level of corporate social responsibility is influenced by human resource management and corporate financial performance, especially in the hotel industry in Malaysia. Where the level of morality and employee welfare is an important factor in developing a conducive and ethical work environment.

### Conclusion

Malaysia is a country that prioritizes morals in the lives of its citizens. So that morality to maintain harmony in human life and nature is a common thing in Malaysia. Ethics is a factor that deserves to be maintained and developed in a work environment supported by employee welfare obtained from company income. The proceeds from the company's income can be used to develop the personality and skills of employees along with the development of an environment with good ethics and with full responsibility because the level of social responsibility is influenced by the level of income and morality.

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# Education, work participation and income in Indonesia

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## Abstract

This study examines the relationship of education in encouraging work participation which in turn can increase the aggregate income of the people as indicated by an increase in GDP per capita in Indonesia. To achieve this goal, the Quantitative Threshold Autoregressive method is used to predict the behaviour of the data so that the behaviour of the relationship between data can be seen and can be seen the growth of community income and future work participation when investing in education is increased or done. We found that education is an important pillar in economic development. Education based on the estimation results requires a process in improving the quality of human resources and requires time in the process of increasing income. However, education can boost income and work participation in an aggregate manner so that the population can be more prosperous.

**Keywords:** Human Capital, Education, Income

## Introduction

National Development has a close relationship with population issues related to employment (Evandrou et al,2021). Economic development is a process that causes income per capita of the population of a society to increase in the long run. One of the important goals in economic development is the provision of jobs sufficient to catch up with the growth of the workforce in developing countries, especially Indonesia where the growth of the labour force is faster, namely first, population growth in developing countries tends to be high so that it exceeds capital growth. Second, the demographic is younger so that more people enter the workforce. Third, industrial structures in developing countries tend to have low diversification of economic activity and inadequate population skills, making job creation efforts increasingly complex (Chisadza & Bittencourt,2019).

Labour as one of the factors of production is an important and most influential element in managing and controlling the economic system, such as production, distribution, consumption and investment. Therefore, economic development A country cannot be separated from the role of humans in managing it where humans are labour, development inputs, and is also the consumption of the results of development itself, where potentially Indonesia has sufficient human resource capabilities to be developed.

Condition the development of the workforce in Indonesia is experiencing an increase, many people work solely with various kinds of goals, but the main goal is to meet daily needs but is still there also people who have difficulty finding work, this is due to several unsupportive factors, including the level of education that does not match the expectations of the company or agency, and on the other hand, faced with various obstacles such as development number of workforce, but not followed by the availability of sufficient employment opportunities and creating participation the labour force is decreasing. Labour absorption is the number or number of people working in various sectors. The proportion of workers according to employment is one measure to see the potential of the economic sector in absorbing labour (Mason,2018).

Low levels of education usually come from households with fewer economies, so they inevitably have to participate in the labour market to help the family economy. The low level of education has an impact on the lack of job options that can be taken so that they tend to get low-paying jobs. The relationship between education and work participation in Indonesia is unidirectional or positively related, indicating that the longer schooling is, the tendency to participate in the labour market will increase with a better wage rate (Tran et al,2019).

This study examines the relationship of education in encouraging work participation which in turn can increase the aggregate income of the society as indicated by an increase in GDP per capita in Indonesia. When education as a form of human capital investment to improve the skills and knowledge of the community increases, the quality of human resources or the population or community members who enter the productive age has increased quality and should get a job with a better wage rate. So that when human capital or the quality of human resources increases, aggregate income will also increase.

## Literature Review

The development of education and health are two pillars to form human capital in economic development which is nothing but a long-term investment in a country. Achieving the goals of development in the fields of education and health, in turn, can improve the quality and productivity of the population, where population productivity growth is the motor of economic growth and the welfare of the population itself. Through investment in education, it will be able to improve the quality of human resources as shown by the increase in knowledge and skills which will encourage an increase in one's work productivity, and in the end, someone who has high productivity will get better welfare and avoid poverty (Ogundari & Awokuse,2018).

The magnitude of the labour force participation rate to work in the labour market is influenced by general factors, namely the level of economic poverty and the limitations of the husband to meet the needs of his family. The insufficient dependence of life on the part of men encourages a person to offer himself in the labour market. In addition to the general factors above, the increase in women's participation in economic activities can be largely due to three things that are interrelated. First, the available productive employment is increasing, which is closely related to economic development and support for mastery of science and technology as well as market expansion due to the increasing demand for goods and services. Second, there are more job opportunities that are more suitable for the type of work done. This is closely related to success in the fields of education, health and family planning programs as well as changes in people's views about working for the community. Third, the development as a whole has increased the needs of society both material and immaterial, thus



encouraging people to fulfil the job market to meet these needs, both individually and in families (Cairó et al,2021).

A household is said to be poor if its consumption does not meet the minimum needs for food and non-food, meaning that the income earned by working family members is not sufficient for consumption by the dependent family members. If the income level is small, while the number of people to bear is large, it means that most of the portion of income is for consumption, while the portion for saving is very small and even does not result in very low capital formation in poor households so that opportunities to improve their standard of living are also very limited. Poverty is not only a matter of income but is related to the capabilities that a person must have, in this case, one of which is related to the problem of access, both to education, health and job opportunities. Thus the handling of poverty will be more comprehensive. In order to change economic backwardness and generate capacity and motivation to progress, it is important to increase the knowledge and skills of the people (VOS & CATTANEO,2021).

In reality, without improving the quality of the human factor, progress will not be possible. So, it can be seen that the country is poor because it has an unqualified population. Even though physical construction is carried out such as roads, factories, hospitals, and so on, the people who are not of quality physical capital cannot be utilized properly. Many poor people experience ignorance or experience ignorance even systematically. Therefore, it is important for us to understand that poverty can lead to ignorance, and ignorance is clearly synonymous with poverty. To break the chain of cause and effect above, there is one key element, namely education. Because education is a means of eliminating ignorance as well as poverty. The supply or supply of manpower contains an understanding of the number of residents who are currently and ready to work as well as an understanding of the quality of the work effort provided. In general, labour supply is influenced by several factors such as population, number of workers, number of hours worked, productivity education and others. For the effect of population size and age structure, the more the population is under the age of children, the smaller the number that is classified as a workforce (Liang & Lu,2019).

### Research Methods and Materials

This study examines the relationship of education in encouraging work participation which in turn can increase the aggregate income of the people as indicated by an increase in GDP per capita in Indonesia. To achieve this goal, the Quantitative Threshold Autoregressive method is used to predict the behaviour of the data so that the behaviour of the relationship between data can be seen and can be seen the growth of community income and future work participation when investing in education is increased or done. The hope is that knowing past behaviour data can be an indicator of decisions that can be taken. in the future. In this study we used the autoregressive equation as follows:

$$AR_{(p)} = Y_t = c + \Phi_1 Y_{t-1} + \Phi_2 Y_{t-2} + \dots + \Phi_p Y_{t-p} + e_t$$

Where AR is Y and Yt is Y over time in a time series which is influenced by Yt-1 or Y over time in the past in period 1 and Yt-1 itself is also influenced by Yt-2 which is Y in the past in the period 2 and so on which is influenced by et which is the error term for the time in the study period. This study focuses on secondary data sourced from the world bank including Indonesia gross domestic product per capita data, education investment in Indonesia and work participation in Indonesia. With the econometric equation as follows:

$$Y_t = \beta_0 + \beta_1 P_{t1} + \beta_2 E_{t2} + e_t$$

Where Y is a gross domestic product per capita, t is a time period,  $\beta$  is constant, P is work participation, E is education investment, and e is error term. All data are secondary data from world banks.

### Results and Discussion

To see behavioural data from education investment, work participation and community income, an autoregressive threshold estimate was carried out. The following are the estimation results that we have done:

$$\text{GDP\_PER\_CAPITA} = (3.43783350201\text{e-}08 * \text{EDUCATION} + 2.11640088557\text{e-}05 * \text{PARTICIPATION} - 1641.31331143) + (4.72063775944\text{e-}09 * \text{EDUCATION} - 3.16118975882\text{e-}05 * \text{PARTICIPATION} + 3355.36404417) * @\text{LOGIT}(0.0198586502554 * (\text{GDP\_PER\_CAPITA}(-3) - 3163.02801121))$$

The estimation results from the first estimate can be seen in table 1 below:

Table 1. Estimation Result

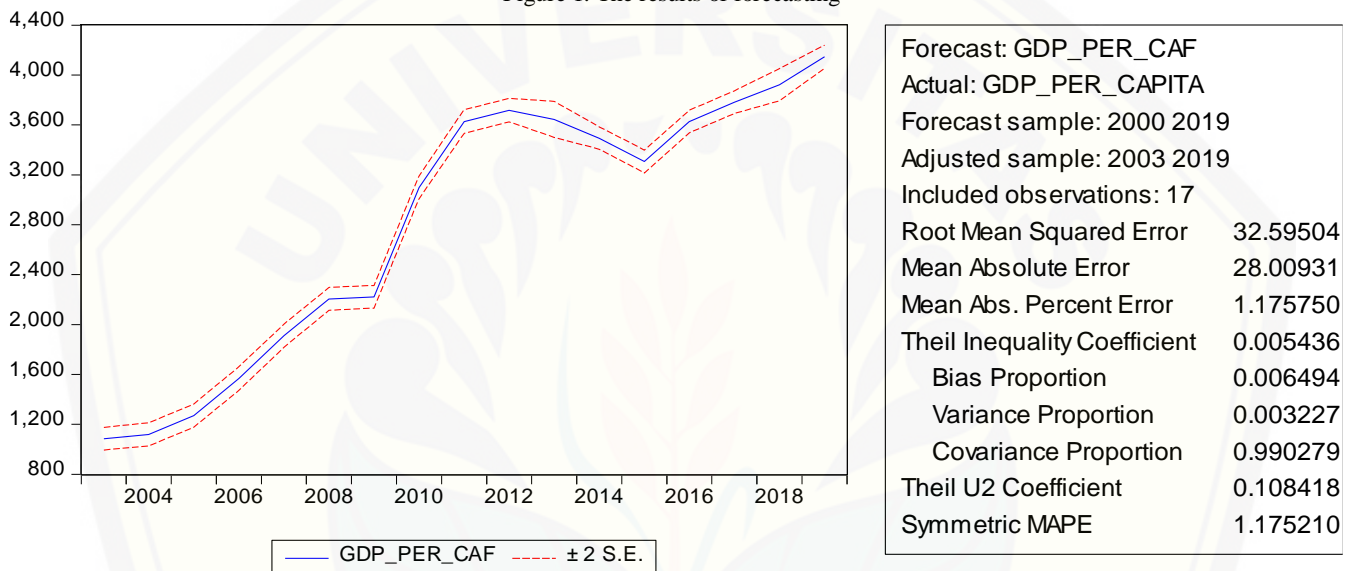
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Threshold Variables (linear part)				
EDUCATION	3.44E-08	1.08E-08	3.185474	0.0129
PARTICIPATION	2.12E-05	7.40E-06	2.860997	0.0211
C	-1641.313	714.9914	-2.295571	0.0508
Threshold Variables (nonlinear part)				
EDUCATION	4.72E-09	2.13E-08	0.221696	0.8301
PARTICIPATION	-3.16E-05	2.46E-05	-1.285463	0.2346
C	3355.364	2415.691	1.388987	0.2023
SLOPE	0.019859	0.013844	1.43445	0.1894
Thresholds				
THRESHOLD	3163.028	38.84224	81.43269	0
R-squared	0.999093	Mean dependent var		2805.471
Adjusted R-squared	0.998186	S.D. dependent var		1084.888
S.E. of regression	46.21174	Akaike info criterion		10.8094
Sum squared resid	17084.2	Schwarz criterion		11.25051
Log likelihood	-82.87987	Hannan-Quinn criter.		10.85324
F-statistic	1101.287	Durbin-Watson stat		2.673851
Prob(F-statistic)	0			

