

Exploring the governance-unemployment nexus: Insights from South Asia

^{a,*} A. K. M. Ashiqur Rahman, ^b Murshida Hossain, ^c Afsana Jahan

^{a, b, c} Department of Business Administration; Varendra University; Bangladesh Bangladesh



ARTICLE INFO

Keywords:

Unemployment
Governance quality
Rule of law
Government effectiveness
Voice and accountability
South Asia
Economic growth

JEL: E24, J6, O1, G3

ABSTRACT

This study investigates the relationship between governance quality and unemployment rates in South Asian countries from 2009 to 2023. Utilizing econometric methodologies, including Feasible Generalized Least Squares (FGLS) and Generalized Method of Moments (GMM), we analyze the impacts of governance factors—specifically the rule of law, government effectiveness, and voice and accountability—alongside traditional economic indicators such as GDP per capita. Our findings reveal that governance-related factors have a significant negative impact on unemployment, with improved rule of law and government effectiveness leading to lower unemployment rates. Conversely, higher political inclusiveness, as measured by voice and accountability, correlates with increased unemployment, indicating potential structural challenges associated with more democratic processes. Interestingly, GDP per capita shows a weak and statistically insignificant relationship with unemployment, suggesting that economic growth alone may not suffice in addressing unemployment issues. The study underscores the importance of effective governance and the potential trade-offs involved in political inclusiveness, providing essential insights for policymakers aiming to devise strategies that mitigate unemployment while fostering robust labor markets.

1. Introduction

Unemployment remains one of the most critical challenges for policymakers worldwide due to its profound socio-economic implications. As a complex and multi-dimensional issue, it is often influenced by various economic, political, and governance-related factors. The persistence of unemployment exacerbates poverty, social exclusion, and inequality while negatively impacting economic stability and growth (Sihombing and Sitorus, 2024). The labor market's failure to absorb a growing workforce and offer quality jobs can lead to long-term negative outcomes, including skill erosion, mental health deterioration, and strained social welfare systems (Sihombing and Sitorus, 2024). Given the multi-faceted nature of unemployment, understanding its root causes and the role of governance structures is essential for developing effective policy interventions. A key focus of recent research has been the role of governance quality in mitigating unemployment. Effective governance can create an enabling environment for economic activity by ensuring transparency, accountability, and the rule of law, all of which contribute to a stable labor market. On the other hand, political inclusiveness and the degree of voice and accountability in governance systems may introduce additional complexities. More politically inclusive nations tend to have strong labor protections and welfare programs, which may contribute to structural unemployment, particularly if market rigidities are introduced (Shand et al., 2021). Understanding the delicate balance between good governance and labor market dynamics is thus essential for addressing unemployment effectively.

In this context, this study investigates the relationship between governance quality and economic growth—specifically the rule of law, government effectiveness, and voice and accountability and GDP—and unemployment rates South Asian countries. The research uses econometric models such as feasible generalized least squares (FGLS) and generalized method of moments (GMM) to empirically assess the impact of these governance factors on unemployment. The findings aim to offer a nuanced understanding of how institutional quality shapes labor market outcomes and to provide practical recommendations for policymakers seeking to reduce unemployment through governance reforms.

* Corresponding author. E-mail address: ashiqur@vu.edu.bd (A. K. M. A. Rahman).

Received: 16 October 2024; Received in revised from 23 November 2024; Accepted 19 December 2024

<https://doi.org/10.58251/ekonomi.1567248>

Unemployment remains a persistent issue globally, with different regions experiencing varying degrees of success in addressing it. While traditional macroeconomic factors such as GDP growth have long been studied in relation to unemployment (Zhong, 2024), the role of governance structures has received increasing attention. Effective governance, characterized by transparency, accountability, and the rule of law, is essential for creating a conducive environment for job creation and economic stability. However, the relationship between governance and unemployment is not straightforward, as political inclusiveness may sometimes exacerbate structural unemployment by introducing labor market rigidities (Egdell and Graham, 2016). Despite the broad consensus on the importance of governance in shaping economic outcomes, empirical research on its specific impact on unemployment remains limited, particularly regarding the interaction between governance quality and labor market performance. This study addresses this gap by analyzing the effects of governance-related factors—rule of law, government effectiveness, and voice and accountability as well as economic growth on unemployment rates in a cross-country context. The problem lies in understanding how governance can be leveraged to reduce unemployment without introducing unintended market rigidities that could stifle economic growth. The primary objective of this study is to examine the relationship between governance quality and economic growth in relation to unemployment rates. Specifically, it seeks to analyze the impact of governance factors—such as the rule of law, government effectiveness, and voice and accountability—on unemployment across South Asian countries, while also investigating the role of GDP per capita as a traditional economic determinant of unemployment. The study aims to provide policy recommendations based on empirical findings to assist policymakers in developing strategies that reduce unemployment through improvements in governance quality.

The research seeks to answer the following questions:

- What is the impact of governance quality, particularly the rule of law and government effectiveness, on unemployment rates?
- How does political inclusiveness, measured through voice and accountability, influence unemployment levels across different countries?
- To what extent does GDP per capita, as an economic indicator, affect unemployment in comparison to governance-related factors?
- Can improvements in governance quality lead to sustained reductions in unemployment, or do certain aspects of political inclusiveness contribute to higher unemployment?

This study contributes to the growing literature on the relationship between governance quality and unemployment. While previous studies have explored the effects of governance on economic growth (Hasan, 2010; Brad, 2024) and poverty (Ronaghi and Scorsone, 2023), fewer have focused explicitly on unemployment as a labor market outcome. This research fills this gap by providing a detailed empirical analysis of how governance factors—specifically the rule of law, government effectiveness, and political inclusiveness—shape unemployment outcomes.

Moreover, this study applies robust econometric methodologies, including FGLS and GMM, to account for potential endogeneity and autocorrelation issues, thus improving the reliability of the findings. By doing so, it contributes to the methodological rigor of governance and labor market studies. Additionally, the research draws attention to the potential trade-offs between governance quality and political inclusiveness, highlighting the complexity of addressing unemployment in democracies with strong labor protections.

While significant research has been conducted on the macroeconomic determinants of unemployment, including GDP growth and inflation (Zhong, 2024; Zhu, 2023), relatively few studies have explored the role of governance in shaping labor market outcomes. Existing studies on governance tend to focus on its broader impacts on economic growth and institutional development (Brad, 2024; Pham, 2024). However, the specific mechanisms through which governance quality affects unemployment remain underexplored, particularly in cross-country contexts. Additionally, the literature on political inclusiveness and its impact on unemployment is limited. Most studies on political inclusiveness focus on its role in enhancing democratic governance and citizen participation (Egdell and Graham, 2016), but few consider its potential drawbacks in terms of labor market rigidities. This study addresses these gaps by examining the dual role of governance quality and political inclusiveness in influencing unemployment rates.

