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### Impact of Financial Development and Stock Market Performance on Natural Resources: A Financial Resource-Curse Analysis

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	<b>Abstract</b>
<p><b>Amna Munir</b> MS Scholar, Institute of Business Management Sciences, University of Agriculture Faisalabad, Pakistan. Email: <a href="mailto:Amnamunir396@gmail.com">Amnamunir396@gmail.com</a></p> <p><b>Muhammad Hafeez*</b> Institute of Business Management Sciences, University of Agriculture, Faisalabad, Pakistan. Corresponding Author Email: <a href="mailto:Muhhammad.hafeez@uaf.edu.pk">Muhhammad.hafeez@uaf.edu.pk</a></p> <p><b>Mirza Nasir Jahan Mehdi</b> Department of Management Sciences, Muslim Youth University Islamabad. Email: <a href="mailto:dr.nasirmirza@myu.edu.pk">dr.nasirmirza@myu.edu.pk</a></p>	<p>This study focuses on exploring the effect of natural resources on the commercial and financial development of the nation through Financial Resource Curse analysis in BRICS economics. The coefficients for financial development are mostly negative or insignificant, policies should focus on improving the efficiency of financial systems to better channel funds into sustainable resource development. While, stock market performance does not directly influence natural resource outcomes. GDP growth has a positive and significant effect on natural resources. Policies should aim at harnessing economic growth to promote sustainable management of natural resources. Improved transparency, accountability and governance mechanisms can support sustainable governance. Governments should foster balanced economic policies that support growth without compromising resource sustainability, encouraging the integration of environmental regulations with economic planning. Additionally, policies should encourage investment in green technologies economic growth with environmental protection goals.</p> <p><b>JEL Code:</b> F36, G14, Q5, O16, F15</p>
<b>Keywords:</b>	Financial development, Stock market performance, Natural resources, Financial Resource Curse, BRICS



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### 1. INTRODUCTION

Financial development defined as progress and improvement of a country's financial system. This means opportunity for growth and access to financial services. Financial development stimulates economic vitality and act a part in national development (Dai *et al.*, 2022; Song *et al.*, 2020). Defined as a multidimensional concept that mainly includes four aspects: availability, depth, efficiency and stability of economical services (Sahay *et al.*, 2015; Sun and Muganyi, 2019). Understanding a country's financial development helps to better recognize the effectiveness, productivity, and complexity of the country's commercial market and financial organizations (Sun *et al.*, 2020). Financial development facilitates the optimal allocation of limited resources, thereby fostering sustainable economic growth (Slesman *et al.*, 2019). The consequences of finance and expansion has been at the center of most policy debates among scholars over the past few years (Seven and Yetkiner, 2016). Theoretical data show that financial development can support economic growth by facilitating change by saving money, reducing and managing risks, replicating business costs, sharing investment information, improving capital allocation, and increasing investors, interest in finance of new projects (Levine, 2005).

Economic reliability and growth show a vital role in the development and well-being of a country. Economic growth refers to the development and transformation of the fiscal market, which is represented by increased monetization of the economy, increasing scale of the monetary sector and economic revolutions (Sawyer, 2015). The relevance of the monetary sector is reflected in the important activities it undertakes. Capital markets and intuitiveness act as mediators whose economic and financial needs provide capital from the rescuer, such as households or corporations, to businesses. The former aims at a profitable investment, while the later needs of the economic assistance to add and develop the business. Economic growth have an effect on capital investment of the enterprise (J. Zhang and Lei, 2014). Financial development not only improves resource allocation and foster business innovation but also accelerates resource flow and distribution, making businesses more efficient and profitable (Zameer *et al.*, 2020). However, countries rich in natural resources face unique challenges. Natural resources includes minerals, water, soil, timber, oil, and gas that promote to the financial growth of a nation (George *et al.*, 2018). In addition to being accountable for the rise of the financial sector, they can also be a blessing or a curse relying on the usage of assets and other commercial and economical components (Frankel, 2012; W. Zhang *et al.*, 2018). Financial market and businesses are highly competitive and face the risk of inadequate capital and productivity. Natural resources are the country's heritage and contribute to its economic. On the contrary, in some cases they make a difficult environment for FD. Though, in recent years, the economic growth of some countries rich in natural resources, such as the Central East, Africa, and Latin US, has fallen behind other countries that do not have natural resources (Badeeb *et al.*, 2017). Natural resources are therefore very expensive to handle in terms of human capital, exploration, and mining, which calls for a well-established financial structure. As a result, financial development makes it easier to explore natural resources and encourages financial expansion (Shahbaz, 2012).

A stock market is a manufacturing platform wherever various investors buy and sell stocks based on their accessibilities. The fluctuation between of the stock market creates better returns for shareholders. If the price of market increases as inventory becomes available, the parties involved benefit from the purchased inventory. In other cases, if the current price in the market falls, all participants suffer. Consumer purchase goods at below prices and sell them at huge prices in order to generate a large profit (Lee *et al.*, 2019). Additionally, sellers sell products at high price to make a profit. A stock exchange is the center of a business network where buyers and sellers of securities meet at a certain price. As most governments of developed and developed countries achieve independence and globalization, the stock market plays a significant part in the spread of capital in new and developing countries, promoting the growth of the nation's economy and business. Stock trading is one of the most vital features of a free marketplace because it helps to manage the capital of company shareholders in exchange for shareholder's ownership. Stock exchanges allow companies to sell products to investors (Masoud, 2013). The significance of financial development on natural resources, specifically through the lens of the resource curse phenomenon, presents a serious area of inquiry. The thought of financial resource curse (FRC) hypothesis taking a new outlook (Dogan *et al.*, 2020). The resource curse hypothesis posits that nations rich in natural resources often involvement slower economic growth, increased corruption, and unstable political, contrary to what might be expected (Beck, 2011).

This research goals to examines the impact of financial development and stock market performance on natural resources, focusing on the BRICS economies Brazil, Russia, India, China and South Africa. As emerging market powerhouses, these countries collectively represent significant portions of the earth population, GDP, and trade. BRICS countries' engagement is founded on mutual benefits, with a focus on cooperation and promoting trade and investment, and other commercial activities (Mwase and Yang, 2012). The objectives of this paper are threefold: first, we want to evaluate the trends in financial development and stock market performance in BRICS economies. Second, to determine the impact of financial development and stock market performance on natural resources. Third, to provide policy implications and guidelines based on the empirical findings for developing economies of new economic blocks. The rest of the paper is organized as follows: recent available literature is discussed in literature review section. The data nature and methodology section provide the dataset detail, variables description, and econometric model specification. The empirical outcomes and discussion's part

elaborates the test results of Cross Dependence (CD) analysis, Unit root tests by panel fixed effects regression, Westerlund analysis. Finally, the conclusion and implications section that the results and implications from empirical results.

