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The Effect of Regional Minimum Wage on Gross Regional Domestic in Regencies and Cities in Bali Province

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***Abstract**: This study was conducted with the aim of analyzing the effect of regional minimum wages on gross regional domestic product in regencies and cities in Bali Province. The regional minimum wage is an important factor in regulating the minimum income standards that must be paid by companies and can have a significant effect on GRDP in regencies and cities in Bali Province. Supply and demand theory is used as a basis for understanding the relationship between the regional minimum wage and the consumer price index, assuming that an increase in the regional minimum wage can increase workers' income and consumer demand. Data of regional minimum wage and GRDP of regencies and cities in Bali from 2019 to 2023 were used for the analysis. The results of the analysis using Partial Least Squares (PLS) and Bootstrap approach show a significant relationship between regional minimum wage and GRDP, with an increase in regional minimum wage positively correlated with an increase in GRDP. This finding supports the hypothesis that regional minimum wage positively affects GRDP in Bali. The discussion highlights the impact of varying regional minimum wage on GRDP, including increased purchasing power, increased local consumption, and encouragement for investment. However, it is important to remember that this relationship is not always linear, and other factors such as government policies and global market conditions also play an important role. In conclusion, this study confirms that regional minimum wage plays a significant role in economic growth in Bali.*

Keywords: Regional minimum wage, Gross Regional Domestic Product, City Regencies in Bali.

I. Introduction

Bali is one of the provinces in Indonesia that has a fairly diverse Gross Regional Domestic Product (GRDP) sector. GRDP is a measure of the total value of goods and services produced in a particular region over a certain period of time (Masud, 2022). In the context of Bali, where tourism is one of the main industries, an increase in the regional minimum wage could affect prices in the tourism sector and the purchasing power of tourists. An increase in the minimum wage applied to each regency and city in Bali can be a factor that affects the level of GRDP in Bali Province.

Regional minimum wages have a significant impact on GRDP in Indonesia (Rizquillah Ahrizal et al., 2022). A number of studies that have been conducted in Indonesia to examine the effect of minimum wages on GRDP show varying effects. For example, a study conducted in East Java by (Istiyani et al., 2022) found that an increase in the minimum wage had a negative impact on GRDP. Meanwhile, a study by (Viljoen et al., 2020) said the minimum wage positively affects GRDP per capita, which suggests that higher wages lead to increased economic productivity. However, this study has not specifically discussed the effect of minimum wages on GRDP in the City Districts in Bali.

The effect of the minimum wage on GRDP in the regencies and cities in Bali Province still requires more in-depth research. Through this research, it is expected to gain a better understanding of the relationship between minimum wages and GRDP in the City Districts of Bali Province. This research can provide a more comprehensive understanding for the government in developing strategies to strengthen potential economic sectors in the Bali region.

By exploring this relationship, this research can contribute to how the regional minimum wage impacts the GRDP of Bali's city districts. Government policies, global economic conditions, and local industry dynamics can all influence the final outcome of the minimum wage on regional economic growth.

II. Grand Theory

Supply and Demand

Mankiw in 2014 discussed the laws of supply and demand, which are fundamental concepts in economics. The law of demand states that when the price of a good or service increases, the quantity demanded decreases, assuming all other factors remain constant. On the other hand, the law of supply suggests that when the price of a good or service increases, the quantity supplied also increases (Kakarot-Handtke, n.d.). The theory of supply and demand in economics explains how the equilibrium price of goods and services is set based on the interaction between supply and demand in the market (Pasimeni, 2022).
(Osborne & Rubinstein, n.d.) in their book mentioned that equilibrium in the market is achieved when supply matches demand, leading to stable prices. The Law of Demand states that when prices rise, the quantity demanded decreases, and vice versa, assuming other factors remain constant. Conversely, the Law of Supply suggests that as price increases, the quantity supplied also rises, and decreases as price falls, all else being equal. These principles play an important role in determining market dynamics and price stability. Perloff's 2017 theory of market supply and demand rebalancing, as discussed in various contexts, offers insights into market equilibrium dynamics. This theory emphasizes the importance of efficiently matching supply and demand (Malyshkin, 2016). The balancing theory of

supply and demand is the basis for much economic analysis, including when considering the relationship between regional minimum wages and Gross Regional Domestic Product.
Law of Supply: A regional minimum wage can affect the cost of producing a good or service. If the regional minimum wage is increased, the cost of production is also likely to rise. This may cause firms to raise the price of the goods or services they produce. In the context of the law of supply, such price increases can result in an increase in the supply of goods or services to the market.
Law of Demand: An increase in the regional minimum wage can also affect people's purchasing power. If the regional minimum wage rises, the income of workers who receive the regional minimum wage will increase. This can lead to an increase in their purchasing power. In the context of the law of demand, this increase in purchasing power can lead to an increase in demand for certain goods and services.
Market equilibrium: An increase in the regional minimum wage can shift the balance between supply and demand in the market. If an increase in the regional minimum wage leads to an increase in the price of goods or services, but also increases people's purchasing power, there will be a change in the quantity demanded and offered in the market.
The effect of a regional minimum wage increase on a region's GRDP can be complex. If an increase in the regional minimum wage leads to an increase in people's purchasing power and an increase in the demand for goods and services, this can boost local economic growth and in turn can contribute to GRDP growth. However, if an increase in the regional minimum wage also results in a significant increase in production costs and reduces the competitiveness of local firms, this could have a negative impact on GRDP.

Hypothesis

Based on the background and explanation of the literature review, the following hypothesis can be formulated.
H1 : Regional minimum wages have a significant positive effect on Gross Regional Domestic Product of regencies and cities in Bali Province.
H0 : Regional minimum wages have no significant positive effect on the Gross Regional Domestic Product of City Regencies in Bali Province.

