

THE ANALYSIS OF DETERMINANTS OF REGENCY/CITY MINIMUM WAGES IN THE PEKALONGAN RESIDENCY ON 2017-2022

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Abstract: *The minimum wage is a method of achieving a reasonable income for workers by enhancing their well-being while not neglecting increases in productivity, firm progress, and overall economic development. The purpose of this study is to look into the effects of the human development index (HDI), labor force participation rate (TPAK), inflation, and investment on the minimum wage in the Pekalongan Residency's regencies/cities between 2017 and 2022. The study uses secondary data in the form of panel data, which includes cross-sectional data from 7 regencies in the Pekalongan Residency as well as time-series data from 2017 to 2022. The Fixed Effect Model (FEM) serves as the methodological framework. The study's findings revealed that the human development index and investment have a positive and significant influence on minimum wages in the regencies/cities of Pekalongan Residency, refuting the original hypothesis. In contrast, labor force participation and inflation have a negative impact on minimum salaries in the district/city of Pekalongan Residency. The F-test findings corroborate the model's existence, with an R-squared value of 0.9384, showing that HDI, TPAK, Inflation, and Investment account for 93.84% of the variation in the regency/city minimum wage in Pekalongan Residency. The remaining 6.16% is due to other variables not included in the model.*

Keywords: *Regional Minimum Wages, Human Development Index, Labor Force Participation Rate*

1. Introduction

The dualistic labor market condition, in which there is a labor surplus but a low labor force quality, causes substantial pay issues in the employment sector. Wages, according to the Central Statistics Agency (BPS), are the funds received by employees from their employers in exchange for the work they perform. These incentives can take the form of money defined by agreement or law, as well as payments based on labor agreements between employers and employees, such as allowances for workers and their families. Wages play a crucial part in meeting a person's basic necessities and enhancing their standard of living. Therefore, balance in setting minimum wages is very necessary so that wages are not too low or too high.

In terms of pay regulation, the minimum wage is a reference point utilized by entrepreneurs or industrial players to decide the quantity of wages for workers in their area (Siregar, 2022). According to Government Regulation Number 78 of 2015 on Wages, each district or city has the authority to set minimum wage standards by referring to the Regency/City Minimum Wage (MW), which is determined by regional leaders through the approval of the wage council and is

based on considerations such as feasible living standards, inflation rate, and economic growth in each region.

According to the Central Java Central Statistics Agency (2023), minimum wages in Central Java Province generally rise year after year, including in the seven districts/cities that comprise the Pekalongan Residency, which includes the administrative areas of Batang, Pekalongan district, Pemalang district, Tegal district, Brebes district, Pekalongan city, and Tegal city.

Table 1.MW data in Pekalongan Residency 2017-2022

Regency/City	Regency/City Minimum Wage					
	2017	2018	2019	2020	2021	2022
Stem	1,603,000	1,749,900	1,900,000	2,061,700	2,129,117	2,135,535
Pekalongan	1,583,698	1,721,638	1,859,885	2,018,161	2,084,155	2,094,646
Pemalang	1,460,000	1,588,000	1,718,000	1,865,000	1,926,000	1,940,890
Tegal	1,487,000	1,617,000	1,747,000	1,896,000	1,958,000	1,968,466
Brebes	1,418,100	1,542,000	1,665,850	1,807,614	1,866,723	1,885,019
Pekalongan City	1,623,750	1,765,179	1,906,922	2,072,000	2,139,754	2,156,213
Tegal City	1,499,500	1,630,500	1,762,000	1,925,000	1,982,750	1,982,750

Source: Central Java Province Central Statistics Agency

Inflation is one of the factors influencing the level of MSEs in Pekalongan Residency. Inflation is defined as the widespread and continuing rising of prices. This results in a decline in people's purchasing power. If the rise in the minimum wage does not keep up with inflation, workers' purchasing power may suffer. This means that, while the nominal minimum wage may rise, its real worth in terms of purchasing goods and services may fall. The human development index (HDI) is also used to estimate the size of the MSE. The Human Development Index (HDI) is a comparative instrument that considers life expectancy, literacy levels, education, and living standards in all countries worldwide.

