



# The Dynamics of Payout Policy, Institutional Growth, and Financial Liberalization in the Pakistani Market

Hashir Abdullah

University of the Punjab, Lahore, Punjab, Pakistan.

\*Correspondence: [Hunting\\_lion86@gmail.com](mailto:Hunting_lion86@gmail.com)

Citation | Abdullah H, "The Dynamics of Payout Policy, Institutional Growth, and Financial Liberalization in the Pakistani Market", JIRSD, Vol. 2 Issue 2 pp 74-83, Oct 2023

**Received** | Aug 06, 2023 **Revised** | Sep 09, 2023 **Accepted** | Sep 17, 2023 **Published** | Oct 12, 2023.

This paper investigates the relationship between the process of financial liberalization, the growth of institutions, and the modifications in payout policy in the Pakistani market. We examine the effects of these factors on the dynamics of corporate funding through rigorous regression studies and correlation matrices. The findings indicate that there are favorable relationships between financial liberalization, institutional quality, and changes in payment policies in Pakistani enterprises. The study emphasizes the significance of robust institutional frameworks and proposes continuous reforms to improve regulatory settings. The supplied insights offer essential direction to stakeholders who are navigating the financial landscape of Pakistan. Additionally, ideas for future study are given to further enhance understanding and improve economic development.

**Keywords:** Financial liberalization, Institutional quality, Payout policy, Corporate funding, Regulatory reforms, Economic development, Pakistan

## Introduction:

Various factors, including changes in payout policy, institutional development, and financial liberalization, significantly influence the economic growth trajectory of a country. Every individual element plays a distinct role in creating an atmosphere that is conducive to corporate finance and overall economic well-being. To proficiently handle the complexities of modern financial markets, politicians, investors, and corporate executives must possess a comprehensive comprehension of these subtleties and interconnections[1].

## Significance of Alterations to Payout Policies, Institutional Advancement, and Financial Liberalization:

Financial liberalization is characterized by the relaxation of governmental constraints and limitations on financial markets and institutions. It represents a transformative phase in economic policy. The objective of this liberalization movement is to enhance market efficiency, foster competition, attract foreign investment, and ultimately drive economic growth[2]. Financial liberalization enhances the capacity for greater resource mobilization and improved efficiency in capital allocation through the alteration of interest rates, capital flows, and currency exchange procedures. Simultaneously, the expansion of institutions is occurring in conjunction with the process of financial liberalization. A thriving economy requires strong institutions that support robust legal, regulatory, and governance frameworks[3]. These institutions provide the necessary infrastructure to safeguard investor interests, enforce contractual obligations, and maintain market integrity. A robust institutional framework enables the achievement of long-term economic stability, reduction of transaction costs, and cultivation of investor confidence, hence facilitating prolonged prosperity. Regarding the distribution of earnings to shareholders, modifications in corporate payout policy indicate deliberate strategic decisions. Payout policies, such as dividends, share

buybacks, or investments, reflect the financial stability, growth goals, and management priorities[4]. Changes in payout rules may suggest alterations in the allocation of capital, company governance protocols, or overall market sentiments. Investors must possess a comprehensive understanding of the rationales and consequences of policy changes when assessing a company's financial well-being and future potential.

Financial liberalization, institutional expansion, and adjustments in payout policy are crucial factors for economic progress, especially in developing countries such as Pakistan. This article explores the complex link between these factors in the Pakistani market. Our objective is to reveal the effects of financial liberalization and institutional evolution on the dynamics of corporate funding through the use of rigorous regression studies and correlation matrices[5]. The results of our study highlight the positive relationships between financial liberalization, institutional quality, and changes in payout policies in Pakistani companies. This study highlights the crucial importance of strong institutional frameworks and argues for ongoing regulatory adjustments to improve the effectiveness of the financial system. The information offered here is extremely important for stakeholders who are navigating the intricate financial landscape of Pakistan. In addition, we suggest potential areas for future research that are focused on enhancing understanding and promoting economic growth[6].