### 2. LITERATURE REVIEW

Articles a quantitative review of the existing literature on the interaction between financial development and natural resources. It combines the results of various studies and shows important understandings into those factors affecting the growth of the economy in different backgrounds. Recent studies by Alexeev and Chernyavskiy (2015) on Russian regions and Ahmed (2016) on Sub-Saharan African further explored FD's complexities in resource-rich economies. These studies highlighted divergent impact of NR on regional and continental scales, challenging traditional perceptions of NR's economic benefits. Moradbeigi and Law (2016) analyzed whether financial development can reasonable the relationship among oil volatility and development volatility. Using a core sample of 63 oil-producing nations during 2000 to 2010 confirmed the association among oil content and development rate in the commodity exchange. Additionally, they discovered the indication that financial development moderates the influence of oil market volatility.

Moradbeigi and Law (2017) investigated the research on the association among capital-finance-growth in the oil market shows that financial development helps channel income to other sources, thereby reducing negative impact of natural resources and turning curses into blessings. Another influence that plays a significant part in FD and economic growth is human resources. Although FD is determined by human resources, most resource-rich nations do not have sufficient human capital because natural resources produce human capital. Zafar *et al.* (2019) explored to used US data from 1970 to 2015 to inspect the impression of NR, human resources, as FDI on the ecological footprint in the occurrence of energy consumption and monetary expansion. The method examines the stable and distorted components of the data series and uses the (ARDL) model to estimate the short- and long-term elasticities of the variables. Our results show that financial development and energy consumption are adversely connected to the ecological footprint. NR and human capital as (FDI) help decrease the ecological footprint. Granger causality outcomes display that there is a bidirectional association among energy consumption and the ecological footprint and among financial development and the ecological footprint, and indirect relationship between natural resources to the ecological footprint and human capital and natural resources. The United States necessity appeal more FDI and human capital from further nations to confirm that recognized and innovative corporations and can rapidly develop in ways that sustenance quality of life and sustainable growth.

Yang (2019) evaluated economy can be considered as middle-income or not is an observed issue. We follow the World Bank's criteria to division the economy middle-income by the economy's stagnant and gradual middle income and contrast it with high revenue businesses. This article examines how the expansion of finance can benefit the economic development of a country in one of the three economic groups mentioned above. When we augment this model with new procedures and correlations of economic growth, they discover that (1) According to earlier research, FD has a favorable influence on the development of the economy through physical wealth and total efficiency. (2) There is Granger causality among equity market expansion and financial development of all three collections of economies, although some are stronger and some weaker. (3) There is an interaction among the development of the economy and the economy of a high-income society that is found in further economies. (4) Strong indication of Granger causality and response regarding economic growth and inflation only in middle-income economies.

Guan *et al.* (2020) evaluated that a country's requirement an appropriate and good economic system and FD as the basis for the extension of the national area. The research investigated whether there was a "resources curse" hypothesis in the existence of international resources and commercial expansion in China from 1971 to 2017. The study provided a more thorough analysis within a multivariate framework using a variety of econometric approaches, such as the Bayer and Hanck Cointegration, the ARDL, robustness checked through FMOLS, DOLS, CCR, and Bretung-Candelon spectral Granger causality testing. The research results investigated that the natural resources had adverse effect on financial development confirmed China's resources curse hypothesis, as long as international resources economic growth conduct better country's financial growth. It was concerned with long term, short or medium-term financial development and international trade. The empirical findings that significant policy interventions were needed to promote international trade and expansion resources to ensure the regulation of natural resource.

Ali and Ramakrishnan (2022) studied the influence of NR rentals influenced the stock markets and the part of institutional quality in managing earnings. These results indicated a positive association among resource rents and stock market performance, emphasizing the importance of institutional quality in leveraging natural resources wealth. Mlambo (2022) analyzed political dimension of resource curse in selected African countries. This article is based on the belief that the African region has abundant (untapped) natural resources credits that, if exploited, can encourage maintainable monetary expansion. But despite the presence of these natural resources, the African continent is still poor and underdeveloped. Political knowledge is one of the factors effecting Africa's ability to exploit its natural resources. Research shows a strong connection between politics and

the governance of the mining industry. In this study, PMG (ARDL) and the FMOLS were used for the period 1995–2016. Investigate results show that there is a positive association among government jobs and resource rents. There is also suggestion for causality running from well-organized functioning of government to resource rents and not vice versa. This displays that government performance is critical to achieving success in the natural resource extraction sector. Based on the results, this study recommends that Africa management need to improve the management and performance of non-governmental organizations. Harnessing the weak and administratively fragile public institutions is significant in order to kick start marketplaces. The effectiveness of administration institutions can be strengthened by removing corruption, securing policies and capitalizing in financial resources.

Ahmadian-Yazdi *et al.* (2022) studied different views on the influence of economic developmental on the evolution of different economies which has been the main subject of debates among economists in the last two decades, especially countries rich in natural resources. However, the part of economic development in social capital, which is the real development, has been neglected. Unlike previous studies, economic capital income considered as the main factor affecting the interaction between financial development and social capital-resource rents. Therefore, this article investigates the impact of financial development as an infrastructure for transforming natural capital into social capital in two groups of resource-rich countries. They found that economic development positively correlates with rental capacity, but the effect varies across different income groups.

Feng *et al.* (2022) examined the development of China's (OFDI) by examining the expansion of the host country's economic and FD and NR during the OFDI selection process. Using a country-level panel dataset of China's OFDI from 2003 to 2015, they found that Chinese multinational corporations exhibited a powerful and rising motivation to seek investment opportunities in the economy, particularly after the 2008 fiscal crisis, irrespective of a developing country's local economy or FD. On the other hand, the FD of the business owner's business is less influential. Nguyen (2022) discovered the association among financial development, human capital, and monetary progress in 25 transition nations from 1995 to 2019. The author uses various an estimation method, such as (OLS), Fixed Effects Model, and two-step GMM approaches, to estimation observed study of models. Unlike prior studies, in this article financial development is evaluated according to the results of financial organization and the fiscal markets in our depth, access, and efficiency. Additionally, the employee engagement human development is also used as indicators of human capital. In generally, the development of financial and human resources has a favorable impact on financial growth. Access to finance and economic performance support financial growth, but financial depth does not. It is similarly stated that human development is the pouring force of monetary progress. Furthermore, the correlation between economic development and the human development index shows that there is a strong incentive for financial growth. These results lead to information on financial growth and have important suggestions of policymakers on economic reform. Ding (2023) evaluated the blessing of a curse for the economic growth for G7 economies. This research examined the function of technological development, distributes, and sustainable efficiency in economic growth from 1990 to 2020. The outcomes confirmed the variables' Long-run symmetry on association. To address the data distribution asymmetry, this study adopted a new regression method. The findings confirmed the detrimental effect of natural asset on fiscal expansion, thereby affirming the existence of resources curse. Additionally, sustainable energy had an adverse effect on economic development. In turn, technological innovation and exports had contributed significantly to financial development overall. The results were robust and reliable after validation with panel statistics make use of Ordinary Least Square (OLS) regression. Moreover, Granger Causality test expressed the relationship among financial development. This study also showed that the law also included the control or direction of economic use of natural assets.

