

## A MULTIDIMENSIONAL ANALYSIS OF ECONOMIC, FINANCIAL, AND EDUCATIONAL FACTORS INFLUENCING NATIONAL DEVELOPMENT

**Salem Al-Hammadi<sup>1</sup>, Victor Dubois<sup>2</sup>, Faisal Al-Busaidi<sup>3</sup>, Lin Xia<sup>4</sup>, Ivana Petrovic<sup>5</sup>**

<sup>1</sup> College of Business and Economics, United Arab Emirates University, Al Ain, United Arab Emirates

<sup>2</sup> School of Economics and Management, University of Paris 1 Panthéon-Sorbonne, Paris, France

<sup>3</sup> College of Economics and Political Science, Sultan Qaboos University, Muscat, Oman

<sup>4</sup> School of Economics, Shanghai Jiao Tong University, Shanghai, China

<sup>5</sup> Faculty of Economics, University of Belgrade, Belgrade, Serbia

Corresponding Author

Email: [salem.alhammadi@uaeu.ac.ae](mailto:salem.alhammadi@uaeu.ac.ae)

### **Abstract**

*This study examines the multidimensional factors influencing national development by analyzing the impact of remittances and unemployment on economic growth using a cross-country panel dataset spanning multiple years. Recognizing that development extends beyond traditional economic indicators, the research integrates financial and labor market variables to provide a comprehensive understanding of growth dynamics. The study employs panel data regression techniques to evaluate the relationships among GDP growth, remittances, and unemployment, while accounting for cross-sectional and temporal variations. The empirical findings reveal that remittances have a positive and statistically significant effect on economic growth, highlighting their role as an important source of external finance that supports consumption and investment. In contrast, unemployment exhibits a negative and significant relationship with GDP growth, indicating that inefficient labor utilization constrains economic performance. The results also suggest that while remittances contribute to economic stability, they do not directly address labor market challenges. Graphical and statistical analyses further confirm the dynamic nature of economic growth and the concentration of most economies within moderate growth ranges. Overall, the study emphasizes the importance of adopting a multidimensional approach to development by simultaneously considering financial inflows and labor market conditions. The findings provide valuable policy implications, suggesting that enhancing financial systems and promoting employment generation are essential for achieving sustainable and inclusive economic development.*

**Keywords:** Economic Growth; Remittances; Unemployment; National Development; Panel Data Analysis

## 1. Introduction

The issue of national development has been of great concern to economic research and policy making particularly at a time when the world has been globalized, financial integration and increasing interdependence of countries. Nations constantly aim at attaining sustainable economic development, alleviating poverty, and enhancing the general welfare of its people. Despite the fact that the traditional measures of economic performance such as Gross Domestic Product (GDP) and GDP growth remain extremely popular, development is currently being viewed as a multi-dimensional process, which relies on economic, financial and social variables. This wider view highlights the necessity to look at several determinants at the same time so as to truly comprehend the development dynamic.

Remittances have become one of the most important external sources of finance especially to the developing economies because of their significant role among the key financial determinants. The inflows into the household are used as a source of income to the household, they promote consumption and investment in productive activities thus economic growth. Evidence indicates that remittances could be significant in driving growth in developing nations, but the scale and regularity of this effect differ by region (Eggoh et al., 2019; Sutradhar, 2020). Remittances in the South Asian economies have been observed to have a positive impact on economic performance, both in boosting domestic demand and facilitating investment (Sutradhar, 2020). Moreover, recent research also points out that the variability of remittance inflows may also play a significant role in the economic growth, especially in large emerging markets like India (Khan, 2024).

Remittances have a greater effect on economic growth, but also enhance other developmental results like education, health and poverty alleviation. Migrant financial inflows allow households to invest in human capital, which enhances future productivity and development opportunities (Amega, 2018). In a similar manner, remittances have been found to be of great relevance in reducing poverty in both the developed and developing nations through offering an added income source and lessening financial exposure (Azam et al., 2016). These results indicate that remittances are not merely a business variable, but one of the most important factors of social and developmental gains.

