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MACROECONOMIC DETERMINANTS OF UNEMPLOYMENT IN MALAYSIA: AN ARDL ANALYSIS

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Abstract:

This study examines the macroeconomic determinants of unemployment in Malaysia by focusing on total unemployment as a key indicator of labor market performance in Malaysia. In particular, this study investigates the effects of foreign direct investment, gross domestic product, inflation, interest rate, and population on unemployment using annual time series data from 1990 to 2023. The ARDL approach was employed to estimate both the long-run equilibrium relationships and short-run adjustment dynamics among the variables. The findings reveal that GDP and inflation significantly reduce unemployment, whereas population growth exerts strong upward pressure on unemployment. Interest rates exhibit a positive but relatively weak effect, whereas FDI is statistically insignificant. These results suggest that unemployment in Malaysia is shaped by both cyclical factors associated with aggregate demand and structural factors related to labor supply dynamics. By integrating demand-side, supply-side, and external determinants within a unified framework, this study provides updated empirical evidence on the drivers of aggregate unemployment and offers practical insights for employment generation, investment policy, and labor market planning in Malaysia.

Keyword:

ARDL, Macroeconomic Determinants, Unemployment, Labor Market, Malaysia



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Introduction

Unemployment remains a persistent macroeconomic challenge for economies worldwide, including Malaysia. As a rapidly developing country transitioning towards a high-income and knowledge-based economy, Malaysia faces the ongoing task of sustaining economic growth while ensuring the creation of sufficient and quality employment opportunities. The unemployment rate shows the labor market performance, reflecting the extent to which an economy can absorb its available workforce. Beyond its economic implications, unemployment is closely linked to income distribution, social stability, and overall welfare, making it a critical issue for policymakers and researchers.

Despite maintaining a relatively low overall unemployment rate compared to many developing economies, Malaysia continues to experience fluctuations that signal underlying vulnerabilities in its labor market. The unemployment rate remained stable between 2015 and 2019, ranging between 3.10% and 3.44%, before increasing significantly to 4.54% in 2020 because of the COVID-19 pandemic. Although the rate gradually declined to approximately 3.5% by 2023, this trend highlights the sensitivity of unemployment to external shocks and economic disruption.

Traditionally, macroeconomic factors have been identified as the key drivers of unemployment. Economic growth, often measured by gross domestic product, plays a central role in generating employment opportunities through increased production and labor demand. Similarly, inflation and interest rates affect unemployment through their effects on aggregate demand, investment decisions, and consumption patterns. In addition, foreign direct investment has been widely regarded as a catalyst for job creation, particularly in developing economies, due to its role in enhancing productivity and facilitating technology transfer. However, empirical evidence suggests that the relationship between FDI and unemployment may vary depending on the nature and structure of the investment.

Beyond demand-side factors, unemployment is influenced by supply side dynamics, particularly population growth. An expanding population increases the size of the labor force, and if job creation does not rise, it can result in higher unemployment. The interaction between these macroeconomic variables creates a complex environment in which unemployment is determined by both cyclical fluctuations and structural conditions in the economy.

While existing research has extensively examined the relationship between macroeconomic variables and unemployment, the evidence remains fragmented and inconclusive. Many studies focus on individual determinants, such as economic growth or foreign direct investment, without considering the combined effects of key macroeconomic variables on unemployment.

Moreover, much of the existing evidence is outdated and therefore may not adequately capture recent structural changes in the Malaysian economy, including labor market disruptions caused by the COVID-19 pandemic and subsequent recovery. Consequently, there remains a need for an updated and integrated assessment of unemployment in Malaysia.

In light of these considerations, this study investigates the impact of foreign direct investment, gross domestic product, inflation, interest rates, and population on total unemployment in Malaysia using annual data from 1990 to 2023. The study uses the Autoregressive Distributed Lag (ARDL) approach to investigate the short-run and long-run relationships.

This study has several contributions. First, it develops an integrated framework that simultaneously examines demand-side factors (gross domestic product, inflation, and interest rates), supply side factors (population growth), and external factors (foreign direct investment) within a single unemployment model. Second, by utilizing data from 1990 to 2023, this study provides updated evidence that incorporates major economic episodes and structural shifts in Malaysia's labor market, including the COVID-19 shock and post-pandemic recovery period. Third, this study identifies the relative importance of cyclical and structural factors in explaining aggregate unemployment, thereby offering more precise and policy-relevant insights.