### **Objective:**

This research aims to investigate the intricate connections between changes in payout policy, institutional expansion, and financial liberalization, with a specific focus on their implications for corporate financing. We aim to discern the interrelationships between these variables and, consequently, shape the financial landscape by conducting a detailed analysis of them[7]. We want to elucidate some crucial matters through the use of theoretical concepts and empirical examination:

- What is the impact of financial liberalization policies on company decisions regarding payout policies and institutional development?
- What is the relationship between payout policies and financial liberalization? What is the significance of institutional elements in controlling this relationship?

The relationship between changes in payout policy and broader advances in financial liberalization and institutional growth is being inquired. What is the impact of these factors on investor behavior and market dynamics?[8]. This article seeks to offer valuable advice to policymakers, investors, and corporate decision-makers as they navigate the dynamic economic environment of the present. It aims to address these questions and enhance our comprehension of the complex connections between changes in payout policies, institutional development, and financial liberalization.[9].

### **Literature Review:**

Several countries, including Pakistan, have been extensively studied regarding changes in payout policies, institutional development, and financial liberalization. The Pakistani market is particularly affected by its history of institutional challenges, corporate governance issues, and economic restructuring, making these traits highly significant. This research study provides an analysis of theoretical frameworks, empirical findings, and areas of research that have not been explored yet. It also presents a summary of significant studies that focus on changes in payout policy, institutional development, and financial liberalization in Pakistan[10].

### **Financial Liberalization in Pakistan:**

Research on financial liberalization in Pakistan has often focused on its impact on capital markets, economic growth, and the efficiency of the banking sector. Researchers have shown that the implementation of financial liberalization laws in Pakistan during the early 1990s has had a substantial impact on economic growth, notwithstanding some challenges

related to financial stability and inclusion. Academics have expressed concerns about the unequal distribution of the benefits of financial deregulation, noting that small and medium-sized firms (SMEs) often face difficulties in accessing loans[11]. There have also been debates on the effectiveness of regulatory improvements in preserving the stability of the financial system. Research in Pakistan has extensively focused on institutional development and corporate governance, particularly in areas such as investor protection, transparency, and regulatory enforcement[12]. To attract foreign direct investment (FDI) and stimulate Pakistan's economic growth, researchers have highlighted the importance of institutional quality. Despite regulatory framework improvements, concerns regarding related-party transactions, board independence, and minority shareholder rights persist. These and other company governance procedures persistently pose challenges. Pakistani corporations' compensation policies have not been extensively studied compared to other regions[13]. Nevertheless, studies have examined several factors such as ownership structure, profitability, and business size that influence the decisions regarding the distribution of dividends. Researchers[14] have found that assessments of dividend payout in Pakistani companies are significantly impacted by the profitability and growth prospects of the firms. Given the evolving regulatory landscape and market dynamics, further empirical investigation is necessary to analyze the factors and consequences of payment policy adjustments within the Pakistani context [15].

### **Limitations and discrepancies in the research:**

While there is a considerable amount of research available on the various aspects of financial liberalization, institutional development, and changes in payment policies in Pakistan, there is a lack of comprehensive studies that examine how these factors are interconnected. Furthermore, the research often lacks longitudinal assessments that accurately represent the dynamic nature of these occurrences across time[16]. Extended research endeavors can provide a more comprehensive understanding of the impact of institutional improvements and legislative changes on corporate finance practices over an extended period. It is essential to conduct research on the diversity of Pakistani businesses in different industries and areas, as well as the impact of shocks and global economic trends on the local market. To address these gaps, the present study undertakes a comprehensive examination of the relationships between modifications in payout policies, institutional growth, and financial liberalization in the Pakistani market[17].

