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Analysis of Bali Province's Minimum Wage Determinants for 2017–2021

Nindi Permatasari [1]*, Sitti Retno Faridatussalam[1]
[1]Universitas Muhammadiyah Surakarta
Jl. A. Yani, Mendungan, Pabelan, Kec. Kartasura, Sukoharjo, Jawa Tengah
***Email:** b300190134@student.ums.ac.id

ABSTRACT
The minimum wage is one of the topics that politicians and workers argue about the most, and it has received a lot of attention in the literature. Examining the minimum wage is necessary since employees' incomes in each province do not always cover their basic necessities. In order to better understand how the minimum wage is affected by factors such as the gross regional domestic product (GRDP), community development index, investment, workforce, and number of businesses, this study will look at these factors. The Central Bureau of Statistics (BPS) of Bali Province provided the information for this study over a five-year period in 9 regencies. The panel data model approach with FEM selection was utilized for data analysis. Investment variables and the number of businesses have a positive and insignificant effect on the minimum wage. Meanwhile, the gross regional domestic product (GRDP) and workforce variables have a negative and insignificant effect on the Minimum Wage. and the number of businesses has no effect on the minimum wage. only one independent variable is significant, namely the community development index has an effect on the minimum wage, while the rest is influenced by other variables not examined in this study.

Keywords: Minimum Wage, Gross Regional Domestic Product, Community Development Index, Investment, Workforce, Number Of Companies.

INTRODUCTION

The population in Indonesia continues to grow every year. An increase in population will increase the size of the workforce. The increasing labor force that is not accompanied by an increase in the number of jobs will cause a response. Unemployment will have an impact on the development and economic growth of a country.

One of the labor problems in Indonesia, low salary. Labor is required to be paid a salary or wages, but the salary or wages earned are not comparable because of the quality of the workforce itself, such as uneducated and disinterested workers. To overcome the low salary can be done by equating the salary with the district minimum wage.

In accordance with the Regulation of the President of the Republic of Indonesia Number 12 of 2013 concerning Health Insurance, it states that salary is the right of workers who are received and expressed in the form of money as a reward from employers to workers who are determined and paid according to an employment agreement, agreement, or laws and regulations, including benefits for workers and their families for work and/or services that have been or will be performed. In giving wages/salaries, it is also necessary to pay attention to the principle of justice. Employees pay close attention to this sense of justice, they not only pay attention to the amount of money they bring home, but also compare it with other colleagues. In addition to the issue of fairness, it is necessary to pay attention to the element of eligibility in wages. This feasibility can be compared with remuneration in other companies. Or you can also use government regulations regarding regional minimum wages .

Regional Minimum Wage is a minimum standard used by employers or industry players to provide wages to employees, employees or laborers in their business or work environment. Currently the UMR is also known as the Provincial Minimum Wage (UMP) because its scope usually only covers a province. Besides that, after regional autonomy is fully implemented, the term Regency/City Minimum Wage (UMK) is also known.

Law of the Republic of Indonesia Number 13 of 2003 concerning wages Chapter X part two of Article 88 reads that every worker or laborer has the right to earn income that fulfills a decent living for humanity. In realizing income that fulfills a decent living for humanity as referred to in paragraph 1, the government establishes a wage policy that protects workers or laborers. Wages policies that protect workers or laborers as referred to in paragraph 2 include: minimum wages, overtime wages, wages absent due to absence, wages absent due to carrying out other activities outside of work, wages for exercising their right to rest periods, forms and methods payment of wages, fines and wage deductions, things that can be calculated with wages, proportional wage structure and scale, wages for severance payments and wages for income tax calculations.