Cui *et al.* (2023) investigated the current study analytically confabulates the authenticity of the “resource curse theory” in certain developing nations. Correspondingly evaluated the relationship between 3 key financial indicators with fiscal growth, i.e., human development, political stability, and GDP. The observed outcomes of this study show the pressure of the “resource curse theory” in the model countries. Additionally, the Human Development Index and GDP show an important role in supporting long-term economic development. The Human Development Index guides economic development. Moreover, political stability is also beneficial for economic development. Similar associations were found in the short-term; However, when we look at the long-term results, we see that the magnitude of the short-term effects is smaller. The empirical analysis provides policy makers with some policy recommendations to improve the situation of the chosen model.

Oben (2023) examined this research using a time frame explores how natural resources influence economic growth from a worldwide standpoint during the 1980-2019 duration. Approximately significant factors of economic expansion (financial development, market openness, population growth, and investment) were additional to the model as regulator variables. The unit root tests have exposed that all the variables are combined of instruction one. Johansen cointegration test displays that there is a longstanding connection among the variables. The (VECM), (ECT) which represents the short-term value of natural resources, financial development, open market, population growth, and

capital for economic growth. -23.63% rate of change at the period balance level. The estimates show that the world rental housing stock has an adverse effect of global economic development in the long-run (thus making it financially cursed), but in the short-run it does not. The causality test outcomes that neither international natural resource rent international financial development Granger-causes each other.

Hussain *et al.* (2023) explored an uncertain world where all industries face the challenge of using available resources to achieve sustainable growth. There are several studies examining the association among natural resources and economic growth. Though, the relationship among global uncertainty and fiscal development is not available in the research. Therefore, this study re-consider the association among the rent and economic growth by introducing the confusing world, human resources, and customer price index. Academically, the natural resource curse theory is surveyed. Moments Quantile Regression (MMQR) and “Bootstrap Quantile Regression (BSQR)” were used to estimate this relationship. The Findings reveal the dangers of uncertainty and natural resource curse in the world. However, in high income countries, human resources, and customer prices are create to promote for economic expansion in High-income nations are recommended to capitalize to added in human resources and strategy to reduce long-term unreliability. The results take strong political implications.

Onifade *et al.* (2023) evaluated resource-rich symbolizes economies within the MENA countries from North Africa to the Middle East. Therefore, with the aim of improving FD to ensure fiscal stability in the region, this study analyzed the effective part of companies’ NR and institutional quality measures on the countries of FD whereas taking about the level of inflation and overall development of the economy. Empirical methods (CS-ARDL and AMG) on Cross-sectional dependency (CD) and slope consistency in provincial information covering more than 2 periods 2000–2020. Unlike the existing research, we consider 2 independent provincial FD measures for in-depth investigation, namely financial facilities via local credit in the private area and the Z value, which indicates the need for the country’s economy to achieve financial stability. whatever of the FD measure, the outcomes show that natural resources, growth patterns, and high inflation rates lead to a long-term FD area, thereby denying financial resource in the district. Additionally, both institutional quality stages and international market also affected the level of FD. Though, the association among institutional quality stages and natural resources demonstrates the desired FD stimulus effect in the district, this is especially true when the FD varies from Z-score. This means that strong institutes are essential for total economic reliability and mitigating the risk of default in the banking in the MENA region. Therefore, policy recommendations are being prepared for local governments, including the strengthening organizational capacity for sustainable use of resources to support FD in the region.

Hsu *et al.* (2023) analyzed that the demand for natural resources is constant, and the price of natural resources increase day by day, which has a substantial influence on economic growth and fiscal action. Therefore, this study purposes to analyze the connection among changes in natural resource and economic growth, in instruction to provide suggestions for financial recovery. This study obtained and analyzed data form the N11 economies. The outcomes display the variations of natural resources associated with worldwide monetary growth and governance before and during the pandemic. The outcomes display that changes in natural resources have a greater effect on worldwide monetary growth and plays a significant role in fiscal recovery. The results are strong, gas, oil, and the quality of public management of all contribute to N11 economic growth. This study shows that representatives can respond to emerging problems by discussing solutions.

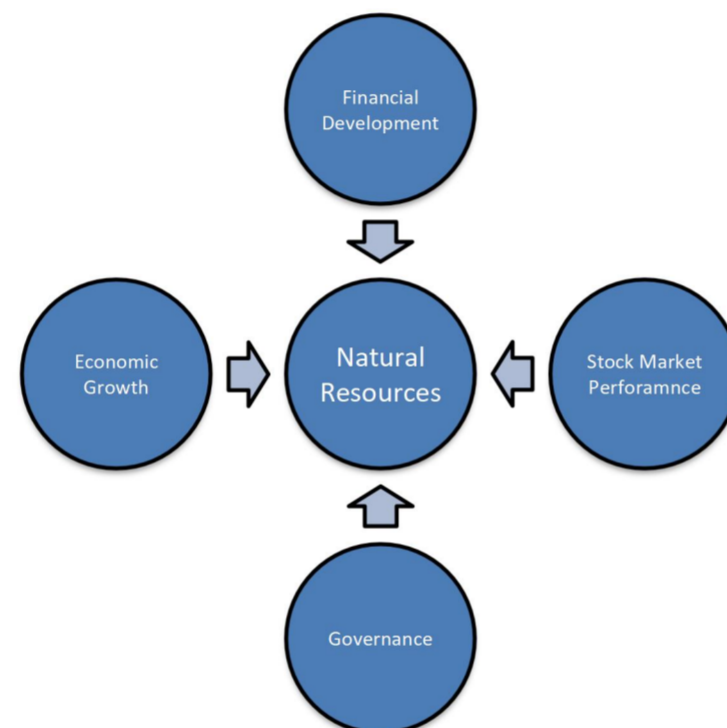
Wu *et al.* (2023) assessed the stimulus of financial constraints on the green financial expansion and sustainable development goals make use of economic methods using a sample of listed companies in China from 2000 and 2020. They also examined whether infrastructure policies can help companies overcome financial barriers to green financing and promotes and support of sustainable development goals. When businesses face more financial problems, the economy’s ability to recover weaker, and private companies will be more vulnerable to this than state-owned companies. Particularly after 2016, the financial performance of central and western enterprises increased, reflecting the integration of green finance policies and business to support underdeveloped areas. The combination of green financial investment, insurance, and credit provide the best support. Insurance plays a significant part of the mix by enabling clean energy to compete for clean energy and promoting clean energy to earn green credit financing. The findings also showed that existing green funds are still compliant with government regulations. Financial performance is affected by both company and country conditions, such as formal institutions and financial management. These results have significant implications for policymakers who consider clean energy policies to support renewable energy production through sound financial models and ultimately help transform energy.