The remainder of this paper is organized as follows. Section 2 reviews the relevant literature on macroeconomic determinants of unemployment. Section 3 outlines the methodology and the econometric approach. Section 4 presents the findings and discussions. Finally, Section 5 concludes the paper.

Literature Review

Unemployment remains a central concern in macroeconomic analysis because of its significant implications for economic performance, income distribution, and social welfare. In most economies, total unemployment serves as an important indicator of labour market conditions and overall economic stability. The determinants of unemployment are complex and multidimensional, involving both demand-side and supply-side factors. Demand-side variables, including economic growth, inflation, and interest rates, influence labor demand through their effects on production, investment, and consumption. Supply side factors, particularly population growth, affect labor market outcomes by determining the size and dynamics of the labor force. In addition, globalization-related factors, such as foreign direct investment, have become increasingly important in shaping employment through capital inflows, technological diffusion, and structural transformation.

The theoretical foundation of this study is primarily grounded in the Keynesian theory of employment, which argues that unemployment arises largely because of insufficient aggregate demand. According to Keynes (1936), firms adjust their production and employment decisions based on the demand conditions in the economy. When aggregate demand expands, firms increase their output and labor demand, thereby reducing unemployment. Conversely, economic contraction reduces production activities and increases unemployment. Within this framework, GDP, inflation, and interest rates are the key macroeconomic variables that influence employment through their effects on aggregate demand. Therefore, the Keynesian perspective provides an overarching explanation of how macroeconomic conditions determine unemployment dynamics.

The link between economic growth and unemployment is further explained by Okun's law, which indicates an inverse relationship between output growth and unemployment (Okun, 1962). As the economy expands, firms increase production and require additional labor inputs, leading to higher employment and lower unemployment. Numerous empirical studies have supported this relationship. Sögner and Stiassny (2002) and Warsame et al. (2022) report that higher economic growth is consistently associated with lower unemployment rates. Similar evidence is documented by Shafie et al. (2014) and Shakur et al. (2020), who show that economic expansion plays a fundamental role in creating employment. Likewise, Rokis (2018) and Setyaningrum et al. (2015) find a negative relationship between GDP and unemployment in both the short and long runs. These findings suggest that economic growth is one of the most important mechanisms for reducing unemployment.

The Phillips Curve provides another important theoretical perspective by proposing an inverse relationship between inflation and unemployment in the short run (Phillips, 1958). The theory suggests that increases in aggregate demand simultaneously generate upward pressure on prices and stimulate employment, resulting in lower unemployment. Empirical evidence generally supports this tradeoff. Zakaria et al. (2017) and Jaffar and Aziz (2014) find that higher inflation is associated with lower unemployment. However, subsequent developments in macroeconomic theory, particularly the expectations-augmented Phillips Curve, argue that this relationship may weaken in the long run as economic agents adjust their inflation expectations (Friedman, 1968). Consistent with this view, Demissie et al. (2021) and Zamani et al. (2019) report insignificant or even positive long-run relationships between inflation and unemployment rates. These mixed findings suggest that the inflation-unemployment nexus is context-dependent and influenced by structural characteristics and policy environments.

The roles of FDI, interest rates, and population can be further explained through neoclassical labor market theory. The neoclassical framework argues that employment is determined by the interaction between labor demand and labor supply, with wages and capital flows facilitating the adjustment process. FDI is expected to increase labor demand by expanding productive capacity, transferring technology, and stimulating economic activity. Empirical studies generally support this perspective. Balcerzak and Zurek (2011), Alkofahi (2020), and Kukaj et al. (2022) found that FDI contributes to employment generation and lower unemployment. Similar findings have been reported by Grahovac and Softić (2017), Widia et al. (2019), and Zhang et al. (2023). However, the empirical evidence remains inconclusive. Azolibe et al. (2022), for example, report an insignificant relationship between FDI and unemployment, suggesting that the employment effects of FDI depend on factors such as the sectoral composition of investment, technological intensity, and labour market absorptive capacity.

Interest rates influence unemployment indirectly through investment and aggregate demand. According to the Keynesian and neoclassical perspectives, higher interest rates increase borrowing costs, discourage investment, and reduce production activities, thereby lowering labor demand and increasing unemployment. Hashim et al. (2015) argue that changes in interest rates affect unemployment through their impact on output and investment decisions. However, the strength of this relationship varies by country. Salahuddin et al. (2023) and Pierdzioch and Stadtmann (2012) find that unemployment dynamics are influenced by long-term movements in interest rates, although the transmission mechanism appears relatively weak and heterogeneous.

