Article

Not peer-reviewed version

Revisiting Remittance and Exchange Rate Volatility Nexus in Nigeria: The Role of Geopolitical Risk and Economic Policy Uncertainty

Ojo Adelakun *

Posted Date: 28 May 2025

doi: 10.20944/preprints202505.2068.v1

Keywords: remittance; exchange rate; volatility; geopolitical risk; uncertainty

Preprints.org (www.preprints.org) | NOT PEER-REVIEWED | Posted: 28 May 2025 doi:10.20944/preprints202505.2068.v1

Article

Revisiting Remittance and Exchange Rate Volatility Nexus in Nigeria: The Role of Geopolitical Risk and Economic Policy Uncertainty

Adelakun O. Johnson [1,2]

[1] Department of Business Management & Economics, Mthatha, WSU, S/Africa; johnsonadelakun@gmail.com
[2] Department of Economics, National University of Lesotho, Lesotho

Abstract: This study seeks to understand the extent to which uncertainty stemming from geographical risk and changes in economic policy affects the potential of remittances as a stabilising (amplifying) factor in exchange rate volatility. By utilising the Generalized Autoregressive Conditional Heteroskedasticity (GARCH)-Mixed Data Sampling (MIDAS) approach, our research provides compelling evidence that remittance inflows contribute to increased fluctuations in exchange rates. Specifically, we demonstrate that the destabilising effect of remittances becomes more pronounced in environments characterised by heightened economic policy uncertainty and rising geopolitical risk. In conclusion, although remittances are generally beneficial, the impact that they have on the stability of exchange rates is complicated and can be complicated even more by the uncertainty that arises from changes in economic policy and elements of geopolitical circumstances.

Keywords: remittance; exchange rate; volatility; geopolitical risk; uncertainty

1. Introduction

The monetary approach to exchange rate determination offers a robust framework for understanding how remittances can influence exchange rate volatility. This theory suggests that exchange rates are primarily driven by variations in the demand for and supply of money. When migrant workers send funds back to their home countries, this influx of foreign currency increases the supply of foreign currency in the market, which can potentially lead to fluctuations in the exchange rate. However, the specific impact of remittances on exchange rates can differ based on the unique circumstances of each country. On one hand, a country that consistently receives remittances may experience a more stable exchange rate, as these funds provide a dependable inflow of foreign currency. On the other hand, large and sudden surges of remittances can cause significant shifts in the foreign exchange market, potentially resulting in heightened volatility in the exchange rate as traders respond to the changing supply and demand conditions. Nevertheless, while most studies primarily focus on the motivations for sending remittances, such as kindness and personal benefit (see Amuedo-Dorantes, 2014; Ratha, 2017), recent findings indicate that global issues like geopolitical risk (GPR) and economic policy uncertainty (EPU) also influence how remittance flows evolve.

A substantial number of empirical studies have explored the relationship between exchange rates and remittances (Ito, 2017; Kim, 2019; Basnet et al., 2019; Arbouch & Dadush, 2020; Joof & Touray, 2021; Habib & Medad, 2024; Zennati et al., 2025), as well as the connections between GPR and remittances (Gupta et al., 2009; Mondiale, 2009; Wernick et al., 2012; Abbas et al., 2017) and EPU and remittances (Delpierre & Verheyden, 2014; Guvenen et al., 2021; Hussain et al., 2023; Barak & Ünlü, 2024). It is noteworthy that while remittance inflows are often viewed as a stabilizing factor in a fluctuating exchange rate environment, increasing geopolitical risks tend to heighten uncertainty for investors, which can prompt a withdrawal of investments and subsequently exacerbate exchange rate volatility. Nevertheless, existing studies have largely approached these issues in isolation, with minimal consideration of the potential macroeconomic implications arising from their intricate

 doi:10.20944/preprints202505.2068.v1

interactions. As a result, our second hypothesis is that the suppose stabilizing dynamics of remittances in exchange rate volatility can be undermine by rising geopolitical risk and uncertainty. To the test the validity or otherwise of these hypotheses, this study contributes to the literature in three ways.