2. Literature Review

The complicated economic problem of unemployment significantly affects both the social stability of a nation and the well-being of its citizens. To mitigate unemployment, governments implement various labor market, macroeconomic, and training policies. Sihombing and Sitorus (2024) highlight the detrimental consequences of unemployment, including diminished self-confidence, skill deficits, heightened stress levels, mental health challenges, and financial instability. In response, governments utilize several measures to combat unemployment, such as fiscal and monetary policies, foreign investment incentives, trade promotion, and support for small and medium-sized enterprises (SMEs), tourism development, and employment guarantees. These strategies aim to create a more robust labor market and enhance overall economic stability. Fakhri et al. (2024) further investigate the relationship between governance quality and unemployment in the Middle East and North Africa (MENA) region by comparing the pre-Arab Spring and post-Arab Spring periods. Analyzing data from 15 countries between 2002 and 2019 using a fixed-effects model, the study reveals that higher governance levels are associated with lower unemployment rates, particularly in the Levant and Gulf Cooperation Council (GCC) regions. Notably, this relationship is more pronounced for female unemployment; however, the same trend is not observed in North Africa, indicating a complex interaction between governance and unemployment across different contexts. Pham (2024) examines the impact of government spending on unemployment across 35 Asian countries from 2000 to 2022, employing fully modified ordinary least squares and dynamic ordinary least squares methodologies. The findings suggest that improved institutional quality and increased government expenditure contribute to lower unemployment rates. Interestingly, the adverse effects of government spending on unemployment become more pronounced with enhanced institutional quality. Additionally, trade liberalization and foreign direct investment are identified as significant factors in reducing unemployment in Asian nations. This study is particularly noteworthy

as it is the first to explore how institutional quality moderates the relationship between unemployment and government spending within this context, emphasizing the importance of effective governance.

[Silalahi and Walsh \(2023\)](#) explore the interconnections among government policies, worker empowerment, and unemployment, focusing on their implications for social welfare and economic stability. Utilizing a mixed-methods approach, this study analyzes policy evaluations, labor market statistics, and qualitative insights. The results indicate that the effectiveness of policies varies significantly; specific workforce development programs and educational initiatives show promise in reducing unemployment rates. However, balancing labor market regulations remains a challenge. Policies that promote employee involvement and skill development are found to positively correlate with job satisfaction, job quality, and overall well-being. The study concludes with policy recommendations that advocate for enhanced social safety nets, worker empowerment strategies, and equitable labor market regulations, prioritizing ongoing assessment and monitoring mechanisms to ensure policy effectiveness. The Covid-19 pandemic has exacerbated global poverty, particularly in rural areas, compounding existing challenges of unemployment. [Ronaghi and Scorsone \(2023\)](#) analyze data from 49 US states over a ten-year period, revealing that governance quality and economic inequality significantly influence poverty levels. The study identifies several contributing factors, including education, population demographics, health insurance access, food insecurity, and the gender wage gap. The authors argue that improving governance—defined as the government's accountability and responsibility—represents one of the most effective strategies for addressing poverty exacerbated by the pandemic. [Shand et al. \(2021\)](#) examined whether government initiatives addressing unemployment could reduce its negative impact on suicide and self-harm. Three out of five studies found a negative correlation between unemployment-related policies and suicide rates, while active unemployment measures and employment protection laws had only marginal effects. Notably, the suicide rates among men were significantly lower. The findings suggest that unemployment policies, particularly for men, may help weaken the association between unemployment and suicide. The rule of law fosters economic growth and private sector development, enabling job creation and reducing unemployment through effective public policies that convert growth into employment opportunities ([World Bank, 2024](#)). [Hasan \(2010\)](#) explores the legal obstacles hindering economic growth in Pakistan, highlighting the country's increasing demand for the rule of law. The study identifies significant barriers caused by legal shortcomings, which are seen as the main hindrances to market expansion and economic development in developing nations. In countries like Indonesia, job-related challenges have become more prevalent due to the COVID-19 pandemic. For instance, some companies terminated workers without cause, contributing to the rising unemployment rate. [Anggraeni et al. \(2023\)](#) use an empirical legal and conceptual approach to analyze and address this issue. They examine Indonesia's Job Creation Law, particularly Articles 151 and 153, which regulate termination of employment and prohibit arbitrary dismissal unless justified by legal or harmful circumstances. [Triatmanto and Bawono \(2023\)](#) investigate the relationships between unemployment, human resources, and corruption in Indonesia from 1996 to 2021, utilizing data from Transparency International and the World Bank. Their findings indicate that corruption significantly hinders the country's development and prosperity. To tackle corruption, they recommend that the Indonesian government implement stricter laws, enhance transparency, and invest in human capital development initiatives. Reducing corruption could improve citizens' lives, ensure continued progress and wealth, and create a favorable environment for economic growth and development. The study offers valuable insights for Indonesian policymakers.

[Brad \(2024\)](#) examines the impact of declining legal standards on socioeconomic development in the modern world. Using quantitative-comparative analysis and secondary data, the study assesses the role of the rule of law in state and societal development by comparing countries like the US, Singapore, and Romania, focusing on the absence of corruption and its influence on economic progress. Despite differences in geography, history, and socioeconomic status, the study explores the connection between the rule of law and economic advancement. [Hendrik et al. \(2023\)](#) focus on legal protections and dispute resolution mechanisms in response to the 2020 Omnibus Law, which allows businesses to terminate employees arbitrarily. Through normative juridical research, the study highlights the importance of preventing unilateral layoffs and the need for companies to communicate strategies to avoid them. In cases of layoffs, industrial relations dispute mechanisms, such as bipartite discussions, are used to ensure peaceful resolutions between employers and employees, minimizing conflicts and ensuring a fair settlement process. The UK's employment activation strategy emphasizes quick labor market entry by imposing coercive measures or penalties on job seekers. An alternative approach to evaluating successful employment activation is the Capability Approach (CA), which prioritizes individuals' freedom of choice and their abilities. [Egdell and Graham \(2016\)](#) utilize the CA to explore how youth perspectives, experiences, and voices are integrated into the development and implementation of employment activation programs, focusing on the agency and voice of unemployed young people. In Europe, public employment services are experimenting with cross-sector partnerships to address long-term unemployment. However, these partnerships face challenges due to conflicting expectations of accountability. Case studies from Belgium, Denmark, Estonia, Scotland, and the Netherlands reveal that standardized reporting, strict quantifiable measures, and minimal involvement from local politicians contribute to a lack of political accountability and confusion about the dual role of the client as both accountee and accountholder ([Hansen et al., 2022](#)). [Cheng et al. \(2018\)](#) investigate citizens' perceptions of voice and accountability in the context of employment discrimination laws. The study finds that the number of regulations across different countries positively influences citizens' attitudes towards these laws. This relationship is moderated by cultural assertiveness and the proportion of women in the population, with positive effects being more pronounced in assertive cultures and in countries with lower female population ratios. However, this association has only been demonstrated in this single study. [Saidova \(2023\)](#) explores the relationship between GDP per capita and unemployment by analyzing World Bank data from 2011 to 2021 using an OLS model. The results show a non-normal distribution for unemployment data, while GDP per capita data followed a normal distribution. A negative correlation between GDP per capita and unemployment was found. [Zhong \(2024\)](#) examines the relationship between GDP growth and unemployment in the US from 1948 to 2023 using both linear and nonlinear models. The study found that nonlinear

regression provides a more accurate representation of the relationship between changes in unemployment and GDP growth. Despite broad confidence intervals indicating potential risks of low GDP growth and high unemployment, the ARIMA model forecasts a positive future with strong GDP growth and low unemployment, offering valuable insights for US economic planning.