From the labor supply perspective, population growth is another important determinant of unemployment. Neoclassical labor market theory suggests that an increase in population expands the labor supply and, unless accompanied by proportional growth in labor demand, results in excess labor and higher unemployment. Empirical studies have consistently supported this proposition. Evidence from Botswana and Nigeria indicates that rapid population growth contributes to rising unemployment despite economic expansion (Hashim et al., 2015; Padil et al., 2015). These findings imply that sustained reductions in unemployment require economic growth and job creation to keep pace with demographic expansion.

Although the literature generally supports the importance of GDP, inflation, FDI, interest rates, and population in explaining unemployment, the empirical findings remain inconclusive, particularly regarding the roles of FDI and inflation. Moreover, many studies have examined these determinants individually or within specific contexts, resulting in fragmented evidence on how these macroeconomic variables jointly influence unemployment. In the Malaysian context, there is limited recent evidence that provides an integrated analysis of the combined effects of key macroeconomic variables on total unemployment using updated data and a robust time-series framework. Consequently, a re-examination of the macroeconomic determinants of unemployment is warranted to provide updated empirical evidence and offer more comprehensive insights into labor market and macroeconomic policymaking in Malaysia.

Methodology

This study examines the macroeconomic determinants of total unemployment in Malaysia using annual time series data from 1990 to 2023. This study adopts the Autoregressive Distributed Lag (ARDL) approach developed by Pesaran et al. (2001) for several reasons. First, it can accommodate variables with mixed integration orders. Second, it can estimate both the short-run and long-run relationships within a single framework. Third, this method produces efficient estimates for analyses with small samples, making it appropriate for the present study.

The model incorporates key variables that influence both labor demand and labor supply, namely foreign direct investment, gross domestic product, inflation rate, interest rate, and population. The empirical model is specified as follows:

$$UE_t = \beta_0 + \beta_1 FDI_t + \beta_2 GDP_t + \beta_3 INF_t + \beta_4 IR_t + \beta_5 POP_t + \epsilon_t$$

where UE_t denotes the total unemployment rate, FDI_t represents foreign direct investment inflows, GDP_t denotes gross domestic product, INF_t denotes the inflation rate, IR_t represents the interest rate, and POP_t denotes the population. The error term, ϵ_t captures other unobserved factors affecting unemployment. To improve model efficiency, reduce potential heteroscedasticity, and enable elasticity interpretation, all variables were transformed into natural logarithms, except for inflation and interest rates, which were expressed in percentage terms.

The estimation procedure consists of several stages. First, the stationarity of the variables is examined using the Augmented Dickey-Fuller (ADF) unit root test. Second, the ARDL bounds test was employed to determine the existence of a long run cointegration relationship among the variables. If cointegration is established, the long-run coefficients and short-run error correction model are estimated to examine both the equilibrium relationships and adjustment dynamics. Finally, a series of diagnostic tests, including the ARCH test for heteroskedasticity,

Breusch–Godfrey serial correlation LM test, Jarque-Bera normality test, and Ramsey RESET test, were performed to evaluate the robustness of the model.

Findings and Discussion

This section presents the empirical results of the macroeconomic determinants of unemployment in Malaysia. The analysis follows a systematic econometric procedure, beginning with the examination of the unit root test, followed by the bounds test for cointegration to establish the existence of long-run relationships. Subsequently, the long-run test based on the ARDL model is estimated and interpreted, and diagnostic tests are conducted to ensure the robustness of the model.

Unit Root Test

Table 1 presents the results of the Augmented Dickey-Fuller (ADF) unit root test, which examines the stationarity of the variables. The findings indicate a mixture of stationary and non-stationary series at the level. Specifically, total unemployment, inflation, and population are found to be stationary at the level in at least one specification, as evidenced by their statistically significant test statistics. In contrast, FDI, GDP, and the interest rate are non-stationary at level but become stationary after first differencing.