Huang *et al.* (2024) analyzed the N-11 economy since 1990 to 2020 from the perspective of the association among natural resources and fiscal progress, including such controller variable as energy consumption and FDI. This study continues to use Panel data, and optimal methods such as Panel Quantile Regression (PQR) for a longstanding correlation, to inspect the status of N-11 economy and trade and monitor the interface of various factors in real time. Here are some of the most important patterns: correlation tests between panels show that, in fact the same association are connected in the long term. Interestingly while natural resources such as Oil rents decrease economic growth,

rents increase economic growth. Controlling changes such as (FDI), (ENR) can support economic growth in the target economy. These findings are useful by highlighting the position of promoting energy use and (FDI) for the actual use besides management of these natural resources facility of economic growth.

### 3. METHODOLOGY

To fulfill the objective of this study, the main purpose of aforementioned planned research divided in several sections, is to check the influence of financial development on natural resources in the region of BRICS (Brazil, Russia, India, China and South Africa) economies. The sample included all BRICS countries with data available at the time of the study, allowing for comprehensive analysis. Data analysis using descriptive data, correlation matrix and panel data method of Stata software to solve the problem of spatial autocorrelation. This study purposes to discover the connection among natural resources rents and financial development through monetary connections. Understanding the development and efficiency of demand for financial services based on research (Beck, 2011; Shahbaz *et al.*, 2018). A well-developed financial institution reduces the negative effects of debts by allocating credit resources to productive investments, promotes economic growth, thereby increasing the need of finance and promoting economic expansion (Shahbaz *et al.*, 2018; Yuxiang and Chen, 2011). The financial resource curse theory has been examined in the following studies, especially regarding the stock market resource curse (Beck, 2011) who providing the indication of the economic limit in the form of credit. Resources rich banks are smaller and provide less loans to businesses, hence good financial management, equity, bonds, paper contracts etc. it helps to increase capital and control the income of the business, thereby improving the economy (Jebran *et al.*, 2017).



#### 3.1. Variable Description and Econometric Modelling

The FDB; Domestic credit to the private sector by banks (% of GDP), FDS; Stock traded, turnover ratio of domestic shares (%), FDO; FDB + FDS, are defined as the process of improving the quality, quantity, and efficiency of banking services, stock market services, and financial development which cannot be measured by a single proxy (Begum *et al.*, 2019; Maxwell *et al.*, 2018). While, NRR means the total natural resources rents (% of GDP), and EC means GDP per capita (constant 2010 US\$) (Herrera *et al.*, 2023; Ali and Ramakrishnan, 2022). IQ consists of six components; control of corruption, government effectiveness, political stability and absence of violence/ terrorism, regularly quality, rule of law, voice and accountability (Bouhelais, 2023; Kaufmann *et al.*, 2011).

The empirical model can be written

$$\ln FDB_t = a_0 + a_1 \ln NRR_t + a_2 \ln EC_t + a_3 IQ_t + \epsilon_t \quad (1)$$

Similarly, modifying Equation (1) and including stock market development, Equation (2) can be rearranged as follows.

$$\ln FDS_t = a_0 + a_1 \ln NRR_t + a_2 \ln EC_t + a_3 IQ_t + \epsilon_t \quad (2)$$

Then, finally, both the FDB and FDS are combined into overall financial development, and Equation (3) can be written as follows,

$$\ln FDO_t = a_0 + a_1 \ln NRR_t + a_2 \ln EC_t + a_3 IQ_t + \epsilon_t \quad (3)$$

### 4. RESULTS AND DISCUSSION

#### 4.1. Descriptive Statistics

Descriptive statistics outcomes are shown in table 1 of four economies (Brazil, India, China and south Africa. The result consists of range, mean, smallest, maximum, mean, standard deviation values of all dependent, independent controlling of financial development, control of corruption, government effectiveness, political stability, Regulatory quality, rule of law, Voice and Accountability, Stocks traded, turnover ratio of domestic shares (%), Stocks traded, total value (% of GDP), Market capitalization of listed domestic companies (% of GDP), Total natural resources rent, GDP, private sector by banks (% of GDP), private sector (% of GDP) variable that are engaged in current study.

**Table 1: Descriptive Statistics for Four Economies**

Variable	Observation	Mean	Std. Dev.	Min	Max
PS	92	87.7484	43.5789	27.6856	185.363
PSB	92	73.3584	39.8118	27.6856	185.363
TOR	92	95.6244	82.2186	18.8145	480.287
ST	92	66.9844	53.2799	7.72362	355.519
MC	92	101.735	77.5401	17.5791	322.711
NR	92	3.84217	1.93948	0.86377	11.99006
GDP	92	5406.08	2971.25	755.482	11560.24

The Table 01 infers that the variables PS and PSB have the values of 87.7484 and 73.3584, respectively, and their standard deviation are 43.5789 and 39.8118, suggesting moderate variability in economic activities attributed to these sectors. The variable TOR has a higher mean value of 95.6244 and a larger standard deviation of 82.2186, indicating significant fluctuation TOR ranging from 18.8145 to 480.287. The ST and MC have the mean value of 66.9844 and 101.735, respectively, and standard deviation of 53.2799 and 77.5401, respectively, reflecting changes in the stock market and stock prices. NR also have a mean of 3.84217, a standard deviation of 1.93948, and min of 0.86377 to 11.990, indicating the amount of resource or use. Finally, GDP has a mean of 5406.08 and a standard deviation of 2971.25, indicates a large difference between the trade of 755.482 and 11560.24, reflecting diverse economic conditions.

**Table 2: Descriptive Statistics of Governance Indicators**

Variable	Observations	Mean	Std. Dev.	Min	Max
COC	92	-0.2131	0.2817	-0.6178	0.5502
GE	92	0.06344	0.2910	-0.5875	0.8093
PS	92	-0.4738	0.4158	-1.5099	0.3278
RQ	92	-0.0529	0.3382	-0.5827	0.8195
RL	92	-0.1468	0.2389	-0.6998	0.3480
VA	92	-0.0371	0.9145	-1.7489	0.7703

The Table 02 demonstrations the descriptive statistics for governance of the selected variables from 2000-2022. These indicators measure the governance variables, each showing the mean, standard deviation, min and max. The fact the COC value is -0.2131 and the average standard deviation is 0.2817, suggesting variability around the mean in perceptions of corruption control across the country or region. Similarly, GE has a mean of 0.06344 and slightly higher standard of 0.2910, indicating that people have different views on government performance. The mean value of PS is -0.4738, and the larger standard deviation is 0.4158, which means that there is a big difference in the understanding of PS. RS has a mean value close to zero -0.0529 and a standard deviation of 0.3382, indicating a mixed view of Regulatory environment. RL had a mean of -0.1468 and a small standard deviation of 0.2389, indicating greater correlation in the analysis of RL. Finally, VA has a mean of -0.0371 but a high standard deviation of 0.9145, indicating wide-ranging views on freedom of expression and government accountability. These statistics demonstrate the diversity of understandings of good governance in the literature.

