

## Impact Of Wages, Unemployment Rates, and Inflation on Labor Force Participation

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### *Abstract*

*Employment is a crucial element in supporting a country's economic progress. This study aims to evaluate the impact of several macroeconomic indicators, namely minimum wages, unemployment, and inflation, on the labor force participation rate in six ASEAN member countries (ASEAN-6). This study uses a quantitative approach through panel data regression analysis with a random effect model. The findings of the study indicate that minimum wages have no effect on labor force participation, while unemployment and inflation rates have been shown to have a significant effect.*

**Keywords:** *Labor, minimum wages, labor force participation rate, unemployment rate and inflation.*

## INTRODUCTION

ASEAN has developed into one of the world's most dynamic economic regions, during the period from 2016 to 2023, economic growth remained between 4% and 5% annually (ASEANstats, 2025). Labor plays a vital role as one of the key components contributing to a country's economic development, where the Labor Force Participation Rate (LFPR) plays a role in measuring the extent to which the working-age population (15 years and above) is involved in the labor market (World Bank, 2025b). In general, the labor force participation rate in ASEAN remains relatively stable, but there are variations between countries. In the ASEAN region, variations in LFPR between countries show significant disparities, with Cambodia recording the highest average LFPR of 84.11% in the 2016–2023 period, followed by Vietnam at 81.83% and Thailand at 74.89% (World Bank, 2025b).

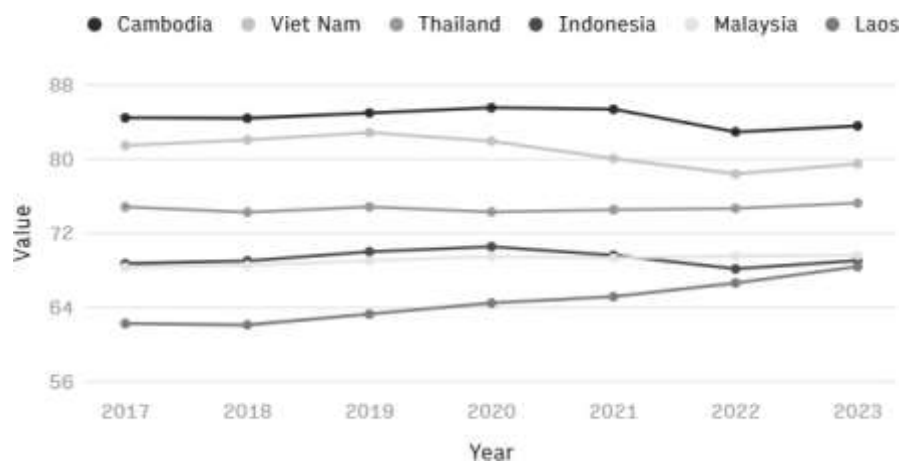


Figure 1. ASEAN-6 LFPR Graph  
Source: Data analyzed by researchers, 2025

According to the chart illustrating the Labor Force Participation Rate (LFPR) across six ASEAN nations between 2016 and 2023, there are significant differences in trends and participation levels across countries. Cambodia consistently recorded the highest LFPR among the observed countries, with participation rates consistently above 84%, peaking at 85.369% in 2019. After a slight decline following the COVID-19 pandemic, Cambodia's LFPR rose again in 2023 to 83.65%. Similarly, Vietnam showed a relatively high participation rate, although it declined slightly after 2020 from 81.939% to 79.278% in 2023. In contrast, the Philippines had the lowest LFPR among ASEAN countries in the dataset, ranging between 60% and 63%, experiencing a significant decline to 56.681% in 2020, most likely as a result of the pandemic's effect on the labor market. As of 2023, the Philippines has not yet shown significant recovery, with its LFPR reaching only 63.402%. Indonesia and Malaysia demonstrated relatively fluctuating trends. Indonesia's LFPR rise from 68.742% in 2016 to 70.027% in 2018, declined during the pandemic, and recovered to 69.073% by 2023. Malaysia also experienced a decline in 2020, but its LFPR remained within the 69% range throughout the period.