This suggests that the variables are integrated of order zero, $I(0)$, and order one, $I(1)$, but none are integrated of order two, $I(2)$. The absence of $I(2)$ variables is crucial, as it satisfies the key assumption required for the application of the Autoregressive Distributed Lag (ARDL) modelling approach. The mixed order of integration reflects the nature of macroeconomic variables, where real variables such as GDP and FDI typically exhibit stochastic trends, whereas policy-related variables such as inflation tend to be more stable due to regulatory interventions.

Table 1: Augmented Dickey-Fuller (ADF) Unit Root Test

Variable	Level		1 st difference	
	Intercept	Intercept & trend	Intercept	Intercept & trend
UE	-3.307019** (0.0226)	-3.401603* (0.0684)	-5.415477*** (0.0001)	-5.501415*** (0.0005)
LFDI	-2.773017* (0.0731)	-5.499687*** (0.0004)	-6.654581*** (0.0000)	-6.544096*** (0.0000)
LGDP	-2.267444 (0.1880)	-0.902088* (0.9417)	-4.566377*** (0.0009)	-4.802020*** (0.0029)
INF	-4.211847*** (0.0023)	-4.731855*** (0.0031)	-8.804488*** (0.0000)	-8.743252*** (0.0000)
IR	-1.471311 (0.5354)	-3.296476* (0.0845)	-6.765937*** (0.0000)	-6.655969*** (0.0000)
LPOP	-5.713244*** (0.0001)	-0.513663 (0.9757)	-1.268748 (0.6312)	-5.465940*** (0.0009)

Notes: The value in brackets is the optimal lag, while the p-value is shown in parentheses. ***, **, * represent that the variable is significant at 1%, 5%, and 10% respectively.

Bound Test

Table 2 reports the bounds test for cointegration results. The computed F-statistic of 20.419 is higher than the upper bound values at all significance levels (1%, 5%, and 10%), confirming the existence of a stable long-run equilibrium relationship between total unemployment and its macroeconomic determinants, namely FDI, GDP, inflation, interest rate, and population. This implies that, although short-run fluctuations may occur, these variables move together over time and are linked by underlying economic fundamentals.

Table 2: Bound Test For Cointegration

Test statistic		UE
		(2,0,2,2,1,2)
F-statistic		20.419***
k		5
Pasaran (2001) critical values (k = 5, n = 32)		
Critical value	Lower bound	Upper bound
10%	2.407	3.517
5%	2.91	4.193
1%	4.134	5.761

Notes: *** represents significance at the 1% level.

From a theoretical perspective, this finding is consistent with macroeconomic frameworks such as Okun's Law and the Phillips Curve, which suggest systematic relationships between unemployment and key macroeconomic indicators. The presence of cointegration further validates the use of the ARDL model to estimate the long-run coefficients and short-run dynamics.

ARDL Long Run Model

The long-run model presented in Table 3 reveals several important insights. The results reveal that GDP, inflation, interest rate, and population are significant determinants of total unemployment, whereas FDI is statistically insignificant.

Table 3: Results of the Long Run Coefficient Estimates

Variables	UE (2,0,1,2,2,2)	p-value
C	-341.5353***	0.0000
LFDI	-0.037611	0.5923
LGDP	-6.170580***	0.0000
INF	-0.152266***	0.0001
IR	0.064527*	0.0651
LPOP	37.12395***	0.0000
Diagnostic test		
ARCH test	0.033863	0.8553
LM Test	0.245173	0.7856
Jarque-Bera test	0.943211	0.624000

Ramsey RESET test

0.153645

0.7002

Notes: The lag length is chosen based on the Akaike Information Criterion (AIC). Figures in parentheses represent the p-values of the tests. ***, * represent that the variable is significant at 1% and 10% respectively.

First, GDP has a negative and highly significant relationship with unemployment rates. The coefficient of -6.1706 indicates that a 1% increase in GDP reduces unemployment by approximately 6.17 percentage points, holding other factors constant. This finding provides strong empirical support for Okun's Law and suggests that economic growth is the primary mechanism for generating employment opportunities in Malaysia. The relatively large coefficient implies that unemployment is highly responsive to the expansion of output. Economically, this indicates that periods of economic growth stimulate production activities, encourage business expansion, and increase labor demand, particularly in sectors such as manufacturing, construction, and services that account for a substantial share of employment. The magnitude of the coefficient further suggests that the labor market performance in Malaysia is closely tied to overall economic activity. Consequently, sustained and inclusive economic growth is essential for maintaining low unemployment rates.