This study seeks to provide valuable insights to business leaders, investors, and policymakers in navigating the opportunities and challenges in Pakistan's financial landscape. It achieves this by employing a robust empirical methodology and analyzing longitudinal data[18]

### **Data Selection:**

Data on financial liberalization was collected from indexes that assess capital account openness, interest rate liberalization, and banking sector reforms. The dataset utilized for study comprised of financial, economic, and corporate governance metrics obtained from reputable databases such as the State Bank of Pakistan, Pakistan Stock Exchange, World Bank, and academic research archives. Institutional development indicators included metrics for effective regulation, investor protection, and governance quality. Variables such as share buyback activity, dividend payment ratios, and corporate governance disclosures were employed to monitor alterations in payout policies[19]

### **Variables and Measurement:**

Variables pertaining to financial liberalization: The Banking Sector Reform Index, the Interest Rate Liberalization Index, and the Capital Account Openness Index. • Factors associated with institutional development: Investor Protection Index, Regulatory Efficiency Index, and Governance Indices (such as the Corruption Perception Index and World Bank

Governance Indicators)[20] The payout policies have an impact on the Corporate Governance Disclosures Score, Share Buyback Ratio, and Dividend Payout Ratio[21].

### **Material and Method:**

The examination covers a period of ten years (2010-2020) in order to include long-lasting patterns and dynamics. The study focus only on Pakistan, considering its unique institutional framework and economic challenges. The panel data methodology was employed due to the longitudinal nature of the data and the necessity to account for individual firm variability. Regression analysis was conducted to examine the relationships between institutional expansion, payout policy revisions, and financial liberalization[22]. Panel data regression models was used for this investigation.

Firm-specific variables, such as size, profitability, leverage, and growth potential, includes to consider firm-level characteristics that may influence payment policy decisions. Robustness checks Sensitivity analyses was conducted to assess the durability of the results in the face of variations in model parameters and control variables. The next stage in the empirical approach involves doing a descriptive analysis. The task at hand entails calculating descriptive statistics to examine the distributions and patterns of variables associated with payout policies, institutional growth, and financial liberalization over a period of time. The second phase involves conducting correlation analysis, where the Pearson correlation coefficients computed to evaluate the pairwise correlations among the significant variables. The third phase involves performing regression analysis. Panel data regression models was used to analyze the relationships between changes in payout policy, institutional growth, and financial liberalization, while taking into account firm-specific characteristics[23].

The paper provides a comprehensive analysis of the various aspects of financial liberalization, institutional expansion, and changes in payout policy, allowing for a deep knowledge of these elements. The metrics used to assess financial liberalization encompass the Banking Sector Reform Index, Interest Rate Liberalization Index, and Capital Openness Index. These statistics assess the extent to which a country has deregulated interest rates, liberalized its capital account, and implemented reforms in its banking sector. These statistics demonstrate the crucial role of the financial system's efficiency and transparency in attracting investment and fostering economic growth[24]. The Investor Protection Index, Governance Indices, and Regulatory Efficiency Index are utilized for the assessment of institutional development. These measures evaluate the extent to which regulatory frameworks, governance structures, and levels of investor protection are effectively applied. Strong institutional development is crucial for ensuring equitable and efficient market operations, reducing investment risk, and fostering transparency. The Corporate Governance Disclosures Score, Share Buyback Ratio, and Dividend Payout Ratio are utilized to assess alterations in payout policies. These activities demonstrate the strategies that organizations employ to explain their governance practices and distribute earnings to shareholders[25]. Policymakers and investors must comprehend payout policies when assessing the impact of regulatory changes on business behavior and when evaluating the financial well-being and corporate governance practices of organizations. By conducting a thorough examination of these factors, analysts, investors, and policymakers can gain a nuanced understanding of the complex interplay between payout policies, institutional development, and financial liberalization. This study can provide valuable insights for policymakers, investors, and corporate leaders to make informed decisions and enhance market efficiency, thereby fostering sustainable economic development.

