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UNVEILING ECONOMIC DISTRESS IN SOUTH ASIA: DOES STOCK MARKET PERFORMANCE MATTER?

FIAZ AHMAD SULEHRI[1], SANA SARWAR SULEHRI[2], RUBINA FIAZ SULEHRI[3]

ABSTRACT

This study explores economic misery determinants in South Asia from 1990 to 2022, focusing on the moderating role of stock market performance. Economic misery, the dependent variable, is analyzed in relation to stock market performance, interest rates, education, population density, economic growth, remittances, and the interaction between stock market performance and interest rates. Using an autoregressive distributed lag model, results reveal shaded connections. Stock market performance shows a non-significant negative coefficient, while interest rates exhibit a substantial negative coefficient, indicating a strong association with reduced economic misery. Unexpectedly, education levels have a positive coefficient, while economic growth, population density, and remittances display negative coefficients, suggesting their roles in mitigating economic distress. The moderation effect of stock market performance and interest rates is notably significant, emphasizing their interplay in alleviating economic distress. Policymakers are urged to implement prudent monetary policies for interest rate stability, prioritize education, foster economic growth, plan urban development, and promote diversified income sources. Transparent and stable stock markets should be ensured through strategies enhancing investor confidence, establishing safeguards against market manipulation, and incentivizing long-term investments.

KEYWORDS: Economic distress, stock market performance, interest rate, economic growth

1. INTRODUCTION

The supreme objective of economic and financial activities is to enhance the well-being of individuals (Joshi & Pokharel, 2022). The pursuit of higher well-being, aimed at alleviating economic distress, remains a fundamental goal across economies (Davies, 2015; Ali, 2022; Audi & Ali, 2023). Economic distress, capturing dimensions such as unemployment, inflation, poverty, and income inequality, exerts adverse effects on diverse aspects of individuals' lives (Conceição & Bandura, 2008). The consequential impact of economic misery on health, education, happiness, and general welfare has garnered significant attention from economists and policymakers (Graham, 2011; Ali, 2022). Extensive research has explored the determinants of economic misery, leading to the implementation of strategic policies to address its root causes and foster sustainable economic growth. The role of education in predicting economic misery is prominent, with higher levels contributing to improved employability, income, and job prospects (Green, 2011; Ali, 2022; Audi et al., 2023). Conversely, a lack of education can limit career options, hindering socioeconomic growth and potentially leading to higher levels of economic misery. Population density also plays a crucial role, contributing to economic misery through resource shortages, increased job competition, and infrastructure deficits (Jhingan, 2022). The development of the financial sector, encircling banks, capital markets, and well-functioning institutions, has been identified as a factor influencing economic distress (Levine, 1997; Beck et al., 2010; Kilenthong & Komain, 2023). In this complex web of economic factors, the performance of stock markets and interest rates emerges as pivotal elements shaping a country's economic landscape. The stock market's influence on inflation and unemployment, coupled with the established relationship between interest rates and inflation, underscores their direct and indirect roles in economic misery (Ali et al., 2023; Davies et al., 2019; Fisher, 1930). The stock market, through channels like the wealth effect and business investment, can impact inflation, while interest rates directly affect borrowing, spending, and production costs. Economic misery, as the most sensitive indicator, adversely affects the lives of individuals (Conceição & Bandura, 2008; Ali & Audi, 2023). While existing literature extensively scrutinizes the determinants of economic misery, a notable research gap exists regarding the moderating role of stock market performance and interest rates in developing countries. Therefore, this study aims to fill this gap by investigating the determinants of economic misery in South Asia and evaluating how stock market performance moderates these relationships. Moreover, this research aims to contribute to the existing literature by untying the complicated relationship between economic misery and the performance of stock markets and interest rates, particularly within the dynamic context of South Asia.