Second, inflation has a negative and statistically significant effect on unemployment. The coefficient of -0.1523 implies that a one-percentage-point increase in inflation reduces unemployment by approximately 0.15 percentage points. This result is consistent with the Phillips Curve hypothesis, which suggests that higher inflation, often associated with stronger aggregate demand, leads to greater production and increased employment. From an economic perspective, moderate inflation may signal expanding economic activity and rising consumer demand, thereby encouraging firms to increase their output and employment. However, the magnitude of the coefficient is considerably smaller than that of GDP, indicating that inflation plays only a supporting role in reducing unemployment. This finding also suggests that the trade-off between inflation and unemployment is relatively weak and potentially temporary in nature. Therefore, inflation should not be viewed as a primary policy instrument for reducing unemployment, and maintaining price stability is important for long-term economic sustainability.

Third, the interest rate shows a positive relationship with unemployment and is marginally significant at the 10% level in the short run. The coefficient of 0.0645 indicates that an increase in interest rates leads to higher unemployment rates. This result is consistent with both the Keynesian and neoclassical perspectives, whereby higher borrowing costs discourage investment and reduce aggregate demand, leading firms to postpone expansion plans and hiring decisions. Nevertheless, the relatively small magnitude of the coefficient suggests that the transmission mechanism from monetary policy to employment in Malaysia is relatively weak. One possible explanation is that firms' employment decisions are influenced more by long-term business expectations and market demand than by short-term financing expenses. In addition, some sectors may rely less on interest-sensitive borrowing, thereby limiting the effectiveness of monetary policy in influencing labor market outcomes. Consequently, interest rate adjustments alone may not be sufficient to address unemployment and should be complemented by broader macroeconomic and labor market policies.

Fourth, population has a positive and highly significant impact on unemployment. The coefficient of 37.1240 indicates that the population growth exerts substantial upward pressure on unemployment. This finding highlights the importance of labor supply dynamics in Malaysia. Economically, an expanding population increases the number of labor market

entrants and intensifies competition for jobs. When employment creation fails to keep pace with labor force expansion, unemployment inevitably increases. The relatively large coefficient suggests that demographic pressures constitute a significant structural challenge in the Malaysian labor market. This finding implies that economic growth alone may be insufficient to reduce unemployment unless it is accompanied by adequate job creation and workforce absorption strategies. Therefore, policies aimed at promoting employment-intensive growth, enhancing labor market flexibility, and improving workforce planning are essential for managing the effects of demographic expansion.

Finally, foreign direct investment is found to be statistically insignificant in this study. Although the coefficient is negative, indicating a potential unemployment-reducing effect, the lack of significance suggests that FDI did not play a substantial role in influencing aggregate unemployment in Malaysia during the study period. This challenges the conventional expectation that foreign investment automatically generates employment opportunities. From an economic perspective, the insignificant relationship may reflect the changing composition of FDI in Malaysia, which has increasingly shifted towards capital-intensive, technology-driven, and high-productivity sectors that require relatively fewer workers. Moreover, foreign firms may rely on specialized skills and automation, limiting the direct employment effects of investment inflows. It is also possible that the benefits of FDI are indirect and occur through productivity spillovers and supply chain linkages that materialize only over a longer period. Consequently, attracting foreign investment alone may not be sufficient to reduce unemployment unless investment policies are aligned with employment objectives and promote stronger links between foreign firms and the domestic labor market.

Overall, the findings suggest that unemployment in Malaysia is shaped by both cyclical and structural factors. GDP and inflation represent cyclical influences associated with aggregate demand conditions, whereas population growth reflects structural labor supply pressures. The limited roles of interest rates and FDI further indicate that monetary policy and foreign investment alone are insufficient to address the unemployment issue. These findings imply that reducing unemployment in Malaysia requires a coordinated policy approach that combines sustained economic growth, labor market reforms, and employment-oriented investment strategies.

The diagnostic test results confirmed the robustness and reliability of the estimated model. The ARCH test indicated no heteroskedasticity, suggesting that the variance of the error terms was constant over time. The LM test shows no autocorrelation, indicating that the residuals were independent. Furthermore, the residuals are normally distributed, as shown by the Jarque-Bera test. Finally, the Ramsey RESET test indicates that the model was correctly specified. Collectively, these results suggest that the ARDL model is well-specified, stable, and suitable for empirical analysis.