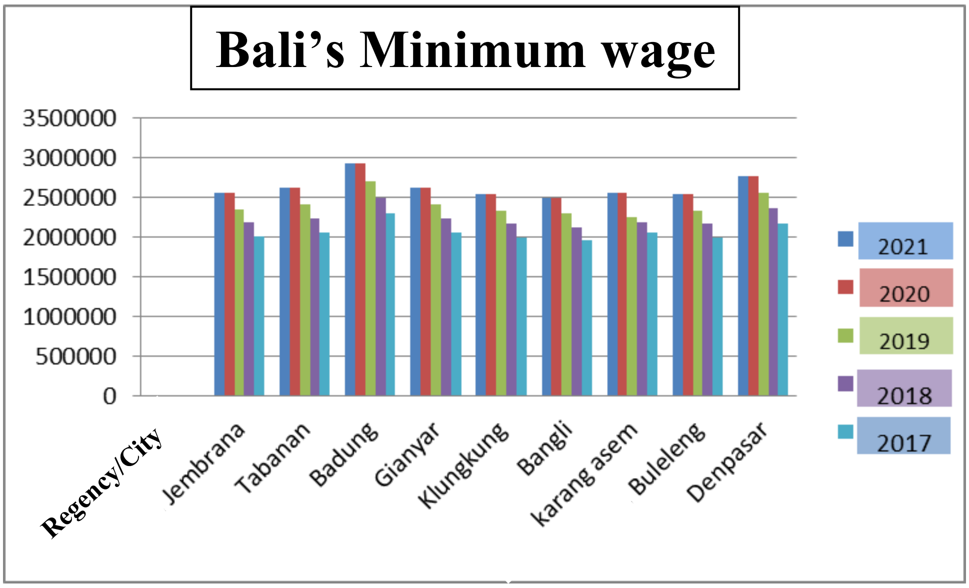

Chart 1 shows that the minimum wage information for the province of Bali for the years 2017 to 2021 has grown annually. In contrast, Badung Regency had the highest district/city minimum wage in 2017, at IDR 2,299,311, while Bangli Regency had the lowest, at IDR 1,957,734. The highest district/city minimum wage in 2021 is set at Rp. 2,930,093 in Badung Regency, and the lowest is set at Rp. 2,494,810 in Bangli Regency.

This is a result of rising economic growth year after year. The GRDP in each province can be used to gauge increased economic growth. Future job absorption will be impacted by raising the district or municipal minimum wage rate. This can be demonstrated by raising the minimum wage in the Indonesian province of Bali.

Thus, one factor that influences the minimum wage in a region is the GRDP (Gross Regional Domestic Product). GRDP is the net value of finished products and services created by various levels of economic activity in an area over a certain time period (Roby, 2011). In reality, GRDP has an impact on the size of the labor force since it is thought that as a region's GRDP value rises, so too will the region's overall output from all of its economic units. Reduced output will result in less demand for workers.

The human development index is the second aspect that has an impact on the minimum wage. One measure for the formation of development that might propel economic progress is the human development index. The Human Development Index (HDI), developed by the United Nations Development Program (UNDP), is a tool for measuring the quality of human capital (IPM). The Human Development Index (HDI) offers a combined measurement of the three dimensions of human development: health (measured by life expectancy), education (measured by adult literacy levels and average length of education), and purchasing power (which has a respectable standard of living) (measured by purchasing power parity). The capacity of a people depends heavily on their level of development.

Labor is the third factor. Since labor plays a significant role in economic development and human welfare both individually and collectively, it is crucial to the growth of the national economy. A worker or laborer is somebody who works for pay or other types of compensation, as defined by Law No. 13 of 2003 Concerning Manpower. Employers are people, businesses, organizations, or other entities that hire employees and give them wages or other types of payment.

Investments are the fourth factor that has an impact on the minimum wage. The initial capital for a nation's economic development is known as investment or investment. National stability must be in good shape in order for national development to be successful. A country may carry out its national development more easily the more stable the country is. The three pillars of equitable development to ensure justice for all, bettering economic growth, and a foundation of sound and growing national stability should serve as the basis for all worthwhile development (Silvia, 2015).

The quantity of businesses is the fifth element that influences the minimum wage. In keeping with the second argument, which states that increased investment in a sector will lead to increased employment, the minimum wage will rise as employment increases. This is due to the fact that more investment will lead to more businesses in the sector. An rise in businesses will result in more product being generated, which will lead to more employment and an increase in the minimum wage. Based on the explanation of the background of the problems above, the authors are interested in conducting research on the development of the provincial minimum wage with the title "Analysis of the determinants of the Bali provincial minimum wage for the period 2017 -2021"

METHOD

This type of research is a type of quantitative descriptive analysis research. The type of data used in this research is panel data, which is a combination of time series data and cross section data obtained from the Central Statistics Agency (BPS) in 9 regencies in the Province of Bali. Data collection techniques are carried out by recording and documenting the necessary data from agencies and institutions that provide the data. The analytical method used to analyze the effect of gross regional domestic product (GRDP), community development index, investment, labor, and the amount of business on the minimum wage is panel data regression analysis which includes: parameter estimation of econometric models with the *Pooled Least Square* (PLS) approach. , *Fixed Effect Model* (FEM), and *Random Effect Model* (REM).