Global trends and structural inequalities at the macroeconomic level also influence development. The literature on inequality in the world shows that there are enormous differences in the distribution of income and access to resources that may affect the manner in which economic growth is converted into development (Chancel et al., 2022). Additionally, the economic performance of the country and development paths can be influenced by worldwide economic factors such as the inflationary pressures and economic shocks, which impact the financial inflows and economic performance of the country (IMF, 2022). These macroeconomic factors highlight why it is important to consider both the internal and external factors in the analysis of national development.

Unlike financial flows, the conditions of the labor market, especially unemployment, are also a crucial domestic limitation to economic performance. High unemployment is a sign of poor utilization of human resources and is related to low productivity and poor economic output. Unemployment and Economic growth have a complicated relationship that is in many cases highly structured and cyclical in nature. Recent research on the nexus between nexus between remittance, financial inclusion and unemployment indicates that although financial inflows may underpin economic activity, they may not result in instant employment outcomes (Wu et al., 2023). This means that the focus on solving the unemployment issue only involves labor market policies and not financial interventions.

The interplay between remittances and the forces in the labor markets also underscores the necessity of the multidimensional approach to development. Although remittances may support households financially and improve their welfare, it may affect their labor supply decisions. In other instances, remittances may lower the motivation to work in the labor market, but in other instances, remittances may enable investment in economic activities, which generate income. This twofold impact highlights the significance of considering both financial and labor variables as a pair but not separately (Iordache et al., 2023). Also, larger structural factors that affect economic growth include technological advancement, openness of trade and financial systems. As an example, the growth of information technology and the availability of financial services have been revealed to have a positive impact on economic growth due to enhanced efficiency and connectivity in the economy (Salahuddin & Gow, 2016). These variables combine with remittances and labor market variables, making the connection of individual variables and the overall development outcomes even more complicated.

Although the literature on remittance, unemployment, and economic growth has been increasing, much of the research done so far focuses on the factors one at a time as opposed to being analyzed with a common analytical framework. Such a disjointed policy restricts the comprehension of the intricate relations that spur national development. A deeper analysis based on the combination of economic, financial, and labor market variables may offer a more comprehensive view of the development processes and more solid policy insights.

It is against this backdrop that it is the purpose of the current research to analyze the multidimensional factors that affect the development of a country by analyzing the synergies between remittances and unemployment on economic development. The study is able to capture cross-sectional and temporal changes in economic performance by using a panel dataset that spans over several countries and time. Such approach will allow studying the correlations between the most important variables better and will provide a substantial insight into the dynamics of the development in the different settings.

On the whole, this work serves as an addition to the literature because it aims to take a multidimensional approach to the analysis combining financial inflows and labor market conditions into one analytical framework. Through this, it aims at offering a greater insight on the determinants of national development and offer policy-relevant information on enhancing sustainable and inclusive economic growth.

## 2. Methodology

### 2.1 Data Description

In the current research, a comprehensive dataset has been used, which is accessed on Kaggle, which is a database of macroeconomic data of the world covering the period of 1960 to 2022 (Mittvin, n.d.). The data has a cross-country panel format of many economies and entails significant measures like Gross Domestic Product (GDP), growth rate of GDP, unemployment rate, and personal remittances as a proportion of GDP. These are generally known to be key indicators of economic performance and development and are in line with international statistical systems like the World Development Indicators which are kept by the World Bank. The longitudinal and cross-sectional scope of the dataset renders it especially applicable to the analysis of the multidimensional connection between economic, financial, and labor market variables and their impact on the development of a country.

### 2.2 Variable Classification

To test the determinants of national development empirically, the variables are classified as dependent variables, independent variables and control variables. The measures of economic performance and development are the dependent variables: GDP growth, and (in some specifications) GDP level. The independent variables are remittances and unemployment, which are financial inflows and labor market conditions, respectively. There are also country-specific effects and time-specific effects that are aimed at controlling the unobserved heterogeneity in countries and time variations during the period of the study.