2. REVIEW OF THE LITERATURE

Monacelli et al. (2023) investigated the link between financial markets and unemployment using an empirical approach. They collected data on financial market indicators, labor market variables, and relevant factors, spanning from 1984 to 2009. The study contributes valuable insights into the dynamics of unemployment influenced by financial market factors. Blake-Gonzalez et al. (2021) explored the link between economic misery and drug overdose death rates in Virginia, utilizing panel data from 84 cities and counties from 2010 to 2018. Their findings revealed a positive relationship between economic misery indicators (e.g., unemployment and poverty rates) and drug overdose death rates. The study suggested that improving economic conditions and reducing poverty could help mitigate drug overdose deaths. Açci and Çuhadar (2021) investigated the relationship between unemployment, inflation, and crime rates using the Misery Index, covering data from 31 countries between 1990 and 2017.

[1] Lahore School of Accountancy and Finance, University of Lahore, Pakistan
[2] Lahore School of Accountancy and Finance, University of Lahore, Pakistan
[3] Lahore School of Accountancy and Finance, University of Lahore, Pakistan

The study found a positive relationship between the Misery Index and crime rates, indicating that higher economic hardship correlates with increased crime rates. Unemployment was found to positively affect crime rates, while the impact of inflation varied for property and violent crimes.

Jelilov et al. (2020) focused on stock market returns and inflation in Nigeria from January 2015 to May 2020. Using econometric techniques, including the Autoregressive Distributed Lag (ARDL) model, the study revealed a significant negative correlation between stock market returns and inflation. Higher inflation rates were linked to lower stock returns, impacting investor confidence, purchasing power, and market expectations. Ajide (2019) studied the relationship between institutional quality, economic misery, and crime rates in Nigeria, utilizing data from 1986–2016. The study identified economic misery as a significant determinant of crime rates, with higher distress factors associated with increased crime rates. Economic misery was also highlighted as a mediator between institutional quality and crime rates. Ali et al. (2021) examined the impact of urbanization and economic misery on average life expectancy in select MENA nations from 2001 to 2016. Their study, based on panel data and econometric techniques, found a significant negative relationship between economic misery and life expectancy in MENA countries. Conversely, urbanization showed a positive relationship with life expectancy.

Nyasha et al. (2021) explored the impact of stock market development on unemployment in South Africa, utilizing empirical methods. Analyzing relevant data on stock market indicators and unemployment rates, the study found a positive relationship. A developed stock market was linked to improved financing access for firms, fostering investment and job creation. Sector-specific effects were observed, with manufacturing and services benefiting more in terms of employment creation. These findings highlight the significance of sector-specific considerations when examining the relationship between stock market development and unemployment.

Wang et al. (2019) investigated the impact of financial structure and the misery index on economic growth in Pakistan. Using the Autoregressive-Distributed Lag (ARDL) co-integration approach and time series data from 1989 to 2017, the study identified a long-term relationship among variables. The findings emphasized the necessity of financial and external sector reforms to achieve desired economic growth in Pakistan, with the misery index negatively impacting economic growth.

Sathyanarayana and Gargesa (2018) conducted an analytical study on the impact of inflation on stock market returns, finding a significant negative relationship. The study highlighted the enduring nature of this connection and considered the moderating role of macroeconomic variables, such as interest rates and economic growth, in shaping this relationship. Alam et al. (2016) investigated the relationship between financial development, economic misery, and life expectancy in India post-financial reforms. Their empirical study, analyzing time-series data from 1971 to 2012, utilized panel data regression techniques. The study found a positive relationship between financial development and life expectancy, while economic misery was negatively associated with life expectancy. The findings suggested the importance of promoting financial development and reducing economic misery for improved population health.

Ali et al. (2015) explored the relationship between human capital outflow and economic misery in Pakistan, using time series data from 1975 to 2012. The study, employing econometric techniques like ARDL bounds testing and error correction modeling, found a positive relationship between human capital outflow and economic misery. The study underscored the importance of retaining skilled individuals and investing in education for economic development.

Shahbaz et al. (2016) conducted a study on life expectancy determinants in Pakistan, focusing on the role of economic misery. The study covered the period from 1972 to 2012, employing unit root tests with structural breaks and the ARDL bounds testing approach. The findings highlighted the significance of economic conditions, healthcare, education, and the environment in shaping life expectancy.