Source : Data world Bank Compiled

It can be seen that the per capita GDP relationship to education and work participation is positive with a value of 3.44E-08 for education and 2.12E-05 for work participation, which means an increase in

education investment of 3.4% is followed by an increase in work participation of 2.12% and encourages average income in the community by 1% which is indicated by an increase in GDP per capita. This shows that investment in education can boost people's income in general. However, in the non-linear estimation, the relationship between work participation and community income is negative at  $-3.16E-05$  and education investment is  $4.72E-09$ . This indicates that an increase in income can encourage investment in education. When investment in education is made, the population goes to school so that work participation decreases. The greater the investment in education in the education investment process, of course, it takes time, in this process, there is a decrease in work participation. However, after the education investment process is complete, an increase in work participation will follow, followed by an increase in wages, according to a non-linear estimate. To determine the behaviour of data in influencing economic growth, predictions of the effect of investment in education, health and technology can be made in the following graph:

Figure 1. The results of forecasting



Source : Data world Bank Compiled

From the forecast results shown in Figure 1, it can be seen that the GDP per capita graph tends to increase over time and fluctuate. These fluctuations represent fluctuations in the education process and fluctuations in work participation as a result of educational investment. But in the end, it will boost the community's income in aggregate so that the people's welfare can be better.

### Conclusions

Education is an important pillar in economic development. Education based on the estimation results requires a process in improving the quality of human resources and requires time in the process of increasing income. However, education can boost income and work participation in an aggregate manner so that the population can be more prosperous.

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# Internet User and Income Consumption in an Effort to Empower MSMEs in Indonesia

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## Abstract

This study aims to observe the growth impetus for internet users towards public consumption which further boosts people's income in Indonesia. To achieve this objective, data on internet user behaviour, consumption and GDP per capita were observed. This study uses the Quantitative Threshold Autoregressive method which is used to predict the behaviour of the data so that the relationship behaviour between the data can be seen. The hope is that knowing past behaviour data can be an indicator of decisions that can be taken in the future. All data are secondary data from world banks. We found that Internet users are the total internet users in Indonesia who are able to boost people's income as indicated by GDP per capita. Where the internet users' impulse towards consumption is very strong. This indicates a massive growth in business lines as a result of the Internet revolution in Indonesia, namely trading businesses that involve digital technology.

**Keywords:** Technology, Consumption, Gross Domestic Product Per Capita

## Introduction

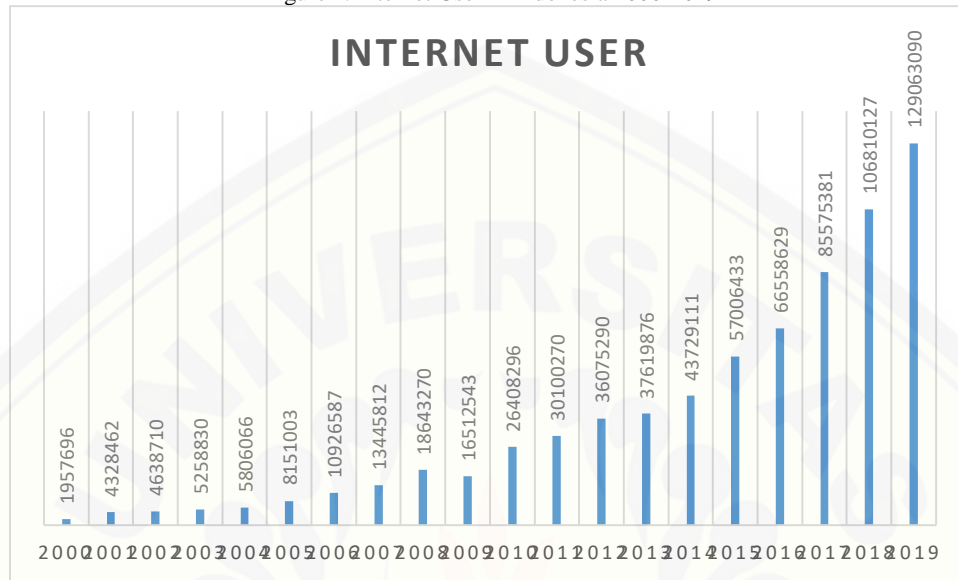
Indonesia is a country with a population that includes many in Asia (Chen-Wishart & Vogenauer, 2020). The large population indicates the size of domestic consumption which is quite large. With large domestic consumption, it provides opportunities for the MSME sector to grow and develop because of the large number of consumers, namely the Indonesian population.

The growth of MSMEs, where in Indonesia the number of MSMEs is very large, has an impact on increasing income as indicated by GDP per capita (Dewi & Mahendrawathi, 2019). This is because the growth of MSMEs indicates an increase in the income of MSME players so that they can grow and develop. The increase in income that is driven by the MSME sector will rotate within the country. With growing MSMEs, an increase in the supply of domestic goods and services can grow so that there will be an increase in domestic production and to absorb domestic production growth, domestic marketing is needed.

Based on data from the world bank, internet users in Indonesia continue to grow, up five times in the last 10 years. From 25 million people in 2008, it increased to 143 million people. The growth of

internet users in Indonesia is inseparable from the widespread ownership of cellular phones. The Internet is a productive and affordable tool for Indonesians to sell and buy goods produced by MSMEs. The birth of various e-commerce in Indonesia supports internet-based marketing. Internet inclusion in Indonesia is also growing. Based on data from the world bank, internet users in Indonesia are growing every year. Following is the growth of internet users in Indonesia from 2000 to 2019.

Figure 1. Internet User In Indonesia 2000-2019



Source : World Bank Data Compiled

Based on graph 1. Internet users are growing massively and this can be seen in Figure 1. Internet users continue to grow every year in Indonesia. The growth of internet users is a big opportunity in the development of digital marketing-based MSMEs. The increase in internet users shows that the inclusion of internet technology is getting better in Indonesia. This was followed by the online shopping trend. Of course, people who have MSME businesses can promote and sell their products online via the internet. The emergence of various marketplaces makes it easier for MSMEs to sell their products.

The internet also facilitates the ease of transactions, including the ease of buying and selling. This ease of transaction ultimately increases consumption (Liu et al,2020). Increased consumption indicates an increase in demand which encourages producers to increase production. An increase in production and an increase in sales creates an increase in income represented by GDP per capita.

This study aims to see consumption incentives through the growth of internet users on people's income growth using an indicator, namely GDP per capita.

### Literature Review

Human civilization has evolved from the agricultural era to the industrial era, and now to the information age. Knowledge is a basic input in the information age, no longer based on physical materials such as natural resources in the Agriculture era or heavy steam-powered machines in the industrial era. An unexpected part of the human evolution of the information age is when humans work purely with their minds and not their bodies. The creation of such a trend cannot be separated from the invention of computers, cellphones and the expansion of communication networks, especially through the internet,

which makes the entire unit connected without being obstructed by boundaries or borders. The Internet is the second most important medium and its development in content dissemination, as well as the encouragement provided by social network users and mobile phone use (Young et al,2011).

Broadband internet technology is generally defined as a network or internet service that has a high transfer speed due to a large data lane width. Even though the data path that is provided for its users is very wide, broadband internet technology usually shares the broadband with surrounding users. However, if no one is using it, the user will fully use the broadband. Broadband internet technology or broadband is one of the transmission media technologies that support multiple frequencies, ranging from voice to video frequencies. Technology can carry a lot of signals by dividing the capacity (which is very large) into several channels bandwidth each channel operates at a specific frequency. In simple terms, the term broadband internet technology is used to describe a connection with a speed of 500Kbps or more (Gürtzgen et al,2021).

In a country's economy, broadband internet is starting to be felt to have an important role in a country's economy because, with the development of information technology, a country's economy has begun to show significant changes. Many things feel different and change compared to the way that was developed before. Nowadays distance and time are not a significant problem to support economic growth, various applications are created to facilitate it. Moreover, with the development of broadband internet today in almost all parts of the world, I would like to examine whether the advancement of broadband internet networks such as 1G, 2G, 3G and 4G LTE is more precisely the effect of 3G broadband internet on economic growth around the world (Jha & Saha,2019). The internet has driven consumption through the online shopping trend. This encouragement of consumption through online shopping has boosted economic growth. And the encouragement of economic growth encourages increased public income.