Zhu (2023) uses a Vector Autoregression (VAR) model to analyze the relationship between GDP, inflation, and unemployment in the US from 2012 to 2022. The findings suggest that GDP and unemployment can predict each other, while both can predict inflation. Shocks to unemployment are largely driven by changes in GDP, whereas inflation and GDP are more influenced by their own changes. Kalinová and Kroutlová (2023), focusing on the Moravian-Silesian Region, use regression analysis to investigate the relationship between macroeconomic variables (GDP, GVA) and unemployment. A strong inverse relationship between GDP, GVA, and the unemployment rate is confirmed by Pearson's correlation coefficient, though the research notes that unemployment is not the sole factor influencing economic development.

Li (2023) examines the relationship between GDP growth and unemployment in China using Granger Causality and Vector Autoregression methods to assess the validity of Okun's Law. The study aims to determine whether past changes in GDP can forecast future unemployment trends and vice versa. Al (2022) investigates the long-term relationship between GDP growth and unemployment in Malaysia, using cointegration tests on data from 2010 to 2020. The findings indicate that unemployment significantly impacts GDP in both the short and long term, with the COVID-19 pandemic disrupting the traditional negative correlation between GDP and unemployment. Živković (2022) analyzes the relationship between GDP growth and unemployment across Western Balkan countries, the Visegrad group, and the EU's founding nations, employing panel analysis and empirical data. A negative correlation is observed in all three groups, with statistical significance found only in the EU founding nations. Shiferaw (2023) investigates the dynamic relationship between GDP, inflation, and unemployment in Ethiopia using the XWT study and the multivariate Student-t GAS model. The findings reveal a fluctuating relationship between these variables, with a notable link between unemployment and inflation. The ARDL model shows that inflation positively impacts GDP, while unemployment has a negative effect. The study calls for policies targeting unemployment reduction, particularly among youth, to stimulate economic growth.

Environmental, Social, and Governance (ESG) factors play a crucial role in achieving Sustainable Development Goals (SDGs) (Bulut et al., 2024; Gazi et al., 2024; Han et al., 2024, 2023; Işık et al., 2024a; 2024b; 2024c; 2024d; 2024e; 2024f; 2024g, 2024h, 2024i, 2024j, 2024k, 2024l, 2021; Islam, 2024; Islam et al., 2024a; 2024b; 2024c; 2022; 2023a; 2023b; 2020; Jabeen et al., 2024; Yan et al., 2024a, 2024b; Alvarado 2023, 2022; Cetin et al., 2023; Dogru et al., 2023, 2019; Rana et al., 2023; Mamun et al., 2022; Rahman et al., 2020;) and reducing unemployment by promoting inclusive and sustainable growth. Environmentally sustainable practices help create "green jobs" and support SDG 13 (Climate Action) by fostering industries that prioritize renewable energy, sustainable agriculture, and waste management. Socially responsible policies, focusing on equality and labor standards, support SDG 8 (Decent Work and Economic Growth) by enhancing job quality and security, leading to a more resilient workforce. Good governance, integral to ESG, strengthens institutions and promotes transparency (SDG 16), which builds investor confidence and encourages business expansion, ultimately contributing to lower unemployment. Together, these ESG dimensions foster a stable, sustainable economic environment that not only reduces unemployment but also accelerates progress across multiple SDGs.

3. Methodology

3.1. Sample selection

The selection of South Asian countries for this analysis is based on several important considerations. South Asia is a region characterized by diverse economic structures, governance systems, and development trajectories, making it a compelling context for studying the interplay between governance, political inclusiveness, and economic outcomes like unemployment. Countries in South Asia face unique challenges such as high population growth, widespread poverty, varying levels of institutional development, and significant economic disparities, which can influence labor market dynamics. By focusing on this region, the study aims to explore how factors like government effectiveness, the rule of law, and voice and accountability impact unemployment in a setting where these governance indicators often vary significantly across countries. Additionally, South Asian countries are at different stages of economic development, which allows for the examination of whether these governance-related factors have similar effects across economies with different levels of GDP per capita. Given the region's growing importance in the global economy, understanding the governance-economic nexus in South Asia can offer valuable insights for policy formulation and economic reform efforts.

3.2. Regression model

$$UNEM = \beta_0 + \beta_1GDP + \beta_2RL + \beta_3GEFF + \beta_4ACC + \varepsilon$$

Where

- UNEM: Unemployment Rate
- β_0 : Intercept term
- β_1 : Coefficient for GDP Constant
- β_2 : Coefficient for Rule of Law
- β_3 : Coefficient for Government Effectiveness
- β_4 : Coefficient for Voice and Accountability
- ε : Error Term

3.3. Methods

This study employs a cross-sectional time-series framework using Feasible Generalized Least Squares (FGLS) estimation to analyze the relationship between unemployment (UNEM) and key explanatory variables, including GDP (GDPC), government effectiveness (GEFF), rule of law (RL), and voice and accountability (ACC) across South Asian countries from 2009 to 2022. The dependent variable, unemployment rate, is measured as the percentage of the labor force actively seeking employment, while the independent variables capture economic performance (GDP per capita) and governance quality (government effectiveness, rule of law, and voice and accountability). The model is specified to assess the impact of these independent variables on unemployment, employing FGLS to address potential endogeneity and ensure robustness against heteroskedasticity and autocorrelation. To further validate the robustness of the results, we utilize GMM estimation, which not only tests for robustness but also addresses various underlying issues. This comprehensive methodology aims to provide valuable insights into the interplay between governance factors and unemployment in the South Asian context, contributing to the literature on economic policy and governance reform.

4. Result

4.1. Summary statistics

The summary statistics in table 1 provide an overview of five key variables: unemployment (UNEM), GDP (GDPC), rule of law (RL), government effectiveness (GEFF), and voice and accountability (ACC). The mean unemployment rate (UNEM) is 5.95%, with a range from a minimum of 0.54% to a maximum of 13.16%, showing moderate variation with a standard deviation (SD) of 2.86%. The GDP (GDPC) displays significant variation, with a mean of 4.173e+11 and a wide range from 1.477e+09 to 3.199e+12, indicating substantial economic disparities among the sample countries. The rule of law (RL), with a mean of -0.319 and a range from -0.959 to 0.672, suggests that most countries are below the global average in maintaining a strong legal framework. Government effectiveness (GEFF) shows similar trends, with a mean of -0.322 and a range from -1.135 to 0.702. Voice and accountability (ACC) also have a mean of -0.3, reflecting varying levels of political inclusiveness, with a minimum of -0.878 and a maximum of 0.461.