Meanwhile, Laos exhibited a steady increase in LFPR over the years. From 62.137% in 2017, Laos improved its participation rate to 68.437% by 2023, indicating progress in labor force engagement, although its LFPR still lags behind other countries. Thailand showed a slight downward trend in LFPR from 74.858% in 2019 to 75.312% in

2023.

According to labor supply theory, higher wages can encourage individuals to enter the labor force due to greater economic incentives (Borjas, 2016). Salaries in metropolitan regions tend to surpass those in rural areas. This is in line with regional minimum wage policies that aim to protect workers and ensure they receive a decent wage (Santoso & Kristiyanto, 2021). The minimum wage condition in the ASEAN region in 2022 is under pressure due to the pandemi (ILO Flagship Report, 2022). When the minimum wage is too low, the aggregate household income is stagnant. Because consumption is a major component in the gross domestic product of developing countries such as ASEAN, economic growth slows down (Keynes, 1936). Meanwhile, a high unemployment rate can lower labor force participation rate because discouraged workers choose to leave the labor force after not getting a job for a long time (Clark & Summers, 1979). Prior to the pandemic, most ASEAN member states recorded relatively low and stable unemployment rates, ranging from 1% to 5% (ASEAN, 2023). The structure of the ASEAN labor market is still dominated by the informal sector, where around 69.3% of the total workforce is employed informally by 2024. This magnifies the risk of hidden unemployment and underemployment that are not recorded in formal statistics (ILO, 2024)

In the ASEAN region, which consists of countries with diverse economic characteristics, labor market structures, and levels of industrialization, inflation plays a strategic role as a reflection of the fundamental conditions of the domestic economy as well as global external influences. During the period 2016 to 2019, the ASEAN region enjoyed relatively good price stability. Based on World Bank data, average inflation in ASEAN countries is in the range of 2–3%, reflecting the effectiveness of monetary and fiscal policies in maintaining price stability amid moderate economic growth. Research in the (World Bank, 2025) The Global Journal of Humanities and Social Sciences Research reports that inflation in countries such as Indonesia and Malaysia remains relatively well-managed, while Laos and Myanmar are affected more extensively, affecting purchasing power and economic viability (Mahhmood et al., 2024). Inflation in ASEAN is influenced by several key global factors. International economic expansion plays a crucial role in shaping regional inflation, in both the short run and the long run. The level of ASEAN trade openness to the global market also plays a role in determining regional inflation patterns (Trinh & Nhan, 2023). Based on World Bank data, average inflation in ASEAN countries is in the range of 2–3%, reflecting the effectiveness of monetary and fiscal policies in maintaining price stability amid moderate economic growth (World Bank, 2025). In previous research by Herman, (2022) it was stated that the influence of the minimum wage did not have a significant effect partially on LFPR. Meanwhile, inflation has a significant effect on LFPR. Research in Italy by Nemore et al., (2021) showed a long-term relationship between unemployment and LFPR.

## RESEARCH METHODS

This research adopts a quantitative method utilizing secondary data to analyze the effects of wages, minimum wage levels, unemployment rates, and inflation on the labor force participation rate during the 2016–2023 period. The study's population encompasses minimum wage data, unemployment rate, inflation and LFPR of six ASEAN countries.

The samples used were six countries in the ASEAN region, namely Cambodia, Vietnam, Thailand, Indonesia, Malaysia, and Laos. Data was collected through studies from World Bank and International Labour Organization publications. The study employed panel data regression analysis conducted with Eviews 12 software. The equation of the regression function of this study can be formulated as follows:

$$LFPR_{it} = \alpha + \beta_1 Wages_{it} + \beta_2 Unemploy_{it} + \beta_3 Inflation_{it} + \varepsilon_{it} \quad (1)$$

Information:

$LFPR_{it}$	: LFPR
$\alpha$	: Constant coefficient
$i$	: Country coefficient
$t$	: Time coefficient (years)
$\beta_1$	: Minimum wage coefficient
$Wage_{it}$	: Minimum wage
$\beta_2$	: Unemployment rate coefficient
$Unemploy_{it}$	: Unemployment rate
$\beta_3$	: Inflation coefficient
$Inflation_{it}$	: Inflation
$\varepsilon$	: Error rate

## RESULTS AND DISCUSSION

### Model Selection Test

To determine the most appropriate model among CEM, FEM, and REM, several model selection tests were conducted, including the Chow test, Hausman test, and Lagrange Multiplier (LM) test. The Chow test yielded a probability value of 0.000, which is less than 0.05, indicating the selection of the FEM model. However, the Hausman test showed a probability of 0.1256, greater than 0.05, suggesting that the REM model is more suitable. Additionally, the LM test resulted in a probability value of 0.0000, which is below 0.05, further supporting the selection of the REM model. Based on the outcomes of these three tests, REM was identified as the most appropriate model, as indicated by the Hausman test probability value exceeding 0.05 and the LM test probability falling below 0.05.

### Classic Assumption Test

In this study, classical assumption tests were carried out, including normality tests, multicollinearity tests, and heteroscedasticity tests.

- **Normality Test**

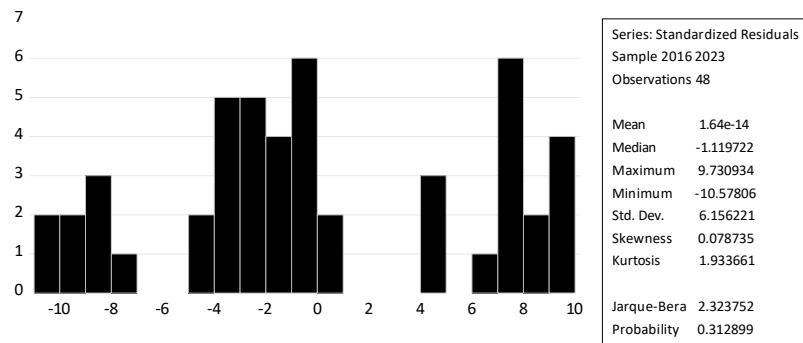


Figure 1. Normality Test

Source: *Eviews* (data processed by researchers, 2025)

Figure 1 shows a probability value of 0.312899, which exceeds 0.05, indicating that the data in this study follows a normal distribution.

- **Multicollinearity Test**

**Table 1. Multicollinearity Test**

	TPAK	Minimum Wage	Unemployment Rate	Inflation
LFPR	1.000000	-0.221172	-0.710404	-0.129724
Minimum Wage	-0.221172	1.000000	0.358233	-0.128240
Unemployment Rate	-0.710404	0.3558233	1.000000	-0.121189
Inflation	-0.129724	-0.128240	-0.121189	1.000000

Source: *Eviews* (data processed by researchers, 2025)

The correlation value between the minimum wage and unemployment rate is 0.358223, between minimum wage and inflation is -0.128240, and between unemployment rate and inflation is -0.121189. These three values are much lower than the general threshold indicating multicollinearity, which is 0.80. This suggests the absence of a significant correlation between the independent variables used in the analysis.

- **Heteroscedasticity Test**

**Table 2. Heteroscedasticity Test**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.389088	1.660978	3.846582	0.0004
Minimum Wage	6.18E-05	0.000552	0.111987	0.9113
Unemployment	-0.570976	0.418221	-1.365251	0.1791
Inflation	-0.033907	0.039618	-0.855840	0.3967

Source: *Eviews* (data processed by researchers, 2025)

The results of the heteroscedasticity test in this study used the glejser test. No indication of significant hetessorkedasticity problems was found.