### **Research Methods and Materials**

This study aims to observe the growth impetus for internet users towards public consumption which further boosts people's income in Indonesia. To achieve this objective, data on internet user behaviour, consumption and GDP per capita were observed. This study uses the Quantitative Threshold Autoregressive method which is used to predict the behaviour of the data so that the relationship behaviour between the data can be seen. The hope is that knowing past behaviour data can be an indicator of decisions that can be taken in the future. In this study we used the autoregressive equation as follows:

$$AR(p) = Y_t = c + \Phi_1 Y_{t-1} + \Phi_2 Y_{t-2} + \dots + \Phi_p Y_{t-p} + e_t$$

Where AR is Y and Yt is Y from time to time in a time series which is influenced by Yt-1 or Y from time to time in the past in period 1 and Yt-1 itself is also influenced by Yt-2 which is Y in the past in period 2 onwards which is influenced by et which is the error term for the time in the study period. This study focuses on secondary data sourced from world banks, including data on internet users, consumption and GDP per capita in Indonesia. With the econometric equation as follows:

$$Y_t = \beta_0 + \beta_1 C_{t1} + \beta_2 IU_{t2} + e_t$$

Where Y is a gross domestic product, t is a time period,  $\beta$  is constant, C is consumption, IU is internet user and e is error term. All data are secondary data from world banks.

### Results and Discussion

In analyzing the threshold variable, two estimates are used where the first estimate is the IU or Internet User variable as the threshold variable. Meanwhile, C or Consumption is a non-threshold variable. To see behaviour data when there is a change in human factors, namely health and education. For the second estimate, the opposite is done where the variable C or Consumption is non-threshold variables. Whereas IU or Internet User is a threshold variable. This is done to see the data behaviour when non-human variables, wherein this study there is a change in technology. The following is the results of the first estimation where the threshold variable is IU or Internet User, the non-threshold variable is Consumption :

$$\begin{aligned} \text{GDP\_PER\_CAPITA} = & (0.000115726250557*\text{INTERNET\_USER} + 3027.17616131) + \\ & (-9.50391818756e-05*\text{INTERNET\_USER} + \\ & 3999.43925949)*@\text{LOGIT}(0.00323766615889*(\text{GDP\_PER\_CAPITA}(-3)-1825.91299595)) - \\ & 7.35904883536e-09*\text{CONSUMPTION} \end{aligned}$$

The estimation results from the first estimate can be seen in table 1 below:

Table 1. Estimation Result

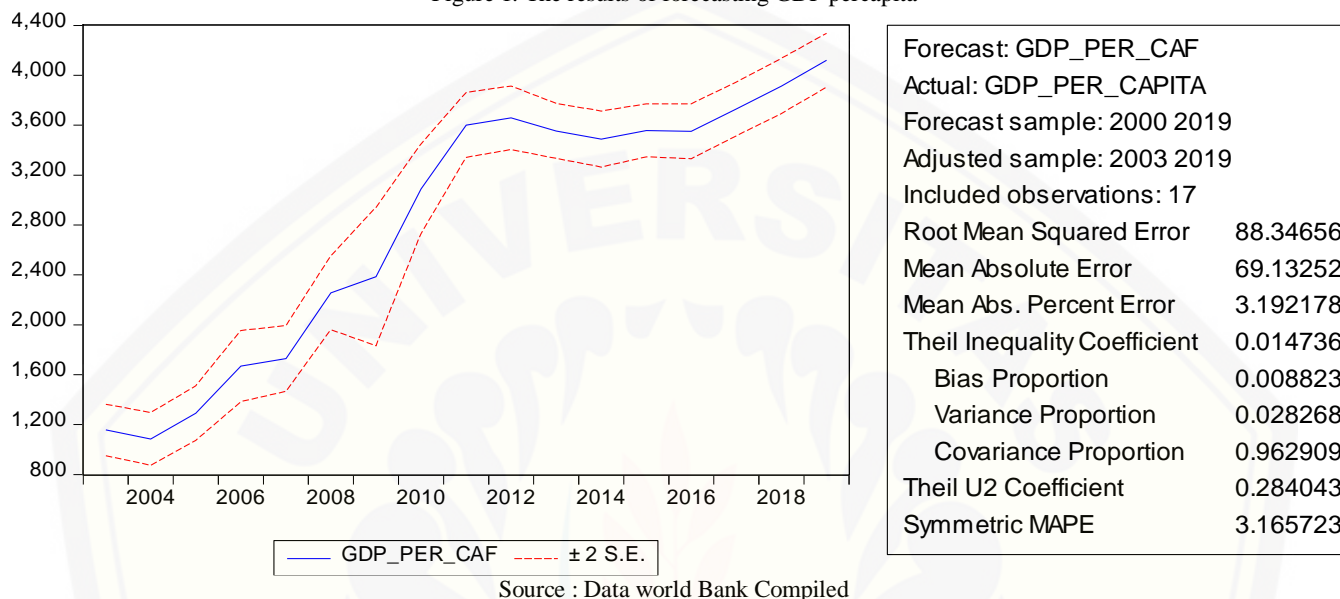
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Threshold Variables (linear part)				
INTERNET_USER	0.000116	1.78E-05	6.503129	0.0001
C	3027.176	1211.531	2.498636	0.0315
Threshold Variables (nonlinear part)				
INTERNET_USER	-9.50E-05	1.39E-05	-6.856558	0
C	3999.439	942.9074	4.241603	0.0017
Non-Threshold Variables				
CONSUMPTION	-7.36E-09	4.01E-09	-1.835712	0.0963
Slopes				
SLOPE	0.003238	0.001422	2.277131	0.046
Thresholds				
THRESHOLD	1825.913	117.3114	15.56466	0
R-squared	0.993756	Mean dependent var		2805.471
Adjusted R-squared	0.99001	S.D. dependent var		1.08E+03
S.E. of regression	108.4365	Akaike info criterion		1.25E+01
Sum squared resid	1.18E+05	Schwarz criterion		12.8462
Log likelihood	-9.93E+01	Hannan-Quinn criter.		12.53721
F-statistic	265.2572	Durbin-Watson stat		2.41094
Prob(F-statistic)	0			

Source : Data world Bank Compiled



It can be seen that the relationship between GDP per capita and Internet User is positive with a value of 0.000116 and 3027,176 for consumption. this means that an increase in internet users by 0.000116% can encourage consumption by 3027% with an increase in GDP per capita of 1%. This is certainly a very strong impetus for economic growth. To determine the behaviour of Internet User data in encouraging consumption and per capita income, predictions of internet users and consumption of GDP per capita can be made in the following graph:

Figure 1. The results of forecasting GDP percapita



From the forecast results shown in Figure 1, it can be seen that the GDP per capita graph can be pushed very rapidly. This shows that technology inclusion has an impact on driving economic growth through consumption. From the estimation results, it can be seen that the impulse of internet users is on the demand side or the marketing side. This can be seen from the boost of internet users which is less than 0.001% which is able to encourage consumption of 3027%. This means that there is virality in domestic sales or the same product is traded between consumers and the final consumer. This means that there are many trading businesses that have grown as a result of the internet revolution in Indonesia.

### Conclusions

Internet users are the total internet users in Indonesia who are able to boost people's income as indicated by GDP per capita. Where the internet users' impulse towards consumption is very strong. This indicates a massive growth in business lines as a result of the Internet revolution in Indonesia, namely trading businesses that involve digital technology.

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# Education, work participation and income in Agriculture Industri In Indonesia

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## Abstract

This study examines the relationship of agricultural education in encouraging work participation in agriculture which in turn can increase the aggregate income of people who work in agriculture as indicated by an increase in Employment Income in Agriculture in Indonesia. To achieve this goal, the Quantitative Threshold Autoregressive method is used to predict the behavior of the data so that the behavior of the relationship between the data can be seen and can be seen the growth of community income and work participation in agriculture with education as the driving factor. The hope is that knowing past behavior data can be an indicator of decisions that can be taken in the future. We found that Education in agriculture is an effort to increase human resources in agriculture. Agriculture with a lot of potentials needs to be empowered and developed. Where agriculture can absorb labor and improve welfare in Indonesia.

**Keywords:** Agriculture, Education, Income

## Introduction

Currently, the agricultural sector in Indonesia is still a space for the people. Approximately 100 million people or nearly half of the total Indonesian people work in the agricultural sector (Soetiono,2021). For this reason, the Ministry of Agriculture has made various efforts to foster small and medium enterprises to become a strong foundation in supporting the Indonesian economy. Agriculture, especially food security, still relies on the medium to a small level. Small-medium enterprises in Indonesia can provide a strong foundation in agriculture (Putra & Santoso,2020). With a population of more than 200 million people in 2020 and the problem of food is a sector that is always needed by humans, especially consumers in Indonesia which are very large, making the agricultural sector a sector that has the potential to develop in Indonesia (Madduppa et al,2021). Agricultural development and food security in Indonesia today and in the future face many problems including climate change, population growth, and a decrease in the number of workers in the agricultural sector. On the other hand, Indonesia has abundant natural resources, advanced technology that continues to develop, and a more friendly climate, namely a tropical climate that has the opportunity to make problems such as population growth a solution, namely increasing human resources, considering that the agricultural sector is one of the sectors that absorbs a lot of labor (Purwanto et al,2021).

The Indonesian government through the Ministry of Agriculture continues to encourage the application of agricultural mechanisms. In addition, the Ministry of Agriculture has also transformed the College of Agricultural Extension into an Agricultural Development Polytechnic. These steps have the potential to convert unemployed human resources into quality human resources to meet the future needs of Agricultural Human Resources while at the same time attracting the interest of the younger generation to enter agriculture. The Indonesian government's efforts to attract young people to agriculture, in addition to modernizing agriculture, agricultural development must be oriented towards the Planting Industry, which is managed from upstream to downstream, so that it makes farmers less lazy to work and more prestigious. Indonesia is a very strategic country for agriculture because Indonesia has an abundance of sunshine, lots of rain, and no less workforce (large population). As an archipelagic country and has a large area, Indonesia is a country that is endowed with endless natural resources. From natural beauty for tourism to natural wealth that can be produced into separate energy sources, one of which comes from the agricultural sector (Iswara,2020). Since a long time ago, Indonesia has always been rich in agricultural products such as rice, soybeans, corn, peanuts, cassava, and sweet potatoes. In addition, there are also products from agriculture which are referred to as agricultural products of trade crops, namely tea, coffee, coconut, quinine, cloves, sugar cane, rubber, and others. With Indonesian agriculture getting bigger and bigger, this has a positive impact too. Not only for domestic affairs but also for foreign affairs. The Indonesian agricultural sector in the eyes of the world has received a positive response that should be proud of since hundreds of years ago (Touwen,2021). Indonesia, which is known for its spices, has made Indonesia a country that has the potential to develop in agriculture. This study examines the agricultural sector in terms of human resources, namely education, work participation, and income of agricultural entrepreneurs in the territory of the Republic of Indonesia.