First, over the past decade, we have witnessed a number of significant geopolitical events, including the expansion of NATO, the ongoing dispute in the South China Sea, the China-US trade war, Brexit, the Russia-Ukraine crisis, and the Canada-China-US extradition case involving Meng Wanzhou (2018-2021). Additionally, notable incidents include India's sudden ban on Chinese apps in 2021, the bans on Huawei in the EU and US in 2020, and the Australia-China trade dispute in 2021. Furthermore, events such as the 9/11 attacks, the Iraq War, the Paris terrorist attacks, the Arab Spring, and the recent Israel-Palestine conflict are commonly referenced in the literature as examples of geopolitical risk (Caldara & Iacoviello, 2022). As geopolitical conflicts continue to escalate globally (Moyo, 2019), multinational corporations (MNCs) are reassessing their perceptions and adjusting their investment behaviors accordingly (Witt, 2019). The implicit geopolitical events might threaten international remittance or change their economic activities strategies and thus distort remittance flows with implication on the increasing the likelihood of resources being misallocated. For instance, a country viewed as risky may experience a decline in foreign direct investment, which can adversely affect its economic growth and job creation. Consequently, migrants in such countries may encounter difficulties in sending money back home due to reduced earning potential.

However, aside from the direct effects of geopolitical risk (GPR) on remittance flows (Fratzscher, 2012; Abbas et al., 2017; Nathaniel et al., 2017; Caldara & Iacoviello, 2018), it is still mostly unknown whether GPR weakens the ability of remittance flows to stabilize changes in exchange rates. Understanding how remittance flows help stabilize exchange rate fluctuations amidst geopolitical risk can reveal important social implications for communities that depend on these remittances. Therefore, a primary contribution of this study is to examine the extent to which rising GPR affects the stabilizing effect of remittance flows on exchange rate volatility. Insights gained from exploring this interconnectedness will illuminate the significant impact that geopolitical risk can have on remittances and the livelihoods of individuals who rely on them to help stabilize fluctuations in exchange rate movements.

Secondly, the geopolitical risk has the potential to intensify the uncertainty surrounding economic policy. For instance, when tensions arise, whether from conflicts, trade disputes, or political instability, governments and businesses face unpredictable environments that can complicate decision-making. This uncertainty may lead to delayed investment, changes in consumer behavior, and fluctuations in markets as stakeholders respond to perceived threats or instabilities. However, even though there has been more attention on how economic policy uncertainty (EPU) affects remittance flows, the role of geopolitical risk as a possible cause of EPU and how it affects the link between EPU and remittance flows hasn't been thoroughly examined. Therefore, this study aims to contribute not only by assessing whether geopolitical risk influences the relationship between EPU and remittances but also by evaluating whether this complexity plays a crucial role in stabilizing remittance flows.

Finally, we use a mixed data sample (MIDAS) approach to model daily exchange rates together with monthly remittance flows, GPR, and EPU, each at their own natural frequencies without losing much information. To better understand how exchange rates change over time, we improved the MIDAS framework by adding a GARCH model, which led to the creation of the GARCH-MIDAS model. We chose to look at exchange rate volatility every day because it helps us get more accurate measurements (Ghysels et al., 2019) and is important for investors who need to make quick decisions about their investments (Salisu et al., 2023). Daily volatility holds particular importance in the context of Value-at-Risk (VaR) estimates (Ghysels & Valkanov, 2012). Furthermore, our preference for the GARCH-MIDAS model is further justified by its capacity to incorporate richer information related to financial market volatility, which, according to Li et al. (2023), can enhance the model's predictive power.

doi:10.20944/preprints202505.2068.v1

In addition to this introductory section, the rest of the paper is structured as follows: Section 2 discusses the data and offers some preliminary results; Section 3 presents the methodology; Section 4 presents the results and Section 5 discusses the findings of the study and conclusions.