The HDI is used to classify a country's degree of development, determining whether it is developed, developing, or underdeveloped. In addition, HDI can be used to examine the influence of economic policies on quality of life (Geraldo Tenen et al., 2019). The Labor Force Participation Rate (LFPR) is also a factor in establishing the minimum wage. The goal of employing LFPR is to determine the amount of labor available, so that the value of fair compensation for workers can be changed accordingly. Another factor that is related to salaries is investment. According to John Dunning's theory on different macroeconomic factors influencing investment, one of them is labor salaries in the investment destination country (Dua and Garg, 2015). In economic literature, investment is a factor that influences wage levels. When investment rises, so do salaries, either directly or as a result of rising interest rates caused by increased investment. As a result, investment is one element that determines a country's wage levels (Alexander et al., 2020).

Several studies have been conducted regarding district/city minimum wages, such as research conducted by Husada & Yuhan (2022) and Collyn Damanik and Surianto Zalukhu (2021), but what differentiates this research from previous research is the choice of focus location which uses the boundaries of the Pekalongan Residency area and research period covering the years 2017-2022, which has not previously been discussed. This research focuses on identifying factors that influence the increase or decrease in district/city minimum wages. The

aim of this research is to analyze the significant impact of the Human Development Index (HDI), Labor Force Participation Rate (LFPR), Inflation, and Investment on the amount of district/city minimum wages in Pekalongan Residency during the 2017-2022 period.

1. Literature Review

Understanding Wages

Labor is regarded as the second most essential production factor since it allows natural resources to be turned into value-added manufacturing outputs. As a result, workers have the right to collect salaries from their employer or firm as a return for their efforts and sacrifices. According to Sukirno (2007), wages are payments made to employees for various types of services given and performed for enterprises. Meanwhile, T. Gilarso (2003) defines wages as a kind of compensation for human labor production components, which may include salary, honorarium, overtime pay, allowances, and so on.

According to the provisions of Labor Law Number 13 of 2003, wages can be defined as the rights received by workers or laborers in the form of money as compensation from entrepreneurs or employers. This right is determined and paid in accordance with the employment agreement, agreement or statutory regulations. The right to receive wages includes benefits for workers or laborers and their families for work and/or services that have been or will be performed.

Understanding Minimum Wage

According to Law Number 13 of 2003, minimum wages are the minimum criteria used by employers or industrial participants to pay employees in their business environment or line of activity. Wages are stated in monetary terms in line with legal agreements or rules, and payments are adjusted to reflect the labor agreement between the employer and employee. The minimum salary includes allowances for both the employee and his family, as established in Government Regulation Number 8 of 1981.

Furthermore, minimum salaries can be decided at the regional, sectoral, or subsectoral levels, however regional minimum wages are now the most typically accepted by each region. One of the regional minimum wages is the Regency/City Minimum Wage (MW), which refers to the minimum standard used by entrepreneurs or industrial actors to pay employees, employees, or laborers in a regency/city's business environment over time. certain.

According to Simanjuntak (1996) This minimum wage determination aims to:

1. Prevent or reduce unhealthy competition between workers in surplus market conditions, so that they are not forced to accept wages below the reasonable level.
2. Prevent or reduce the potential for exploitation of workers by employers who take advantage of labor market conditions to collect profits.
3. Creating safer and more harmonious industrial relations.
4. Reducing the poverty level of workers, especially if the minimum wage is related to the basic needs of workers and their families.
5. Increasing people's purchasing power, which will ultimately encourage overall economic growth.

Understanding the Human Development Index

Human resources are the richness that humans possess, allowing them to function as adaptive and transformational social beings. This individual is capable of managing himself and maximizing all of nature's potential in order to achieve wealth in a balanced and sustainable life order.