## Literature Review

Indonesia is an agrarian country that gives consequences for the growth of almost the entire life of Indonesian society, hence the need for the attention of the government to a strong and resilient agricultural sector. Therefore, one of the sectors that support economic growth is the agricultural sector (Nurrochmat et al,2020). Indonesia is an agricultural country, which means that farmers play a very important role in the overall national economy of Indonesia. This is shown by a large number of people or workers in the agricultural sector. Farmers and agriculture are the major bases of the Indonesian economy. If only this agribusiness system could get attention from the government, then we could be independent in terms of fulfilling the population's foodstuffs. The government's attention includes supporting the agricultural sector in the fields of research and technology that are commensurate.

The agricultural sector in Indonesia is still an important aspect as a driving force for the country's economy. This is because agriculture in terms of production is the second most influential sector after the processing industry. Meanwhile, when compared to other sectors, agriculture is still in the top position in addition to the trade sector and the construction sector. Thus, the agricultural sector is able to raise Indonesia's image in the eyes of the world, especially as a fairly productive agricultural country (Payumo et al,2014). Apart from benefiting from favorable climatic conditions and natural resources, agriculture in Indonesia is also supported by its human resources. Many farmers still hold and use conventional methods in terms of determining crops, weather, harvest, and post-harvest. This method has been around for a long time and has been carried out from generation to generation until now. The transfer of agricultural technology is also not an obstacle for farmers. In fact, the existence of agricultural technology makes it easier for farmers and more synergized. Therefore, it is hoped that in the future, the



farmer profession will no longer be underestimated. Agriculture in Indonesia also has opportunities and challenges that must be faced (Moeis et al,2020). Seeing how big the development of agriculture in Indonesia is, it is a potential that must be maximized by all parties. Be it by farmers, actors in agriculture, and the government. Support from the government can be done by providing guidance to farmer groups and providing various best agricultural products such as superior seeds, fertilizers, and so on. Even though agricultural development in Indonesia has prospects and is running very well to date, it does not mean that there are no challenges. It is precisely the increase in agricultural potential, the government and agricultural sector actors must be better prepared to face challenges in an era of advances in information technology. Some of the challenges include human resource development in the agricultural sector (Durand & Fournier,2017). Agricultural development in Indonesia has been going well. However, there are still some challenges to be faced. With cooperation and collaboration between stakeholders and agricultural sector actors, it is not impossible that Indonesian agriculture will develop in an increasingly positive direction.

### Research Methods and Materials

This study examines the relationship of agricultural education in encouraging work participation in agriculture which in turn can increase the aggregate income of people who work in agriculture as indicated by an increase in Employment Income in Agriculture in Indonesia. To achieve this goal, the Quantitative Threshold Autoregressive method is used to predict the behavior of the data so that the behavior of the relationship between the data can be seen and can be seen the growth of community income and work participation in agriculture with education as the driving factor. The hope is that knowing past behavior data can be an indicator of decisions that can be taken in the future. In this study we used the autoregressive equation as follows:

$$AR_{(p)} = Y_t = c + \Phi_1 Y_{t-1} + \Phi_2 Y_{t-2} + \dots + \Phi_p Y_{t-p} + e_t$$

Where AR is Y and Yt is Y over time in a time series which is influenced by Yt-1 or Y over time in the past in period 1 and Yt-1 itself is also influenced by Yt-2 which is Y in the past in the period 2 and so on which is influenced by et which is the error term for the time in the study period. This study focuses on secondary data sourced from the world bank including Indonesia employment income in agriculture in Indonesia data, education investment in Agriculture in Indonesia and employment in agriculture in Indonesia. With the econometric equation as follows:

$$Y_t = \beta_0 + \beta_1 PA_{t1} + \beta_2 E_{t2} + e_t$$

Where Y is a employment income in agriculture, t is a time period, β is constant, P is work participation in agriculture or employment in agriculture, E is education investment in agriculture, and e is error term. All data are secondary data from world banks.

### Results and Discussion

In analyzing the threshold variable, the employment income in agriculture variant is used as an indicator of people's income growth in the agriculture sector, Employment in agriculture as work participation in the agricultural sector, and education as an indicator of educational investment. Employment income in agriculture, Employment in agriculture, and health as the threshold variable.

Meanwhile, the non-threshold variable is education. The following are the estimation results that we have done:

$$\text{EMPLOYMENT\_INCOME\_IN\_AGRICULTURE} = (-71042215918.4 + 179381853633 * \text{EMPLOYMENT\_IN\_AGRICULTURE}) + (215156626722 - 358861884660 * \text{EMPLOYMENT\_IN\_AGRICULTURE}) * @\text{LOGIT}(3.92672764498e-10 * (\text{EMPLOYMENT\_INCOME\_IN\_AGRICULTURE}(-3) - 43131354156.4)) + 2.57871189995 * \text{EDUCATION}$$

The estimation results from the first estimate can be seen in table 1 below:

Table 1. Estimation Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Threshold Variables (linear part)				
C	-7.10E+10	1.21E+11	-0.587974	0.5696
EMPLOYMENT_IN_AGRICULTURE	1.79E+11	2.50E+11	0.716657	0.49
Threshold Variables (nonlinear part)				
C	2.15E+11	1.19E+11	1.808417	0.1007
EMPLOYMENT_IN_AGRICULTURE	-3.59E+11	2.45E+11	-1.466927	0.1731
Non-Threshold Variables				
EDUCATION	2.578712	0.372957	6.91423	0
Slopes				
SLOPE	3.93E-10	3.71E-10	1.058294	0.3148
Thresholds				
THRESHOLD	4.31E+10	5.87E+09	7.353365	0
R-squared	0.996827	Mean dependent var		9.49E+10
Adjusted R-squared	0.994924	S.D. dependent var		3.86E+10
S.E. of regression	2.75E+09	Akaike info criterion		46.59834
Sum squared resid	7.55E+19	Schwarz criterion		46.94143
Log likelihood	-389.0859	Hannan-Quinn criter.		46.63244
F-statistic	523.6398	Durbin-Watson stat		1.89381
Prob(F-statistic)	0			

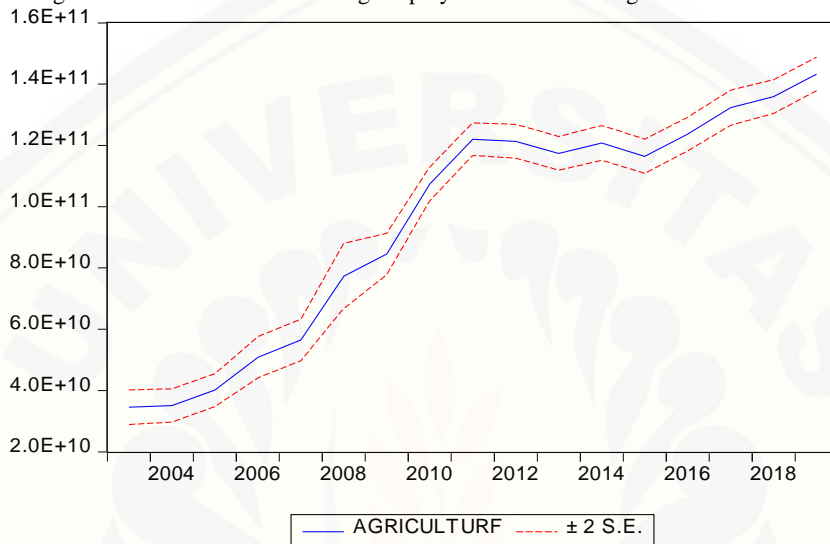
Source : Data world Bank Compiled

It can be seen that the relationship between Employment Income in Agriculture and education and Employment in Agriculture is positive with a value of 1.79E + 11 for Employment in Agriculture and 2.578712 for education, which means an increase in education investment in agriculture by 2.5% followed by an increase in work participation by 1, 79% and encourages the average income of agricultural workers by 1% as indicated by an increase in Employment Income in Agriculture.

This shows that investment in education can boost people's income in general. However, in non-linear estimates, the relationship between work participation and community income in agriculture is negative at -3.59E + 11 with a t-statistic of -1.466927. This indicates that an increase in income can encourage investment in education requiring a sacrifice of costs before increasing income. These cost sacrifices are in the form of education and training costs in agriculture, including the cost of equipment

and technology to increase agricultural production which in turn increases income in agriculture. When investment in education is made, the population goes to school or train so that work participation decreases. The greater the investment in education in the education investment process, of course, it takes time, in the process, there is a decrease in work participation. However, after the education investment process is complete, there will be an increase in work participation followed by an increase in wages or income, according to non-linear estimates. All estimation results are greater than the t-statistic, which means that the results obtained from the estimation are significant. To determine the behavior of data in influencing Employment Income in Agriculture, the prediction of the effect of investment in agricultural education is presented in the following graph:

Figure 1. The results of forecasting Employment Income In Agriculture In Indonesia



Source : Data world Bank Compiled

From the forecast results shown in Figure 1, it can be seen that the Employment Income in Agriculture graph tends to increase from time to time and fluctuates. These fluctuations represent fluctuations in the education process and fluctuations in work participation as a result of educational investment. However, in the end, it will increase the aggregate income of the community so that the welfare of the people can be better, especially those who work in agriculture.

### Conclusions

Education in agriculture is an effort to increase human resources in agriculture. Agriculture with a lot of potentials needs to be empowered and developed. Where agriculture can absorb labor and improve welfare in Indonesia.

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# Human Capital in Agriculture Sector in Indonesia

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## Abstract

This study aims to examine the role of education and health in increasing work participation and income of the people in Indonesia. To achieve this goal, data on GDP per capita, Employment in Agriculture, Health, and education are observed. This study uses the Quantitative Threshold Autoregressive method which is used to predict the behavior of the data so that the relationship behavior between the data can be seen. In analyzing the threshold variable, the GDP per capita variant is used as an indicator of people's income growth, Employment in agriculture as work participation in the agricultural sector, health as an indicator of health investment, and education as an indicator of educational investment. GDP per capita, Employment in agriculture, and health as the threshold variable. Meanwhile, the non-threshold variable is education. All data are secondary data from world banks with an annual period of 2000 - 2019. We found that education and health are two things that form the basis of human capital. The role of education and health in Indonesia in developing agriculture and improving the welfare of the people in Indonesia plays an important role and is able to make a significant contribution to the development of the agricultural sector and the welfare of the people in Indonesia.

