THE ROLE OF MACROECONOMIC VARIABLES IN SHAPING THE FINANCIAL PERFORMANCE OF FIRMS IN DEVELOPING ECONOMY

Anam Ashraf[*1], Surayya Jamal[2], Afifa Anjum Khatak[3], Rana Nadir[4]

*[*1]Grand Asian University Sialkot*
[2]PhD, Abdul Wali Khan University Mardan, Pakistan
[3]Lecturer, Institute of Management Studies, University of Peshawar
[4]COMSATS University Islamabad, Lahore Campus

[*1]anamashrafmalik786@gmail.com; [2]surayyajml@gmail.com; [3]afifakhattak@uop.edu.pk;
[4]rananadir@cuilahore.edu.pk

Corresponding Author: *

ABSTRACT

This study explores how financial performance is affected by macroeconomic factors in India non-financial firms from 2013 to 2022. The World Bank's Development Indicators (WDI) data set and annual reports are the sources of the data. In this research study, the panel data was analyzed using GMM. This research advances the field by using features of macroeconomic variables instead of firm-level elements. The empirical finding demonstrates that macroeconomic factors support non-financial companies' financial performance operating in India. Companies' operative in India should be concerned of the possible influence of these factors on financial performance and search for new methods to deal with them. The macroeconomic variables effectively enhance financial performance. Policymakers and investors need to take these facts into consideration while choices are being made on economic policy and investments.
Keywords: WDI, GMM, Macroeconomic, financial performance, India.

1. INTRODUCTION

There are three primary phases of advancements in the field that help in a better understanding of the theoretical modelling techniques employed in the growth literature to account for the factors that influence economic growth and cross-national variations in it. These three models are the intrinsic growth model, the neoclassical growth model, and the new institutional method. All of these models are examples of growth models. According to Solow's innovative model of economic growth, which was developed in 1956, the contributions of labour and capital are the primary factors that drive economic progress. for the reason that labour and capital are the factors that generate changes in growth. Two of the most important economic forces that were included into the model were savings and the building of capital. As a result, this model demonstrates that the distinct approach that each country takes to the

accumulation of factors results in variations and disparities in the growth performances of that nation. According to Raj and Breda (2011), this strategy did not include technological innovation into the model, despite the fact that it is anticipated that technological innovation would increase productivity across the board for all production components and stimulate creative development in economic activities. It is generally accepted that the creation of technology originates from outside the system and functions as an external component throughout the process. Over the course of a longer period of time, this leads to the conclusion that domestic policies are unable to have any impact on growth. rate of the economy's growth. This concept was improved upon by Romer (1986), who demonstrated the significance of incentives from the perspective of pushing technological improvement

and, therefore, increasing the productivity of human and physical capital in order to attain steady-state growth. This demonstrates, once again, that fundamental development tactics have the potential to alter the rate of economic growth over the long term. Because of this, the policies on internal growth are increasingly important.

The subsequent and more well-known modelling application makes use of an endogenic expansion model, which asserts that the long-term growth of a nation is dictated by factors that are inherent to the economic system of that nation. This approach places a significant amount of focus on the ways in which creativity, innovation, and technical advancement contribute to the growth of the economy. Romer (1990) produced a model that stated that technical advancements are the fundamental driver of better productivity, which in turn leads to the production of new goods and systems that encourage economic progress. Romer's model was published in 1990. According to the technique, in order for a nation to maintain a higher rate of innovation from the very beginning, it is necessary for the nation to spend a greater percentage of its resources to research and development. This is due to the fact that technological advancements are always being made and growing more complex. When using this approach, resources are given precedence over other concerns.

A fresh institutional interpretation of growth exercise modelling is the subject of the third point of view. As was said earlier, both models regarded the accumulation of wealth and the development of new technologies to be the primary drivers of development. This may be a consideration when taking into account the reasons that contribute to the inequalities in the rates of growth across the nations. The most important issue that was not answered by the many conversations that took place earlier was the reason why nations that had almost equivalent levels of technical progress, physical capital, and human capital were unable to make more efficient use of their resources in order to achieve better outcomes. The answer to this issue may urge us to explore for additional factors that have an impact on physical capital, human capital, and technological innovation and, as a result, contribute to variations in the development performance of various nations.

additional factors that have an influence on these factors include technical innovation.