Table 1: Summary statistics

	Mean	Median	SD	Min	Max
UNEM	5.952	5.06	2.860	.535	13.157
GDPC	4.173e+11	8.845e+10	7.882e+11	1.477e+09	3.199e+12
RL	-.319	-.43	0.443	-.959	.672
GEFF	-.322	-.299	0.495	-1.135	.702
ACC	-.3	-.348	0.383	-.878	.461

4.2. Correlation

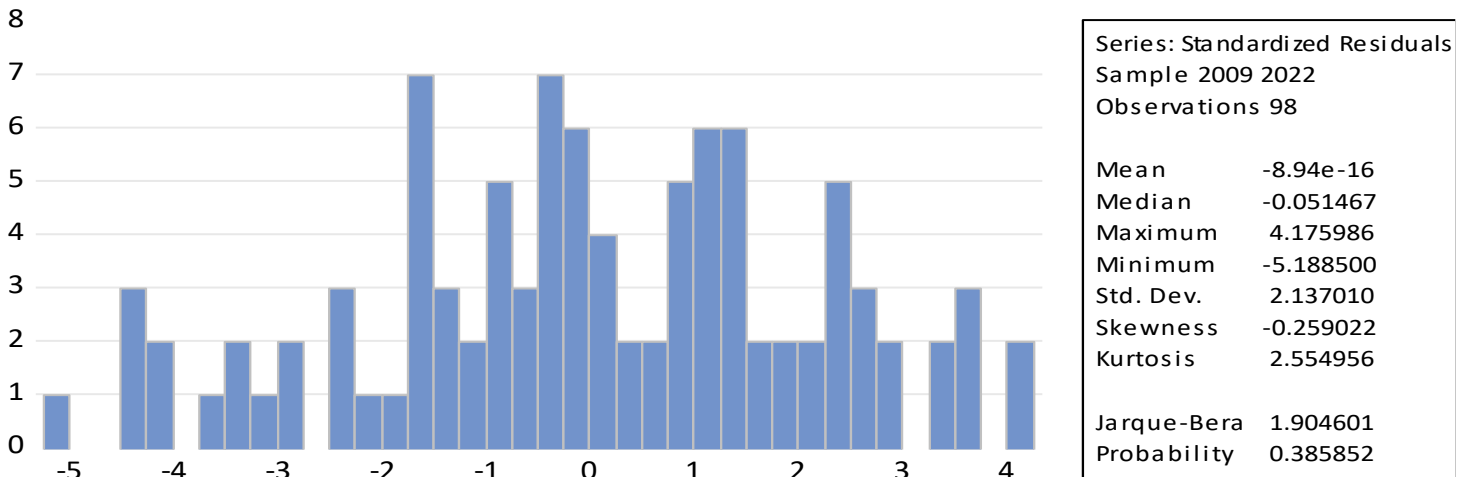
The pairwise correlation table highlights the relationships between unemployment (UNEM), GDP (GDPC), rule of law (RL), government effectiveness (GEFF), and voice and accountability (ACC). The correlations suggest several notable associations. Unemployment (UNEM) has a weak positive correlation with GDP (GDPC) at 0.101, indicating that higher GDP is mildly associated with higher unemployment. However, UNEM is negatively correlated with both the rule of law (RL) (-0.201) and government effectiveness (GEFF) (-0.316), implying that countries with stronger legal frameworks and more effective governments tend to have lower unemployment rates. Interestingly, UNEM has a positive correlation with voice and accountability (ACC) at 0.325, suggesting that countries with more political inclusiveness might experience higher unemployment. GDP (GDPC) is moderately positively correlated with RL (0.177), GEFF (0.280), and ACC (0.554), indicating that wealthier countries tend to perform better in terms of governance and political rights. Finally, RL, GEFF, and ACC are all strongly correlated with one another (0.646 to 0.895), signifying that countries with stronger legal institutions and more effective governance also tend to have greater political accountability and inclusiveness.

Table 2: Pairwise correlations

Variables	UNEM	GDPC	RL	GEFF	ACC
UNEM	1.000				
GDPC	0.101	1.000			
RL	-0.201	0.177	1.000		
GEFF	-0.316	0.280	0.895	1.000	
ACC	0.325	0.554	0.646	0.530	1.000

4.4. Normality Test

The histogram of standardized residuals, based on 98 observations from 2009 to 2022, reveals that the residuals are normally distributed. The mean residual is close to zero ($-8.94e-16$), indicating an unbiased model. The median (-0.051) further supports this, while the standard deviation (1.237) reflects moderate dispersion. The slight negative skewness (-0.259) suggests a minor asymmetry, but the kurtosis (2.555) is close to 3, indicating a near-normal distribution. The Jarque-Bera test result (1.904) and its associated p-value (0.389) confirm that the residuals do not significantly deviate from normality, validating the assumption of normal residuals in the regression model. This distribution supports the robustness of the model's fit.



4.4. FGLS regression

The FGLS regression result (Table 3) show that GDP per capita (GDPC) has a near-zero coefficient, indicating a weak and statistically insignificant relationship with unemployment. Although the t-value (-1.67) suggests a slight negative effect, the p-value of 0.094 implies only marginal significance at the 10% level, and the confidence interval is extremely narrow, suggesting little practical impact. The rule of law (RL), with a coefficient of -2.713 , shows a stronger negative relationship with unemployment, meaning that improvements in legal frameworks tend to reduce unemployment. This result is significant at the 10% level ($p = 0.058$), with the confidence interval suggesting that the true effect could range from a reduction of 5.522 to almost no effect (0.096). Government effectiveness (GEFF) also has a negative coefficient (-2.137), indicating that better governance reduces unemployment. This relationship is statistically significant at the 10% level ($p = 0.054$), suggesting that countries with more effective government structures experience lower unemployment. In contrast, voice and accountability (ACC) has a positive and highly significant impact on unemployment, with a large coefficient of 6.689 ($p < 0.01$). This suggests that countries with higher political inclusiveness tend to have higher unemployment, potentially reflecting structural or economic complexities in more democratic or politically accountable systems. Finally, the constant term (6.672) is highly significant ($p < 0.01$), indicating a baseline unemployment level when other variables are held constant. Overall, these results indicate that governance-related factors such as the rule of law and government effectiveness tend to reduce unemployment, while political inclusiveness (ACC) is associated with higher unemployment.

Table 3. FGLS regression

UNEM	Coef.	St.Err.	t-value	p-value	95% Conf	Interval	Sig
GDPC	0	0	-1.67	.094	0	0	*
RL	-2.713	1.433	-1.89	.058	-5.522	.096	*
GEFF	-2.137	1.108	-1.93	.054	-4.31	.035	*
ACC	6.689	.989	6.76	0	4.75	8.627	***
Constant	6.672	.396	16.87	0	5.897	7.448	***
Mean dependent var		5.953	SD dependent var		2.908		
Number of obs		98	Chi-square		79.962		
Prob > chi2		0.866	Akaike crit. (AIC)		433.951		

*** $p < .01$, ** $p < .05$, * $p < .1$

4.5. Robustness check (GMM estimations)

The GMM estimation results provide a deeper understanding of how various factors influence unemployment (UNEM). GDP per capita (GDPC) shows a near-zero coefficient and is statistically insignificant ($p = 0.106$), indicating that it has little to no effect on unemployment in this context. Government effectiveness (GEFF) and the rule of law (RL) both have negative coefficients (-2.137 and -2.713 , respectively), suggesting that improvements in these governance-related factors lead to reductions in unemployment. These relationships are marginally significant, with p -values of 0.063 for GEFF and 0.068 for RL, indicating notable but not highly conclusive effects. In contrast, voice and accountability (ACC) has a strong positive effect on unemployment, with a highly significant coefficient of 6.688 ($p = 0.000$), implying that greater political inclusiveness is associated with higher unemployment rates. The constant term (6.672) is significant, representing a baseline unemployment rate. The model explains 46% of the variation in unemployment, as indicated by the R-squared value of 0.459 . However, the low Durbin-Watson statistic (0.242) suggests potential autocorrelation, which may require further adjustments to the model (See Table 4).