**Table 3: Descriptive Statistics for Five Economies**

Variable	Observations	Mean	Std. Dev.	Min	Max
PS	115	78.2345	43.8318	10.5157	185.363
PSB	115	66.9912	38.2199	16.8232	185.363
ST	115	58.4678	51.5667	7.72362	355.519
NR	115	6.0368	5.0037	0.86377	21.5027
GDP	115	6027.14	3008.377	755.482	11560.24

The Table 3 shows the descriptive statistics of panel data of the selected variables from 2000-2022. PS has a mean of 78.2345 and a standard deviation of 43.8318, indicating a mean that deviates slightly from it. The range from the min value of 10.5157 to the max value of 185.363 represents the existence of a data. PSB has a slightly lower ratio of 66.9912 and a relative standard deviation of 38.2199, it shows a similar deviation but lower average trend compared to PS. ST had a mean of 58.4678 and a greater standard deviation of 51.5667, indicating significant variability and potential outliers as indicated by the range of 7.72362 to 355.519. the mean of NR is 6.0368 and the standard deviation is 5.0037, which shows a rare difference compared to other variables, with values ranging from 0.86377 to 21.5027. GDP has a mean of 6027.14 and a standard deviation of 3008.377 indicates a large variation in economic output throughout the table, ranging from min of 755.487 to a max of 11560.24.

**Table 4: Descriptive Statistics of Governance Indicators**

Variable	Observations	Mean	Std. Dev.	Min	Max
COC	115	-0.36121	0.39214	-1.1413	0.5502
GE	115	-0.03058	0.33304	-0.6954	0.8093
PS	115	-0.56534	0.43119	-1.5145	0.3278
RQ	115	-0.12433	0.34735	-1.1419	0.8195
RL	115	-0.2973	0.37363	-1.1952	0.3480
VA	115	-0.2058	0.89226	-1.7489	0.7703

The Table 4 illustrates the descriptive statistics for governance of the selected variables from 2000-2022. The table offerings the descriptive statistics for six control variables, each with 115 observations. COC has a mean of -0.36121 and a standard deviation of 0.39214, representing that the normal perception of governance is generally with a standard deviation ranging from -1.1413 to 0.5502. GE has a mean of close to zero -0.03058 and a standard deviation of 0.33304, indicating that mixed perceptions on GE, ranging from -0.6954 to 0.8093. PS had a mean of -0.56534 and high standard deviation of 0.43119, indicating a significant difference in the perception of PS, ranging from -1.5145 to 0.3278. RQ shows a mean of -0.12433 and a standard deviation of 0.34735, reflecting the different opinions of RQ, ranging from -1.1419 to 0.8195. RL had a mean of -0.2973 and a standard deviation of 0.37363, indicating that mixed perceptions on legal system integrity, with values ranging from -1.1952 to 0.3480. VA had a mean of -0.2058 and a high standard deviation of 0.89226, indicating a range of views of freedom of expressions and government accountability, ranging from -1.7489 to 0.7703.

#### 4.2. Correlation Matrix

The correlation matrix represents the comprehensive relationship between seven variables. NR, PS, PSB, TOR, ST, MC, and GDP. After analyzing the Table 5 which displays the outcomes of the variables that showed a correlation coefficient of 0.8163 between PSB and PS indicates a strong linear relationship between these two variables. A correlation coefficient of -0.1215 between NR and PSB a weak negative linear relationship.

**Table 5: Correlation Matrix for Four Economies**

	NR	DPS	PSB	TOR	ST	MC	GDP
NR	1						
PS	0.1285	1					
PSB	-0.1215	0.8163	1				
TOR	-0.2301	0.4217	0.7579	1			
ST	-0.1035	0.5674	0.6524	0.7590	1		

MC	0.3304	0.3490	-0.1693	-0.4268	0.1075	1	
GDP	-0.0300	0.4194	0.4073	0.2246	0.2717	-0.0046	1

A correlation matrix is a board that illustrations the relationship among two variables. It's appropriate for variables that have linear-direction among them and have distinct variables coefficients. The correlation between all possible pairings of values in a table is represented by a matrix known as a correlation matrix. The correlation factors along the diagonal of the table are all equal to 1 since each component is effortlessly correlated with itself. The correlation matrix provides into the relationship among various variables. The correlation coefficient between two variables, ranging from -1 to 1. NR has a weak relationship with PS 0.1285 and MC 0.3304, indicating a slight difference in NR as PS and MC increase. NR showed a weak correlation with PSB -0.1215 and ST -0.1035, this shows a decrease in NR as PSB and ST increase. TOR showed a moderate correlation with PSB 0.7579, ST 0.7590, and PS 0.4217, indicating a significant relationship. ST showed a moderate correlation with TOR 0.7590, PS 0.5674, and PSB 0.6524, indicating a significant relationship. PS has strong correlation with PSB 0.8163 and a moderate correlation with TOR 0.4217 and ST 0.5674, indicating a positive relationship. MC has moderate correlation with NR 0.3304 and weak correlation with PS 0.3490 and TOR 0.1075, indicating a positive relationship. GDP is weakly correlated with PS 0.4194, PSB 0.4073 and ST 0.2717, indicating a positive relationship.

**Table 6: Correlation Matrix of Governance Indicators**

	NR	COC	GE	PS	RQ	RL	VA
NR	1						
COC	0.1116	1					
GE	-0.0078	0.5480	1				
PS	0.1466	0.5963	0.1989	1			
RQ	0.3433	0.8433	0.3928	0.6777	1		
RL	0.0550	0.3913	0.2494	-0.1728	0.3687	1	
VA	0.1407	0.3972	-0.2060	0.0227	0.4984	0.6638	1

The correlation matrix of governance shows the relationship between six variables. The correlation coefficient between two variables, ranging from -1 to 1. NR has a weak correlation with COC 0.1116, PS 0.1466, RQ 0.3433, RL 0.0550 and VA 0.1407, indicating a small mutual correlation shows that it is. COC has a good correlation with RQ 0.8433 and a moderate correlation with GE 0.5480 and PS 0.5963, indicating a good correlation with these control indicators. GE is moderately correlated with RQ 0.6777 and weakly correlated with PS 0.1989 and RL 0.2494, indicates a positive relationship with these controls. PS has a moderate correlation with RQ 0.3928, indicating a positive relationship. RQ has positive correlation with COC 0.8433 and a moderate correlation with GE 0.6777, PS 0.3928 and RL has a weak correlation with 0.3687 and COC 0.3913 and a weak negative correlation with PS -0.1728 and VA 0.6638 indicates a mixed associations with governance indicators. VA has a moderate correlation with RQ 0.4984 and COC 0.3972 and a weaker positive correlation with PS 0.0227 and RL 0.6638, indicating varying degrees of associations with governance.