Scognamillo (2018) conducted a study on economic misery, focusing on determinants and heterogeneity across European countries. The empirical study examined economic and social indicators, including inflation, unemployment, income inequality, government debt, and education, across European countries. The findings highlighted the significance of these factors in shaping economic distress, offering valuable insights for policymakers to develop tailored interventions and policies.

Gürler and Ceylan (2015) investigated the determinants of economic misery in Turkish provinces, recognizing the complex nature of this issue at the regional level. Through an empirical approach, they examined economic and social indicators, including unemployment, inflation, poverty, education, and health, to identify factors significantly influencing economic misery in specific Turkish regions. These findings offered crucial insights for provincial policymakers to develop tailored interventions and policies addressing these determinants and working towards reducing economic misery in their respective areas.

Nwokora and Awa (2017) conducted a study on the determinants of economic misery in Nigeria using an autoregressive distributed lag (ARDL) approach. This approach allowed for a comprehensive examination of the long-run and short-run relationships between economic indicators such as inflation, unemployment, poverty, government debt, the exchange rate, and the economic misery index in Nigeria. The findings underscored the significance of these variables in shaping economic distress, providing valuable insights for Nigerian policymakers to develop targeted interventions and policies aimed at reducing economic misery. Guillaumont and Leite (2002) investigated economic growth determinants in Sub-Saharan Africa using a dynamic panel data approach. Key factors like investment, education, governance, trade openness, and infrastructure were analyzed, revealing their significance in driving economic growth. This research informed policymakers in the region to prioritize interventions that foster sustainable economic growth. Tadesse (2017) investigated African economic misery determinants through panel data analysis. This research focused on key indicators like inflation, unemployment, political instability, education, and foreign debt, which impact economic distress. By utilizing econometric techniques and robustness tests, the study provided insights for African policymakers to craft interventions and policies to alleviate economic misery on the continent.

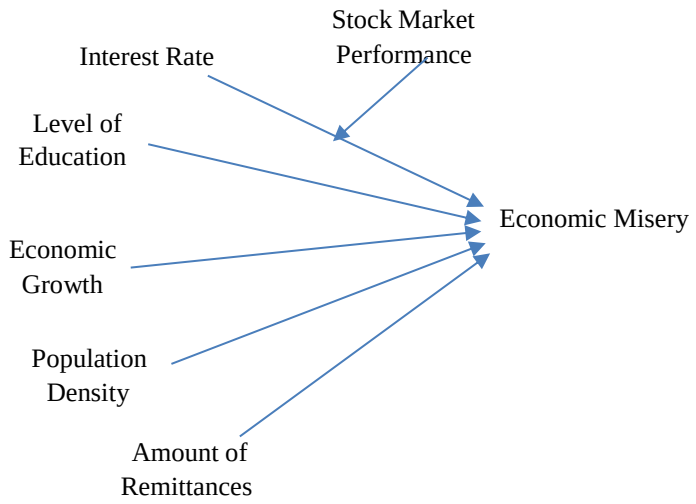
Zafar and Siddiqi (2016) investigated economic misery determinants in the SAARC region. Their study, utilizing panel data analysis, examined various indicators like inflation, unemployment, poverty, and education. This research offered insights into the SAARC region's economic misery, highlighting the importance of factors such as inflation, unemployment, poverty,

education, and GDP growth. Policymakers could use these findings to craft targeted interventions and policies aimed at reducing economic distress.