**Keywords:** Human Capital, Agriculture, Gross Domestic Product Per Capita

## Introduction

The industrial revolution 4.0 has had a positive impact on various sectors including the agricultural sector (Kumar et al,2021). However, the contribution of innovation in the development of the Indonesian agricultural sector is still very small. Agricultural development in Indonesia still relies on human resources so that human capital is very important in the development of the agricultural sector in Indonesia (Santika et al,2019).

The key to the success of accelerating the transformation of modern agricultural development in Indonesia lies in the quality of agricultural human resources (human capital) which will leverage comparative advantages to become competitive. There needs to be a breakthrough in the development of smart agricultural technology that can be implemented with the right input, the right amount, the right time, and the right place. However, with the current level of technological readiness, efforts to accelerate the process of agricultural development based on technological innovation are considered quite heavy. Agricultural technology functions to optimize cultivation systems, control pests and diseases, optimize

the use of agricultural resources to increase productivity and quality of agricultural products through proper post-harvest handling (Moeis et al,2020).

The element of human capital or human capital in the modern agricultural system has a significant role in the process of developing intelligent agricultural technology. Indicators of the implementation of human capital in this technological innovation can be measured from the level of productivity achieved and the financial aspects of the agricultural system implementation. In addition, it also increases the ability to innovate and the entrepreneurial spirit of agricultural human resources (Gras & Cáceres,2020).

The development of smart agricultural technology based on human capital will provide benefits to each individual and also the human resource community of agricultural system actors if the development model uses a participatory approach. Technology develops in line with education. Where education plays an important role in technology development including agricultural technology (Ahmed et al,2021).

Indonesian human resources to be able to work optimally also need to be maintained and strived to stay healthy so that it can be said that health and education are important pillars in developing human capital, especially in the agricultural sector in Indonesia (Radjab et al,2020). This study examines the development of human capital represented by investment in education and health towards work participation in the agricultural sector and the per capita income of the Indonesian people.

## Literature Review

The progress of a country is determined by three main components that play a role, namely natural resources, human resources, and technology. In its development, the components that dominate are human resources and the use of technology. Developed and developing countries can be seen from the human resources they have and how much use of appropriate technology is (Rahim et al,2021).

In the agricultural sector in Indonesia, the large number of employment opportunities is influenced by the area of agricultural land, land productivity, cropping intensity and pattern, and the technology applied. In the non-agricultural sector, employment opportunities are determined, among other things, by the volume of production, technology, and the level of commodity prices. Provision of labor is influenced, among others, by the level of wages, work comfort, labor mobility, and the rate of increase in the rural labor force (Kirono et al,2016).

Farmers are the main implementers of agricultural development, thus the success of agricultural development is largely determined by the quality of the human resources of the farmers. In the framework of national economic development, the agricultural sector also plays a role in providing labor for other economic sectors, also as a provider of capital, raw materials, and a market for products outside the agricultural sector. Nationally, there has been an increase in the quality of Indonesian workers where the role of workers without formal education has decreased drastically (Berg et al,2020). Education in agriculture is something that needs to be improved in developing human resources in the Indonesian agricultural sector. The superiority of a nation no longer rests solely on natural wealth, but on the superiority of human resources, namely educated personnel who are able to answer very fast challenges.

Education plays a very important role in the development and mastery of technology and in increasing human productivity (Ghosh & Parab,2021). The birth of the Industrial Revolution 4.0 era made various

aspects of life inseparable from the role of technology, including in the world of education. Technology is believed to be able to strengthen the world of education, just as technology can strengthen the financial industry, transportation, and all aspects of it. Mastery of technology in the era of the 4th industrial revolution requires education as an effort to increase knowledge, intelligence, and mastery of technology .

Education is very influential in development, be it in the development of human, economic, social resources, and even more so, the role of education in the development of society, the nation, and the State. In this case, education occupies a central position in development because the goal is to improve the quality of human resources. That education can have a large effect on reducing income inequality. So it can be said that education plays a role in increasing income (Suratno et al,2021).

Indonesia is one of the developing countries in the Asian region, with its various natural potentials. This natural potential can be used in mining, forest, plantation, and agriculture. The abundant potential has not been fully utilized, especially in the agricultural sector. Agriculture, which is a potential sector to be developed, has not been supported by adequate human resources. In fact, the human resources in this field tend to experience a decline in interest because the income in this sector is less promising and in terms of social status is still considered low. It is evident that the former agricultural vocational school was abolished because of the reduced interest. To produce quality human resources, it is necessary to develop education that leads to regional development, so that education is not a futile endeavor (Saptutyningasih et al,2020).

Agricultural development will run well if it is supported by quality human resources which are the output of education development so that educational policies that lead to agricultural development play an important role in this regard. One measure of human quality is the high level of education. Apart from personality, the environment (education) affects a person's behavior. In other words, the behavior of farmers with high levels of education is expected to be better than farmers with low levels of education. Agricultural development can be defined as a process of social change. Its implementation is not only aimed at increasing the status and welfare of farmers but at the same time it is also intended to develop the potential of human resources both economically, socially, politically, culturally, environmentally, as well as through improvement, growth, and change (Inwood,2017).

### Research Methods and Materials

This study aims to examine the role of education and health in increasing work participation and income of the people in Indonesia. To achieve this goal, data on GDP per capita, Employment in Agriculture, Health, and education are observed. This study uses the Quantitative Threshold Autoregressive method which is used to predict the behavior of the data so that the relationship behavior between the data can be seen. In analyzing the threshold variable, the GDP per capita variant is used as an indicator of people's income growth, Employment in agriculture as work participation in the agricultural sector, health as an indicator of health investment, and education as an indicator of educational investment. GDP per capita, employment in agriculture, and health as the threshold variable. Meanwhile, the non-threshold variable is education. The hope is that knowing past behavior data can be an indicator of decision-making that can be taken in the future. In this study we used the autoregressive equation as follows:

$$AR(p) = Y_t = c + \Phi_1 Y_{t-1} + \Phi_2 Y_{t-2} + \dots + \Phi_p Y_{t-p} + e_t$$



Where AR is Y and Yt is Y from time to time in a time series which is influenced by Yt-1 or Y from time to time in the past in period 1 and Yt-1 itself is also influenced by Yt-2 which is Y in the past in period 2 onwards which is influenced by et which is the error term for the time in the study period. This study focuses on secondary data sourced from world banks, including data on internet users, consumption and GDP per capita in Indonesia. With the econometric equation as follows:

$$Y_t = \beta_0 + \beta_1 Ed_{t1} + \beta_2 H_{t2} + \beta_3 EA_{t3} + e_t$$

Where Y is gross domestic product per capita, t is a period of time, β is constant, Ed is Education, H is health, EA is Employment in agriculture and e is an error term. All data are secondary data from world banks with an annual period of 2000 - 2019.

### Results and Discussion

In analyzing the threshold variable, the GDP per capita variant is used as an indicator of people's income growth, Employment in agriculture as work participation in the agricultural sector, health as an indicator of health investment, and education as an indicator of educational investment. GDP per capita, employment in agriculture, and health as the threshold variable. Meanwhile, the non-threshold variable is education. The following are the estimation results that we have done:

$$\begin{aligned} \text{GDP\_PER\_CAPITA} = & (-1863.04271735 + 4777.92758935*\text{EMPLOYMENT\_IN\_AGRICULTURE} + \\ & 6.25185614123\text{e-}08*\text{HEALTH}) + (3066.73497801 - \\ & 5154.41079721*\text{EMPLOYMENT\_IN\_AGRICULTURE} - \\ & 1.71263639538\text{e-}08*\text{HEALTH})*\text{@LOGIT}(0.0816251085215*(\text{GDP\_PER\_CAPITA}(-3)-3129.956369 \\ & 88)) + 3.86310197985\text{e-}08*\text{EDUCATION} \end{aligned}$$

The estimation results from the first estimate can be seen in table 1 below:

Table 1. Estimation Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Threshold Variables (linear part)				
C	-1863.043	920.2186	-2.024565	0.0775
EMPLOYMENT_IN_AGRICULTURE	4777.928	1941.892	2.460449	0.0393
HEALTH	6.25E-08	1.46E-08	4.278731	0.0027
Threshold Variables (nonlinear part)				
C	3066.735	1771.293	1.731354	0.1216
EMPLOYMENT_IN_AGRICULTURE	-5154.411	3677.896	-1.401457	0.1987
HEALTH	-1.71E-08	2.05E-08	-0.835922	0.4275
Non-Threshold Variables				
EDUCATION	3.86E-08	1.05E-08	3.672539	0.0063
Slopes				
SLOPE	0.081625	5630.924	1.45E-05	1
Thresholds				

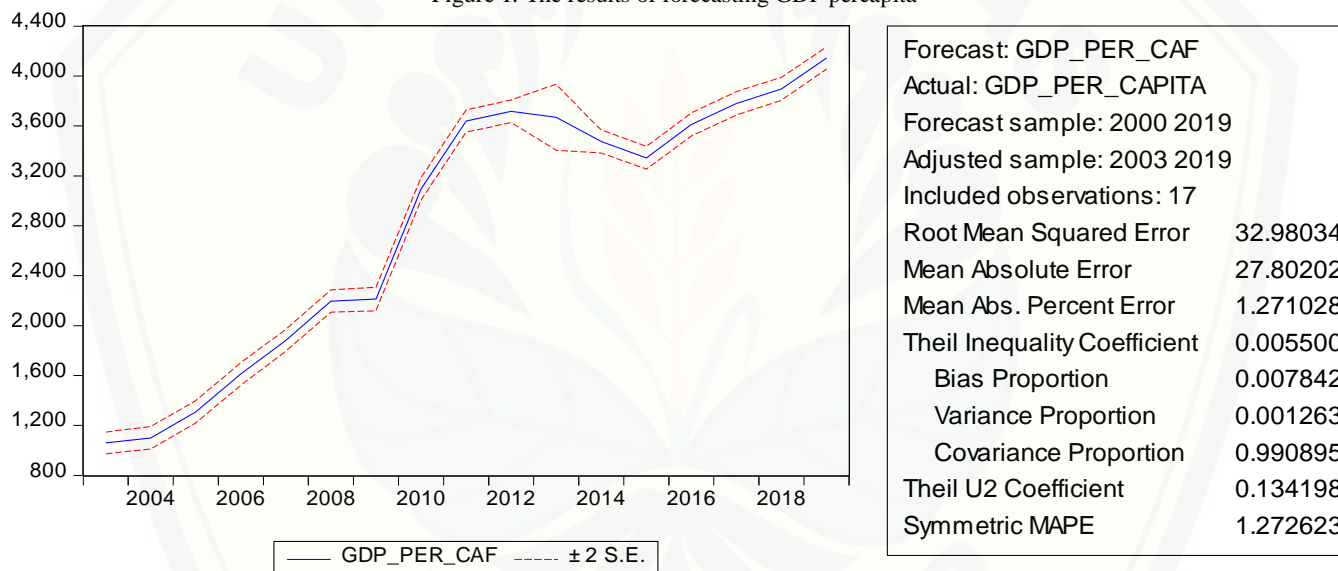


THRESHOLD	3129.956	548870.9	0.005703	0.9956
R-squared	0.999137	Mean dependent var		2805.471
Adjusted R-squared	0.998274	S.D. dependent var		1084.888
S.E. of regression	45.07488	Akaike info criterion		10.75958
Sum squared resid	16253.96	Schwarz criterion		11.20069
Log likelihood	-82.45642	Hannan-Quinn criter.		10.80343
F-statistic	1157.591	Durbin-Watson stat		2.242217
Prob(F-statistic)	0			