2. Data and Preliminary Analysis

The monthly Geopolitical Risk (GPR) index, as developed in existing literature, serves as an invaluable tool for measuring real-time perceptions of geopolitical risk. This index effectively captures both the inherent risks, and the uncertainties associated with significant geopolitical events, as outlined in the work of Baker et al. (2016) and further explored by Caldara & Iacoviello (2022). In our study, we utilize a comprehensive monthly economic uncertainty index alongside GPR data, which encompasses a time frame from April 2006 through May 2024. The remittance data we analyzed is collected monthly and is defined through our low-frequency series, making use of estimated figures that reflect economic transactions across borders. To gain a deeper understanding of the volatility dynamics of the exchange rate, we accessed a weekly time series from Investing.com, a well-known online financial database that offers detailed market analysis and data. Simultaneously, the GPR data utilized in this analysis is sourced from the Economic Policy Uncertainty (EPU) database, known for its extensive collection of indicators reflecting the intersection of economic policy and uncertainty. Additionally, remittance statistics are extracted from the Central Bank of Nigeria's Statistical Bulletin database (CBN), which provides reliable data on the flow of remittances into Nigeria.

As we advance in our analysis, a meticulous investigation into the statistical characteristics of these pivotal variables will be undertaken. This rigorous assessment will yield crucial insights that will validate the appropriateness of the estimation techniques we have chosen for our study. Such validation is vital to accurately capturing the intricate volatility dynamics that stem from economic policy uncertainty. To begin with the summary statistics, a preliminary review of Table 1 (A1) reveals that the average daily exchange rate stands at approximately 284.0607. In contrast, the return series is recorded at an average of 100.0627. The standard deviation, a metric that quantifies the dispersion within these series, indicates significant variability: the daily exchange rate exhibits a standard deviation of 235.2236, while the return series displays a value represented as 1.463233. These high standard deviation figures suggest a wide range of fluctuations that merit further attention.

In terms of distribution characteristics, the skewness statistic sheds light on the asymmetry of each series around its mean. Notably, all recorded values for both the exchange rate levels and their returns demonstrate positive skewness, indicating a tendency for the distribution to stretch more towards higher values. Kurtosis, another important measure, evaluates the peakness of the distribution, revealing that the series categorized as leptokurtic exceed a kurtosis value of three. This suggests a higher likelihood of extreme outcomes. Specifically focusing on remittance (RMT), geopolitical risk (GPR), and economic policy uncertainty (EPU), the series reflect average values of 2069.251 for RMT, 97.90642 for GPR, and 169.6349 for EPU. The pronounced standard deviation figures across these variables denote increased variability and heightened risk, indicating a more substantial degree of uncertainty inherent in the data.

Furthermore, all series related to remittances, geopolitical risks, and economic policy uncertainties display positive skewness. The remittance and geopolitical risk series are classified as leptokurtic, suggesting a propensity for extreme values, while the economic policy uncertainty series is identified as platykurtic, as it has a kurtosis value falling below three, indicating a flatter distribution with fewer extreme outcomes. Table 1 also encompasses additional statistical metrics of significance, including the F-statistic derived from an autoregressive conditional heteroscedasticity (ARCH) test, along with the Q-statistic and Q-square statistic obtained via the Ljung-Box autocorrelation test. The rejection of the null hypothesis concerning homoscedasticity and the absence of autocorrelation within the exchange rate series across various lag lengths (K=10, K=20, and K=30) highlights the presence of volatility in our dependent and high-frequency variable. This

doi:10.20944/preprints202505.2068.v1

outcome validates the efficacy of our selected estimation technique, confirming its alignment with the observed data dynamics.

Table 1. Preliminary results for high frequency series.

	Exchange Rate		RMT	GPR	EPU
	Level	Returns			
Summary Statistics					
Mean	284.06	100.06	2069.25	97.90	169.63
Std. Dev	235.22	1.46	16816.68	28.65	75.95
COV					
Skewness	3.32	10.74	14.62	3.06	0.70
Kurtosis	16.30	263.81	215.18	19.89	2.94
No. Observation	4768		218		
Frequency	Daily		Monthly		
Start Date	April 3, 2006		April, 2006		
End Date	May 31, 2024		May, 2024		
Conditional Heteroscedasticity and Autocorrelation tests					
	K=10		**K=20**		**K=30**
ARCH-LM test	5.27***		3.28***		3.11***
Ljung-Box (Q-stat.)	53.76***		64.90***		91.25***
Ljung-Box(Q^2-stat.)	54.31***		64.62***		89.09***

Note: The reported Q-stat. and Q2-stat. are based on the Ljung-Box serial correlation test employed to test the null hypothesis of no autocorrelation. At the same time, the F-stat reported in the case of the ARCH-LM test is employed to test the null hypothesis of homoscedasticity. The syntax ***, ** & * implies a rejection of the null hypothesis at 1%, 5% and 10%, respectively.