III. RESEARCH DESIGN

The population in this study is minimum wage data and consumer price index data sourced from the central statistics agency data from 2019 to 2023, 45 data were obtained. In this study, there are two variables including the following.

Regional minimum wage (Independent variable)

Regional minimum wage refers to the lowest wage allowed by law in a particular region, set as a basic standard for employers to pay their workers (Wiraja & Marwan, 2023). The purpose of the regional minimum wage is to protect workers by setting the lowest limit for the level of wages that workers can receive. The minimum wage aims to ensure that workers receive fair and reasonable compensation for the work they do. In addition, the study (Arango & Flórez, 2021) states that the variation of minimum wages across regions is influenced by economic factors such as GDP and consumption levels, as well as political factors such as competition from local officials in setting wage levels. The data to measure this variable is obtained from accessing the BALI central statistics agency on its website at https://bali.bps.go.id/

Gross Regional Domestic Product

Gross Regional Domestic Product (GRDP) is a measure of the total value of all goods and services produced in a region or area in a given time period, usually one year. GRDP reflects the economic health of a region and is used as a key indicator to measure the level of economic growth, productivity, and prosperity of a region. The tourism sector is usually the main contributor to Bali's GRDP, but other sectors such as agriculture, manufacturing, trade, and services also play a role. Data on the Gross Regional Domestic Product of each regency and city in Bali Province is obtained from the Bali Central Bureau of Statistics by accessing the website at https://bali.bps.go.id/

Data Analysis

Data analysis using Partial Least Squares (PLS) is one of the multivariate statistical techniques used to understand the relationship between a set of independent variables (predictor variables) and a set of dependent variables (response variables). PLS is often used in the context of modeling complex relationships between these variables, especially when there are many predictor variables and/or when there is significant multicollinearity among the predictors. In the context of Partial Least Squares (PLS), acceptance of significance refers to testing the statistical significance of the partial regression coefficients estimated in a PLS model. In PLS, models are developed by constructing a set of latent components (factors that are not directly observed) that estimate the relationship between predictor variables and response variables. PLS combines regression techniques with factor analysis techniques. Bootstrap Approach This approach involves an iterative sampling process with replacement from existing data (bootstrap resampling). Each time a sample is taken, the PLS model is re-estimated and partial regression coefficients are calculated. In multiple sampling, a distribution of partial regression coefficients is constructed and tested whether they are significantly different from zero. The bootstrap approach provides a more robust and accurate estimate of the significance of partial regression coefficients in PLS. to test the level of significance that will later be used to draw conclusions on hypothesis acceptance is to look at the significance value (p value $< \alpha$).

IV. RESULTS

Figure 1 Hypothesis Test shows that the relationship between the regional minimum wage and GRDP of regencies and cities in Bali Province is positive. This means that an increase in the regional minimum wage correlates with an increase in GRDP. This means that if the value of the regional minimum wage is higher, this will affect the higher GRDP value of the Regency and City in Bali.

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Figure 1
Hypothesis Test

Based on the results of bootstrap testing, there is a significant relationship between the regional minimum wage and GRDP as shown in Table 1 Bootstrap Testing Results. The results show that the p value of 0.00 is smaller than α, meaning that the relationship between regional minimum wage and GRDP is believed to be statistically significant. The Original Sample (O) value is 0.634 which can be concluded to have a positive influence. From the p and original sample results, it can be concluded that the regional minimum wage has a significant positive effect on GRDP in the regencies and cities of Bali Province. This is in line with the hypothesis proposed, which has a positive significant effect, therefore the hypothesis in this study is accepted.

TABLE 1. Bootstrap Testing Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/ STDEV|)	P Values
Regional minimum wage -> Gross Regional Domestic Product	0,634	0,63	0.099	6,389	0,00

The discussion on Minimum Wage has a significant positive effect on Gross Regional Domestic Product of Regency and City in Bali Province has a varied impact depending on various factors. Some possible interpretations that can be considered include the structure of the local economy, the level of development, and local government policies. Here are some of the ways in which the regional minimum wage can affect GRDP in Bali's regencies and cities:

Increased purchasing power, where an increase in the regional minimum wage means that workers' income will increase. This can lead to a significant increase in demand for local goods and services in the city district. This increase in demand can drive the growth of local economic sectors, such as trade, services, and manufacturing, which is one of the components of GRDP.

Consumption levels, where an increase in the regional minimum wage can result in an increase in local consumption. When workers receive a higher income, they tend to spend more money on goods and services in their own community. With increased local consumption, this can result in increased production costs for goods and services produced in the region. This can affect the competitiveness of local firms in regional or national markets, especially if they are unable to transfer these additional costs to consumers.

Another factor that can influence the regional minimum wage on GRDP, which has a significant positive effect, is important to remember that this also affects investment because as consumption power increases, businesses may feel the urge to increase their investment in the production of goods and services. This could mean the opening of new factories, business expansion, or increased production efficiency which will lead to increased employment. more people may be encouraged to join the labor market. This can increase employment and in turn, increase economic output. All of these things can boost GRDP.

V. CONCLUSION

This study concluded that the regional minimum wage has a significant positive effect on Gross Regional Domestic Product in regencies and cities in Bali Province. However, it should be noted that the relationship between the regional minimum wage and GRDP is not always linear. There are many other factors that also contribute to the economic growth of a region, such as fiscal and monetary policies, global market conditions, infrastructure, and social and political factors. In addition, too large an increase in the regional minimum wage can also have a negative impact on economic growth, such as increasing production costs for firms, which can discourage investment and growth. Future research can expand on this research by adding other variables or indicators to cloud the results of this study.

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