The model used in this research is:

$$\mathrm{UMKi}t = \beta_{o} + \mathrm{IPMi}t + \mathrm{TKi}t + \mathrm{Ii}t + \mathrm{JPi}t + \varepsilon\mathrm{i}t$$

description:

UMK = District/City Minimum Wage (Rupiah)
IPM = Human Development Index (%)
TK = Labor (%)
I = Investment (Rupiah)
JP = number of companies (Units)
εit = Error term
$\beta 0$ = Constant
$\beta 1 \cdots \beta 4$ = Independent variable regression coefficient
I = Regency/City (cross section)
T = Year (time Series)
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RESULT AND DISCUSSION

When viewed from the perspective of data analysis, panel data is helpful for observing the economic impact that is inseparable from each individual throughout a number of periods; this is not possible when using cross section data or time series data independently. Regression analysis using a panel data data format is known as panel data regression analysis. The estimation stage of panel data regression analysis in this study includes: parameter estimation of the econometric model using the Pooled Least Square (PLS) approach, Fixed Effect Model (FEM), and Random Effect Model (REM); selection of the best estimated model by Chow test and Hausman test, and Lagrange Multiplier test if necessary; model goodness-of-fit test on the selected estimated model; and test the validity of the effect of independent variables on the selected estimated model.

The estimation results of the econometric model in advance using the Pooled Least Square (PLS)/CEM approach, Fixed Effect Model (FEM) and Random Effect Model (REM) along with the results of the model selection test are summarized in Table 1 below.

Table 1. Results of Econometric Model Estimation

Panel Data Regression - Cross Section

Variable	**Regression Coefficient**		
	CEM	**FEM**	**REM**
C	14,12078	5,772696	14,95002
LogPDRB	0,004891	-0,112914	-0,098378
IPM	0,009358	0,153094	0,021877
LogTK	-0,121759	-0,120853	-0,172247
LogINV	-0,002186	0,001366	-0,004262
LogIP	0,121948	0,020945	0,122334
R^2	0,260268	0,918296	0,223646
Adjusted. R^2	0,165431	0,884032	0,124113
Statistic *F*	2,744363	26,80124	2,246961
Prob. Statistic *F*	0,032255	0.000000	0,068741

Model Selection Test

A. Chow

Cross- Section $F(8,31)$= 31,208266; Prob. $F(8,31)$ = 0,0000

B. Hausman

Cross-Section random χ^2 (5) = 214,731866; Prob. χ^2 = 0,0000

Source: Data processed, 2022

From table 1 above, the Chow test and Hausman test show that (FEM) was chosen as the best estimated model, as seen from the probability or significance of the Chow test which has a prob value of 0.0000 <0.01 and the Hausman test has a prob value of 0.0000 <0 ,01. The complete estimation results from the FEM estimated model are shown in Table 2 and Table 3 below.

Table 2. Fixed Effects Model Estimation Model (FEM)

$$LogUMK_{it} = 5{,}772696 - 0{,}112914 \text{ LogPDRB}_{it} + 0{,}153094\, IPM_{it} - 0{,}120853\, logTK_{it} +$$

(0,1375) (0,0000)* (0,4105)

$$0{,}001366\, logINV_{it} + 0{,}020945\, logJP_{it}$$

(0,7159) (0,7190)

R^2 = 0,918296; *DW* =21,755125; *F.* = 26,80124; Prob. *F* = 0,0000

Source: BPS, processed. Description: *Significant at α = 0.01; **Significant at α = 0.05; ***Significant at α = 0.10; The number in brackets is the probability of the t statistic.

Source: Data processed, 2022

From Table 2 above, it can be seen that the estimated FEM model exists with a probability or empirical statistical significance F of 0.0000 (<0.01), with a coefficient of determination (R2) of 91.82%; which means that the District Minimum Wage (UMK) variable is influenced by the variables GRDP, HDI, TK INV, and JP, the remaining 8.18% is influenced by other variables that are not included in the econometric model. Separately from other variables in the econometric model, there is one independent variable that has a significant influence, namely the Human Development Index (IPM) variable with a probability or empirical statistical significance t of 0.0000 (<0.01).

The HDI variable has a regression coefficient value of 0.153094 with a logarithmic-linear relationship pattern. That is, if the HDI increases by 1 percent, then the UMK will increase by 0.153094 x 100 = 15.3094 percent. Preferably, if the HDI decreases by 1 percent, then the UMK will decrease by 0.153094 x 100 = 15.3094 percent.