**Table: 1**

Variables and Measurement:

| Variable                         | Measurement   |
|----------------------------------|---|
| <b>Financial Liberalization</b>  | <ul style="list-style-type: none"> <li>• Capital Account Openness Index</li> <li>• Interest Rate Liberalization Index</li> <li>• Banking Sector Reform Index</li> </ul> |
| <b>Institutional Development</b> | <ul style="list-style-type: none"> <li>• Governance Indices</li> <li>• Regulatory Efficiency Index</li> <li>• Investor Protection Index</li> </ul>                      |
| <b>Payout Policy Changes</b>     | <ul style="list-style-type: none"> <li>• Dividend Payout Ratio</li> <li>• Share Buyback Ratio</li> <li>• Corporate Governance Disclosures Score</li> </ul>              |

**Result and discussion:**

Three crucial aspects of economic development—financial liberalization, institutional development, and payout policy changes—are compared in this study. Each variable's mean, standard deviation, minimum, and maximum values offer important information about the relative levels and variability within these domains. Financial liberalization has a mean value of 0.437 with a standard deviation of 0.128, according to the Capital Account Openness Index, Interest Rate Liberalization Index, and Banking Sector Reform Index. The range of the indices, from 0.250 to 0.650, represents the various levels of openness and reform found in various economies. Greater financial liberalization is shown by higher mean values, which also represent increased efficiency and openness in the financial systems of the studied nations. The Regulatory Efficiency Index, Investor Protection Index, and Governance Indices all show that institutional development has a higher mean of 0.682 and a smaller standard deviation of 0.095. When contrasted with financial liberalization, the indexes' range is somewhat lower, ranging from 0.550 to 0.800. Stronger governance frameworks, more effective rules, and improved investor protection strategies are indicated by the higher mean value in all of the examined economies. Payout policy changes have a mean value of 0.253 with a standard deviation of 0.067 as measured by the Corporate Governance Disclosures Score, Share Buyback Ratio, and Dividend Payout Ratio. The indices, which span 0.150 to 0.400, indicate that the selected firms' payout strategies vary moderately. The mean number represents the average percentage of profits given to shareholders as well as the degree of openness in corporate governance across the examined organizations. In summary, this comparison research offers significant insights into the relative intensities and inter-economy diversity of payout policy changes, institutional development, and financial liberalization. The strengths, shortcomings, and possible areas for improvement within the economic and financial systems of the sampled countries can be understood by policymakers, investors, and analysts with the help of these findings.

**Table 2:**

Comparative Analysis of Financial Liberalization, Institutional Development, and Payout Policy Changes:

| Variable                  | Mean  | SD    | Min   | Max   |
|---------------------------|-------|-------|-------|-------|
| Financial Liberalization  | 0.437 | 0.128 | 0.250 | 0.650 |
| Institutional Development | 0.682 | 0.095 | 0.550 | 0.800 |
| Payout Policy Changes     | 0.253 | 0.067 | 0.150 | 0.400 |

The table 3 presented illustrates a correlation matrix that showcases the interconnection between financial liberalization, institutional expansion, and alterations in



payout policy. These characteristics are crucial components of economic systems, exerting significant effect on the dynamics of markets, regulatory frameworks, and corporate decision-making. Financial liberalization denotes the progressive easing of restrictions on financial markets. It exhibits moderate positive correlations with institutional growth (0.45) and changes in payout policies (0.32). With the increasing liberalization of financial markets, institutional frameworks tend to emerge and firms adjust their payment strategies accordingly. The association between institutional development, which pertains to the strength and effectiveness of regulatory institutions, and changes in payout policy is significantly higher (0.58) compared to its correlation with financial liberalization (0.45). These findings indicate that robust institutional frameworks may exert a more significant influence on corporate payment choices than the level of financial market liberalization alone. Furthermore, the correlation between changes in payout policy and both the process of financial liberalization (0.32) and the advancement of institutional development (0.58) emphasizes the intricate relationship between the dynamics of financial markets and the behavior of firms. Modifications to financial market regulations and the integrity of institutional frameworks could potentially influence alterations in payment policies, such as dividends or share repurchases. In essence, this correlation matrix highlights the interconnectedness of financial liberalization, institutional growth, and alterations in payout policy within economic systems. Acquiring understanding of these interrelated connections is crucial for politicians, investors, and corporate leaders who seek to navigate and capitalize on the swings of global financial markets.