Table 4: GMM Estimation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDPC	0	0	-1.630	0.106
GEFF	-2.137*	1.137	-1.878	0.063
RL	-2.713*	1.471	-1.844	0.068
ACC	6.688***	1.015	6.588	0.000
C	6.672	0.406	16.431	0.0000
R-squared	0.459	Mean dependent var		5.953
Adjusted R-squared	0.436	S.D. dependent var		2.907
S.E. of regression	2.182	Sum squared resid		442.980
Durbin-Watson stat	0.242			

5. Discussion

The findings from both the FGLS and GMM regression analyses shed light on the multifaceted relationships between governance quality, political inclusiveness, and unemployment in South Asian Countries. The results suggest that governance-related factors, such as the rule of law and government effectiveness, have a negative impact on unemployment, consistent with previous literature emphasizing the role of strong institutions in improving labor market outcomes. The FGLS regression indicates a weak and statistically insignificant relationship between GDP per capita (GDPC) and unemployment, with the coefficient being close to zero and a p -value of 0.094 . This finding aligns with research by [Saidova \(2023\)](#) and [Zhong \(2024\)](#), which suggest that while GDP growth is generally thought to reduce unemployment, the relationship is not always straightforward and can vary depending on regional or country-specific factors. The marginal significance at the 10% level implies that while GDP may influence unemployment to a small degree, it is not a strong determinant in the context of this analysis. This contrasts with traditional theories like Okun's Law, which posits a more robust inverse relationship between GDP growth and unemployment ([Li, 2023](#)). The limited practical impact found here may indicate that factors other than GDP growth are more critical in driving unemployment trends. The negative coefficients for the rule of law (RL) and government effectiveness (GEFF) in both FGLS and GMM regressions confirm that improved governance is associated with lower unemployment. The coefficients (-2.713 for RL and -2.137 for GEFF) indicate that better legal frameworks and more effective governance structures contribute to reducing unemployment. These results are statistically significant at the 10% level (p -values of 0.058 and 0.054 , respectively), suggesting that while the effects are not overwhelmingly strong, they are still meaningful. These findings are consistent with studies by [Brad \(2024\)](#) and [Triatmanto and Bawono \(2023\)](#), which emphasize the importance of good governance and the rule of law in fostering economic development and reducing unemployment. [Fakih et al. \(2024\)](#) also highlight the importance of governance in the MENA region, showing that better governance structures lead to lower unemployment, particularly among women. Interestingly, the most striking finding is the positive and highly significant relationship between voice and accountability (ACC) and unemployment. With a large coefficient of 6.689 ($p < 0.01$), the results suggest that greater political inclusiveness is linked to higher unemployment. This finding may seem counterintuitive but could be explained by the complexities of democratic processes and political accountability. Countries with higher political inclusiveness may face structural challenges, such as stronger labor protections or social welfare programs, that unintentionally lead to higher unemployment, especially if businesses face more regulatory constraints. This aligns with [Cheng et al. \(2018\)](#), who argue that political inclusiveness can have complex effects on labor market outcomes, particularly in assertive cultures where governance structures may be more participatory but also more rigid. Additionally, [Egdell and Graham \(2016\)](#) suggest that while employment activation programs in democratic societies emphasize freedom and choice, they may not always effectively reduce unemployment, particularly for marginalized groups.

The GMM results largely corroborate the findings of the FGLS regression, particularly regarding the insignificant relationship between GDP per capita and unemployment. Government effectiveness and the rule of law continue to show negative relationships with unemployment, though the p -values (0.063 and 0.068) suggest that the effects are marginally significant. The strong positive impact of voice and accountability

on unemployment is confirmed, reinforcing the idea that greater political inclusiveness may complicate labor market dynamics. The constant term remains highly significant, indicating a baseline level of unemployment regardless of changes in the governance-related variables. The GMM model explains 46% of the variation in unemployment ($R\text{-squared} = 0.459$), but the low Durbin-Watson statistic (0.242) suggests potential autocorrelation. This highlights a potential limitation of the model, as autocorrelation may bias the estimates, and further adjustments, such as incorporating lagged variables or using alternative estimation techniques, could be necessary to obtain more accurate results.

6. Conclusion

This study has illuminated the intricate interplay between governance quality, political inclusiveness, and unemployment in South Asian countries. The results indicate that governance-related factors such as the rule of law and government effectiveness significantly influence unemployment rates. Specifically, improved governance appears to correlate with lower unemployment levels, underscoring the vital role that strong institutions and effective governance play in shaping labor market outcomes. The analysis revealed a surprisingly weak and statistically insignificant relationship between GDP per capita and unemployment. While conventional economic theory suggests that economic growth should lead to a reduction in unemployment, this study finds that GDP growth is not the sole determinant of labor market dynamics. The marginal significance of the GDP per capita variable suggests that other factors, particularly governance quality, may be more influential in determining unemployment levels. This finding calls into question the traditional views encapsulated in theories like Okun's Law, which assert a strong inverse relationship between GDP growth and unemployment. Instead, it implies that the connection between economic growth and job creation may be more nuanced, potentially varying across different contexts and regions. The findings regarding the rule of law and government effectiveness further emphasize the importance of good governance in driving positive labor market outcomes. The negative coefficients observed for both variables indicate that enhancing legal frameworks and governance structures can lead to reduced unemployment, reinforcing the idea that a well-functioning state is essential for economic prosperity. The statistically significant results, though modest, highlight the need for continuous efforts to improve governance in order to achieve better employment outcomes. Conversely, the study found a significant positive relationship between voice and accountability and unemployment rates, which challenges conventional wisdom. This suggests that higher political inclusiveness may inadvertently lead to increased unemployment. Such a phenomenon may arise from the regulatory complexities and labor protections that often accompany more inclusive political systems. As governments strive to protect workers' rights and promote social welfare, they may impose constraints that deter businesses from hiring or expanding their workforce. This creates a paradox wherein political inclusiveness, while fundamentally important for democratic governance, can introduce rigidities that complicate labor market dynamics. These insights are particularly relevant for policymakers aiming to tackle unemployment in South Asia. The results indicate that enhancing governance quality should be a central focus in efforts to reduce unemployment. Policymakers must prioritize strengthening institutions and improving the rule of law while ensuring that governance reforms do not inadvertently introduce labor market rigidities. It is essential to strike a balance between promoting political inclusiveness and maintaining an agile labor market capable of absorbing a growing workforce. Moreover, the study highlights the complexity of addressing unemployment in democracies. While political inclusiveness is a vital component of a functioning democracy, it is crucial to recognize that it may carry unintended consequences for the labor market. Policymakers should consider implementing strategies that promote both democratic governance and effective labor market policies to mitigate these challenges. In conclusion, this research provides valuable contributions to the discourse on governance quality and its implications for unemployment. By demonstrating the significance of governance-related factors in shaping labor market outcomes and revealing the complexities of political inclusiveness, the findings underscore the need for a multifaceted approach to address unemployment. As countries navigate the intricate relationships between governance, economic growth, and unemployment, understanding these dynamics will be essential for formulating effective policies that foster sustainable employment opportunities and enhance overall economic stability. The study calls for ongoing research to further explore these relationships and their implications for different contexts, contributing to a deeper understanding of how governance can be leveraged to create favorable labor market conditions.