According to Robinson et al. (2005), theoretical traditions have been unable to provide a fundamental explanation for the phenomenon of economic growth for a very long time. This is the case even if these traditions are still active in the area and have generated findings that are insightful into the mechanics of economic development. The authors believe that the aforementioned components, which include technical innovation and the accumulation of wealth, are only means to an end and do not address the fundamental problem of inequalities in the comparative growth of countries. Taking this into consideration, Iyoboyi et al. (2018) propose that institutions need to be taken into consideration as the primary element that determines the differences in growth performance that exist across international nations.

With the use of an innovative institutional method, the purpose of this research is to investigate the ways in which macroeconomic issues influence financial performance. When it comes to evaluating how economic growth affects financial performance, the researcher asserts that previous research on empirical methodologies, tactics, and geographical locations was inadequate. Even in cases where there are just a few instances from Sub-Saharan Africa (SSA), researchers make use of additional indicators (Abdullahi et al., 2019; Rasha et al., 2022) or methods such as the study of time series for specific nations (Grabka, 2024). (Han, 2014; Zhijun & Juzhong, 2010) The vast bulk of empirical research comes from throughout the Asian continent. Therefore, the primary objective of this article is to investigate the relationship between financial performance and economic development by using a sophisticated and trustworthy panel data model of "two-step dynamic generalised moment of methods" (GMM). The remainder of the article is structured in the same manner as the next section, which includes a review of relevant literature. In the third section, we look at research methodologies, which includes a discussion of model design challenges and a summary of the data types that were used. The analysis is discussed in the fourth section, and the results are presented in the last section.

2. Literature Review

2.1 Financial Performance and Economic Growth

The importance of a successful company being able to prosper economically has been the topic of discussion in a current discussion on topics pertaining to business development. At this point in time, both practitioners and decision-makers are in agreement on the significance of macroeconomic factors for the development of a nation. By possessing strong core values, a country may be able to accelerate its progress through the development of a more robust market system, the enhancement of openness in public administration, the stimulation of innovation in investment, and the assistance in the more effective implementation of development programs (Mee, 2005). This is according to the United Nations Development Report.

This is a comprehensive compilation of studies that are based on empirical facts and examine the roles that institutional components play in the development of a nation's economy. As an example, Kim et al. (2021) investigated the influence of the quality of companies on the economic development of 48 Asian nations between the years 2005 and 2018. Through the use of quantile regression methods to panel data, it was proved that the quality of businesses had a significant influence on the growth of the nations. According to the results, there was a limit on the overall rate of economic development that was imposed by institutions. In the event that the institutional measure escalates over the threshold, it will have a detrimental effect on the development process. In a manner that is analogous, Dickson et al. (2021) used a two-step generalised method of moments (GMM) estimation procedure in order to explore the effect of market quality on economic growth.

Both nations in southeast Europe that are members of the European Union (EU) and those that are not members of the EU were analysed by Bousquet et al. (2020) to determine the extent to which the quality of institutions has an impact on the expansion of the economy. For all of the relevant factors that indicated to a long-term association between the institutional quality and economic growth in the member states of the European Union, the results for the government and economic development may be broken down into six different elements. Furthermore, the findings of their study demonstrated a negative link over a long period of time between political stability and the absence of violence, economic growth and voice and responsibility, government performance, and regulatory quality. On the other hand, a positive association was shown to exist over a long period of time between the development of the economy and the enforcement of the law and the repression of corruption. Beyene (2024) investigated the link between the qualities of good governance and the economic progress of eighteen nations in the Asia-Pacific region between the years 2000 and 2017. Through the use of the fixed-effect estimating approach, he discovered that the majority of governance features had a substantial impact on development. However, voice and answerability were not included in this analysis. According to the findings of the study, the efficiency of the government is the most significant element that contributes to rapid economic expansion. Through research, it was discovered that voice and responsibility had a little impact on the process of development promotion.

Fikadu et al. (2021) examined the connection between financial performance and the economic success of 15 Eastern African countries utilizing panel data from 2005 to 2016. They found a link between the inadequate economic accomplishment of African countries and their low institutional characteristic. Their outcomes demonstrate that although the lack of the rule of law has a detrimental impact on economic performance, corruption control and administrative efficacy have a positive impact. The results show that stronger institutions lead to higher economic performance in Eastern African countries. In contrast, Abdullahi et al. (2021) explored the association between the quality of an African sample of 46 nations' institutions and their economic progress from 2000 to 2015. They used the GMM intended for panel data in order to calculate the necessary parameters. According to their findings, a statistically significant relationship has been seen between economic growth and institutional quality, with the former having an indirect effect and the latter a direct one.