Table 3. Region Effects and Constants

No	Regency	Effect	Constanta New
1	Jembrana Regency	0.285515	6.058211
2	Tabanan Regency	-0.2154	5.557293
3	Badung Regency	-0.85353	4.919167
4	Gianyar Regency	-0.38404	5.388654
5	Klungkung Regency	0.342919	6.115615
6	Bangli Regency	0.645532	6.418228
7	Karangasem Regency	1.095803	6.868499
8	Buleleng Regency	0.351742	6.124438
9	Denpasar Regency	-1.26854	4.50416

Source: Data processed, 2022

In Table 3, it can be seen that the Regency with the highest constant value is Karangasem Regency, which is 6.868499. That is, related to the influence of the GRDP variables, IPM, TK, INV, and JP have a higher UMK effect compared to other districts. While the lowest constant value is Denpasar Regency which is equal to 4.50416. That is, related to the influence of the GRDP variables, IPM, TK, INV, and JP have a lower UMK effect compared to other districts.

DISCUSSION

The Effect of Gross Regional Domestic Product (GRDP) on District Minimum Wage (UMK)

The Gross Regional Domestic Product (GDP) variable has a statistical probability or empirical significance value of 0.1375 (> 0.01), so that GRDP has no effect on the District Minimum Wage. Rising wage rates are inconsistent with the general public's standard of living. As is the case with other prices, wage levels are determined by supply and demand, so that under balanced conditions, theoretically workers will receive wages equal or greater than the amount they contribute in the production of goods and services (Banurea, 2022). The Gross Regional Domestic Product and District Minimum Wage have a logarithmic connection, which means that for every one percent growth in the Gross Regional Domestic

Product, there will be a 0.112914 percent increase in the District Minimum Wage. In contrast, the District Minimum Wage will reduce by 0.112914 percent if the Gross Regional Domestic Product falls by one percent. This study contradicts Ramadhani's research (2020), which found that GRDP affects the level of the minimum wage. With GRDP growth is also an increase in economic growth, so per capita income also increases. The increase in wages is related to the increase in the contribution of the industrial sector, the service sector, the tourism sector, and other sectors to GRDP. GRDP is the total added value generated by all business units in an area or the total value of final (net) goods and services produced by all economic units (BPS, 2020e). Determining regional categorisation and comparing the area economy over time are two advantages of computing GRDP (Adisetiawan & Ahmadi, 2016). The first is also understanding the regional economy's structure to identify how to classify regions as industrial, agricultural, and service sectors and what each sector contributes to the regional economy (Adisetiawan & Ahmadi, 2016). The second is to examine the regional economy over time to determine whether local wealth has increased or decreased (Adisetiawan & Ahmadi, 2016).

The Effect of Human Development Index (IPM) on District Minimum Wage (UMK)

The variable Human Development Index (IPM) has a statistical probability or empirical significance value of t of 0.0000 (<0.01), so that the HDI has a significant effect on the District Minimum Wage. The HDI variable has a regression coefficient value of 0.153094 with a logarithmic-linear relationship pattern. That is, if the HDI increases by 1 percent, then the UMK will increase by 0.153094 x 100 = 15.3094 percent. Preferably, if the HDI decreases by 1 percent, then the UMK will decrease by 0.153094 x 100 = 15.3094 percent. The level of community welfare as shown by the degree of health, education, and a respectable standard of life is depicted by the Human Development Index (IPM), a value (Karim et al., 2021). According to (Susanto, 2021), the Human Development Index is a determinant in setting the minimum wage in a region. This study supports that claim. The HDI measures the average sum of human development accomplishments, including life expectancy, health, and a decent and informed existence. The health dimension is calculated using the life expectancy at birth. Similarly, indices of the typical length of schooling and length of schooling are used to gauge the knowledge dimension. Per capita spending demonstrates the expenditure dimension (a good quality of life), but a greater HDI represents an increase in welfare as a development indicator. Therefore, by enhancing these three dimensions, HDI is improved. When health and education infrastructure is developed, community health and knowledge are improved. A higher standard of life is also a result of better health and knowledge, which also boost economic growth, per capita income, and consumption.