### 4.3: Cross Dependence (CD) Analysis

The outcomes of the cross-sectional dependence (CD) test are accessible in table 07 the CD test is just first step in determining the cross-sectional relationship between variables in a given study. The CD test is used to check that how much influence is exerted on the output variables in BRICS economies.

**Table 07: Cross Dependence Test (CD)**

Variable	CD-test	p-value	Average joint T	Mean p	Mean abs (p)
NR	17.816	0.000	4.00	0.56	0.61
PS	29.438	0.000	4.00	0.93	0.93
PSB	30.733	0.000	4.00	0.97	0.97
TOR	26.715	0.000	4.00	0.84	0.84
ST	14.881	0.000	4.00	0.47	0.58
MC	30.692	0.000	4.00	0.96	0.96
GDP	26.848	0.000	4.00	0.84	0.84

COC	16.287	0.000	4.00	0.51	0.62
GE	16.948	0.000	4.00	0.53	0.61
PS	23.79	0.000	4.00	0.75	0.76
RQ	25.769	0.000	4.00	0.81	0.81
RL	20.422	0.000	4.00	0.64	0.69
VA	31.617	0.000	4.00	0.99	0.99

Under the null hypothesis of cross-section independence,  $CD N \sim (0,1)$

NR variable has a CD test of 17.816 and p value of 0.000 indicates that there is an influence of the NR factor, suggesting that a change in capacity or policy may affect other variables. PS is 29.438 and the p value is 0.000 show a strong correlation. This shows that changes or improvements in the PS have a significant impact on all the data. PSB is 30.733 and the p value 0.000, indicating that strong cross-dependence, particularly with PS dealing with bank, and demonstrates the important role of banks. TOR variable is 26.715 and the p value is 0.000 shows that there is a significant relationship between TOR, which influences their impact on other businesses and finance. ST variable has a CD test of 14.881 and a p value of 0.000, representing that a strong relationship in the ST influences other financial changes in other variables. MC is 30.692 and a p-value of 0.000, the MC presents a strong correlation that is important as a measure of total market value and its impact on other market indicators. GDP is 26.848 and the p value is 0.000 shows the difference in achievement, demonstrates its important role in the functioning of the economy and its wide influence on various social changes. COC variable is 16.287 and the p value is 0.000, indicating a positive relationship between governance and corruption control, affecting the perception of transparency and financial stability. GE is 16.948 and a p value of 0.000, the government's performance shows a significant effect, reflecting the impact on policy implementation and overall governance outcomes. PS is 23.79 and a p value of 0.000, indicates substantial interdependencies related to PS and security, affecting perceptions of risk and economic development. RQ is 25.769 with a p-value of 0.000, indicating a strong cross-dependency in terms of its impact on the business environment and financial management. RL of 20.422 and a p value of 0.000, shows a significant impact, reflecting the impact on legal frameworks and institutional stability. VA is 31.617 with a p-value of 0.000 demonstrate that robust interdependencies, indicating the importance of governance transparency and citizen participation.

#### 4.4: Unit Root Tests by Panel Fixed Effects Regression

Unit root test is used to control the position of the variable to avoid biased and unbiased estimations. The unit root process recognizes the instruction of mixing to adapt suitable econometric modelling for BLUE (Best Linear Unbiased Efficient) estimators (Cavaliere *et al.*, 2015). Equation depicts the basic unit root mechanism through panel fixed effects regression.  $P_{it}$  is a purpose of its lag ( $P_{it-1}$ ). If the coefficient of first lag ( $\theta = 1$ ) is equal to one and its coefficient constraint (Wald statistic) theory is validated, then the variable has a unit root and the lag has one-to-one linkage with the normal variable, which implies that current value is entirely determined by the recent lag.

$$P_{it} = \theta P_{it-1} + \varepsilon_{it} \quad (4)$$

Table 08 presents root values of the fixed panel. The consequences of the Wald test display that all variables except COC is rejected the unit root hypothesis, which establish that the selected variables are combined at all levels. Also, COC also rejected null hypothesis and combined at first difference. The Wald test rejects the null hypothesis for the lagged dependent variable (at the preferred level of significance), which means that these variables are stationary and have no underlying process.

**Table 08: Unit Root Tests by Panel Fixed Effects Regression**

	NR	PS	PSB	ST	GDP	COC	GE	PS	RQ	RL	VA
NR (-1)	0.8521 (0.000)										
PS		0.8893 (0.000)									
PSB			0.8210 (0.000)								
ST				0.6815 (0.000)							

GDP					0.9393 (0.000)						
COC						0.9530 (0.000)					
GE							0.8485 (0.000)				
PS								0.886 (0.000)			
RQ									0.936 (0.000)		
RL										0.9389 (0.000)	
VA											0.771 (0.000)
Wald Test	274.36 (0.0000)	577.42 (0.0000)	365.23 (0.000)	96.86 (0.0000)	743.10 (0.0000)	960.42 (0.0000)	284.00 (0.0000)	458.05 (0.0000)	506.71 (0.0000)	574.10 (0.0000)	310.83 (0.000)

#### 4.5: Westerlund Analysis

**Table 09: Westerlund Analysis with Financial Development (a)**

Statistic	Value	Z-value	P-value
Gt	-2.816	-3.060	0.001
Ga	-7.012	-0.486	0.314
Pt	-6.406	-3.244	0.001
Pa	-6.276	-1.723	0.042

Table 9 table exhibits the outcomes of (Westerlund, 2007) and strongly implies the occurrence of a long connection among variables under the selected model. The null hypothesis, indicating that there is no co-integration is rejected in all the models of our research, based on the Westerlund panel co-integration results. Z-values show that how much standard deviation apart from the mean statistic is below the null hypothesis. P-value shows the probability of observing the test statistic under the null hypothesis. If the P-value is less than a significance level (0.05). So, we reject the null hypothesis.

The value of Gt statistics -2.942, Z-value -3.330, and the P-value 0.000 of this model are equal to indicating the strong indication against the null hypothesis. There is also a lot of cointegration in series. The value of Ga is -7.923, Z-value -0.858, and the P-value 0.195, there is insufficient indication to conclude cointegration for Ga. Whereas, Pt -6.406, Z-value -3.244 and the P-value 0.001 is less than 0.05, rejecting the null hypothesis. Pa statistic is -6.276, Z-value -1.723 and the P-value is 0.042. the Z-value and P-value is below 0.05 to run some indication against null hypothesis of no cointegration. The consequences of the westerlund test display that there is long-run correlation among financial development (a) and the covariate across the series investigated. All four tests' data (Gt, Ga, Pt, Pa) reject the null hypothesis of no cointegration with less P-value, indicating that there is no cointegration.