3. THEORETICAL AND CONCEPTUAL LINK

The Capability Approach, developed by economist Amartya Sen in the 1980s, highlights the link between economic distress and sustainable development. It emphasizes that sustainable development encompasses human development, poverty reduction, and empowerment, going beyond economic indicators. High economic instability, indicating poverty and inequality, hampers sustainable development and restricts people's capabilities. Economic misery, a significant challenge in developing nations, involves distress from high unemployment and inflation (Field, 2012; Ali & Rehman, 2015; Ali & Audi, 2018). This adversity directly impacts well-being, leading to financial instability and reduced access to basic necessities, escalating poverty (Eberstadt, 2000; Foster and Magdoff, 2009; Nudzor, 2023; Salleh & Sapengin, 2023). Inflation mixes the problem, diminishing purchasing power and worsening financial hardship (Sobotka et al., 2011; Chineze, 2023). Policymakers must comprehend these factors to formulate effective strategies for human well-being. Education, linked to reduced poverty, negatively influences economic misery and population density, straining resources, is expected to increase economic misery (Hetschko, 2017; Ali & Senturk, 2019; Ajide, 2021; Audi & Ali, 2023; Namadi & Tanveer, 2023). Financial development, promoting economic growth, is predicted to reduce economic misery. Moreover, the stock market's performance is expected to moderate the impact of factors contributing to economic misery, enhancing capital creation and economic well-being (Diener & Seligman, 2004; Ali, 2015; Ali & Bibi, 2017; Ali, 2018; Audi et al., 2022; Idris, 2023). The conceptual model for this study integrates these elements.

Figure-1 Conceptual link



For examining the coefficients of the selected variables, the econometric model without moderation can be written as:

$MIS_{it} = \alpha + \beta_1 SMP_{it} + \beta_2 IR_{it} + \beta_3 EDU_{it} + \beta_4 EG_{it} + \beta_5 PD_{it} + \beta_6 PR_{it} + \varepsilon_{it}$

α = intercept/constant coefficient

β_i= slope coefficient

e_i= white noise error term

An econometric model with moderation can be written as:

$MIS_{it} = a + b_1 SMP*IR_{it} + b_2 EDU_{it} + b_3 EG_{it} + b_4 PD_{it} + b_5 PR_{it} + u_{it}$ (3.4)

a = intercept/constant coefficient

b_i= slope coefficient

u_i= white noise error term

i= set of cross-sections (Pakistan, India, Bangladesh, Sri Lanka)t= selected period (1990-2022)

MIS= economic misery (inflation rate + unemployment rate; Okun Law, 1962)

SMP= stock market performance

EDU= level of education

EG= economic growth

PD= population density

PR= amount of remittances

IR = interest rate

The application of econometric tools to macro models is one of the most important aspects of quantitative economic analysis. For advanced empirical analysis, the initial step involves examining the unit root or stationarity of the chosen indicators. Panel unit root tests were utilized for this purpose. Following the results of panel unit root tests, we employed the panelautoregressive distributed lag method to investigate the long-term relationship among the indicators. For the short-term relationship among elements and variables of the model, we applied panel residual correction procedures.

4. RESULTS AND DISCUSSIONS

This section is comprised of estimated results and discussion, the focus of this research is to investigate the factors contributing to economic misery, with a specific examination of the moderating impact of stock market performance in the South Asian

context spanning from 1990 to 2022. Economic misery has been taken as the dependent variable, whereas stock market performance, interest rate, level of education, population density, economic growth, amount of remittances, and interaction of stock market performance with interest rate have been used as independent variables. The empirical analysis is comprised of descriptive statistics, correlation matrix, unit root tests with and without time trend, lag order selection, and ARDL without and with our moderation.

Table-1 presents descriptive statistics for South Asia (1990-2022). The mean economic misery score is 12.89, indicating a moderate level of distress. A slightly lower median (11.82) suggests variability, supported by a standard deviation of 5.47. Positive skewness (1.14) reveals occasional periods of heightened distress, corroborated by a kurtosis of 5.13, indicating a peaked dataset. The mean stock market performance score is 15.72, with a high standard deviation (25.78) and a lower median (9.37), signifying substantial variation and underperforming periods. Skewness (1.23) indicates extreme gains, supported by kurtosis (5.66), implying heavier tails due to outliers. The mean interest rate is 4.03, with a moderate standard deviation (3.88), negatively skewed (skewness: -1.44), and heavily tailed (kurtosis: 8.22). The mean education level is 58.24, showing moderate attainment. Skewness (0.29) suggests some countries surpass the average. Economic growth means (5.11) and median (5.37) indicate moderate growth, with strong negative skewness (-1.59) and heavy tails (kurtosis: 7.84). Population density mean (6.02) and median (5.81) suggest moderate density, while remittances mean (5.03) and median (4.88) show moderate levels, slightly positively skewed (0.30) with less heavy tails (kurtosis: 1.99). The interaction moderation score mean is 49.37, indicating a moderate average, negatively skewed (-2.68), and extremely heavy tails (kurtosis: 39.90).