- **Hypothesis Test**

**Table 3. Hypothesis test**

<i>Variable</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-Statistic</i>	<i>Prob.</i>
C	75.71299	2.436441	31.07525	0.0000
Minimum Wage	0.000498	0.000565	0.880688	0.3833
Unemployment	-1.074460	0.450879	-2.383036	0.0216
Inflation	0.115975	0.041354	2.804477	0.0075
<b>Weighted Statistic</b>				
Root MSE	1.006109	R-squared	0.431465	
Mean dependent var	4.939076	Adjusted R-squared	0.392701	
S.D.dependent var	1.348460	S.E. of regression	1.050847	
Sum squared resid	48.58827	F-statistic	11.13063	
Durbin-Watson stat	0.636151	Prob(F-statistic)	0.000015	

Source: *Eviews* (data processed by researchers, 2025)

The t-test results indicate that the minimum wage does not significantly affect the Labor Force Participation Rate (LFPR), as shown by a probability value of 0.3833, which exceeds the 0.05 threshold. On the other hand, both the unemployment rate and inflation have a statistically significant impact on LFPR, with probability values falling below 0.05. The F-test produces an F-statistic of 11.13063 and a probability value of 0.000015, confirming that the independent variables, minimum wage, unemployment rate, and inflation, jointly influence the dependent variable, LFPR. Additionally, the R-squared value of 0.431465 implies that 43% of the variation in LFPR is accounted for by these independent variables, while the remaining 57% is explained by other unobserved factors.

The findings of this study reveal that the Minimum Wage has a negative but statistically insignificant impact on the Labor Force Participation Rate (LFPR). This implies that fluctuations in the minimum wage have not been substantial enough to drive an increase in labor force participation. This may be because the set minimum wage is still at a level that is not attractive enough for the inactive group to enter the labor market. These results align with the findings of research Blanchflower & Oswald, (1995) indicating that raising the minimum wage does not automatically influence an individual's decision to enter the workforce, particularly within a flexible labor market. A study by Herman (2022) also found that the minimum wage (UMR) negatively affects the Labor Force Participation Rate (LFPR). The unemployment rate shows that it has a significant influence and has a positive effect on LFPR. In line with research that states the same concept, Nemore et al., (2021) added worker effect, where the rising unemployment rate encourages more individuals, especially women, to enter the labor market. In this study, inflation showed significant results and had a positive influence on LFPR. Research by Herman, (2022) states the same thing, namely that inflation affects LFPR. Rising prices of goods and services due to inflation encourage individuals to seek additional income by entering the labor market. This is consistent with the Phillips curve concept developed by Edmund S. Phelps, in which a decline in real wages due to inflation encourages greater labor force participation in compensation for economic pressures (Phelps, 1967). In addition, the Phillips curve extended with the expectations proposed by Friedman, (1977) also states that in the short term, inflation could reduce real wages, thereby increasing demand for labor and participation in the labor force.

The overall analysis suggests that, in the context of this study, the minimum wage, unemployment rate, and inflation significantly influences the Labor Force Participation Rate (LFPR). This condition shows that macroeconomic aspects have an important role in the labor market. Even though one of the macroeconomic variables shows no individual impact, based on the simultaneous results all macroeconomic indicators have an effect on LFPR. Based on the 2023 report on World Employment and Social Outlook Trends from the International Labour Organization, fluctuations in the Labor Participation Rate (LFPR) are greatly influenced by macroeconomic dynamics. Countries with stable economic growth and inclusive job creation tend to have high LFPRs, as more and more individuals are driven to work as a result of increased employment opportunities and well-being.

## CONCLUSION

From the findings and discussions outlined in the previous chapter, the conclusions of this study include the minimum wage does not have a statistically significant impact on the Labor Force Participation Rate when assessed individually. The unemployment rate shows a significant partial influence on the Labor Force Participation Rate. Inflation exerts a significant individual effect on the Labor Force Participation Rate. When considered simultaneously, the minimum wage has a positive impact on the Labor Force Participation Rate. According to the estimation results using the Random Effect Model (REM) and the classical assumption tests, the data met the normality assumption, and there were no issues of multicollinearity or heteroscedasticity.

Future researchers may expand the scope of the research by adding other macroeconomic variables or using different analytical methods, which is expected to address the limitations of autocorrelation that occurred in this study.

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