3. Methodology

The study employed the mixed frequency data sampling (MIDAS) technique developed by Ghysels et al. (2006, 2007), which serves as the foundation for the GARCH-MIDAS model introduced by Engle et al. in 2013. This innovative approach effectively addresses the intricacies of financial data by integrating two key components. The GARCH (Generalized Autoregressive Conditional Heteroskedasticity) element is designed to capture and model the dynamic volatility patterns present in the data, allowing for a robust analysis of fluctuations over time. In contrast, the MIDAS (Mixed Data Sampling) component is instrumental in maintaining the inherent frequency characteristics of our variables of interest, accommodating both high-frequency and low-frequency data without losing essential details. The framework we present below is built upon this GARCH-MIDAS econometric model, which facilitates a comprehensive understanding of the relationships among the variables within our study.

$$r_{i,t} = \mu + \sqrt{\tau_t \times h_{i,t}}\,\varepsilon_{i,t}, \quad \varepsilon_{i,t} \mid \Phi_{i-1,t} \sim N(0,1), \quad \forall i = 1, \ldots, N_t \tag{1}$$

$$h_{i,t} = (1-\alpha-\beta) + \frac{\left(r_{i-1,t}-\mu\right)^2}{\tau_i} + \beta h_{i-1,t} \tag{2}$$

$$\tau_i^{(r\omega)} = m^{(r\omega)} + \theta^{(r\omega)} \sum_{k=1}^{K} \phi_k\left(\omega_{1,} \omega_{1,}\right) X_{i-k}^{(r\omega)} \quad (3)$$

Equation (1) is our mean equation, while equations (2) and (3) capture the conditional variance of our GARCH-MIDAS model both for short –and long-run components, respectively. On each of the specific parameters in the equation, the term μ in equation 1 denotes the unconditional mean of the food prices. Equation 2 is the short-run component of the conditional variance of our high-frequency variable (i.e., monthly food prices) h_{it}, which aligns with a GARCH (1,1) process. Here, α β denoting ARCH and GARCH terms are conditioned to be positive or at least zero $(\alpha > 0$ and $\beta \geq 0)$ and summing to less than a unit $(\alpha + \beta < 0)$. On the other hand, the term τ_t is the long-run component of the conditional variance that incorporates the exogenous series (or realized volatility where there is no exogenous series) and involves repeating the annual value through the months in that year. The implementation of a rolling-window framework, which enables the secular long-run component to vary monthly, is donated by subscript $(r\omega)$ in equation (3). At the same time, m represents the long-run component intercept. Of particular interest in equation 3 is the slope coefficient (θ), which incorporates the predicting power of climate change and terrorism to be singly captured as an exogenous predictor (X_{i-k}) in the predictability of food prices, while $\phi_k(\omega_1, \omega_2) \geq 0, k = 1, \ldots, K,$ is the weighting scheme that must sum to one for the parameters of the model to be identified.

4. Results and Discussion

The GARCH-MIDAS estimates detailed in Table 2 provide valuable insights into how remittances influence exchange rate volatility. Both models display a high degree of volatility persistence, which is highlighted by the significant ARCH (α) and GARCH (β) coefficients. Specifically, the slope coefficient (θ) associated with realized volatility is negative and statistically significant indicating decline in the volatility of exchange rate attributable to the historical trend dynamic of the exchange rate. In contrast, the slope coefficient for remittances holds a positive value suggesting that elevated levels of remittances are correlated with heightened volatility in exchange rates. This correlation indicates that as remittance inflows increase, they may inadvertently introduce fluctuations that could compromise the stability of the exchange rate framework. The analysis also reveals that the adjusted beta polynomial weights (ω) are substantial in both models, underscoring the strength and reliability of the inputs used in the assessments. Additionally, the long-run constant term (m) presents divergent trends: it is positive for realized volatility, indicating a stabilizing influence over the long term, but negative for remittances, suggesting that although these funds serve as vital financial inflows, they may lead to increased instability in the exchange rate over time. In essence, while remittances are undeniably a crucial source of foreign currency and provide essential support to countless households, their role is dual-faceted. They not only bolster economic resilience but also pose a risk of contributing to exchange rate volatility, challenging their perception as a purely stabilizing force in the economy. This nuanced understanding emphasizes the need for careful monitoring and analysis of remittance flows and their broader economic implications.