Table-1: Descriptive Statistics

	MIS	SMP	RIR	EDU	EG	PD	PR	MOD
Mean	12.89499	15.71502	4.027123	58.23747	5.114492	6.017531	5.027795	49.37255
Median	11.81949	9.370000	4.313154	51.20586	5.367990	5.811791	4.877766	33.92594
Maximum	36.05525	119.0300	13.74097	100.3352	8.845756	7.171043	10.58793	1087.071
Minimum	3.514135	-37.02000	-13.64214	20.90838	-6.596081	5.008749	0.742647	-1504.809
Std. Dev.	5.469115	25.77512	3.884136	24.83887	2.382377	0.603703	2.396501	193.7082
Skewness	1.136696	1.225239	-1.438824	0.291984	-1.593299	0.649223	0.304486	-2.684744
Kurtosis	5.125424	5.663968	8.219553	1.780486	7.842361	2.246197	1.996208	39.89988
Jarque-Bera	51.65725	69.87502	189.4645	9.750576	179.2153	12.02229	7.351706	7415.640
Sum	1650.559	2011.523	515.4717	7454.397	654.6549	770.2439	643.5577	6319.686
Sum Sq. Dev.	3798.725	84373.32	1915.987	78355.10	720.8162	46.28609	729.3885	4765404.
Observations	128	128	128	128	128	128	128	128

Table 2 illustrates the correlation matrix for the dataset. Economic misery weakly positively correlates (0.112) with stock market performance, suggesting a slight tendency for both to increase together. Economic misery negatively correlates (-0.136) with interest rates, indicating a minor decrease in rates during economic distress. A stronger positive correlation (0.398) exists between economic misery and education levels, emphasizing that higher education relates to lower economic misery. Negative correlation (-0.202) between economic misery and population density implies lower distress in densely populated areas, possibly due to economic opportunities. Economic misery shows a weak positive correlation (0.078) with remittances, indicating higher remittances may lead to slightly elevated economic misery. Additionally, economic misery slightly rises (0.125) as the moderation of stock market performance with interest rates increases. Stock market performance has a very weak positive correlation with economic misery (0.072), suggesting a slight association with higher performance and economic distress. Stock market performance positively correlates (0.072) with education levels, hinting at slightly better performance in regions with higher education. Negative correlation (-0.268) between stock market performance and population density indicates poorer performance in densely populated areas. The amount of remittances negatively correlates (-0.162) with stock market performance, suggesting slightly worse performance in areas with more significant remittances. A strong positive correlation (0.260) exists between stock market performance and the moderation of stock market performance with interest rates, indicating better performance with a stronger moderation effect. Interest rates weakly negatively correlate with economic misery (0.136), showing a minor decrease in economic misery as interest rates increase slightly. Education levels show a strong positive correlation (0.398) with economic misery, indicating regions with higher education experience lower economic misery. Population density negatively correlates (-0.268) with stock market performance, suggesting poorer performance in densely populated areas. A positive correlation (0.315) between population density and interest rates indicates higher rates in densely populated areas. The amount of remittances slightly positively correlates (0.078) with economic misery, suggesting slightly higher economic misery in areas with more significant remittances. The moderation of stock market performance with interest rates shows a weak positive correlation (0.125) with economic misery, indicating a slight rise in economic misery as the moderation effect increases. A strong positive correlation (0.260) between the moderation of stock market performance with interest rates and stock market performance indicates better performance with a stronger moderation effect. A strong positive correlation (0.434) between the moderation of stock market performance with interest rates and interest rates indicates that a stronger moderation effect is associated with higher interest rates. Overall, the correlation matrix suggests multicollinearity concerns in regression analysis due to weak correlations among selected variables.