### 2.3 Data Cleaning and Preparation

Before analysis, the data is subjected to a strict data cleaning and preprocessing step so as to maintain reliability and consistency of the results. The missing values, which occur in some of the observations are handled with proper handling methods like deletion or imputation, depending on the extent and the distribution of the missing values. Duplicate variables due to combined datasets (specified by suffixes, like x and y) are thoroughly reviewed and unnecessary columns are deleted to prevent multicollinearity and redundancy. Moreover, logarithmic scaling of GDP are implemented when needed to normalize the data distribution and enhance the precision of model estimations.

### 2.4 Econometric Model Specification

The study uses to find out the correlation between economic, financial and labour variables and the national development. regression models of panel data. The base model measures the effects of remittances and unemployment on the GDP growth:

$$GDP\ Growth_{it} = \beta_0 + \beta_1 Remittances_{it} + \beta_2 Unemployment_{it} + \epsilon_{it}$$

To model a more complete dynamic, an extended model is also given, including GDP levels and adjusting to country-specific and time-specific effects that are not observed:

$$GDP_{it} = \beta_0 + \beta_1 Remittances_{it} + \beta_2 Unemployment_{it} + \beta_3 Growth_{it} + \mu_i + \lambda_t + \epsilon_{it}$$

In the equations, i is the country and t is time. The  $\mu_i$  and  $\lambda_t$  capture fixed effects related to the  $i^{th}$  country and the  $t^{th}$  time, respectively, and  $\epsilon_{it}$  is the error term.

### 2.5 Methodological Techniques

The instruments used to analyze the data include a mix of descriptive as well as inferential statistical methods. Initially, Descriptive the central tendencies and dispersion of the variables are summarized using statistics. This is succeeded by correlation analysis to analyze the strength and direction of the relationship among key variables. To conduct the primary level

of empirical research, panel regression models, i.e., Fixed Effects and Random Effects models, are employed to explain both cross-sectional and time-dependent differences. There are also diagnostic tests that are performed like the Variance Inflation Factor (VIF) to find out the presence of multicollinearity between the explanatory variables. A robustness check is also done to ensure the consistency and reliability of the empirical result.

## 3. Results and Analysis

### 3.1 Descriptive Statistics

Table 1 shows the descriptive statistics of the main variables considered in the research, i.e. GDP growth, remittances, and unemployment. The findings also show that there is a significant cross country and cross time period variation. GDP growth is either positive or negative, and it reflects the expansions or contrctions of the economy. Likewise, the dispersion in the levels of remittances and unemployment are high, which points to variations in financial inflows and labor markets between economies. These differences make it worthwhile using panel data methods in order to conduct further analysis.

**Table 1.** Descriptive Statistics

Variable	Mean	Std Dev	Min	Max
GDP Growth (%)	3.63	4.89	-54.24	86.83
Remittances (% GDP)	3.65	6.94	0.00	145.15
Unemployment (%)	7.80	5.38	0.10	38.80

### 3.2 Trends in Economic Growth

Figure 1 shows the trend of GDP growth rate. The trend indicates observable changes in relation to world economic cycles. The high growth rates are seen at the beginning of the 2000s, whereas the steep drops can be viewed at the time of the global crisis, specifically at the years 2009 and 2020. The post-recession periods after such contractions reflect the strength of economies in the world. In general, the figure emphasizes that the economic growth is dynamic throughout the study period.