Table 2. GARCH-MIDAS Estimates.

Parameter	GARCH-MIDAS-RV	GARCH-MIDAS-Remittances
μ	0.0016***	0.0003
α	0.0502***	0.0505***
β	0.9003***	0.9004***

 doi:10.20944/preprints202505.2068.v1

θ	-0.0028***	0.0411***
ω	5.0040***	4.9991***
m	0.0001***	-0.0001***

Note: μ is the unconditional mean of the stock returns, $\alpha$and β denotes the ARCH and GARCH terms, while the parameter θ is the slope coefficient. The terms w and $m$are the adjusted beta polynomial weight and long-run constant term. The values in parenthesis are the standard errors of the parameter estimates, while ***, ** and * imply statistical significance at 1%, 5% and 10%, respectively.

The second hypothesis suggests that remittances, when influenced by geopolitical risk and economic policy uncertainty, are likely to exhibit a negative relationship with exchange rate volatility. The GARCH-MIDAS estimates provide insight into how these two factors—economic policy uncertainty (EPU) and geopolitical risk (GPR)—affect the dynamics between remittances and fluctuations in exchange rates. When considering the context of economic policy uncertainty, it becomes evident that remittances exert a considerably stronger influence on exchange rate volatility. This is illustrated by the positive and significant slope coefficient, indicating that an increase in economic policy uncertainty correlates with heightened volatility driven by remittances. In practical terms, this suggests that times of greater ambiguity regarding economic policies lead to more erratic exchange rate movements, as remittances react more forcefully under such circumstances. In contrast, the relationship shifts when assessing the impact of geopolitical risk on remittances. Under these conditions, the increase in exchange rate volatility is less pronounced, evidenced by a lower slope coefficient. This finding implies that while geopolitical tensions can influence remittances, their effect on exchange rate stability is not as strong as that of economic policy uncertainty.

Table 3. GARCH-MIDAS estimates with the role EPU and GPR.

Parameter	GARCH-MIDAS-RMT*EPU	GARCH-MIDAS-RMT*GPR
μ	0.0004**	-0.0005
α	0.1934***	0.0500***
β	0.7365***	0.9001***
θ	0.1508***	0.0825***
ω	1.2439***	5.0000***
m	-0.0004***	-0.0001***

Note: μ is the unconditional mean of the stock returns, $\alpha$and β denotes the ARCH and GARCH terms, while the parameter θ is the slope coefficient. The terms w and $m$are the adjusted beta polynomial weight and long-run constant term. The values in parenthesis are the standard errors of the parameter estimates, while ***, ** and * imply statistical significance at 1%, 5% and 10%, respectively.

Inference from both GARCH-MIDAS-RMT*EPU and GARCH-MIDAS-RMT*GPR models highlight significant short-term volatility, characterized by the ARCH term, as well as persistent volatility, represented by the GARCH term. Notably, the EPU model underscores a greater persistence of short-term volatility, suggesting that fluctuations driven by economic policy uncertainty not only occur frequently but also exhibit a lasting impact over time. Overall, these results emphasize that economic policy uncertainty significantly shapes exchange rate volatility through the channel of remittances, proving to be a more dominant force than the influence of geopolitical risk. This understanding could inform policymakers and economists regarding the intricate interplay between these variables and their implications for economic stability.