Source : Data world Bank Compiled

It can be seen that the per capita GDP relationship with all variables is positive. Where the employment in agriculture variable is 4777,928, Health 6.25E-08 and Education 3.86E-08 This means that an increase in work participation is 4778 people, an increase in investment of 6% and 4% education can encourage an increase in GDP per capita by 1%. This is certainly a very strong driver for economic growth and the income of the people in Indonesia. To find out the data behavior of all variables that are the object of research in driving per capita income, forecasting results are presented in the following graph:

Figure 1. The results of forecasting GDP percapita



Source : Data world Bank Compiled

From the forecast results shown in Figure 1, it can be seen that the graph of GDP per capita can be pushed very quickly. This shows that human capital in Indonesia contributes greatly to the income of the people, especially those who work in the agricultural sector.

### Conclusions

Education and health are two things that form the basis of human capital. The role of education and health in Indonesia in developing agriculture and improving the welfare of the people in Indonesia plays an important role and is able to make a significant contribution to the development of the agricultural sector and the welfare of the people in Indonesia.

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# Strategic Human Resource Management, Regulatory Violation and Job Satisfaction in Indonesia

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## Abstract

This study aims to investigate the level of employee job satisfaction, employee compliance with work regulations and strategic human resource management by conducting online interviews with 349 government and private employees in Indonesia by random sampling using the LinkedIn application then quantifying them for regression using the autoregression moving average model. We find that the level of employee satisfaction is positively related to employee compliance with job regulations and the level of quality management of strategic resources in companies or government institutions.

**Keywords :** Human Resource Management, Job Satisfaction, Employees

## Background

Strategic human resource management is an important factor in modern business (Bailey et al,2018). Because human resource management determines the performance of human resources in the organization. Human resource management also plays a role in meeting the human resource needs of the organization and developing the human resources that have been recruited. Employees are valuable assets of both private and government organizations.

Quality strategic human resource management can maintain employee satisfaction and employee performance so that they can contribute optimally to the organization (Widarni & Bawono,2020). Job satisfaction and good strategic human management will have an impact on the minimal violation of work rules that have been agreed and made within the organization. Employee job satisfaction can improve performance and keep employees working with the organization (Karadağ,2015). Job satisfaction must be maintained to improve employee performance and of course improve organizational performance to achieve organizational goals.

## Literature Review

Strategic human resource management has a good impact on employee performance (Widarni,2020). Strategic human resource management encourages employee performance and employee attitudes and behaviour through procedures or work policy collections. Strategic human resource management aims to manage employees according to the needs of the organization with high performance and good behaviour. Strategic human resource management policies greatly influence attitudes and behaviours



that have an impact on employees as a whole. The leadership of company leaders also needs to be regulated through policies because leadership greatly impacts the performance of implementing employees (Weiss et al,2019). Violation of work rules can interfere with performance or actually increase performance depending on the violation and applicable rules. If the prevailing regulations actually decrease performance, it is necessary to make changes to regulations that are more dynamic and in accordance with performance requirements. However, if the violation causes performance to decrease and endangers the organization, it is precisely necessary to have fair logical consequences between employees and the company.

Employees may break rules for organizational gain such as breaking rigid and bureaucratic rules for a job that requires dynamism (Alvesson & Sveningsson,2019). Therefore, every violation needs to be studied wisely, whether the rules are problematic or the employees are problematic, this is necessary for strategic human resource management to maintain work comfort, job satisfaction and improve performance. Violations that damage and harm the organization, of course, must be dealt with firmly. However, violations that are committed for a reason that actually benefit the organization and do not cause harm need to be reviewed and evaluated on the prevailing regulations and policies. Job satisfaction is a condition in which employees feel comfortable and at ease working and feel satisfied with the results obtained from the best contribution needed by the company or organization. Job satisfaction is closely related to welfare, rewards and work comfort (McKee,2017).

**Research Method**

Collecting data in this study using interviews with 349 government and private employees in Indonesia by random sampling using the LinkedIn application then quantifying for regression using the autoregression moving average model. The interview aims to extract data in the form of employee satisfaction levels, employee compliance, quality levels of strategic resource management. We use average data or all the data obtained is averaged based on a group of variables determined based on literature review and background and time series, then the regression is carried out using the moving average model autoregression method with the following equation:

$$S_t = C_t + \beta_1 E_{t1} + \beta_2 HRMS_2 + e_t$$

Where,

S = level of employee satisfaction

E = Employee compliance

HRMS = Quality level of strategic resource management

e = Term Error

**Result and Discussion**

The estimation results are as follows:

$$S = -0.602806335093 + 0.0552931369825 * E + 0.956793553765 * HRMS$$

From the estimation results, the level of employee compliance and the quality level of strategic human resource management have a positive effect on the level of employee satisfaction. Where every 1% increase in the level of employee satisfaction is followed by an increase in employee compliance by

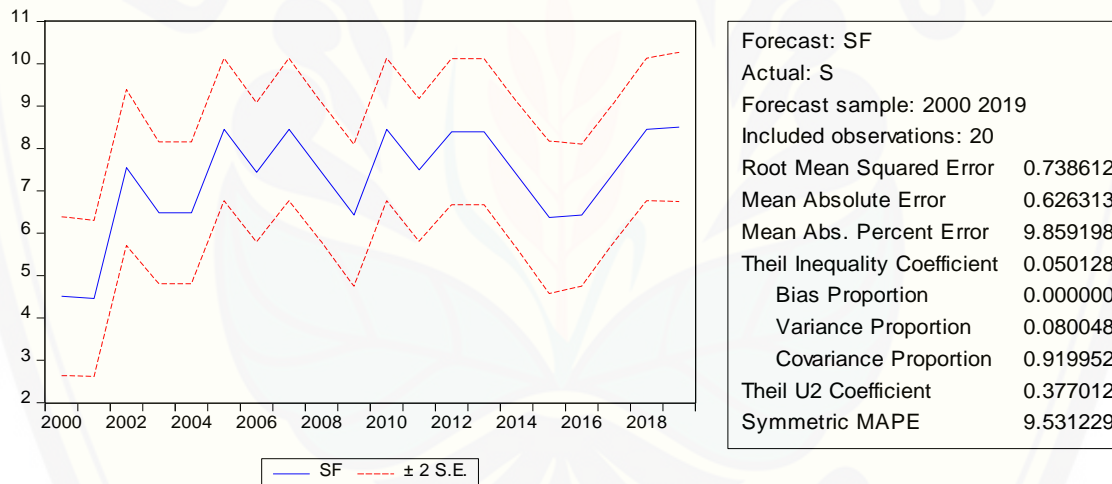
0.05% and the quality of strategic human resource management by 0.9% which is briefly described in Table 1 illustrates the estimation results as follows:

**Table 1.** Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.602806	1.249629	-0.482388	0.6357
E	0.055293	0.228196	0.242306	0.8114
HRMS	0.956794	0.210936	4.535938	0.0003
R-squared	0.825511	Mean dependent var	7.25	
Adjusted R-squared	0.793218	S.D. dependent var	1.446411	
S.E. of regression	8.01E-01	Akaike info criterion	2.531911	
Sum squared resid	10.91095	Schwarz criterion	2.681271	
Log likelihood	-22.31911	Hannan-Quinn criter.	2.561068	
F-statistic	22.4666	Durbin-Watson stat	1.653996	
Prob(F-statistic)	0.000017			

Based on the estimation results described in Table 1. The level of employee satisfaction reflects the level of employee compliance and the quality level of strategic human resource management. The following is a forecasting of the level of job satisfaction of employees in Indonesia from 2000 to 2019 in Figure 1 as follows:

**Figure 1.** The results of forecasting the level of job satisfaction of employees in Indonesia



Source: Author's computation

Based on the forecasting results in Figure 1, the development of employee job satisfaction levels in Indonesia tends to fluctuate according to work conditions. This proves that human resource management is important for maintaining the level of employee job satisfaction which in turn has an impact on employee performance.

## Conclusion

Employee job satisfaction is very important to maintain employee loyalty and employee performance so that they can make the best contribution to the company. Employee satisfaction is positively related to the quality level of strategic human resource management and the level of employee compliance in the company.

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# **Strategic Human Resource Management, Regulatory Violation and Job Satisfaction in Malaysia**

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## **Abstract**

This study aims to determine the level of employee job satisfaction, employee compliance with work regulations and human resource management strategies by conducting online interviews with 512 government and private employees in Malaysia by random sampling, then quantifying for regression using the autoregression moving average model. We find that the level of employee satisfaction is positively related to employee compliance with job regulations and the level of quality of strategic resource management in companies or government agencies.

**Keywords:** Human Resource Management, Job Satisfaction, Employees

## **Background**

Strategic Management is the process of analyzing and creating strategies as well as implementing and monitoring on an ongoing basis by an organization with the aim of achieving and maintaining its competitive advantage. Strategic Management can also be defined as the art and science used to formulate, implement and evaluate cross-functional decisions that enable an organization to achieve its goals (Amason,2011). With this Strategic Management, an organization or company can assess the business and industry it is engaged in, including assessing its competitors and setting goals for its organization to outperform its current and future competitors and then reassessing each of its organizational strategies. Human Resource (HR) Strategic Management is the practice of aligning business strategy with HR practices to achieve organizational strategic goals. The aim of Strategic HR Management is to ensure that the HR strategy is not a means, but an end in itself as far as business goals are concerned. Companies must adapt their HR strategy within the framework of the overall Business objectives and hence ensure that there is alignment between HR practices and the strategic objectives of the organization (Gupta,2020).