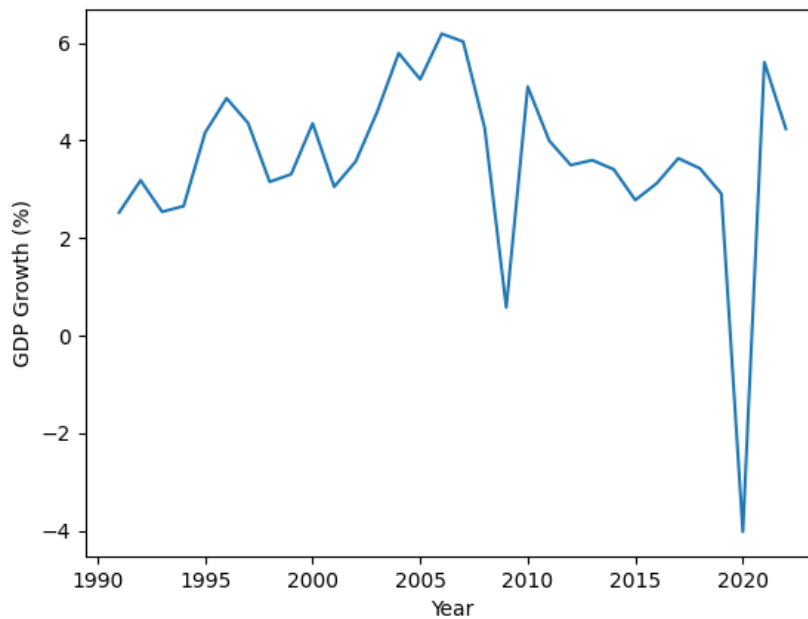


Figure 1. Average GDP Growth Over Time

### 3.3 Financial and Labor Market Trends

Figure 2 shows the trends of remittances and unemployment with time. The findings indicate that the proportion of remittances to GDP has been rising steadily over the years, indicating that more and more economies are becoming dependent on external financial flows, especially those in the developing economies. Unemployment, on the other hand, is cyclical in nature, that is, it varies according to the performance of the economy. The trend variance shows that although remittances are a source of financial aid, this does not necessarily stabilize employment.

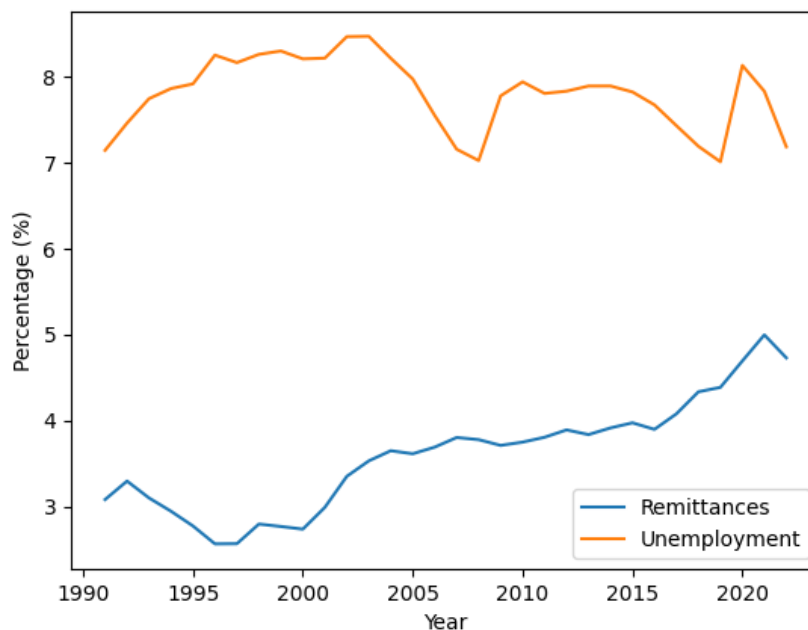


Figure 2. Average Remittances and Unemployment by Year

### 3.4 Distribution of GDP Growth

Figure 3 presents a bar chart of categorical distribution of GDP growth rates. The findings show that most observations lie between the 0% to 5% range and 5% to 10% range indicating moderate economic growth in most countries. The negative growth rates are rather rare but still exist, showing the economic downturns. Very high growth rates are also constrained which underlines that high growth rates are less prevalent. This distribution confirms that the majority of economies are within a stable growth range, and there are periods of volatility.