5. Conclusions

This study utilizes the GARCH-MIDAS model to investigate the relationship between remittances and exchange rate stability, particularly in the context of geopolitical risks and economic

 doi:10.20944/preprints202505.2068.v1

policy uncertainty. Our analysis reveals that while remittances are undeniably crucial as a source of foreign currency for developing and emerging economies, they can, paradoxically, exacerbate fluctuations in exchange rates. Notably, this volatility is heightened during periods of increased economic policy uncertainty. This suggests that uncertainty, particularly in either the sending or receiving country, can affect how remittances impact the volatility of exchange rates. On one hand, uncertainty may lead to a decrease in remittances, potentially dampening their effect on exchange rate fluctuations. Conversely, if remittances are perceived as investments, uncertainty about future returns could result in an increase in remittances, potentially elevating exchange rate volatility. In light of this, among other factors, policymakers should prioritize reducing economic and geopolitical uncertainty to foster a stable environment that promotes remittances and minimizes exchange rate volatility.

References

Abbas, F., Masood, A., & Sakhawat, A. (2017). What determine remittances to Pakistan? The role of macroeconomic, political and financial factors. *Journal of Policy Modeling*, 39(3), 519-531.

Adelowokan, O.E., Adesoye, A.B., Akpa, E.O., Maku, O.E. (2020). Remittances, foreign aid and private consumption in sub-Saharan Africa (SSA): a system GMM estimation. *KIU J Soc Sci.*, 5(4), 67–76.

Adenutsi, D.E. & Ahortor, C.R.K. (2021). Macroeconomic Determinants of Remittance Flows to Sub-Saharan Africa. AERC Research Paper 415 African Economic Research Consortium, Nairobi January 2021

Akpa, E.O. (2018). Private remittances received and household consumption in Ghana (1980–2016): an ARDL analysis with structural breaks. *Internat J Manag Econ Invent.*, 4(5), 1771–1777.

Allen, C. (2021). Remittances in Sub-Saharan Africa: An Update. African Department, International Monetary Fund (IMF).

Amakom, U., & Iheoma, C.G. (2014). Impact of migrant remittances on health and education outcomes in Sub-Saharan Africa. *IOSR J Hum Soc Sci.*, 19, 33–44.

Amega, K. (2018). Remittances, education and health in Sub-Saharan Africa. *Cogent Econ Finance*, 6(1), 1–27.

Apergis, N. & Cooray, A. (2018). Asymmetric real exchange rates and poverty: The role of remittances. *Emerging Markets Review*, 35, 111–19.

Bahmani-Oskooee, M. & Gelan, A. (2018). Exchange-rate volatility and international trade performance: Evidence from 12 African countries. *Economic Analysis and Policy*, 58, 14–21.

Baker, S. R., Bloom, N., & Davis, S. J. (2012). Has economic policy uncertainty hampered the recovery? *Government Policies and the Delayed Economic Recovery*, 12-06.

Baker, S. R., Bloom, N., & Davis, S. J. (2016). Measuring economic policy uncertainty. *The Quarterly Journal of Economics*, 131(4), 1593–1636.

Baker, S. R., Bloom, N., & Davis, S. J. (2016). Measuring economic policy uncertainty. *The Quarterly Journal of Economics*, 131(4), 1593-1636

Bayangos, V. & Karel, J. (2011). Remittances and Competitiveness: The Case of the Philippines. *World Development*, 39, 1834–46.

Bing, L. & Wenge, L. (2024). Does Comprehensive Geopolitical Risk Deter FDI Outflows: Evidence from China. *Defence and Peace Economics*, 35(3), 383-399

Buchholz, K. (2023). The World's Top Remittance Recipients. Available online at https://www.statista.com/chart/20166/top-10-remittance-receiving-countries/ [Accessed 5-3-2024]

Bussy, A. and Zheng, H. (2023). Responses of FDI to geopolitical risks: The role of governance, information, and technology. *International Business Review*, 102136, 1-15.

Caldara, D., & Iacoviello, M. (2022). Measuring geopolitical risk. *American Economic Review*, 112(4), 1194–1225.

Col, B., Durnev, A., & Molchanov, A. (2018). Foreign risk, domestic problem: Capital allocation and firm performance under political instability. *Management Science*, 64(5), 2102–2125.