Company performance requires an asset which is called a resource, both natural resources, capital resources and human resources. Both of these resources are very important in determining the success of a business. But if the question is, which one is more important among all types of resources, then it is human resources that are important. The urgency of this very prominent human element is reasonable because today's management thinking patterns are based or oriented towards the human factor as the most important element of management itself. This pattern also translates to the success or



failure of a management process to a large extent determined by the human factors involved in the management process concerned. Because in principle and implementation of the management concerned, the human factor needs to be the main consideration because human resources determine the effectiveness of business success. Employees in a company are the most important resource to support the achievement of the vision and mission that has been made. Therefore, employee job satisfaction will be the centre of attention for HR in the company. The more an employee feels comfortable and satisfied with his job, the more he works and thinks creatively for the progress of the company. Employee job satisfaction has now become the centre of attention for HR in the company. Given that employees are the most important asset in the company, it is important for companies to maintain employee motivation and job satisfaction. Employees who feel happy at work will have a positive impact, while on the other hand, employees who are not satisfied can actually backfire for the company. Job satisfaction is a term used to describe employee happiness and satisfaction in meeting their needs in the workplace. Satisfaction is not only obtained from salaries and benefits alone. There are many factors that contribute to employee job satisfaction, such as appreciation, compensation, flexibility, management and work culture. HR should make employee job satisfaction one of the goals that need to be achieved. High satisfaction, because it will not only have an impact on employee performance but as a means of company branding, both internally and externally (Mathew et al,2020).

## Literature Review

In a company, human resources or employees will be managed by a division called Human Resource (HR). The aim is to develop the company through the application of all corporate values and culture. Strategic human resource management policies greatly affect attitudes and behaviours that have an impact on employees as a whole. Because they are related to company values and culture, human resources must be properly selected before being accepted to join the company. The selection process of managing employees is included in human resource management. HR management has a very large contribution to the company's efforts in achieving its goals. This of course cannot be separated from the role of the HR management function which makes employee management easier (Fazey,2020). Employee management must be carried out through an organizational process that can strengthen individual competencies and organizational capabilities. Employee management must be designed to create value and results that contribute to the organization's strategy. Many business organizations today exhibit changes and environmental dynamics that require organizations to adapt. So that often every organization is required to have the ability to adapt to the environment, including changes in employee policies and management in order to retain employees through change management. The result of change management for employees is the capacity to change. Employees as business partners help to let go of the old culture and adapt to the new one. This role is known as an agent of change (Armstrong & Taylor,2020).

Strategic human resource management is a process of managing organizational human resources from an organizational strategic perspective that links HR management to organizational strategy so that Human Resource Management can support the achievement of organizational strategy. Human resource management strategy requires great attention and support from all capacities of the organization because it is related to organizational learning efforts both learning about the organizational environment, organizational performance, organizational goals, organizational capabilities, and learning to make a change. Strategic management is the process of setting organizational goals, developing policies and planning to achieve these goals, and allocating resources to implement policies and plan for achieving organizational goals. Strategic management combines the

activities of various functional parts of a business to achieve organizational goals. Strategic management talks about the big picture. The essence of strategic management is identifying the goals of the organization, its resources, and how these resources can be used most effectively to meet strategic objectives. Strategic management at this time must provide the basic foundation or guidelines for decision making in the organization. It is a continuous and persistent process. The strategic plan of the organization is a living document that is always visited and revisited. It may even need to be considered fluid because of its constantly modified nature. As new information becomes available, it should be used to make adjustments and revisions (Storey et al,2019). Good and ideal leadership grows not only based on the long work experience a leader has but also how a leader can take advantage of every potential in him, have behaviours and attitudes as well as a competent work style to face the digital era. Order is needed in maintaining company performance. Every company has the right to impose sanctions on its employees who deliberately make mistakes or negligence. Therefore, employees must obey the existing rules of the company where they work. If employees violate these rules, it is possible that employees who violate them will be given the applicable sanctions. job satisfaction minimizes violations in the company and improves performance. Job Satisfaction is an emotional attitude that is fun and loves his job. This attitude is reflected by work morale, discipline and work performance. Job satisfaction is enjoyed at work, outside work, and a combination of inside and outside work (Agodu,2019).

### **Research Methods**

Collecting data in this study using interviews with 512 government and private employees in Malaysia by random sampling. Then, quantify the regression using the autoregression moving average model. The interview aims to extract data in the form of employee satisfaction levels, employee compliance, quality levels of strategic resource management. We use average data or all the data obtained is averaged based on a group of variables determined based on literature review and background and time series, after that, we perform regression using the moving average model autoregression method with the following equation:

$$S_t = C_t + \beta_1 E_{t1} + \beta_2 HRMS_2 + e_t$$

Where,

S = level of employee satisfaction

E = Employee compliance

HRMS = Quality level of strategic resource management

e = Term Error

### **Results and Discussion**

The estimation results are as follows:

$$S = -0.513715224282 + 0.0482711369825 * E + 0.867491442812 * HRMS$$

From the estimation results, the level of employee compliance and the level of quality of strategic human resource management has a positive effect on the level of employee satisfaction. Where every 1% increase in the level of employee satisfaction is followed by an increase in employee compliance

by 0.05% and the quality of strategic human resource management by 0.9% which is briefly described in Table 1 illustrates the estimation results as follows:

**Table 1.** Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.513715	1.249629	-0.482388	0.6357
E	0.048271	0.228196	0.242306	0.8114
HRMS	0.867491	0.210936	4.535938	0.0003
R-squared	0.835511	Mean dependent var		7.25
Adjusted R-squared	0.813218	S.D. dependent var		1.446411
S.E. of regression	8.01E-01	Akaike info criterion		2.531911
Sum squared resid	10.91095	Schwarz criterion		2.681271
Log likelihood	-22.31911	Hannan-Quinn criter.		2.561068
F-statistic	22.4666	Durbin-Watson stat		1.653996
Prob(F-statistic)		0.000017		

Based on the estimation results described in Table 1. The level of employee satisfaction reflects the level of employee compliance and the level of quality of strategic human resource management. This proves that human resource management is important to maintain the level of employee job satisfaction which in turn has an impact on employee performance.

### Conclusion

Employee job satisfaction is very important to maintain employee loyalty and employee performance so that they can make the best contribution to the company. Employee satisfaction is positively related to the quality level of strategic human resource management and the level of employee compliance in the company. When employees are satisfied, performance improvements can occur. Job satisfaction, compliance levels and human resource strategy are interrelated in Malaysia.

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# Strategic Planning for Human Resources, Technology, and Organizational Performance

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## Abstract

This study examines company profits, sales (product price multiplied by total products sold), employee performance as reflected by total production x product price, corporate social responsibility funds and employee welfare as reflected in employee income in 25 public companies listed on the IDX. Indonesian random sampling uses secondary data from annual reports published by related companies which are then quantitatively processed using the moving average autoregression method. We find that corporate social responsibility along with sales, employee performance and employee welfare is positively related to company profits.

**Keywords :** Corporate Social Responsibility, Indonesia, Corporate Performance

## Background

Managing human resources requires careful planning starting from the recruitment process, placement and development of human resources. Human resource planning must consider the criteria for the organization's needs for human resources, starting from the level of expertise required, the type of work and various other complex criteria (Davis & Fowler, 2020).

The human resources department must know the organization's business needs for human resources and understand which departments need additional human resources, which departments need excess human resources which human resources need to be developed and so on. The human resources department must of course be managed by people who are experts in the field of human resource management (Crumpton & Bird, 2020).

Various possible risks that may occur must be a concern in human resource management, such as fraud in the selection process that causes the organization to fail to find employees who meet the needs. Other risks such as corruption and work that is not done properly, the risk of discrimination in the work environment and so on. These things must be considered and managed by means of a transparent selection process that is closely monitored, a transparent and accountable financial bureaucracy, discipline and work ethics that are upheld and so on (Golensky & Hager, 2020).

The use of high technology is able to provide assistance in human resource management such as CCTV, office computer activity monitoring software, human resource management software,



accounting software and all of this software can be integrated into cloud computing which can be monitored in real-time and from anywhere (Davies & Fennelly,2019).

There are at least three post investments to ensure the quality of human resources, namely technology, preparation of strategic plans, implementation and supervision of these strategic plans. These three things will have an impact on organizational performance which can be measured from the growth in the company's net profit (Itika,2011).

## Literature Review

Professional human resource management must understand the organization's need for human resources and provide the human resource organization needed and maintain and improve the performance of human resources in order to make the best contribution to the organization (Widarni & Bawono, 2020). Human resource management plays an important role in achieving organizational goals.

Human capital investment in human resources is an important thing in human resource management to improve organizational performance. Human resource management also needs to invest in itself. This is to provide the best support for human resource management needs for the organization (Armstrong & Taylor,2020).

Human resource management can invest in human resource management technology along with adequate human resource monitoring and control tools, ranging from human resource management software to CCTV equipment and so on. Human resource management has an important impact on the sustainability of the company (Martinetti et al,2020).

Human resource management can also invest its budget for strategic human resource planning in consultation with experts from various fields related to human resource management strategic planning along with the implementation of such strategic planning. This is important because strategic planning is related to the sustainable achievement of human resource management goals to provide quality human resources for the organization (Boxall et al,2008).

## Research Method

This research examines investment in human resource strategic planning, technology investment, budget absorbed by the implementation and supervision of human resource strategic planning, and organizational performance as reflected in the growth of corporate profits in 25 public companies listed on the Indonesia Stock Exchange by random sampling using secondary data from annual reports published by related companies which are then processed quantitatively using the moving average autoregression method with the following equation:

$$Y_t = C_t + \beta_1 SP_{t1} + \beta_2 T_{t2} + \beta_3 B_{t3} + e_t$$

Where,

Y = Company Profit Growth

C = Constant

SP = Strategic Human Resources Investment Planning  
 T = Technology Investment  
 B = Budget Absorbed Implementation and Supervision of Strategic Human Resources Planning  
 e = Error Term

All variables are calculated in USD.