**Table 10: Westerlund Analysis with Financial Development (b)**

Statistic	Value	Z-value	P-value
Gt	-2.942	-3.330	0.000
Ga	-7.923	-0.858	0.195
Pt	-6.811	-3.549	0.000
Pa	-7.856	-2.444	0.007

The occurrence of a significant long-run connection among variables. Based on the Westerlund panel co-integration results, there is no co-integration was rejected in the econometric model. As per the outcomes, a significant statistical co-integration interaction was discovered in the panel data set. Gt and Pt, both have very low P-value (0.000), indicating strong indication to reject the null hypothesis of no cointegration of these variables. This suggests that variables G and P are cointegrated the have the long-term relationship. The Z-value for Gt -3.330 and Pt -3.549 are sufficiently large to corroborate the low P-value, the rejection of null hypothesis. Ga and Pa have higher 0.195 and 0.007 respectively, signifying the weaker evidence against the null hypothesis for these adjusted statistics. However, the results of this experiment strongly support the null hypothesis that there is no cointegration in all results of this test (Gt, Ga, Pt, and Pa). The results also indicate that the series has strong evidence of cointegration. In all selected series, there is a long-term equilibrium relationship, means that change together over time as compared to the short-term fluctuations.

**Table 11: Westerlund Analysis with Stock Market Performance**

Statistic	Value	Z-value	P-value
Gt	-3.070	-3.602	0.000
Ga	-7.676	-0.757	0.224
Pt	-7.102	-3.768	0.000
Pa	-5.376	-1.312	0.095

In following table shows the different test statistics used to determine cointegration in panel data: Gt, Ga, Pt, Pa. Each test statistics has Z-value is a generalized version of the test statistic that allows for comparison with a standard normal distribution. The value of -3.070, combined with th low P- value 0.000 and significant Z-value of -3.602, indicates strong indication against the null hypothesis of no cointegration. The high value of statistic -7.676, the Z-value -0.757 and the P-value 0.224 indicate that the weaker indication against the null hypothesis. The value of Pt -7.102 very low and the P-value is 0.000, and significant the Z-value value -3.768have a strong indication against the null hypothesis of no cointegration for variable of P. This display that P is cointegrated with other variables in the panel related stock market performance. The value of Pt is -5.376, moderate P-value 0.095, and the Z-value -1.312 indicate that against the null hypothesis.

#### 4.6: Panel Regression

Regression analysis is a statistical method utilized in research to observe the connection among one or more independent variables and a dependent variable. It seeks to appreciate how changes in the independent variables are connected with changes in the dependent variable. The essence of regression lies in assessing the limitations of a mathematical equation that best describes this relationship. The equation, typically linear, expresses the dependent variable as a purpose of the independent variables, along with a constant term and an error component.

Table 12 presents the results of a regression examination with several independent variables (COC, GE, PS, RQ, RL, VA, ROR, ST, MC, GDP, PSB, PS) and their coefficients, standard errors, t-values, p-values, and 95% confidence intervals. Respectively independent variable represents a potential predictor of the dependent variable under study. we can interpret their significance and direction of impact on the dependent variable. For instance, a negative coefficient suggests a negative relationship between the independent variable and the dependent variable, while a positive coefficient indicates a positive relationship. n this regression table, the variables GE, PS, and RQ have negative coefficients (-2.7100, -2.2795, 5.0119 respectively), suggesting that as these variables increase, the dependent variable decreases. Conversely, the variable RQ has a positive coefficient (5.0119), representing that an increase in RQ leads to an increase in the dependent variable. The t-values degree the significance of each coefficient. Generally, larger absolute t-values indicate greater significance. In this table, GE, PS, RQ, and PSB have t-values greater than 2 in absolute terms, indicating that these variables are statistically significant predictors of the dependent variable. The p-values associated with each coefficient represent the probability of observing the data given that the null hypothesis (no effect of the independent variable on the dependent variable) is true. A p-value less than the chosen significance level (often 0.05) specifies statistical significance. In this table, variables GE, PS, RQ, and PSB have p-values less than 0.05, indicating that they are statistically significant predictors. 95% confidence intervals provide a range of values within which we can be 95% confident that the true coefficient lies. If the interval includes zero, it advises that the coefficient is not statistically significant. In this table, for example, the confidence intervals for GE, PS, and RQ do not include zero, indicating that these coefficients are statistically significant.

**Table 12: Panel Regression of Four Economies**

NR	Coef.	Std. Err.	t	P>t	(95% Conf. Interval)	
COC	-1.9140	1.5009	-1.28	0.206	-4.9016	1.0734
GE	-2.7100	1.2825	-2.11	0.038	-5.2629	-0.1572
PS	-2.2795	1.0690	-2.13	0.036	-4.4075	-0.1516
RQ	5.0119	1.8506	2.71	0.008	1.3283	8.6955
RL	0.2389	1.5313	0.16	0.876	-2.8090	3.2870
VA	-1.6569	1.0924	-1.52	0.133	-3.8313	0.5174
ROR	-0.0043	0.0077	-0.55	0.581	-0.0198	0.0111
ST	0.0021	0.0097	0.22	0.825	-0.0172	0.0215
MC	-0.0017	0.0086	-0.20	0.841	-0.1900	0.0155
GDP	0.000075	0.00014	0.53	0.597	0.000208	0.000360
PSB	0.04398	0.2739	-1.32	0.189	-0.1369	0.02756
PS	0.0439	0.0273	1.61	0.112	-0.01054	0.09852
Cons	2.9235	1.5789	1.85	0.068	-0.2192	6.0664

**Table 13: Panel Regression of Five Economies**

NR	Coef.	Std. Err.	t	P>t	(95%Conf.Interval)	
COC	-7.3713	1.6307	-4.52	0.000	-10.6050	-4.1375
GE	0.9524	1.4575	0.65	0.515	-1.9378	3.8428
PS	-4.3469	1.0177	-4.27	0.000	-6.3652	-2.3287
RQ	9.1729	1.3684	6.70	0.000	6.459	11.8866
RL	-8.2795	1.5270	-5.42	0.000	6.459	-5.2512
VA	1.1054	0.669	1.65	0.102	-0.22244	2.4333
ST	-0.0034	0.00629	-0.54	0.587	-0.159	0.0090
GDP	0.00022	0.00010	2.15	0.034	0.0000178	0.000441
PS	0.009611	0.01039	0.92	0.357	-0.01100	0.0302
Cons	-2.1722	1.2544	-1.73	0.086	-4.6598	0.3153