The Effect of Labor (TK) on District Minimum Wage (UMK)

The labor variable (TK) has a statistical probability or empirical significance value of t of 0.4105 (> 0.01), so that TK has no effect on the District Minimum Wage. This result contradicts Hartono (2018), where a large population with high growth will have a positive or negative meaning for society. The positive aspect is that a large population will mean the availability of 2 work forces that can be utilized to increase the productivity of goods and services to meet community needs. The burden of life will increase for families and communities as a result of population growth, which is another negative feature. Most employment issues caused by rapid population increase can be resolved using demographic tools. However, because employment challenges are not just a logical result of demographic variables, it is necessary to take into account and include other social and economic aspects in order to handle the numerous issues they give rise to. An increase in the labor force results from an increase in population. A labor force that expands more quickly than available jobs would result in more unemployed people. Salaries and wages have an impact on a company's pricing level, which has an impact on how many jobs are available and how they are distributed. Higher salaries are paid, which results in higher-quality output. The high product prices have a negative impact on the company's ability to compete in the market, which has a negative impact on the company's ability to expand and distribute job opportunities fairly. The relationship between wage rates and the number of workers firms want to hire is the labor demand. As a result, the number of workers a business owner employs at each potential wage rate over a specific amount of time can be used to determine the demand for labor (Hartono, 2018). The relationship between wages and unemployment is fairly close; high and low pay will have an impact on the supply and demand for labor, which will then have an effect on the unemployment rate. Wages are remuneration for the physical and mental labor that is performed. Money wages, or the sum of money that employees earn from their employers as compensation for the mental and physical labor devoted to the production process According to Sukirno in I Made Yogatama (2010: 24).

The Effect of Investment (INV) on District Minimum Wage (UMK)

The investment variable (INV) has a statistical probability or empirical significance value of t of 0.7159 (> 0.01), so that INV has no effect on the district minimum wage. This result is contrary to (Karim et al., 2021), judging from its impact, investment will have an effect on increasing people's welfare, both government and private investment, because investment will increase the number of workers absorbed. Those who were previously jobless will find employment and earn money. The people that make up the HDI component's membership will have more purchasing power as their income rises. A bigger increase in the HDI will follow economic development that is accompanied by equal distribution of public income as opposed to economic growth that is not (Karim et al., 2021). From a macroeconomic standpoint, variations in patterns of resource ownership can lead to income distribution inequality. Low income will lead to a reduction in investment and savings. Lack of capital from poor investment will lead to low production and low income (Karim et al., 2021) Investor confidence to invest is impacted by a favorable investment environment. The investment value has an impact on how much money the company can raise to expand its operations and create jobs (Budiarto & Dewi, 2015). It was further stated that increased investment boosted trade volume and production volume, had an impact on expanding employment opportunities, increasing per capita income, and increasing people's welfare. (Putri & Soelistyo, 2018) states that increased investment has a positive effect on employment. The higher the investment value, the higher the absorption of labor.

The Effect of Number of Companies (JP) on District Minimum Wage (UMK)

The number of companies variable (JP) has a statistical probability or empirical significance value of t of 0.7190 (> 0.01), so that JP has no effect on the District Minimum Wage. This result contradicts Citamaha (2018), the growth in the number of available business units will directly increase the number of workers needed for the production process in an industry (Karim et al., 2021). According to Rejekiningsih (2004) employment is influenced by the number of business units. The number of business units and the number of employees have a positive and elastic relationship. Employment absorption will rise when there are more business units, and vice versa. Companies won't need as much labor as the minimum wage rises above the prior rate. In contrast, the demand for labor will increase if the minimum pay is lower than the previous wage. When wages increase, the relative cost of labor increases if the prices of other inputs are assumed to remain constant. In the end, this encourages firms to use labor less and switch to less expensive manufacturing elements.

IMPLICATIONS

The findings of this study can be utilized to inform the development of minimum wage regulations. While salaries are labor expenditures for businesses, the minimum wage for workers/laborers provides for the necessities of a decent existence for workers/laborers and their families. Involving relevant parties and paying attention to obvious elements are required while deciding the minimum wage as well as its amount. In order to prevent disagreements between companies and employees/labourers, the minimum wage is adjusted to the local economy.

CONCLUSION

The results of the research simultaneously or together in Test F show that the variables of gross regional domestic product (GDP), community development index, investment, labor, and number of businesses have an effect on the minimum wage. Partially, the variables of gross regional domestic product (GRDP), investment, labor, and number of businesses have no effect on the minimum wage, only one independent variable, namely the community development index, has an effect on the minimum wage. The magnitude of the influence shown by the value of the coefficient of determination (R2) is 91.82%, while the remaining 8.18% is influenced by other variables not examined in this study. The purpose of wages that adhere to the rules is to provide workers and their families with a living wage that will allow them to prosper. The level of the Human Development Index (IPM) and economic growth are two factors that are taken into account when defining regional minimum wages, such as districts. The calculation of the regional or district's minimum salary for the following year will increase in proportion to the HDI level and economic growth.

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