According to the Central Statistics Agency and UNDP (1997), the Human Development Index (HDI) is a comparative indication of life expectancy, educational literacy levels, and living standards for all countries in the globe. The HDI is used to determine whether a country is developed, developing, or underdeveloped. Furthermore, HDI serves as a tool for evaluating the influence of economic policies on quality of life.

Understanding Labor Force Participation Levels

LFPR reflects the percentage of the working age population involved in economic activities in an area, as explained by the Central Statistics Agency (BPS). According to Faelasuffa and Yuliani (2021) The higher the LFPR, the greater the percentage of the working workforce of the total workforce, and this contributes to increasing welfare. An increase in the labor force without suitable employment opportunities can lead to an increase in the unemployment rate, which in turn can lead to a decrease in LFPR. Wage determination is based on labor availability. If the supply of labor increases, this excess supply of labor will be absorbed by the informal sector which is not bound by regulations, and this can ultimately result in a decrease in wage levels. The increase in the number of the workforce is influenced by the increase in the number of working age population every year.

Understanding Inflation

Samuelson (2001) defines inflation as a situation where there is a general increase in the price level, including goods, services and production factors. This definition reflects a condition of decreasing purchasing power which is followed by a depreciation of the real (intrinsic) value of a country's currency. Ramdhansya and Indrawati (2010) Inflation has the power to trigger exchange rate fluctuations. The actual definition of this phenomenon is related to the rate of exchange of money which can be high or low, which is reflected in the amount that must be spent to obtain another or different currency from the previous one. In this context, we realize that the amount of money earned can vary due to differences in the amount of money circulating in each country, and it is certain that the amount will never be the same.

Understanding Investment

Martono and D. Agus Harjito (2005) define investment as the act of a corporation putting capital in an asset with the expectation of future income. Meanwhile, Adam Smith maintained that capital owners make investments in the aim of profiting, and that the anticipation of future earnings is determined by present investment circumstances as well as actual gains. Smith argued that profits tended to fall as the economy developed. As the rate of capital accumulation grows, so does rivalry among capital owners. According to Jhingan (2003), this will result in higher wages but lower profits. [Click or tap here to enter text.](#)

2. Research Methods

This study employs secondary data in panel format, namely a combination of time series and cross sections. Time series data is utilized to track changes over a six-year period, from 2017 to 2022, whilst cross-section data is used to identify disparities between locations, specifically

seven districts/cities in the Pekalongan Residency. Secondary data for this study were gathered from the Central Java Province Central Statistics Agency (BPS) for 2017-2022, journals, and previous research on district/city minimum salaries.

The panel data estimation carried out in this research uses ordinary least squares, with the Regency/City Minimum Wage function $f(\text{HDI}, \text{LFPR}, \text{INF}, \text{INV})$, so that the equation model in this research is as follows:

$$\log MW_{it} = \beta_0 + \beta_1 \text{HDI}_{it} + \beta_2 \text{LFPR}_{it} + \beta_3 \text{INF}_{it} + \beta_4 \log \text{INV}_{it} + e_{it}$$

Information :

MW : Regency/City Minimum Wage (thousand rupiah)

HDI : Human Development Index (%)

LFPR : Labor Force Participation Rate (%)

INF : Inflation (%)

INV : Investment (million rupiah)

e : Term error

β_0 : Constant

$\beta_1 \dots \beta_4$: Independent variable regression coefficient

i : Cross section

t : Time series

3. Results and Discussion

3.1. Results

The results of econometric model estimation using the Common Effect Model (CEM), Fixed Effect Model (FEM) and Random Effect Model (REM) approaches along with the model selection tests are summarized in table 2.