Conclusion and Recommendation

This study analyzes the macroeconomic determinants of total unemployment in Malaysia using annual data from 1990 to 2023. The findings reveal that GDP and inflation have significant negative effects on unemployment, whereas population growth exerts strong upward pressure on unemployment. Interest rates exhibit a positive but relatively weak influence, and the effect of FDI is statistically insignificant. These findings indicate that unemployment in Malaysia is

shaped by both cyclical factors associated with economic activity and structural factors related to labor supply dynamics. In particular,

These findings have several important policy implications. First, economic growth remains one of the most effective mechanisms for reducing unemployment. Hence, policymakers should prioritize sustained and inclusive economic growth by promoting sectors with high employment elasticity, particularly manufacturing, tourism, construction, digital services, and small and medium enterprises (SMEs). Fiscal incentives, infrastructure investment, and targeted industrial policies should be directed towards these sectors to stimulate production and generate employment opportunities.

Second, the insignificant effect of FDI suggests that attracting foreign investment alone is insufficient to reduce unemployment in the long run. Therefore, investment promotion policies should shift from prioritizing the volume of FDI inflows to emphasizing the quality and employment-generating potential of investments. The government should provide incentives for investing in labor-intensive and high-value-added industries that create substantial domestic employment opportunities. In addition, policies should strengthen the linkages between multinational corporations and local firms through supplier development programs, local sourcing requirements, and workforce training initiatives to maximize the employment spillover effects of FDI.

Third, the strong positive relationship between population growth and unemployment highlights the need for comprehensive labor market planning in the region. The government should improve labor market forecasting systems to anticipate future labor demand and align workforce development strategies. Greater emphasis should also be placed on expanding technical and vocational education and training (TVET), upskilling and reskilling programs, and lifelong learning initiatives to ensure that labor market entrants possess the skills demanded by emerging industries. Simultaneously, entrepreneurship development programs and support for start-ups should be strengthened to encourage self-employment and reduce pressure on the formal labor market.

Fourth, although inflation appears to reduce unemployment in the short run, policymakers should avoid relying on inflationary pressures as an employment strategy because the trade-off between inflation and unemployment is likely temporary. Instead, macroeconomic policies should focus on maintaining price stability while supporting productive investment and sustainable economic growth.

Finally, the relatively weak impact of interest rates suggests that monetary policy alone cannot effectively address unemployment issues. Consequently, reducing unemployment requires greater policy coordination between fiscal and monetary authorities, investment agencies, and labor market institutions. An integrated policy framework that simultaneously promotes economic growth, encourages employment-generating investments, and strengthens workforce development is essential for improving labor market resilience and achieving sustainable unemployment reductions.

In conclusion, the evidence suggests that unemployment in Malaysia cannot be addressed using a single policy instrument. Instead, a comprehensive strategy that combines growth-oriented macroeconomic policies with structural labor market reforms is required to ensure that

economic expansion translates into sufficient and sustainable employment opportunities for the Malaysian workforce.