Time series data collected from many secondary sources were utilized in the Lorenz et al. (2022) research to investigate the connection between Ethiopia's economic progress and strong financial performance. Based on his findings, appropriate

governance has a significant influence on Ethiopia's economic development. In a similar spirit, Emara et al. (2023) investigated how the degrees of governance in several Middle Eastern and North African countries affected their relative rates of economic development. According to their results, a strong market had a large and beneficial consequence on economic growth throughout the course of the research period, with a rise in GDP of about 2% being seen for each instance in which the Composite Governance Indicator is increased by one unit.

Khan and Khan (2020) looked at whether, in economic downturns, financial performance affects the economic expansion of developed and emerging countries. The outcomes of his study showed that the connection relating growth and financial performance was largely unaffected by the existence of an economic crisis. The research confirmed that business value affects economic growth during financial crises and that differences in economic development levels across countries led to variations in crisis management.

2.3 Hypothesis development
2.3.1 GDP and Financial Performance

The total value of all the products and services that are produced within the boundaries of a nation as of a certain year is referred to as the Gross Domestic Product (GDP) of that country. It is considered to be a measure of the growth of the economy.

According to Khan et al. (2021), economic growth is defined as the gradual rise in a nation's domestic product and service output and consumption over a certain period of time. Variations in a country's Gross Domestic Product (GDP), which is a significant indication of that country's overall economic success and well-being, are often used as a measurement when attempting to determine it. According to Alrabadi et al. (2021), the connection between GDPS and governance quality, which encompasses the rule of law, accountability, and control over corruption, makes it possible for companies to function effectively. It is possible that lower prices that lead to larger profit margins might encourage investment, job growth, and overall economic development (Alrabadi et al., 2021). There is a link that cannot be severed between GDP and financial performance. It is very necessary for economic expansion to have a well-functioning infrastructure.

Thus, the following is the hypothesis:
H₁: Financial performance is influenced by the GDP of developing economies.

2.3.2 Inflation rate and Financial Performance

There is a phenomenon known as inflation, which occurs when the prices of goods and services in a nation progressively increase over a period of time. A measure of the pace at which prices are rising is referred to as the inflation rate. When it comes to measuring it, the consumer price index is quite often utilised. According to Sequeira et al. (2021), the influence of inflation on financial performance has been a subject of study and discussion in the field of macroeconomics for a considerable amount of time. According to the findings of an empirical research conducted by Sequeira and colleagues (2021), inflation has a negative impact on the economic growth of developing nations as well as the financial performance of firms throughout those regions. It is projected that elevated inflation would impede economic development by distorting economic activity and slowing down GDP. The performance of the economy is also impacted when there is a high rate of inflation.

H2: Financial performance is influenced by the Inflation rate of developing economies.

2.3.3 Interest rate and Financial Performance

Both the amount of interest that commercial banks pay to the central bank on deposits that they make to the central bank and the amount of interest that the central bank charges on loans that are made to commercial banks are included in the interest rate. A commercial bank functions in a manner that is analogous, such as collecting deposits from customers and providing loans. The term "interest rate" refers to the rate of interest that is being applied to deposits and loans.

The regulation of interest rates is critical to the maintenance of a robust economy. For the proper operation of the government, it is of the utmost significance. There is a correlation between the stability of the nation's interest rate and governance. On the basis of this, the author suggests the following.

H₃: Financial performance is influenced by the Interest rate of developing economies.

2.3.4 Exchange rate and Financial Performance

The rate at which one nation's currency is exchanged for another is referred to as the exchange rate. This rate is determined by the rate at which the currency transaction takes place. One dollar may be exchanged for sixty Indian rupees, for example, at a rate of sixty Indian rupees to one dollar. According to Van Doan et al.'s research from 2020, excessive inflation would lead to an increase in the amount of external debt that the government is responsible for paying since it has caused the exchange rate to rise and caused the local currency to devalue at a faster pace than for foreign currencies. Because of this, the pace of expansion of the country will slow down. In addition to this, the performance of the market will be negatively impacted. In spite of this, we discovered that the majority of developing nations saw a beneficial influence. There is a possibility that foreign investors may become more interested in equities as a result of the possibility that emerging countries will deliver higher returns on investment.