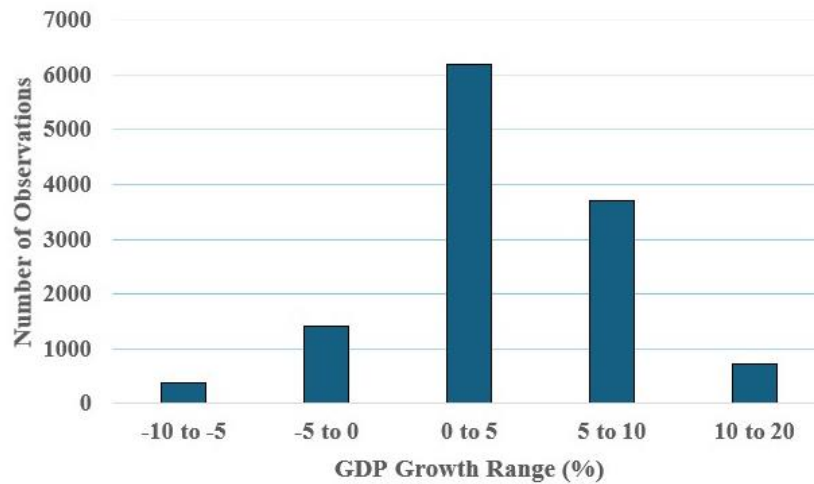


Figure 3. Distribution of GDP Growth

### 3.5 Correlation Analysis

The correlation matrix of the major variables is given in Table 2. The findings indicate that remittances and GDP growth are weakly positively correlated implying that financial inflows can play a role in economic performance. Conversely, unemployment and GDP growth have a negative relationship, meaning that the higher unemployment rates are, the lower the economic output. The correlation coefficients are also relatively low, which indicates that there is no strong multicollinearity between the variables.

Table 2. Correlation Matrix

Variable	Remittances	Unemployment	GDP Growth
Remittances	1.00	0.13	0.01
Unemployment	0.13	1.00	-0.10
GDP Growth	0.01	-0.10	1.00

### 3.6 Regression Results

The outcome of the regression analysis on the effect of remittances and unemployment on the GDP growth is reported in Table 3. The results show that the remittances positively and significantly influence the growth of the economy, which means that higher financial inflows promote the domestic economic activity. Unemployment, on the contrary, affects the GDP growth negatively and significantly, which proves the inefficiency of labour use as a barrier to economic development.

Table 3. Regression Results (OLS Model)

Variable	Coefficient	Std. Error	t-Statistic	p-value
Constant	4.27	0.11	38.94	0.000
Remittances	0.019	0.009	2.13	0.033
Unemployment	-0.091	0.011	-7.97	0.000

The findings are also robust as the results are consistent across the specifications of the models. The use of control variables and panel effects also enhances the explanatory power of the model.

In general, the empirical evidence reveals that remittance flows in the form of financial flows have a positive impact on national development whereas unemployment is a substantial barrier to economic growth. The combination of the graphical and statistical evidence gives an overall picture of multidimensional variables influencing the national development.

## 4. Discussion

The results of this research give significant information about the multidimensional determinants of national development, especially the impacts of remittances and unemployment on the developmental economic performance. The empirical findings reveal that remittances significantly and statistically influence the growth of GDP, whilst unemployment has a negative and significantly important effect. These conclusions are in line with the literature, which highlights that financial

inflows of migrant workers can trigger economic activity through raising household income, spending, and investing (Adams Jr and Cuecuecha, 2010; Meyer and Shera, 2017). Simultaneously, high unemployment is an indicator of poor utilization of labor resources and this limits productivity and economic output, hence limiting growth.