Table-2: Correlation Matrix

Variables	MIS	SMP	RIR	EDU	EG	PD	PR	MOD
MIS	1.000000							
SMP	0.112097	1.000000						
RIR	-0.135757	-0.140074	1.000000					
EDU	0.398499***	-0.080833	-0.034505	1.000000				
EG	0.034888	0.071721	-0.022841	0.080704	1.000000			
PD	-0.201589**	-0.26843***	0.314581***	0.083078	0.195750**	1.000000		
PR	0.078216	-0.162466*	-0.101052	0.517096***	-0.035846	0.206585**	1.000000	
MOD	0.124524	0.260356***	0.433768***	-0.161409*	-0.065026	-0.051469	-0.208**	1.000000

***, **, * represent significant @ 1 percent, 5 percent, and 10 percent respectively.

Table-3: Unit Root Test Outcomes

Variables	Levin, Lin &Chu t*	Im, Pesaran andShin W-stat	ADF - FisherChi-square	PP - Fisher Chi-square
		At Level		
MIS	-1.50840*	-1.79525**	14.5897*	24.5204***
SMP	-1.88206**	-4.89291***	39.5508***	42.1252***
RIR	-2.73962***	-3.04460***	23.9107***	61.3419***
EDU	-0.18687	1.97171	5.85854	5.13123
EG	-3.46837***	-3.38698***	26.6250***	47.8806***
PD	-2.45118***	0.55567	7.96685	60.8402***
		At First Difference		
MIS	-8.81984***	-9.39253***	79.9914***	109.211***
SMP	-5.88044***	-8.90259***	75.7371***	104.064***
RIR	-5.85028***	-8.59506***	72.7922***	81.7494***
EDU	-2.83385***	-3.53923***	27.4619***	59.8519***
EG	-4.66528***	-9.33825***	79.9841***	131.136***
PD	2.20929***	-2.13419***	15.2014***	11.3077***
		At Level with Time Trend		
MIS	-0.87495	-1.70036**	15.2816*	25.5061***
SMP	-0.14217	-3.84107***	29.2073***	36.9041***
RIR	-2.68057***	-2.66173***	20.4517***	63.4679***
EDU	-0.12325	1.04693	2.99155	2.57230
EG	-2.61807***	-2.71781***	20.7773***	46.4589***
PD	0.63118	3.07539	1.57103	0.23919
		At First Difference with Time Trend		
MIS	-7.65182***	-8.41241***	66.6860***	578.350***
SMP	-4.25096***	-8.06138***	62.9642***	353.895***
RIR	-4.18048***	-7.47066***	57.9105***	813.816***
EDU	-2.76733***	-3.40040***	26.6502***	54.3858***
EG	3.03921***	-8.31944***	64.7023***	845.720***
PD	-2.54637***	-2.41214***	18.4587***	10.7426***

The results of the unit root tests are shown in table 3. The unit root test results are presentedin four scenarios: at level, first difference, at level with a time trend, and first difference with a time trend. The unit root tests such as Levin, Lin, and Chu t*, Im, Pesaran, and Shin W-stat, ADF - Fisher Chi-square, and PP - Fisher Chi-square have been used for empirical analysis. At level, economic misery, interest rate, and economic growth are stationary at the 1% significance level, indicating their suitability for time series analysis. Stock market performance is also stationary but at a slightly higher 5% significance level. Population density is stationary according to some tests but not others. However, the education level is non-stationary at all levels. After differencing the variables, all of them become stationary at the 1% significance level, which is a crucial step for accurate panel analysis, ensuring the reliability of the results. At the level of time trend, economic misery, stock market performance, interest rate, and economic growth are stationary, as indicated by highly significant t-stats. Population density is stationary with a time trend according to some tests but not others, and education level is non-stationary at all levels. After differencing the variables with a time trend, all of them become stationary with highly significant t-stats and chi-square values, demonstrating their suitability for panel analysis. Both unit root outcomes with and without time trends show a mixed order of

integration, which is suitable for applying a panel autoregressive distributed lag model to examine long-run and short-run coefficients.