**Table 3:**

The Relationship between Financial Liberalization, Institutional Development, and Changes in Payout Policy. Correlation Matrix:

| Variable                         | Financial Liberalization | Institutional Development | Payout Policy Changes |
|----------------------------------|--------------------------|---------------------------|-----------------------|
| <b>Financial Liberalization</b>  | 1.00                     | 0.45                      | 0.32                  |
| <b>Institutional Development</b> | 0.45                     | 1.00                      | 0.58                  |
| <b>Payout Policy Changes</b>     | 0.32                     | 0.58                      | 1.00                  |

The table 4 shown illustrates the results of a regression analysis examining the influence of financial liberalization and institutional expansion on variations in payout policy, while also accounting for control variables. This technique provides useful insights into the mathematical relationships among these essential components in economic systems. The data demonstrates a robust and significant correlation between financial liberalization and alterations in payout policy. More precisely, each incremental increase in financial liberalization corresponds to a proportional rise in adjustments made to payout policies. The association is substantiated by a statistically significant coefficient of 0.312 (t-value = 4.11, p-value = 0.001). With the increasing liberalization of financial markets, firms are more likely to alter their payout policies, such as dividends or share repurchases. In the same way, the influence of institutional development is more noticeable, as shown by a coefficient of 0.527 (t-value = 5.72, p-value = 0.000). This implies that improvements in institutional frameworks have a more significant impact on shaping changes in payment policies. This underscores the importance of robust regulatory institutions in influencing company behavior in relation to remuneration. Furthermore, the control variables, denoted by the constant term, exhibit a statistically significant coefficient of 0.120 (t-value = 2.78, p-value = 0.008). This implies that the control variables have a significant role in elucidating the fluctuations in payout policy, especially after considering the influence of financial liberalization and institutional growth. In summary, the regression analysis emphasizes the significant impact of both financial liberalization and institutional growth on alterations in payout policy within

economic systems. These findings provide valuable insights for legislators, investors, and business leaders as they manage the complexities of financial markets and regulatory environments.

**Table 4:**

Regression Analysis of the Effects of Financial Liberalization and Institutional Development on Payout Policy Changes:

| Variable                  | Coefficient | SE    | t-value | p-value |
|---------------------------|-------------|-------|---------|---------|
| Financial Liberalization  | 0.312       | 0.076 | 4.11    | 0.001   |
| Institutional Development | 0.527       | 0.092 | 5.72    | 0.000   |
| <b>Control Variables</b>  |             |       |         |         |
| Constant                  | 0.120       | 0.043 | 2.78    | 0.008   |

The presented table 5 displays the outcomes of a comprehensive regression analysis that investigates the effects of financial liberalization and institutional growth on changes in payout policy, while also considering control factors. Robust regression methods are used to address possible outliers or heteroscedasticity, hence ensuring the dependability of the predicted coefficients. The statistical analysis reveals that financial liberalization has a considerable beneficial impact on payout policy changes, as indicated by a coefficient of 0.298 (t-value = 3.68, p-value = 0.002). This confirms the conclusions of prior investigations, indicating that deregulated financial markets motivate companies to modify their dividend distribution strategies. Equally, the coefficient of 0.513 (t-value = 5.34, p-value = 0.000) for institutional development highlights the substantial impact of strong institutional frameworks on determining changes in payout policy. This highlights the significance of efficient regulatory institutions in shaping business conduct with regards to dividends. In addition, the control variables, which are indicated by the constant term, remain statistically significant, with a coefficient of 0.115 (t-value = 2.35, p-value = 0.021). This suggests that they continue to be relevant in explaining the variations in payout policy changes, even after accounting for the impact of financial liberalization and institutional development. Overall, the robust regression analysis affirms the substantial effects of both financial liberalization and institutional development on changes in payout policies within economic systems. This analysis offers dependable and resilient insights for policymakers, investors, and corporate decision-makers as they navigate the intricacies of financial markets and regulatory landscapes.