7. Policy Implications

The findings from this study highlight several key policy implications for addressing unemployment in South Asian countries. Policymakers can leverage these insights to design and implement effective strategies aimed at improving governance and enhancing labor market outcomes. The following policy recommendations emerge from the analysis:

1. **Strengthening Governance Frameworks:** Enhancing the rule of law and government effectiveness should be a priority for policymakers. This includes promoting transparency, accountability, and institutional integrity. Governments can invest in capacity-building initiatives that empower public institutions to function more effectively, thereby fostering a stable economic environment that encourages job creation. Implementing measures such as anti-corruption campaigns, judicial reforms, and efficient public service delivery can significantly improve governance quality.
2. **Balancing Political Inclusiveness and Labor Market Flexibility:** While political inclusiveness is essential for democratic governance, it is crucial to balance this with the need for labor market flexibility. Policymakers should aim to design labor regulations that protect workers' rights without imposing excessive burdens on employers. This may involve revising existing labor laws to ensure they provide necessary protections while allowing businesses the flexibility to adapt to changing economic conditions. Encouraging dialogue between stakeholders—

such as labor unions, employers, and government representatives—can help identify solutions that support both workers and businesses.

3. **Promoting Inclusive Economic Growth:** Policymakers should focus on fostering economic growth that is inclusive and equitable. This includes developing policies that target marginalized and vulnerable groups, ensuring that they have access to quality jobs and economic opportunities. Initiatives such as skills training programs, entrepreneurship support, and access to finance for small and medium-sized enterprises (SMEs) can help create a more inclusive labor market. By prioritizing the needs of disadvantaged populations, governments can enhance overall employment levels and reduce inequality.

4. **Enhancing Labor Market Information Systems:** Establishing robust labor market information systems can provide policymakers with valuable insights into employment trends, skills gaps, and workforce demands. This information can inform the development of targeted training programs and educational initiatives that align with the needs of the labor market. By ensuring that workers are equipped with the skills that employers seek, governments can facilitate smoother transitions into employment and reduce structural unemployment.

5. **Encouraging Public-Private Partnerships:** Collaboration between the public and private sectors is essential for creating sustainable employment opportunities. Policymakers should encourage partnerships that foster job creation through investments in infrastructure, technology, and innovation. Initiatives that engage businesses in workforce development—such as internships, apprenticeships, and training programs—can help bridge the gap between education and employment, ensuring that job seekers are better prepared for the demands of the labor market.

6. **Monitoring and Evaluation:** Continuous monitoring and evaluation of governance reforms and labor market policies are critical to understanding their effectiveness. Policymakers should establish mechanisms to assess the impact of implemented strategies on unemployment rates and governance quality. This data-driven approach will enable governments to make informed decisions and adjust policies as needed to achieve desired outcomes.

7. **Engaging in Regional Cooperation:** Given the interconnectedness of South Asian economies, regional cooperation can play a vital role in addressing unemployment challenges. Policymakers should explore opportunities for collaboration on issues such as labor mobility, trade, and investment. Joint initiatives aimed at improving governance and enhancing labor market dynamics across borders can create a more conducive environment for job creation and economic growth in the region.

By implementing these policy recommendations, South Asian countries can work towards reducing unemployment while strengthening governance quality. A comprehensive approach that addresses both the structural challenges of the labor market and the underlying governance issues is essential for fostering sustainable economic development and improving the overall well-being of citizens. As nations navigate the complexities of unemployment in a rapidly changing global landscape, these insights can guide policymakers in crafting effective, evidence-based strategies that yield positive outcomes for their populations.

7.1. Limitations of the Study and Future Research Direction

While this study offers valuable insights into the governance-unemployment nexus in South Asia, it has certain limitations. First, data availability and consistency across South Asian countries may limit the generalizability of findings, as variations in data quality can impact robustness. Additionally, while FGLS and GMM help address endogeneity concerns, these methods may not fully account for complex, dynamic interdependencies between governance factors and unemployment. Future research could expand upon this work by examining a broader set of ESG indicators, which may capture additional dimensions affecting unemployment. Incorporating case studies or qualitative methods to explore country-specific governance contexts would provide a more nuanced understanding of these relationships. Furthermore, investigating the role of global challenges, such as climate change and technological disruption, on governance and labor markets would be valuable, aligning the research with the evolving Sustainable Development Goals (SDGs) agenda.

Data availability: The datasets generated and analyzed during the current study are available on the World Bank websites.

Conflicts of Interest: The authors declare no conflict of interest.

Competing interests: The authors declare that they have no competing interests.

Ethics approval and consent to participate: Not applicable,

Consent for publication: Not applicable,

Funding: Not applicable

References

- Al, J. E. (2022). Does COVID-19 affect GDP? A relationship between GDP and unemployment rate. *International Journal of Advanced and Applied Sciences*, 9(7), 9–15. <https://doi.org/10.21833/ijaas.2022.07.002>
- Alvarado, R. et al. (2023). Nexuses between rent of natural resources, economic complexity, and technological innovation: The roles of GDP, human capital and civil liberties. *Resources Policy*, 85, 103637.
- Alvarado, R. et al. (2022). Impact of natural resources on economic progress: evidence for trading blocs in Latin America using non-linear econometric methods. *Resources Policy*, 79, 102908.