Table 2. Estimation Results of Panel Data Regression Econometric Model - Cross Section

Variable	Regression Coefficients		
	CEM	FEM	BRAKE
C	12.58910	4.824081	12.58910
HDI	0.014717	0.138905	0.014717
TPAK	0.007219	-0.001862	0.007219
INFLATION	-0.747735	-3068053	-0.747735
LOG(INV)	0.026177	0.008175	0.026177
R^2	0.374009	0.934825	0.374009
Adjusted R^2	0.306334	0.913801	0.306334
F statistics	55.26573	44.46446	55.26573
Prob. F statistics	0.001365	0.000000	0.001365
Model Selection Test			
(1) Chow			
Cross-section $F(6,31) = 44.458200$; Prob. $F(6,31) = 0.0000$			
(2) Hausman			
Random cross-section $\chi^2(4) = 266.326596$; Prob. $\chi^2(4) = 0.0000$			

Source: Central Java Province Central Statistics Agency, processed

Based on table 2, the following analysis results are obtained:

Uji Chow is a test used to determine a model from the Common Effect Model (CEM) and Fixed Effect Model (FEM), with the hypothesis: H_0 : CEM, H_A : FEM, if the p-value is smaller than α (alpha) then H_0 is rejected. Based on the results of the chow test or likelihood ratio test, it shows that the cross-section probability F is 0.0000 so that H_0 is rejected. Thus the model chosen is the Fixed Effect Model.

Meanwhile, the Hausman test is a test used to determine a model from the Random Effect Model (REM) and Fixed Effect Model (FEM), with the hypothesis: H_0 : REM, H_A : FEM, if the p-value is smaller than α (alpha).) then H_0 is rejected. Based on the results of the Hausman test processing, the results show that the random cross-section probability is 0.0000, so H_0 is rejected. Thus the model chosen is the Fixed Effect Model.

Based on the Chow test and Hausman test that have been carried out, it shows that the Fixed Effect Model (FEM) was chosen as the best estimation model. The results of the Fixed Effect Model (FEM) estimation model are presented in table 3.

Table 3.Fixed Effect Model (FEM) Estimation Model

$$\log MW_{it} = 4,8241 + 0,1389 IPM_{it} - 0,0018 TPAK_{it} - 3,0686 INF_{it} + 0,0081 \log INV_{it} + e_{it}$$

(0.0000)* (0.5825) (0.0002)* (0.0815)***

$$R^2 = 0.9348 ; DW = 1.6300 ; F\text{-statistic} = 44.4644 ; Prob. F = 0.0000$$

Source: Processed Secondary Data

Information:

*Significant at $\alpha = 0.01$

**Significant at $\alpha = 0.05$

***Significant at $\alpha = 0.10$

The numbers in brackets are the probability values of the t statistic.

3.2.Discussion

Goodness Test of the Validity of the Effect of the Independent Variables of the Model

The influence validity test was carried out to determine whether in this research there was an influence between independent variables such as the human development index, labor force participation rate, inflation and investment and the dependent variable district/city minimum wage. Thus, to find out whether there is an influence between the independent variable and the dependent variable, a t test is carried out by comparing the probability with alpha 1% (0.01), 5% (0.05) and alpha 10% (0.1) with H_0 t test = 0, meaning that the i independent variable does not have a significant influence. Meanwhile, H_a is $\neq 0$, meaning that the i independent variable has a significant influence. H_0 will be accepted if the p value, probability, or statistical empirical significance $t > \alpha$; H_0 will be rejected if the p value, probability, or empirical statistical significance of $t \leq \alpha$. The results of the influence validity test can be seen in Table 4. $\beta_i \beta_i$

Table 4.Fixed Effect Model (FEM) Estimation Model

Variable	Coefficient	Sig.t	Information	Conclusion
HDI	0.1389	0.0000	$\alpha = 0.01$	β_1 is significant
LFPR	-0.0018	0.5825	$\alpha = 0.10$	β_2 is not significant
INFLATION	-3.0680	0.0002	$\alpha = 0.01$	β_3 is significant
logINV	0.0081	0.0815	$\alpha = 0.05$	β_4 is significant

Based on tests conducted using the Fixed Effect Model, it is possible to conclude that the human development index has a positive and significant influence on the district/city minimum wage in the Pekalongan Residency district/city, with a coefficient value of 0.1389. This indicates that if the HDI variable increases by one percent, the district/city minimum wage in Pekalongan Residency will rise by 0.1389 percent.