H_4: Financial performance is influenced by the Exchange rate of developing economies.

2.3.5 Government expenditure and financial performance

Every single investment, transfer payment, and consumption made by the government are included in the category of government spending or expenditures. Both Barro and Grilli (2007). Improvements in governance may be attributed to spending by the government. In order to hasten the expansion of the nation's economy, the Saqlain et al. (2020) study suggests that the government should increase the amount of money it spends on employment, education, and research and development. The economics of the country is another factor that might have an effect on the performance of the market. Following is a hypothesis that will serve as the foundation for our investigation.

H_5: Financial performance is influenced by the Government expenditure of developing economies.

2.4 Conceptual frame work

The aim and purpose of this research is to link the macroeconomic variable and financial performance. This research takes into account the GDP, inflation rate, interest rate, currency rate, and government expenditure as independent macroeconomic factors. The market serves as the dependent variable. Activity. In Figure 2.1, the conceptual framework is shown visually.
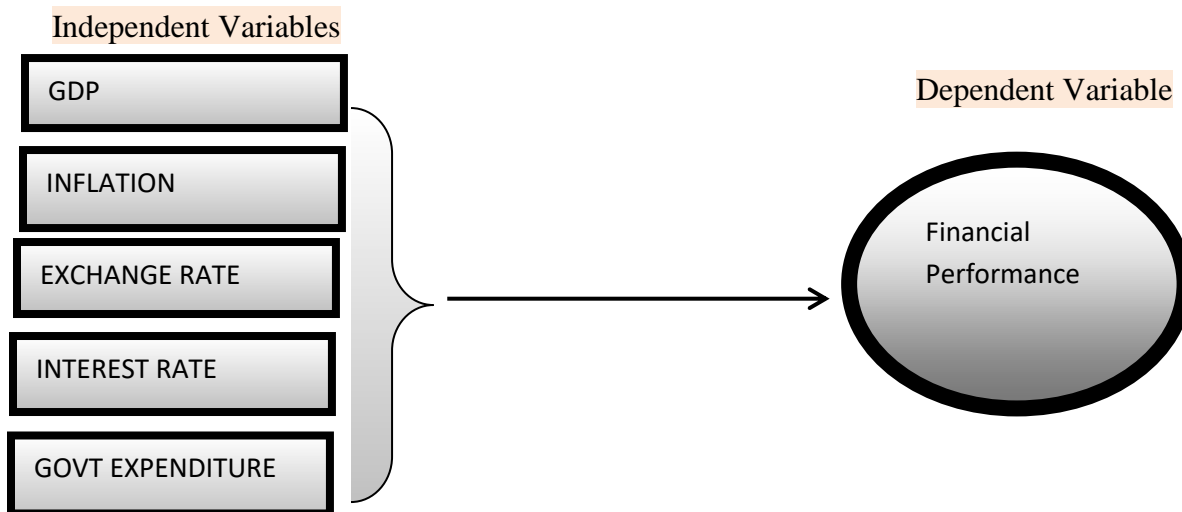

Figure 1: Showing the association between macroeconomic variables and financial performance.

3.   Research Methodology
3.1 Data, Sample and Population
This study is quantitative, since it involves a comprehensive evaluation and analysis of the literature. The researchers use the panel data type. Panel data was collected throughout many time periods from various companies. The study population included all non-financial firms registered on Indian stock markets. The sample of the research consists of non-financial firms listed on India's stock markets. This research employs a decade of data, spanning from 2013 to 2022. The information sources for each variable are the annual reports and the World Bank's Development Indicator dataset.

3.2 Variable Explanation
The financial performance serves as the dependent variable of the research. Return on Assets (ROA) is used to assess financial performance. The return on assets is calculated by dividing net income by total assets (Turamari & Hyderabad, 2018; Song et al., 2008; Giannopoulos et al., 2021). These encompass (a) the distinctions between venture and growth options across various categories, (b) the correlation between value and corporate valuation, (c) the connection between execution and consequences arising from the complex proposition, initiation, and nuanced response, and (d) finance, profitability, and compensation strategies as outlined by Chung and Pruitt (1994).

The model incorporates significant independent variables from the World Bank's Development Indicator dataset, including GDP, inflation rate, currency exchange rate, interest rate, and government spending, with the previously mentioned financial performance indicator. The independent variables are PPP-adjusted constant GDP per capita, government spending, inflation, currency exchange rates, and interest rates.