- Anggraeni, R. D., Imanuddin, I., & Ahmad, P. (2023). Tinjauan Yuridis Terhadap Pemutusan Hubungan Kerja Sepihak Di Masa Pandemi Covid-19 Berdasarkan Undang-Undang tentang Ketenagakerjaan. *SALAM Jurnal Sosial Dan Budaya Syar I*, 10(3), 727–742. <https://doi.org/10.15408/sjsbs.v10i3.33529>
- Brad, A. (2024). Deterioration of the Rule of Law and the Effects Over Economic Development - A Comparative Analysis on the United States of America, Singapore and Romania. *Perspective Politice*, 17(0). <https://doi.org/10.25019/perspol/24.17.0.4>
- Bulut, U., Apergis, N., Isik, C., & Ongan, S. (2024). A new look at the finance–environment nexus: How yield spread affects environmental quality in the United States. *Business Strategy and the Environment*.
- Cetin, M. et al. (2023). The impact of natural resources, economic growth, savings, and current account balance on financial sector development: Theory and empirical evidence. *Resources Policy*, 81, 103300.
- Cheng, H., Flores, G., Singh, S., & Posthuma, R. (2018). Employment discrimination laws: a country level analysis of voice and accountability. *International Journal of Law and Management*, 60(6), 1286–1298. <https://doi.org/10.1108/ijlma-06-2017-0129>
- Dogru, T. et al. (2023). Employee turnover dynamics in the hospitality industry vs. the overall economy. *Tourism Management*, 99, 104783.
- Dogru, T. et al. (2019). The balance of trade and exchange rates: Theory and contemporary evidence from tourism. *Tourism Management*, 74, 12–23.
- Egdell, V., & Graham, H. (2016). A Capability Approach to Unemployed Young People’s Voice and Agency in the Development and Implementation of Employment Activation Policies. *Social Policy and Administration*, 51(7), 1191–1209. <https://doi.org/10.1111/spol.12262>
- Fakih, A., Chaar, J. E., Arissy, J. E., & Kassab, S. Z. (2024). Governance quality and the labor market in the MENA region post-Arab Spring. *International Journal of Social Economics*. <https://doi.org/10.1108/ijse-12-2022-0826>
- Gazi, M. a. I., Islam, H., Islam, M. A., Karim, R., Momo, S. M., & Senathirajah, A. R. B. S. (2024). Unlocking sustainable development in East Asia Pacific and South Asia: An econometric exploration of ESG initiatives. *Sustainable Environment*, 10(1).
- Han, J. et al. (2024). Sustainable development pathways: Exploring the impact of green finance on urban metabolic efficiency. *Sustainable Development*. <https://doi.org/10.1002/sd.3081>
- Han, J. et al. (2023). The construction of green finance and high-quality economic development under China’s SDGs target. *Environmental Science and Pollution Research*, 30(52), 111891–111902.
- Hansen, M. P., Triantafyllou, P., Bellò, B., Boon, J., Van Doninck, D., Downe, J., Hopkins, C., Klijn, E. H., Sarapuu, K., Stevens, V., & Verhoest, K. (2022). Accounting for what and to whom? Accountability tensions in collaborations addressing long-term unemployment. *Social Policy and Administration*, 56(7), 1156–1171. <https://doi.org/10.1111/spol.12846>
- Hasan, L. (2010). Rule of Law, Legal Development and Economic Growth: Perspectives for Pakistan. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.1685132>
- Hendrik, H., Hendro, G., & Hutomo, P. (2023). Kepastian Hukum Terhadap Tenaga Kerja Yang Mengalami Pemutusan Hubungan Kerja Sepihak Pasca Terbitnya Undang-Undang Nomor 11 Tahun 2020 tentang cipta kerja. *Jurnal Ilmiah Global Education*, 4(3), 1592–1599. <https://doi.org/10.55681/jige.v4i3.1124>
- Işık, C., Bulut, U., Ongan, S., Islam, H., & Irfan, M. (2024a). Exploring how economic growth, renewable energy, internet usage, and mineral rents influence CO2 emissions: A panel quantile regression analysis for 27 OECD countries. *Resources Policy*, 92, 105025. <https://doi.org/10.1016/j.resourpol.2024.105025>
- Işık, C., Ongan, S., & Islam, H. (2024b). A new pathway to sustainability: Integrating economic dimension (ECON) into ESG factors as (ECON-ESG) and aligned with sustainable development goals (SDGs). *Journal of Ekonomi*, 34–39. <https://doi.org/10.58251/ekonomi.1450860>
- Işık, C., Ongan, S., Islam, H., & Menegaki, A. N. (2024c). A roadmap for sustainable global supply chain distribution: Exploring the interplay of ECON-ESG factors, technological advancement and SDGs on natural resources. *Resources Policy*.
- Işık, C., Ongan, S., Islam, H., Balsalobre-Lorente, D., & Sharif, A. (2024d). ECON-ESG factors on energy efficiency: Fostering sustainable development in ECON-growth-paradox countries. *Gondwana Research*. <https://doi.org/10.1016/j.gr.2024.07.020>
- Işık, C., Ongan, S., Islam, H., Jabeen, G., & Pinzon, S. (2024e). Is economic growth in East Asia Pacific and South Asia ESG factors based and aligned growth? *Sustainable Development*. <https://doi.org/10.1002/sd.2910>
- Işık, C., Ongan, S., Islam, H., Pinzon, S., & Jabeen, G. (2024f). Navigating sustainability: Unveiling the interconnected dynamics of ESG factors and SDGs in BRICS-11. *Sustainable Development*. <https://doi.org/10.1002/sd.2977>
- Işık, C., Ongan, S., Islam, H., Sharif, A., & Balsalobre-Lorente, D. (2024g). Evaluating the effects of ECON-ESG on load capacity factor in G7 countries. *Journal of Environmental Management*, 360, 121177. <https://doi.org/10.1016/j.jenvman.2024.121177>
- Işık, C., Han, J., Zhang, W., Muhammad, A., Pinzon, S., & Jabeen, G. (2024h). Sustainable Development Goals (SDGs): The nexus of fintech and water productivity in 11 BRICS countries. *Journal of Environmental Management*, 372, 123405.
- Işık, C. et al., (2024i). Renewable energy, climate policy uncertainty, industrial production, domestic exports/re-exports, and CO₂ emissions in the USA: a SVAR approach. *Gondwana Res*. <https://doi.org/10.1016/j.gr.2023.08.019>
- Işık, C., Ongan, S., Ozdemir, D., Yan, J., & Demir, O. (2024j). The sustainable development goals: Theory and a holistic evidence from the USA. *Gondwana Research*. <https://doi.org/10.1016/j.gr.2024.04.014>
- Işık, C., Ongan, S. & Islam, H., (2024k). Global environmental sustainability: the role of economic, social, governance (ECON-SG) factors, climate policy uncertainty (CPU) and carbon emissions (CO₂). *Air Quality, Atmosphere and Health*, 1-10. <https://doi.org/10.1007/s11869-024-01675-3>