The findings of this study are consistent with those of Collyn Damanik and Surianto Zalukhu (2021), who found that the human development index has a positive and substantial effect on the district/city minimum wage. The district/city minimum wage rises in tandem with the human development index. This is demonstrated by one of the HDI indicators, namely the high level of education and skills of workers, which also improves job productivity, because workers with a greater degree of education tend to have broader knowledge, which can increase their performance. They will also receive a hefty wage.

The labor force participation rate has no significant effect on the district/city minimum wage in Pekalongan Residency, with a coefficient of -0.0018 and a probability of 0.5825. This research is consistent with the findings of Nyoman Utama and Astika (2019), who found that the labor force participation rate variable has no influence and is not significant on the district/city minimum wage in Sumbawa Regency. A decline in labor force participation rate has the potential to reduce the value of the district's minimum wage, as a result of the working generation's lack of participation in economic activities that should contribute to increased economic growth.

Meanwhile, inflation has a negative and significant influence on the district/city minimum wage in Pekalongan Residency with a coefficient value of -3.0681 and a probability of 0.0002. This means that if there is an increase in inflation of one percent, it will reduce the district/city minimum wage level by 3.06 percent. This research is not in line with research previously conducted by Kertiasih (2017), where inflation does not have a significant effect on the minimum wage on the UMR in Bali Province. However, this research is in line with research conducted by Collyn Damanik & Surianto Zalukhu (2021) which states that partially inflation has a negative and significant influence on the district/city minimum wage in Pemantangsiantar City. In determining the minimum wage, the government needs to pay attention to overall economic conditions, including factors such as inflation. The government must be able to manage the inflation rate so that it remains below 10 percent in order to maintain economic stability and support economic growth.

Investment has a positive and significant effect on the district/city minimum wage in Pekalongan Residency with a coefficient value of 0.0081 with a probability of 0.0815. This

means that if there is an increase in investment of one percent, it will increase the district/city minimum wage level by 0.0081 percent. This research is in line with the opinion of Jhingan (2010) who states that investment is an important factor in determining economic growth and development. Investments made continuously will be able to increase labor absorption and productivity. So it can increase the minimum wage level.

FEM Estimated Model Existence Test (F Test)

The F test is a test carried out to determine whether in the research there is a simultaneous influence between the independent variable and the dependent variable. Such as the human development index variable, labor force participation rate, inflation, and investment towards the district/city minimum wage in Pekalongan Residency. This is known by comparing the probability of the F test value with the α value of 0.05 (5%).

Based on the results of the fixed effect model regression calculation, the probability value obtained is $0.0000 < \alpha 0.05$ (5%) which means rejecting H_0 , so it can be concluded that together the independent variables such as the human development index, labor force participation rate, inflation, and investment have a simultaneous effect on the dependent variable district/city minimum wage in Pekalongan Residency.

Interpretation of the Coefficient of Determination (R²)

Based on the results of tests carried out using the Fixed Effect model, the R² coefficient value was 0.9348, which means that 93.48 percent of the district/city minimum wage in Pekalongan Residency in 2017-2022 was influenced by the human development index, labor force participation rate, inflation, and investment. Meanwhile, the remaining 6.52 percent is influenced by other variables outside this model.

4. Conclusion

Based on the results of research conducted regarding the human development index, labor force participation rate, inflation, and investment in district/city minimum wages in Pekalongan Residency in 2017-2022 using panel data regression analysis selected by the Fixed Effect Model and the conclusion was obtained that the human development index and investment has a positive and significant influence on district/city minimum wages. This shows that increasing the human development and investment index figures will also be able to increase the district/city minimum wage. Inflation has a negative and significant influence on district/city minimum wages. This means that increasing inflation will reduce the district/city minimum wage. Meanwhile, the level of labor force participation has no effect on the district/city minimum wage in Pekalongan Residency.

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