3.3 Econometric model
This study use the Generalised Method of Moments (GMM), a dynamic panel data estimator, to address issues of autocorrelation, fixed effects, and endogeneity, among other econometric challenges. Generalised Method of Moments (GMM) is often used in the study of panel data. In scenarios characterised by "small T and large N" panels, signifying a limited number of periods and a substantial amount of individuals or data, this broad estimator is intended for use. It is further used for linear functional connections. This research used a two-step GMM estimator for all estimations, since one-step estimates may result in heteroscedasticity.

This study's regression model looks like this,

$$ROA_{i,t} = \alpha + \delta_0 ROA_{i,t-1} + \delta_1 GDP_{i,t} + \delta_2 INF_{i,t} + \delta_3 EXCHRATE_{i,t} + \delta_4 IRATE_{i,t} + \delta_5 GOVTEX_{i,t} + \varepsilon_{i,t} \quad (1)$$

The relationship between financial performance, GDP, inflation, interest rates, currency rates, and government spending is shown in Equation (1). The intercept is represented by α, the coefficient by $\delta(1-\delta_0)$, and the error term by ε.

4.   Analysis
4.1 Descriptive Analysis
Descriptive statistics provide a thorough and clear representation of the data. Important components of descriptive statistics are observation, standard deviation, mean, minimum as well as maximum values. The variables' essential aspects are succinctly summarized in Table 1's descriptive statistics.

Table 1. Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	700	123.411	8.611	111.891	136.234
GDP	700	4.381	2.19	-1.274	6.487
INF	700	8.003	4.751	2.529	19.874
EXCRATE	700	131.719	34.323	101.1	204.867
IRATE	700	7.033	.685	5.774	8.784
GOVTEX	700	43.633	16.862	13	73

India's descriptive statistics are included in the table. ROA for the performance of the market. The dependent variable is ROA. The terms "gross domestic product," "inflation," "exchange rate," "interest rate," and "government expenditure" (GOVTEX) all refer to independent variables.

4.2 Correlation Matrix

The current research applies a correlation matrix to examine the collinearity between variables. India's correlation matrix is shown in Table 2. Every variable has correlations that are less than 70% (Greene & Hensher, 2003; Gujarati & Porter, 2010; Khan et al., 2022). This does not constitute an issue with multicollinearity.

Table 2. Pearson Correlation Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) ROA	1.000					
(2) GDP	0.173***	1.000				
(3) INF	0.721***	-0.024	1.000			
(4) EXCRATE	0.775***	-0.102**	0.893***	1.000		
(5) IRATE	0.097*	0.005	0.094**	0.127***	1.000	
(6) GOVTEX	0.000	0.000	0.000	-0.000	-0.030	1.000

*The Pearson correlation coefficients among the variables are shown in Table 2, along with the significance levels of each correlation. Table 1 has a description of the variables. Statistically significant values are represented by the symbols ***, **, and *, with 1%, 5%, and 10% meanings, respectively.*

4.3 Variance inflation factor

Furthermore, the current study makes use of a variance inflation factor in order to evaluate the collinearity that exists between individual variables. A representation of India's Variance Inflation Factor (VIF) may be seen in Table 3. When the Variance Inflation Factor is less than 10, it suggests that there are no problems with multicollinearity (Gujarati & Porter, 2010; Khan et al., 2018). In light of this, the data may be used for further study.

Table 3. Variance Inflation Factor

	VIF	1/VIF
EXCRATE	5.146	.194
INF	5.049	.198
GDP	1.034	.967
IRATE	1.028	.972
GOVTEX	1.001	.999
Mean VIF	2.379	

4.4 Generalized Method of Moments

For the purpose of estimate, this research makes use of the dynamic panel data estimator, often known as the Generalized Method of Moments (GMM). These findings are shown in Table 4.

Table 4: Estimation Results for India

Regressor	Model	Prob: value
L.ROA	-.393***	0.00
GDP	.66***	0.00
INF	-.282***	0.00
EXCRATE	.28***	0.00
IRATE	17.605***	0.00
GOVTEX	5.831***	0.00
Constant	0.213***	0.00
Year Dummies	NO	
AR(1)	0.029	16.24
AR(2)	0.695	0.357
Hansen	0.14	0.397
No. Of groups	70	-
No. Of instruments	64	-
No of observations	640	-

Table presents the GMM step two results. ***, **and * are significance at 1%, 5% and 10% respectively.