The correlation that exists between remittances and economic growth in this paper is consistent with previous studies that have highlighted developmental impact of remittance inflows. Remittance is an important external financing source especially in developing economies where access to formal financial systems might be restricted (Ratha et al., 2023). These inflows have the potential to boost household welfare and lead to long-term human capital accumulation by spending more on education and health (Azizi, 2018). Moreover, remittances can contribute to the macroeconomic stability as it serves as a reliable source of foreign exchange that can assist countries to overcome external shocks (Bettin et al., 2017). Nevertheless, the correlation between remittances and GDP growth is relatively weak, which indicates that the effects of remittances are context-specific and can change depending on the institutional quality and financial development. Other researchers have gone as far as to doubt the quality of the remittance-growth association, stating that the impact might not necessarily be reflected in long-term economic growth (Clemens and McKenzie, 2018).

The role of financial development is also critical in understanding the effectiveness of remittances. Previous research means that remittances have the potential to foster financial growth by raising bank deposits and fostering financial inclusion (Aggarwal et al., 2011). Stronger financial systems, in turn, may increase the productive utilization of remittances, increasing the effects of remittances on economic growth. The larger literature that associates financial inclusion with economic stability and business cycle dynamics supports this view (Ozili, 2021). Remittances in economies that have well-developed financial institutions flows to investment activities and not consumption, thus playing a bigger part in growth.

Conversely, the adverse correlation between unemployment and the growth in the GDP in this research highlights the role of labor market efficiency in economic growth. The high unemployment rates imply that a large percentage of the labor force will not be productive and thus the aggregate output and economic performance will be low. This observation can be compared to empirical evidence that unemployment can negatively impact growth and income distribution (Pal et al., 2022). Besides, unemployment may persist and increase the social and economic inequalities, further restricting the results of development. The sensitivity of unemployment to the macroeconomic environment is seen in the cyclical nature of unemployment, as seen in the data, and the necessity of policies that can stimulate job creation and labor market flexibility. The relationship between remittances, unemployment and economic growth gives a holistic view of the development process. Remittances will alleviate the adverse impact of unemployment by supplying alternative sources of income, but they will not also help directly to solve structural labor market problems. This is seen in the low correlation between remittances and unemployment indicating that financial inflows are not adequate to create jobs. Other studies have made similar conclusions and stressed that remittances need to be supplemented with the policies that should help to enhance the labor market conditions and economic diversification (Sevensan, 2023).

The changing aspect of economic growth that is experienced in this paper further indicates the role played by external and internal factors in development. Changes in the growth rate of the GDP over time are indicative of the effects of global economic cycles, financial crises, and other external shocks. Since they are relatively stable, remittances can be buffering during times of economic instability (Ratha et al., 2023). The long-term development, however, has to be approached in a balanced way involving a combination of financial inflows, labor market efficiency, and structural reforms.

In general, the results of this paper add to the literature on development economics as it offers a multidimensional view of the determinants of economic growth. The results confirm that despite the positive impacts of the remittances on the development, their effectiveness depends on the economic and institutional status. At the same time, the unemployment remains one of the most significant challenges to development, which is why interventions to the policy need to be holistic. Further research can also be done in the future to find out the role of other variables such as education and institutional quality to have a more detailed picture of the national development.

## 5. Conclusion

This paper gives in-depth analysis of the multidimensional variables affecting the national development by covering the role of remittances and unemployment in economic development in countries and through time. The results indicate that remittances have a considerable positive impact on the economic performance, which demonstrates their importance as a reliable source of external funding that helps households in consumption, investment, and overall economic activity. Meanwhile, unemployment is recognized as a severe limitation to growth that can manifest in its inefficiency in the use of labor and its negative effect on productivity and production. The integrated analysis of these variables promotes the necessity to adopt an integrated approach to the considerations of the developmental processes since financial inflows are not enough to promote sustainable growth without the corresponding enhancement of the conditions of the labor market. The paper also notes the dynamism of economic growth which is affected by the global economic cycles and the structure of the economy and therefore requires resilience and flexibility in policy frameworks. On balance, the findings imply that the policy makers need to make efforts towards making the remittances more productively utilized by improving the financial systems and at the same time, effective labor market policies that will help in job creation and skill development. By considering both financial and labor aspects, nations will have more balanced, inclusive, and sustainable developmental outcomes.