### Result and Discussion

The estimation results are as follows:

$$Y = 10193.9892003 + 67.7864879962*B + 3.07724754925*SP + 27.54136058*T$$

From the estimation results, the Human Resources Strategic Planning Investment (SP) is a variable that is positively related to the growth of company profits along with the Technology Investment variable (T), and the Absorbed Budget for the Implementation and Supervision of Strategic Human Resource Planning (B). Where the variable that has the most strong influence on profit growth is the Strategic Human Resources Investment Planning (SP). When the Human Resources Strategic Planning (SP) Investment increases by 3%, it can increase the profit by 1%. Table 1 illustrates the estimation results as follows:

**Table 1.** Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10193.99	3649.788	2.793036	0.013
B	67.78649	13.6027	4.983313	0.0001
SP	3.077248	4.55E+00	0.675866	5.09E-01
T	27.54136	8.81E+00	3.127857	6.50E-03
R-squared	0.85231	Mean dependent var		578336.7
Adjusted R-squared	0.84312	S.D. dependent var		207669.3
S.E. of regression	4924.982	Akaike info criterion		20.01889
Sum squared resid	3.88E+08	Schwarz criterion		20.21803
Log likelihood	-1.96E+02	Hannan-Quinn criter.		20.05776
F-statistic	11255.43	Durbin-Watson stat		1.560344
Prob(F-statistic)			0	

Based on the estimation results described in Table 1., it can be seen that the R-square is very high so that changes in Human Resources Strategic Planning Investment (SP), Technology Investment (T), and Absorbed Budget Implementation and Supervision of Human Resource Strategic Planning (B) have a positive impact to the company's profit growth which is significant and can be accounted for with a level of truth of 85%.

### Conclusion

Human Resource Strategic Planning (SP) Investment, Technology Investment (T), and Absorbed Budget Implementation and Supervision of Human Resource Strategic Planning (B) have a strong enough influence on company profits. Where every 3% increase in Human Resource Strategic Planning (SP) investment will be followed by a 1% increase in company profit growth. This proves that the Human Resources Strategic Planning (SP) investment is proven to be able to increase the

company's profit growth. Where the company's profit growth is a reflection of the performance of the business organization.

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# The Impact of Covid-19 on Employee Welfare and Human Resource Management in Indonesia

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## Abstract

The research investigates the impact of COVID 19 by looking at the change in the average income of employees in the research object for 24 months, namely January 2019 to month 1 and December 2020 to month 24, both those who are still working and have already worked. sent home or who lost his job. We conducted online surveys and in-depth interviews regarding the monthly income and workplace conditions of 400 respondents in Jakarta and Bandung. We focus on three things, namely the respondent's income, the change in the average number of employees at the respondent's workplace, the Indonesian government assistance received by respondents before and during the coronavirus pandemic, the respondents' expenditure or consumption, then the regression is carried out using the moving average autoregression method. . We find that economic policies have a more positive impact on the level of public consumption than the assistance provided by the Indonesian government. Where employment opportunities have a more positive impact than providing subsidies or assistance during the COVID-19 pandemic.

**Keywords:** COVID 19, Income, Consumption

## Background

In the business world, the coronavirus or known as COVID-19, which has now become an epidemic, has a huge impact on almost all business sectors in the world, including Indonesia. Business organizations are faced with unprecedented challenges. Business uncertainty is getting bigger with the absence of drugs and vaccines at the beginning of the year the virus broke out with government policies that kept changing according to the needs of handling cases of the spread of the COVID-19 outbreak (Baporikar, 2021).

The virus that broke out in 2020 destroyed many business sectors and of course is a challenge that must be faced together. In the human resource management environment, the COVID-19 virus outbreak is a challenge that is not easy to overcome (Petraakis, 2020). The COVID-19 virus outbreak has also had an impact on employee welfare by adjusting to the conditions of the business environment (Ramraj, 2020).

We tried to investigate the impact of COVID 19 by looking at changes in the average income of employees in the object of research for 24 months, namely January 2019 as month 1 and December 2020 as month 24, both those who are still working or have been sent home or who have lost their jobs. We conducted online surveys and in-depth interviews related to monthly income and workplace



conditions of 400 respondents in Jakarta and Bandung. We focus on three things, namely the respondent's income, changes in the average number of employees at the respondent's workplace, the Indonesian government assistance received by respondents before and during the coronavirus pandemic, the respondents' expenditure or consumption.

### Literature Review

Adaptation and adjustment are things that must be done during the COVID-19 pandemic. Very drastic changes have occurred suddenly in almost all business environments in the world due to the COVID-19 pandemic. In human resource management, adjustment is imperative in adapting to a drastically changing environment. Reducing employees and increasing the use of information technology in a business environment is something that must be done and may be necessary because of the regulations on employee restrictions that allow the government to come to work (Tosone,2020).

Many businesses have been destroyed and companies have been forced to close due to the Covid-19 pandemic (Dukare et al,2020). As a result of the many companies that closed, many employees lost their jobs and became informal workers or opened micro and small-level businesses. Not a few employees who are still working lose most of their income because they have to adapt to the company's financial condition. Massive savings were made by both the company and the employees (Unni, 2020). However, in Indonesia, many subsidies and assistance from the Indonesian government have been issued to help people survive the COVID-19 pandemic. Every effort has been made by both the Indonesian government and society as a whole to maintain the economy while maintaining health with strict discipline. Every effort has been made to adapt to the COVID-19 conditions (Bland,2020).

### Research Method

The research investigates the impact of COVID 19 by looking at the change in the average income of employees in the research object for 24 months, namely January 2019 to month 1 and December 2020 to month 24, both those who are still working and have already worked. sent home or who lost his job. We conducted online surveys and in-depth interviews regarding the monthly income and workplace conditions of 400 respondents in Jakarta and Bandung. We focus on three things, namely the respondent's income, changes in the average number of employees at the respondent's workplace, Indonesian government assistance received by respondents before and during the coronavirus pandemic, the respondents' expenditure or consumption, then the regression is carried out using the moving average autoregression method. with the following equation:

$$Co_t = C_t + \beta_1 I_{t1} + \beta_2 NE_{t2} + \beta_3 GT_{t3} + e_t$$

Where,

Co = consumption

C = constanta

I = Income

NE = number of employees at workplace

GT = Government Transfer Received

e = Term Error

All data are calculated based on the average of the respondents' interviews in USD (\$).

### Result and Discussion

The estimation results are as follows:

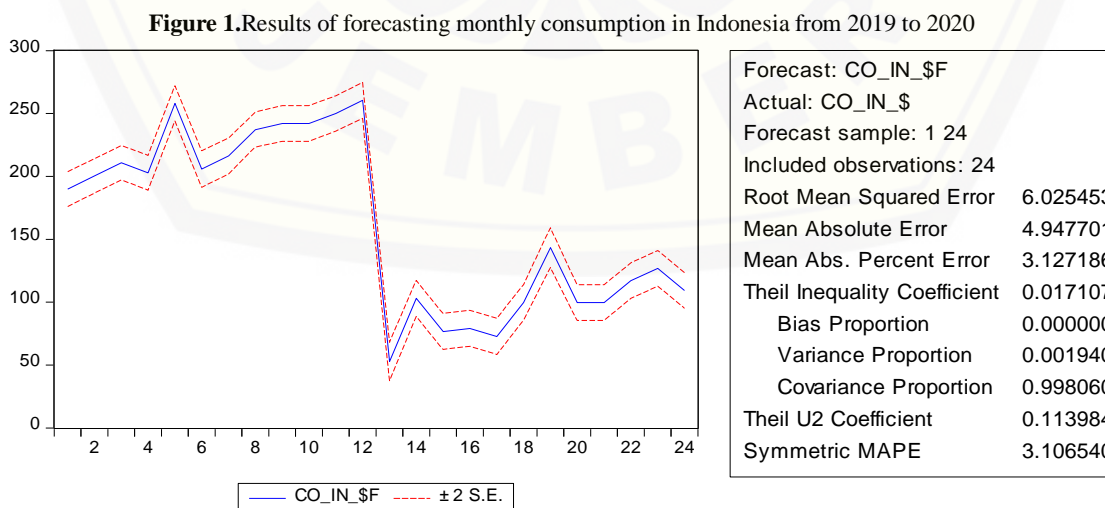
$$CO\_IN\_\$ = -6.39139134166 + 0.0416788384008*GT\_IN\_\$ + 0.796047838573*I\_IN\_\$ + 2.47096364021*NE\_IN\_\$$$

From the estimation results, consumption is influenced by income, both income obtained from work (I) or from government assistance (GT) and the number of employees allowed to work in the workplace also has a positive effect on the average consumption of respondents, which means that the number of employees allowed to work by the government has an impact on public consumption in general. Where each 1% increase in consumption is followed by an increase in income from work (I) of 0.79% and income obtained from government assistance (GT) of 0.04% and a very significant increase in the number of employees allowed to work in the workplace by 2, 4%. This means that the percentage of employees who are allowed to work has more of an impact on increasing public consumption than the number of subsidies or assistance from the government provided to the community, which is briefly described in Table 1 illustrating the estimation results as follows:

**Table 1.** Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6.391391	8.34658	-0.76575	0.4528
GT_IN_ \$	0.041679	0.054301	0.767549	0.4517
I_IN_ \$	0.796048	0.085029	9.362051	0
NE_IN_ \$	2.470964	1.318114	1.87462	0.0755
R-squared	0.992268	Mean dependent var		162.2917
Adjusted R-squared	0.991109	S.D. dependent var		69.99968
S.E. of regression	6.600553	Akaike info criterion		6.763196
Sum squared resid	871.3461	Schwarz criterion		6.959538
Log likelihood	-77.15835	Hannan-Quinn criter.		6.815285
F-statistic	855.5928	Durbin-Watson stat		1.325735

Based on the estimation results described in Table 1. Consumption has a positive effect on income that can be forecasted in the study period in Figure 1 as follows:



Source: Author's computation

Based on the results of the forecast in Figure 1, Indonesia's consumption in 2019 tends to increase but will decline sharply in 2020 when the coronavirus pandemic arrives. However, Indonesian consumption is still stretching because of the new normal policy and assistance from the Indonesian government so that the Indonesian economy can move and does not continue to decline.

## **Conclusion**

From the research results, it can be concluded that economic policies have a more positive impact on the level of public consumption than the assistance provided by the Indonesian government. Where job opportunities have a more positive impact than providing subsidies or assistance during the COVID-19 pandemic.

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