4.5 Empirical Results and Discussion

Table 4 presents the results of the empirical research conducted in India. The results of the study provide evidence that the F-statistics for each variable are statistically significant. GDP has a positive coefficient of ROA, which suggests that GDP investment enhances both the value of the company and the performance of the market. The conclusion reveals that GDP increases financial performance.

Further evidence in favor of the stakeholder paradigm is provided by the positive benefits that GDP has on ROA. In accordance with the stakeholder idea, the best actions and performance raise the value of the firm throughout the course of its long-term existence. According to Weber (2008), the quality of financial performance serves as a significant factor in determining economic growth. The findings of this research reveal that there is a negative association between inflation and total quality of performance (ROA). This finding is consistent with the hypothesis that inflation has a significant negative influence on the quality of firm performance. This conclusion is in line with the findings of a significant number of other empirical studies that have been conducted in the past. that have been well confirmed (M. Abdullahi et al., 2019; Khyareh & Amini, 2021).

The result reveals that there is a positive association between ROA and the exchange rate for the currency. It suggests that india's economy and the increased performance of the market are being hindered by the exchange rate. All of these factors have been found to have a significant negative influence on economic growth via rises in exchange rates. Weak procedures to prevent corruption, inept administrations, and problems with the right implementation of the law are all examples of these factors. Megaravalli and Sampagnaro (2018) revealed that currency rates had a positive influence on governance, which is in contradiction to the findings of Dahir et al. (2018).

In addition, the data indicate that there is a positive correlation between the interest rate and ROA. An

increase in the demand for current supply has led to an increase in interest rates, because of this, there has been a rise in the amount of money earned and dividends of companies. This has a good consequence on the views of investors, which in turn causes them to want the shares of the firms, which in turn drives up the price of the shares and encourages economic growth. Nebojša et al.'s study from 2020 and Paitoon and Panawong's research from 2023 both provide evidence that supports this result.

The relationship between government expenditure and ROA is one that is both statistically significant and beneficial. Increasing competitiveness, lowering transaction costs, increasing trade, and increasing productivity are all essential drivers of economic development and the nation's exceptional level of governance (Selvamani et al., 2023). Strategic and effective government investments may raise competitiveness, increase trade, and increase productivity simultaneously. Both the firm's performance and its market value are improved as a result of these efforts.

In addition, Table 4 demonstrates that there is a negative first-order serial correlation (AR(1)) that is accessible, and according to the second-order serial correlation (AR (2)), there was no second-order serial correlation discovered throughout the investigation. On the basis of the results of the Hansen test, it has been determined that there is no possible link between the error term and the instruments. This suggests that the instruments are authentic, moreover, it is not possible to reject the null hypothesis for any of the variables. As an additional point of interest, the reveals that there are 64 instruments and 70 groups.

Conclusion

The primary objectives for doing this research are to analyze the numerous methods in which macroeconomic variables influence the performance of India's business market between the years 2013 and 2022. This research contributes to the existing body of knowledge by using features at the nation level rather than by focusing on aspects at the business level. For the purpose of this paper, GMM was used to look at panel data. On the basis of the empirical data that have been gathered in India, it is possible to assert that macroeconomic variables contribute to the financial performance of enterprises that are located there. When it comes to non-financial enterprises, prospective and present domestic and foreign investors and shareholders, management, and policymakers, the results of the current research study have a broad range of implications. The findings of the present research indicated that the influence of macroeconomic factors has a positive impact on the overall performance of the market. It is also necessary for the local and international potential that stands to benefit from the macroeconomic factors to be aware of this information. The findings of this research provide shareholders and investors with information that assists them in making judgments on whether or not to invest in macroeconomic conditions. The fact that rising countries are often linked with lower levels of macroeconomic stability makes perfect sense of course. In order for developing countries to enhance their position, they should make it a priority to raise the level of their economic development. As a result, developing countries have to implement a variety of macroeconomic policies in order to enhance the level of financial performance. Furthermore, it is suggested that further macroeconomic topics be investigated in the course of future research. As a result, this will be of assistance in explaining how the performance of the market is affected by macroeconomic factors that include more complex interconnections. In addition, it is recommended that more study be conducted on the effect of macroeconomic conditions on corporate governance. It is also advised that more study be conducted on the mediating and intervening variables in combination with those pertaining to macroeconomic difficulties.

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