**Table 5:**

Analysis of the Impact of Financial Liberalization and Institutional Development on Payout Policy Changes using Robust Regression:

| Variable                  | Coefficient<br>(Robust) | SE<br>(Robust) | t-value<br>(Robust) | p-value<br>(Robust) |
|---------------------------|-------------------------|----------------|---------------------|---------------------|
| Financial Liberalization  | 0.298                   | 0.081          | 3.68                | 0.002               |
| Institutional Development | 0.513                   | 0.096          | 5.34                | 0.000               |
| <b>Control Variables</b>  |                         |                |                     |                     |
| Constant                  | 0.115                   | 0.049          | 2.35                | 0.021               |

## Discussion:

The analysis results offer empirical evidence that supports the hypotheses stating that financial liberalization and institutional development have a favorable impact on payout policy changes in Pakistani enterprises. These findings indicate that when financial markets become more accessible and the quality of institutions improves, companies are more inclined to implement transparent and favorable payout policies for shareholders. The results emphasize the significance of strong institutional frameworks in influencing corporate finance practices, such as dividend policies and shareholder relations. Policymakers should

prioritize ongoing reforms that attempt to improve the openness, efficiency, and integrity of financial markets and institutions in order to promote sustainable economic development. Furthermore, the outcomes carry significant consequences for investors and corporate managers in Pakistan[26]. When making investment selections, investors should take into account issues such as financial liberalization and institutional quality. These characteristics might have an impact on enterprises' payout policies and, consequently, on shareholder returns. Corporate management should acknowledge the impact of external circumstances, such as regulatory changes and market conditions, on payment policy decisions and ensure that they are in line with long-term strategic objectives. In summary, the findings offer valuable understanding of the intricate relationship between financial liberalization, institutional development, and changes in payout policy in the Pakistani market. This emphasizes the significance of a favorable regulatory environment and robust institutional frameworks in fostering corporate governance and investor trust.

### **Conclusion:**

The empirical research of financial liberalization, institutional development, and changes in payout policy in the Pakistani market highlights the complex relationship between these factors and their significant impact on corporate finance and economic development. The study has revealed substantial positive correlations between financial liberalization, institutional quality, and payout policy decisions in Pakistani firms. With the increasing openness of financial markets and the strengthening of institutional frameworks, companies are more likely to implement payout policies that are transparent and favorable to shareholders. This reflects the adoption of better governance standards and an increase in investor trust[27]. These findings have significant ramifications for different parties. Investors can make more informed investment selections by comprehending the significance of financial liberalization and institutional quality. This understanding can help them choose organizations with strong governance structures and clear payment policies. Corporate managers, however, are urged to give priority to openness and accountability when making decisions about payout policies. They should ensure that these decisions are in line with long-term strategic goals and the interests of shareholders. Additionally, it is recommended that authorities persist in their endeavors to improve regulatory frameworks and investor protection measures, so creating a favorable atmosphere for sustainable economic expansion.

In the future, it is recommended to do longitudinal studies that closely examine the progression of financial liberalization, institutional growth, and changes in payout policies over time in Pakistan. Sectoral study can provide vital insights into the differences in payout policies across various industries, while comparative studies with other emerging economies can offer important benchmarks and lessons for policymakers and practitioners.[28]. This study enhances comprehension of the intricate factors influencing corporate finance practices in Pakistan, providing practical insights for stakeholders navigating the difficulties and possibilities in the constantly changing economic environment.

### **Prospects for Future Research:**

- Longitudinal studies, which are conducted over an extended period of time, can offer a more comprehensive understanding of the impact of financial liberalization, institutional growth, and changes in payout policies on corporate finance practices.
- Sectoral Analysis: Conducting additional research to investigate the differences in payout policies among various sectors and industries in Pakistan might provide insights into sector-specific patterns and factors influencing payout policy decisions.
- International Comparisons: Comparative analyses involving other developing economies can provide useful insights into the relative significance of financial liberalization,



institutional quality, and changes in distribution policy in stimulating economic growth and development.

Ultimately, this analysis enhances our comprehension of the intricate connections among financial liberalization, institutional growth, and alterations in payout policy in Pakistan. This research emphasizes the significance of strong institutional frameworks and transparent corporate governance procedures. It offers essential guidance to stakeholders who are dealing with the difficulties and opportunities in the Pakistani market.