Table 13 presents the consequences of a regression analysis with several independent variables (COC, GE, PS, RQ, RL, VA, ST, GDP, PS) and a constant term (Cons), along with their coefficients, standard errors, t-values, p-values, and 95% confidence intervals. These variables represent potential predictors of the dependent variable under study. Interpret their significance and direction of impact on the dependent variable. A negative coefficient suggests a negative connection among the independent variable and the dependent variable, while a positive coefficient indicates a positive relationship. In this regression table, the variable COC has a negative coefficient (-7.3713), representing that an increase in COC is related with a decrease in the dependent variable. Similarly, variables PS and RL also have negative coefficients (-4.3469 and -8.2795 respectively), suggesting that increases in PS and RL are associated with decreases in the dependent variable. the variables RQ, VA, and GDP have positive coefficients (9.1729, 1.1054, and 0.00022 respectively), signifying that increases in these variables are associated with increases in the dependent variable. The t-values measure the significance of each coefficient. In this table, variables COC, PS, RQ, RL, and GDP have t-values greater than 2 in absolute terms, indicating that these variables are statistically significant predictors of the dependent variable. The p-values associated with each coefficient represent the probability of observing the data given that the null hypothesis (no effect of the independent variable on the dependent variable) is true. In this table, variables COC, PS, RQ, RL, and GDP have p-values less than 0.05, demonstrating that they are statistically significant predictors. the 95% confidence intervals provide a range of values within which we can be 95% confident that the true coefficient lies. In this table, the confidence intervals for COC, PS, RQ, and RL do not comprise zero, signifying that these coefficients are statistically significant.

### 4.7. Results Summary

The fundamental goal of the current study was to identify the variables that influence the financial development and stock market performance on natural resources on BRICS economies. Natural resources are the assets such as minerals, water, soil, timber, oil, and gas that promote to the financial growth of a nation. Financial development has the potential to contribute natural resources in BRICS economies. The study goals to discover whether and how the level of financial development and the performance of stock markets influence the management, consumption, and economic outcomes of natural resources in these emerging economies. financial development can support monetary expansion by facilitating change by saving money, reducing and managing risks, replicating business costs, sharing investment information, improving capital allocation, and increasing investors, interest in finance of new projects. Intensive financial development in these BRICS economies is often associated with the expansion and efficiency of banking services, capital markets and financial intermediaries. This process encourages savings, simplifies access to credit for trades and individuals, and inspires investment in creative resources, including natural resources. Additionally, improvements in financial systems such as reliable payment systems and transparent management systems can increase investors' confidence and attract investment abroad. Therefore, strong financial development in the BRICS economy not only stimulates businesses and creates employment, but also facilitates the managing and use of natural resources, promoting long-term business and expansions goals. This study used BRICS economies as its dataset and spanned the years 2000 to 2022. The outcomes presented that GDP and VA had largest deviation. Descriptive statistics reveal significant variations in economic and resource-related indicators across BRICS nations. Correlation matrices emphasize both positive and negative associations. In the analysis of four economies, there are moderate positive correlations between economic variables like GDP and educational indicators (PS, PSB). However, correlations between these variables and natural resources (NR) are generally weak or negative, suggesting complexities in how economic growth interacts with resource availability. Governance indicators also display diverse correlations with economic variables and NR, indicating varied influences of governance quality on resource management. Financial development, measured by private sector development and credit by banks, shows mixed impacts on natural resources. Government Effectiveness (GE) and Political Stability (PS) have negative coefficients, implying challenges in managing natural resources sustainably in the face of governance weaknesses. Regulatory Quality (RQ) and Rule of Law (RL) have a strong positive impact on natural resources, indicating that better governance reduces the risk of the resource curse. Positive correlations with governance indicators like Regulatory Quality (RQ) suggest that improved financial governance can enhance the sustainability of natural resources. Control of Corruption (COC) and Political Stability (PS) in some cases negatively impact natural resources, signaling that even with financial development, poor governance can exacerbate the resource curse. GDP per capita shows a positive relationship with natural resources, implying that economic growth in BRICS economies contributes to better resource management when coupled with improved financial systems.

### 5. CONCLUSIONS

Using qualitative approach, this study indicated that there exists a long run connection can be influenced by different financial development indicators. Data analysis was carried out with descriptive statistics, correlation matrix and CD test, Westerlund cointegration. On the basis of the results of the study, GDP had largest variation between the descriptive statistics provided for these four economies. Statistics show significance differences in perceptions of governance across six indicators, ranging from differences VA to consistent assessments. ST and NR show low standard deviations of 51.5667 and 5.0037, respectively. GDP had largest variability between the descriptive statistics provided for these five economies. The outcomes of correlation matrix four economies revealed that Private sector was positively correlated with private sector by banks and also TOR positively correlated with ST, PSB, PS, natural resources negatively correlated with market capitalization and stock traded, turnover ratio. GDP has not strong correlated with other variables. The cross-sectional dependence, Westerlund test specified that the performance and financial development tools were cross-sectional interrelated and dependent on each other. A co-integration association among had been found in the panel data set at a statistically significant level. Westerlund panel cointegration tests was used owing to high dependency between variables. Cross-dependence tests and panel regression results confirm the interconnectedness of these variables cross BRICS economies, emphasizing that financial development and governance factors jointly influence natural resources management. The findings support financial resources curse hypothesis, especially in case where weak governance indicators like political stability and corruption control are present. In these economies, financial development has not translated into sustainable resource management, exacerbating the curse. Positive governance effects on economies with better governance, such as improved Regulatory Quality and Rule of Law, demonstrate that financial development can indeed support natural resource sustainability and help mitigate the resource curse

#### 5.1 Policy Recommendations

The findings of this research are innovative in the field for future researchers. This study opens a new way of doing research. In practice, this study guides the stockholders and financial advisors, financial organizations, government, policy makers in financial decision-making.



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- Financial development (FD) has mixed effects on natural resources. The coefficients for financial development are mostly negative or insignificant, policies should focus on improving the efficiency of financial systems to better channel funds into sustainable resource development. Encourage financial policies that mitigate adverse effects on natural resources and promote green financing initiatives.
- The impact of stock market turnover (ST) on natural resources is statistically insignificant in both models. This suggests that stock market performance does not directly influence natural resource outcomes.
- GDP growth has a positive and significant effect on natural resources. Policies should aim at harnessing economic growth to promote sustainable management of natural resources. Governments should foster balanced economic policies that support growth without compromising resource sustainability, encouraging the integration of environmental regulations with economic planning.
- Invest in education, skills development, and technological innovation to enhance productivity and competitiveness in resource-dependent industries.
- Promote monetary variation away from substantial dependence on natural resources towards sectors such as technology, renewable energy, and services.

### 5.2 Future Research and Limitations

The future researcher utilizes the role of technological advancements, particularly in green finance and FinTech, may be worth exploring, as these factors could mitigate the resource curse by improving efficiency and sustainability in resource management. Future research should consider incorporating qualitative data and exploring the impacts of other contextual factors, such as political dynamics and socio-economic conditions, which could provide a more comprehensive understanding of the relationship between financial development, stock market performance, and natural resources.

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