- Işık, C. et al., (2024). The volatility of global energy uncertainty: renewable alternatives. *Energy*, 131250. <https://doi.org/10.1016/j.energy.2024.131250>
- Işık, C. et al. (2021). The nexus between team culture, innovative work behaviour and tacit knowledge sharing: Theory and evidence. *Sustainability*, 13(8), 4333.
- Işık, C. (2014). Patent harcamaları ve iktisadi büyüme arasındaki ilişki: Türkiye örneği. *Sosyoekonomi*, 21(21).
- Islam, H. (2024). Nexus of economic, social, and environmental factors on sustainable development goals: The moderating role of technological advancement and green innovation. *Innovation and Green Development*, 4(1), 100183. <https://doi.org/10.1016/j.igd.2024.100183>
- Islam, H., Islam, M. S., Saha, S., Tarin, T. I., Soumia, L., Parven, S., & Rahman, K. (2024a). Impact of Macroeconomic Factors on Performance of Banks in Bangladesh. *Journal of Ekonomi*. <https://doi.org/10.58251/ekonomi.1467784>
- Islam, H., Madavarapu, J. B., Sarker, N. K., & Rahman, A. (2022). The Effects of Cyber Threats and Technical Problems on Customer's Attitude Towards E-Banking Services. *Oblik I Finansi*, 2(96), 58–67. [https://doi.org/10.33146/2307-9878-2022-2\(96\)-58-67](https://doi.org/10.33146/2307-9878-2022-2(96)-58-67)
- Islam, H., Rahman, J., Tanchangya, T., & Islam, M. A. (2023a). Impact of firms' size, leverage, and net profit margin on firms' profitability in the manufacturing sector of Bangladesh: An empirical analysis using GMM estimation. *Journal of Ekonomi*, 5(1), 1–9. <https://doi.org/10.58251/ekonomi.1275742>
- Islam, H., Rana, M., Saha, S., Khatun, T., Ritu, M. R., & Islam, M. R. (2023b). Factors influencing the adoption of cryptocurrency in Bangladesh: an investigation using the technology acceptance model (TAM). *Technological Sustainability*, 2(4), 423–443. <https://doi.org/10.1108/techs-07-2023-0025>
- Islam, H., Rana, M., Sarker, N. K., & Siddique, M. a. B. (2020). Does Bangladesh Need to be Established Derivatives Markets? *Journal of Economics and Business*, 3(2). <https://doi.org/10.31014/aior.1992.03.02.226>
- Islam, H., Soumia, L., Rana, M., Madavarapu, J. B., & Saha, S. (2024b). Nexus between perception, purpose of use, technical challenges and satisfaction for mobile financial services: theory and empirical evidence from Bangladesh. *Technological Sustainability*. <https://doi.org/10.1108/techs-10-2023-0040>
- Jabeen, G. et al. (2024a). Role of energy utilization intensity, technical development, economic openness, and foreign tourism in environmental sustainability. *Gondwana Research*, 127, 100–115.
- Kalinová, E., & Kroutlová, K. (2023). The relationship between unemployment and macroeconomic indicators. *SHS Web of Conferences*, 160, 01008. <https://doi.org/10.1051/shsconf/202316001008>
- Li, Y. (2023). Unraveling the Relationship Between GDP and Unemployment in China with Okuns Law. *Advances in Economics Management and Political Sciences*, 55(1), 218–225. <https://doi.org/10.54254/2754-1169/55/20231011>
- Mamun, M. a. A., Islam, H., & Sarker, N. K. (2022). Affiliation between Capital Adequacy and Performance of Banks in Bangladesh. *Journal of Business Studies*, 03(01), 155–168. <https://doi.org/10.58753/jbspust.3.1.2022.10>
- Pham, T. K. T. (2024). Impact of government expenditure on unemployment in Asian countries: does institutional quality matter? *International Journal of Development Issues*. <https://doi.org/10.1108/ijdi-05-2024-0127>
- Rahman, M., Islam, H., Islam, R., & Sarker, N. K. (2020). The Effect of Management by Objectives on Performance Appraisal and Employee Satisfaction in Commercial Banks. *European Journal of Business and Management*. <https://doi.org/10.7176/ejbm/12-20-02>
- Rana, M., AL Mamun, A., Hossain, M. K., & Islam, H. (2023). Factors Influencing the Monetary Policy. *Journal of Ekonomi*. <https://doi.org/10.58251/ekonomi.1374599>
- Ronaghi, M., & Scorsone, E. (2023). The Impact of Governance on Poverty and Unemployment Control Before and After the Covid Outbreak in the United States. *Journal of Poverty*, 1–21. <https://doi.org/10.1080/10875549.2023.2173708>
- Saidova, U. (2023). Analysis of the Relationship between Unemployment and GDP. *Economics and Education*, 24(3), 59–62.
- Shand, F., Duffy, L., & Torok, M. (2021). Can Government Responses to Unemployment Reduce the Impact of Unemployment on Suicide? *Crisis*, 43(1), 59–66. <https://doi.org/10.1027/0227-5910/a000750>
- Shiferaw, Y. A. (2023). An Understanding of How GDP, Unemployment and Inflation Interact and Change across Time and Frequency. *Economies*, 11(5), 131. <https://doi.org/10.3390/economies11050131>
- Sihombing, A. T. M., & Sitorus, R. (2024). Government Policy in Tackling Unemployment. *Indonesian Journal of Applied and Industrial Sciences (ESA)*, 3(4), 329–340. <https://doi.org/10.55927/esa.v3i4.10623>
- Silalahi, M. S., & Walsh, S. (2023). Analyzing Government Policies in Addressing Unemployment and Em-powering Workers: Implications for Economic Stability and Social Welfare. *Law And Economics*, 17(2), 92–110. <https://doi.org/10.35335/laweco.v17i2.3>
- Triatanto, B., & Bawono, S. (2023). The interplay of corruption, human capital, and unemployment in Indonesia: Implications for economic development. *Journal of Economic Criminology*, 2, 100031. <https://doi.org/10.1016/j.jeconc.2023.100031>
- Yan, J. et al. (2024a). Analysis of green total factor productivity in China's forestry industry: Technological, organizational, and environmental framework for sustainable economic development. *Sustainable Development*, 1–14. <https://doi.org/10.1002/sd.308014>
- Yan, J. et al. (2024b). The nexus between natural resource development, trade policy uncertainty, financial technology and poverty in China: Contributing to the realization of SDG 1. *Resources Policy*, 95, 105154. <https://doi.org/10.1016/j.resourpol.2024.105154>
- World Bank. (2024, March 3). An Evaluation of World Bank Group Support to Jobs and Labor Market Reform through International Development Association Financing. Retrieved August 6, 2024, from <https://openknowledge.worldbank.org/handle/10986/39571>

Zhong, S. (2024). The Research and Forecasts on Real GDP Growth and the Unemployment Rate in the United States. *Highlights in Business Economics and Management*, 24, 159–165. <https://doi.org/10.54097/xgaq4779>

Zhu, Y. (2023). Research on the Relationship Between Inflation, GDP and Unemployment Rate. *Advances in Economics Management and Political Sciences*, 5(1), 361–369. <https://doi.org/10.54254/2754-1169/5/20220103>

Živković, A. (2022). Unemployment Rate and Gdp Growth Rate in Selected European Countries. *Balkans Journal of Emerging Trends in Social Sciences*, 5(2), 81–92. <https://doi.org/10.31410/balkans.jetss.2022>.



A. K. M. Ashiqur Rahman (**ORCID ID: 0000-0002-7633-9065**) serves as Lecturer at the Department of Business Administration, Varendra University. Mr. Rahman's research interest is financial accounting, cost accounting, managerial accounting and various topic related economics.



Murshida Hossain (**ORCID ID: 0000-0002-8791-271X**) is a lecturer at the Department of Business Administration, Varendra University. Her research interests are financial accounting, cost accounting, managerial accounting, and ESG.



Afsana Jahan (**ORCID ID: 0009-0001-4578-2128**) serves as Lecturer at the Department of Business Administration, Varendra University. Jahan's research interest is financial accounting, cost accounting, managerial accounting and various topic related to economics.