Cuypers, I. R. P., et al. (2021). Transaction cost theory: Past progress, current challenges, and suggestions for the future. *Academy of Management Annals*, 15(1), 111–150.

Daştan, M., Karabulut, K. and Yalçınkaya, Ö. (2022). The nexus between uncertainty and foreign direct investment flows to G20 member countries. *Ekonomski Pregled*, 73(5), 717-738.

 doi:10.20944/preprints202505.2068.v1

Dunning, J.H. (2004). Determinants of foreign direct investment: globalization-induced changes and the role of policies. *Towards Pro Poor Policies*, 279–290.

Dutta, U.P. & Sengupta, P.P. (2018). Remittances and Real Effective Exchange Rate: An Empirical Exercise with Indian Data. *South Asia Economic Journal*, 19, 124–36.

Faini, R. (1994). Worker's remittances and the real exchange rate. *Journal of Population Economics*, 7(2), 235-245.

Fromentin, V. (2017). The long-run and short-run impacts of remittances on financial development in developing countries. *Quarterly Review of Economics and Finance*, 66, 192–201.

Ghysels, E., Pedro, S., & Rossen, V. (2006). Predicting volatility: getting the most out of return data sampled at different frequencies. Journal of Econometrics, 131(1-2), 59-95.

Ghysels, E., Arthur, S., & Rossen, V. (2007). MIDAS regressions: Further results and new directions. Econometric reviews 26(1), 53-90.

Gupta, P. (2006). Macroeconomic determinants of remittances: Evidence from India. *Economic and Political Weekly*, 2769-2775.

Hathroubi, S. & Aloui, C. (2016). On interactions between remittance out flows and Saudi Arabian macroeconomy: New evidence from wavelets. *Economic Modelling*, 59, 32–45.

Hien, N.P., Vinh, C.T.H. & Mai, V.T.P. (2019). Remittances, real exchange rate and the Dutch disease in Asian developing countries. *Quarterly Review of Economics and Finance*, 77, 131–43.

Ilahi, N., & Jafarey, S. (1999). Guestworker migration, remittances and the extended family: evidence from Pakistan. *Journal of Development Economics*, 58(2), 485-512

Lawal, A.I. et al. (2022). Economic Growth, Exchange Rate and Remittance Nexus: Evidence from Africa. *J. Risk Financial Manag*. 2022, 15(6), 235

Lu, B. & Liu, W. (2022). Does comprehensive geopolitical risk deter FDI Outflows: Evidence from China. *Defence and Peace Economics*, 1-17. http://dx.doi.org/10.1080/10242694.2022.2160140.

Moyo, D. (2019). Are businesses ready for deglobalization. *Harvard Business Review*, 6.

Nguyen, T. T. T., Pham, B. T. and Sala, H. (2022). Being an emerging economy: To what extent do geopolitical risks hamper technology and FDI inflows? *Economic Analysis and Policy*, 74, 728-746.

Rabbi, F., Chowdhury, M.B. & Hasan, M.Z. (2013). Macroeconomic impact of remittances and the Dutch Disease in a developing country Macroeconomic Impact of Remittances and the Dutch Disease in a Developing Country. *American Journal of Economics*, 3, 156–60.

Rajput, S.K.O., Bajaj, N. & Siyal, T. (2019). Does Economic Policy Uncertainty Affect the Inflows From Foreign Remittances? (November 22, 2019). Available at SSRN: https://ssrn.com/abstract=3491579 or http://dx.doi.org/10.2139/ssrn.3491579

Thakkar, N. & Ayub, K.A. (2022). Geopolitical Risk and Globalization. *The Journal of Applied Business and Economics*, 24(3), 140-150.

Triki, M.B., & Ben Maatoug, A. (2021). The gold market as a safe haven against the stock market uncertainty: evidence from geopolitical risk. *Resources Policy*, 70, 101872.

Wahba, S. (1991). What determines workers' Remittances? *Finance and Development*, 28(4), 41.

Witt, M. A. (2019). De-globalization: Theories, predictions, and opportunities for international business research. *Journal of International Business Studies*, 50(7), 1053–1077.