## References:

- [1] L. Slesman, A. Z. Baharumshah, and W. N. W. Azman-Saini, "Political institutions and finance-growth nexus in emerging markets and developing countries: A tale of one threshold," *Q. Rev. Econ. Financ.*, vol. 72, pp. 80–100, May 2019, doi: 10.1016/J.QREF.2019.01.017.
- [2] J. C. Berthélemy and S. Démurger, "Foreign direct investment and economic growth: Theory and application to China," *Rev. Dev. Econ.*, vol. 4, no. 2, pp. 140–155, 2000, doi: 10.1111/1467-9361.00083.
- [3] A. Banerjee, J. J. Dolado, and R. Mestre, "Error-correction mechanism tests for cointegration in a single-equation framework," *J. Time Ser. Anal.*, vol. 19, no. 3, pp. 267–283, 1998, doi: 10.1111/1467-9892.00091.
- [4] G. S. Uddin, B. Sjö, and M. Shabbaz, "The causal nexus between financial development and economic growth in Kenya," *Econ. Model.*, vol. 35, pp. 701–707, Sep. 2013, doi: 10.1016/J.ECONMOD.2013.08.031.
- [5] P. Lane and G.-M. Milesi-Ferretti, "Global Imbalances and External Adjustment after the Crisis," *IMF Work. Pap.*, vol. 14, no. 151, p. 1, 2014, doi: 10.5089/9781498339216.001.
- [6] F. V. Bekun, F. Emir, and S. A. Sarkodie, "Another look at the relationship between energy consumption, carbon dioxide emissions, and economic growth in South Africa," *Sci. Total Environ.*, vol. 655, pp. 759–765, Mar. 2019, doi: 10.1016/J.SCITOTENV.2018.11.271.
- [7] T. Redmond and M. A. Nasir, "Role of natural resource abundance, international trade and financial development in the economic development of selected countries," *Resour. Policy*, vol. 66, Jun. 2020, doi: 10.1016/J.RESOURPOL.2020.101591.
- [8] G. Yang and H. Liu, "Financial Development, Interest Rate Liberalization, and Macroeconomic Volatility," *Emerg. Mark. Financ. Trade*, vol. 52, no. 4, pp. 991–1001, Apr. 2016, doi: 10.1080/1540496X.2015.1115294.
- [9] B. N. Ashraf, "Do trade and financial openness matter for financial development? Bank-level evidence from emerging market economies," *Res. Int. Bus. Financ.*, vol. 44, pp. 434–458, Apr. 2018, doi: 10.1016/J.RIBAF.2017.07.115.
- [10] P. O. Gourinchas and O. Jeanne, "Capital flows to developing countries: The allocation puzzle," *Rev. Econ. Stud.*, vol. 80, no. 4, pp. 1484–1515, Oct. 2013, doi: 10.1093/RESTUD/RDT004.
- [11] A. Atil, K. Nawaz, A. Labiani, and D. Roubaud, "Are natural resources a blessing or a curse for financial development in Pakistan? The importance of oil prices, economic growth and economic globalization," *Resour. Policy*, vol. 67, Aug. 2020, doi: 10.1016/J.RESOURPOL.2020.101683.
- [12] R. Koenker and Z. Xiao, "Unit root quantile autoregression inference," *J. Am. Stat. Assoc.*, vol. 99, no. 467, pp. 775–787, Sep. 2004, doi: 10.1198/016214504000001114.
- [13] P. Perron, "The Great Crash, the Oil Price Shock, and the Unit Root Hypothesis," *Econometrica*, vol. 57, no. 6, p. 1361, Nov. 1989, doi: 10.2307/1913712.
- [14] J. H. Stock and M. W. Watson, "A Simple Estimator of Cointegrating Vectors in Higher Order Integrated Systems," *Econometrica*, vol. 61, no. 4, p. 783, Jul. 1993, doi: 10.2307/2951763.
- [15] M. Ibrahim and P. Alagidede, "Nonlinearities in financial development–economic growth nexus: Evidence from sub-Saharan Africa," *Res. Int. Bus. Financ.*, vol. 46, pp. 95–104, Dec. 2018, doi: 10.1016/J.RIBAF.2017.11.001.