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References

- Alkofahi, K. (2020). The effect of foreign direct investment on the unemployment rate in Saudi Arabia. *International Journal of Economics and Finance*, 12(10), 1. <https://doi.org/10.5539/ijef.v12n10p1>
- Azolibe, C. B. (2022). Panel data comparative analysis on the influence of population age structure on the size of government expenditure in Africa and Asia. *International Journal of Emerging Markets*, 17(2), 433-451.
- Balcerzak, A. P., & Zurek, M. (2011). Foreign direct investment and unemployment: VAR analysis for Poland in the years 1995-2009.
- Demissie, M. M., Herut, A. H., Yimer, B. M., Bareke, M. L., Agezew, B. H., Dedho, N. H., & Lebeta, M. F. (2021). Graduates' unemployment and associated factors in Ethiopia: Analysis of higher education graduates' perspectives. *Education Research International*, 2021(1), 4638264.
- Grahovac, D., & Softić, S. (2017). Impact of the FDI on Unemployment rate in countries of West Balkan. *Review of Innovation and Competitiveness: A Journal of Economic and Social Research*, 3(2), 65-82.
- Hashim, R., Lim, H., Yatim, B., Ariffin, T., Zubairi, A., Yon, H., ... & Osman, O. (2015). Estimating A Prediction Model For The Early Identification Of Low Employability Graduates In Malaysia. *The Singapore Economic Review*, 60(04), 1550027. <https://doi.org/10.1142/s0217590815500277>
- Jaffar, A. and Aziz, N. (2014). Diversifying Employment Opportunities of Urban Planning Graduates in the Period of Uncertainty. *International Journal of Built Environment and Sustainability*, 1(1). <https://doi.org/10.11113/ijbes.v1.n1.8>
- Kukaj, H., Nimani, A., & Usaj, V. (2022). Foreign Direct Investment, Economic Growth, And Unemployment: Evidence From Developing Countries. *Journal of Governance and Regulation*, 11(2 Special issue), 293-300. doi:10.22495/jgrv11i2siart8
- Padil, S., Esa, A., & Jamal, A. (2015). Soft Skills Construct for Architecture Graduate in Accordance with Industries Requirement. *International Journal of Humanities Arts and Social Sciences*, 1(3). <https://doi.org/10.20469/ijhss.20002-3>
- Pierdzioch, C. and Stadtmann, G. (2012). Is there a Core of Macroeconomics that Euro Area Forecasters Believe In?. *German Economic Review*, 13(1), 103-115. <https://doi.org/10.1111/j.1468-0475.2011.00548.x>
- Rokis, R. (2018). Gender Outlook on Advisory System, Entrepreneurship and Graduate Employability. *Creative Education*, 09(16), 2677-2692. <https://doi.org/10.4236/ce.2018.916202>
- Salahuddin, N., Mahpar, N., & Ishak, M. (2023). The Relationship between Employability Skill and Job Mismatch towards Graduates' Unemployment. *Information Management and Business Review*, 15(3(I)), 96-104. [https://doi.org/10.22610/imbr.v15i3\(i\).3519](https://doi.org/10.22610/imbr.v15i3(i).3519)
- Setyaningrum, D., Muktiyanto, A., & Hermawan, A. (2015). How Indonesian Accounting Education Providers Meet The Demand of The Industry. *International Research Journal of Business Studies*, 8(1). <https://doi.org/10.21632/irjbs.8.1.78.1-11>
- Shafie, H., Khuzzan, S., & Mohyin, N. (2014). Soft Skills Competencies of Quantity Surveying Graduates in Malaysia: Employers' Views and Expectations. *International Journal of Built Environment and Sustainability*, 1(1). <https://doi.org/10.11113/ijbes.v1.n1.3>
- Shakur, E., Sa'at, N., Aziz, N., Abdullah, S., & Rasid, N. (2020). Determining Unemployment Factors Among Job Seeking Youth in the East Coast of Peninsular Malaysia. *Journal of Asian Finance Economics and Business*, 7(12), 565-576. <https://doi.org/10.13106/jafeb.2020.vol7.no12.565>

- Sögner, L. and Stiassny, A. (2002). An analysis on the structural stability of okun's law--a cross-country study. *Applied Economics*, 34(14), 1775-1787. <https://doi.org/10.1080/00036840210124180>
- Warsame, A. A., Ali, A. O., Hassan, A. Y., & Mohamed, M. O. (2022). Macroeconomic determinants of unemployment in somalia: the case of okun's law and the phillips curve. *Asian Economic and Financial Review*, 12(11), 938-949. <https://doi.org/10.55493/5002.v12i11.4636>
- Widia, E., Ridwan, E., & Muharja, F. (2019). Can foreign direct investment (fdi) reduce unemployment in home countries? analysis for asean 5. *The International Conference on ASEAN 2019*, 283-291. <https://doi.org/10.1515/9783110678666-038>
- Zakaria, N., Ismail, N., & Ana, A. (2017). The Relationship between Employability Skill and Career Choices among Vocational Skill Students. *Innovation of Vocational Technology Education*, 12(2). <https://doi.org/10.17509/invotec.v12i2.6210>
- Zamani, N., Kamaruddin, N., Wahab, A., & Saat, N. (2019). Visualization of job availability based on text analytics localization approach. *Indonesian Journal of Electrical Engineering and Computer Science*, 16(2), 744. <https://doi.org/10.11591/ijeecs.v16.i2.pp744-751>
- Zhang, Z., Nuță, F. M., Dimen, L., Ullah, I., Xuanye, S., Yao, J., ... & Chen, Y. (2023). Relationship between fdi inflow, co2 emissions, renewable energy consumption, and population health quality in china. *Frontiers in Environmental Science*, 11. <https://doi.org/10.3389/fenvs.2023.1120970>