**References**

1. Adams Jr, R. H., & Cuecuecha, A. (2010). Remittances, household expenditure and investment in Guatemala. *World development*, 38(11), 1626-1641.
2. Aggarwal, R., Demirgüç-Kunt, A., & Peria, M. S. M. (2011). Do remittances promote financial development?. *Journal of development economics*, 96(2), 255-264.
3. Amega, K. (2018). Remittances, education and health in Sub-Saharan Africa. *Cogent Economics & Finance*, 6(1), 1516488.
4. Azam, M., Haseeb, M., & Samsudin, S. (2016). The impact of foreign remittances on poverty alleviation: Global evidence. *Economics & Sociology*, 9(1), 264.
5. Azizi, S. (2018). The impacts of workers' remittances on human capital and labor supply in developing countries. *Economic Modelling*, 75, 377-396.
6. Bettin, G., Presbitero, A. F., & Spatafora, N. L. (2017). Remittances and vulnerability in developing countries. *The World Bank Economic Review*, 31(1), 1-23.
7. Chancel, L., Piketty, T., Saez, E., & Zucman, G. (Eds.). (2022). *World inequality report 2022*. Harvard University Press.
8. Clemens, M. A., & McKenzie, D. (2018). Why don't remittances appear to affect growth?. *The Economic Journal*, 128(612), F179-F209.
9. Eggoh, J., Bangake, C., & Semedo, G. (2019). Do remittances spur economic growth? Evidence from developing countries. *The Journal of International Trade & Economic Development*, 28(4), 391-418.
10. IMF, S. (2022). World economic outlook: Countering the cost-of-living crisis.
11. Iordache, M., Matei, M., & Țițan, E. (2023). Global Connections: Examining the Role of Remittances in Economic development. *Journal of Social and Economic Statistics*, 12(2), 53-71.
12. Khan, I. (2024). Analyzing the impact of positive and negative remittance inflow shocks on economic growth of India. *Journal of Economic Studies*, 51(2), 338-356.
13. Kpodar, K., & Singh, R. (2011). Does financial structure matter for poverty. *Evidence from developing countries. World Bank Policy Research Working Paper*, p. WPS5915.
14. Meyer, D., & Shera, A. (2017). The impact of remittances on economic growth: An econometric model. *Economia*, 18(2), 147-155.
15. Mittvin. (n.d.). *World economic indicators (1960–2022) dataset*.
16. Ozili, P. K. (2021). Financial inclusion and business cycles. *Journal of Financial Economic Policy*, 13(2), 180-199.
17. Pal, S., Villanthenkodath, M. A., Patel, G., & Mahalik, M. K. (2022). The impact of remittance inflows on economic growth, unemployment and income inequality: An international evidence. *International Journal of Economic Policy Studies*, 16(1), 211-235.
18. Ratha, D., Plaza, S., Kim, E. J., Chandra, V., Kurasha, N., & Pradhan, B. (2023). Migration and development brief 38: Remittances remain resilient but are slowing. *KNOMAD–World Bank*.
19. Salahuddin, M., & Gow, J. (2016). The effects of Internet usage, financial development and trade openness on economic growth in South Africa: A time series analysis. *Telematics and Informatics*, 33(4), 1141-1154.
20. Sevenscan, A. (2023). Remittances, unemployment, growth and development: a panel cointegration approach. *Applied Economics Letters*, 30(5), 663-668.
21. Sutradhar, S. R. (2020). The impact of remittances on economic growth in Bangladesh, India, Pakistan and Sri Lanka. *International Journal of Economic Policy Studies*, 14(1), 275-295.
22. Wu, W., Hon-Wei, L., Yang, S., Muda, I., & Xu, Z. (2023). Nexus between financial inclusion, workers' remittances, and unemployment rate in Asian economies. *Humanities and Social Sciences Communications*, 10(1), 692.