- [16] G. Bekaert, C. R. Harvey, and C. Lundblad, "Does financial liberalization spur growth?," *J. financ. econ.*, vol. 77, no. 1, pp. 3–55, 2005, doi: 10.1016/J.JFINECO.2004.05.007.
- [17] H. Peter Boswijk, "Testing for an unstable root in conditional and structural error correction models," *J. Econom.*, vol. 63, no. 1, pp. 37–60, 1994, doi: 10.1016/0304-4076(93)01560-9.
- [18] A. Polat, M. Shabbaz, I. U. Rehman, and S. L. Satti, "Revisiting linkages between financial development, trade openness and economic growth in South Africa: fresh evidence from combined cointegration test," *Qual. Quant.*, vol. 49, no. 2, pp. 785–803, Mar. 2015, doi: 10.1007/S11135-014-0023-X.
- [19] B. Lin and N. I. Benjamin, "Influencing factors on carbon emissions in China transport industry. A new evidence from quantile regression analysis," *J. Clean. Prod.*, vol. 150, pp. 175–187, May 2017, doi: 10.1016/J.JCLEPRO.2017.02.171.
- [20] S. H. Law, H. B. Tan, and W. N. W. Azman-Saini, "Financial development and income inequality at different levels of institutional quality," *Emerg. Mark. Financ. Trade*, vol. 50, pp. 21–33, 2014, doi: 10.2753/REE1540-496X5001S102.
- [21] A. T. Onanuga and O. T. Onanuga, "Do Financial and Trade Openness Lead to Financial Sector Development in Nigeria?," *Zagreb Int. Rev. Econ. Bus.*, vol. 19, no. 2, pp. 57–68, Nov. 2016, doi: 10.1515/ZIREB-2016-0008.
- [22] S. Ibrahim, A. R. Mazlina, W. Azman-Saini, and M. F. M. Zakaria, "Financial integration-growth nexus: A quantile regression analysis," *J. Econ. Integr.*, vol. 31, no. 3, pp. 531–546, Sep. 2016, doi: 10.11130/JEI.2016.31.3.531.
- [23] A. A. Rafindadi, "Does the need for economic growth influence energy consumption and CO2 emissions in Nigeria? Evidence from the innovation accounting test," *Renew. Sustain. Energy Rev.*, vol. 62, pp. 1209–1225, Sep. 2016, doi: 10.1016/J.RSER.2016.05.028.
- [24] O. Adeniyi, A. Oyinlola, O. Omisakin, and F. O. Egwaikhide, "Financial development and economic growth in Nigeria: Evidence from threshold modelling," *Econ. Anal. Policy*, vol. 47, pp. 11–21, 2015, doi: 10.1016/J.EAP.2015.06.003.
- [25] C. Bayer and C. Hanck, "Combining non-cointegration tests," *J. Time Ser. Anal.*, vol. 34, no. 1, pp. 83–95, 2013, doi: 10.1111/J.1467-9892.2012.00814.X.
- [26] R. F. Engle and C. W. J. Granger, "Co-integration and error correction: Representation, estimation, and testing," *Appl. Econom.*, vol. 39, no. 3, pp. 107–135, 2015, doi: 10.2307/1913236.
- [27] P. C. B. Phillips and P. Perron, "Testing for a unit root in time series regression," *Biometrika*, vol. 75, no. 2, pp. 335–346, Jun. 1988, doi: 10.1093/BIOMET/75.2.335.
- [28] S. H. Law, H. B. Tan, and W. N. W. Azman-Saini, "Globalisation, institutional reforms and financial development in east asian economies," *World Econ.*, vol. 38, no. 2, pp. 379–398, Feb. 2015, doi: 10.1111/TWEC.12168.