The table-4 presents lag order selection criteria for a vector autoregression model, a vital toolin the panel for modeling dynamic relationships among multiple variables. Among the criteria,lag order 1 is consistently highlighted by the asterisk (*) symbol, indicating its selection as thepreferred choice by those criteria, including the sequential modified LR test statistic (LR), Akaike information criterion (AIC), Schwarz information criterion (SC), and Hannan-Quinn information criterion (HQ). These criteria collectively emphasize lag order 1 as the optimal choice, suggesting that it strikes an effective balance between model fit and complexity. In practical terms, this implies that including the lagged values of the variables' one-time step back is sufficient to capture the underlying relationships in the data for forecasting and analysis.

Table-4: VAR Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1715.587	NA	1.52e+08	35.86639	36.02666	35.93117
1	-905.6480	1501.761	15.13424	19.74267	20.86457*	20.19616*
2	-851.0567	94.39747*	10.36183*	19.35535*	21.43888	20.19755
3	-835.4009	25.11454	16.17849	19.77918	22.82435	21.01009
4	-808.9407	39.13898	20.58027	19.97793	23.98473	21.59754
5	-786.5814	30.27823	29.33112	20.26211	25.23054	22.27043
6	-755.5889	38.09494	36.27189	20.36644	26.29649	22.76346
7	-722.2450	36.81725	44.90729	20.42177	27.31346	23.20750
8	-689.5904	31.97424	60.26321	20.49147	28.34478	23.66591

In Table 5, examining long-run outcomes without moderation reveals that the coefficient for stock market performance is -0.031301, indicating a negative but statistically insignificant effect on economic misery. This implies that changes in stock market performance may lack a robust and consistent impact on economic distress levels in South Asia (Mo et al., 2018). Non-significance may result from the complex nature of stock market dynamics, influenced by various interconnected variables, such as economic policies, global conditions, and investor sentiment (Su et al., 2022). Additionally, the relatively short study timeframe (1990-2022) might not fully capture potential long-term effects, as economic trends unfold gradually (Izzeldin et al., 2023). South Asia's diverse economic structures, governance, and social factors could contribute to heterogeneous relationships between stock market performance and economic misery (Hertz-Palmor et al., 2021).

For interest rates, the coefficient is -0.857639, highly statistically significant (p-value < 0.0001), indicating that increased interest rates associate with decreased economic misery. Higher interest rates may reduce consumer spending and business investment, contributing to lower inflation and overall economic stability (Wen et al., 2019). Additionally, higher interest rates can attract foreign capital, strengthen the national currency, and potentially reduce trade deficits (International Monetary Fund, 2016). Although causation isn't implied, this significant relationship underscores the complex interplay between interest rates and broader economic factors (Taylor & Williams, 2010). Education level's coefficient is 0.172598, statistically significant at the 5% level (p-value = 0.0292), suggesting that regions with higher education levels tend to have slightly higher economic misery. This seemingly counterintuitive result, while statistically significant, indicates a modest effect size, highlighting the complex relationship between education and economic outcomes (Mincer, 1974). The impact of education on economic misery may be overshadowed by other influential factors, including income inequality, healthcare access, and government policies (Belfield & Levin, 2007).

Table-5: Long Run Outcomes Without Moderation

Dependent Variable: MIS				
Variables	Coefficient	Std. Error	t-StatisticProb.*	
SMP	-0.031301	0.023558	-1.328676	0.1873
RIR	-0.857639	0.127882	-6.706476	0.0000
EDU	0.172598	0.077886	2.216043	0.0292
EG	-0.289191	0.137290	-2.106429	0.0380
PD	-91.71923	15.93572	-5.755573	0.0000
PR	3.487834	0.704532	4.950567	0.0000

In table 6, the statistically significant coefficient (-0.015638, p-value = 0.0155) for the moderation of stock market performance with interest rates indicates a noteworthy impact on economic misery in South Asia over the study period. This negative coefficient underscores the importance of considering the interplay between stock market performance and interest rates when evaluating economic well-being. The moderation effect, influenced by economic uncertainty and investor behavior, tends to mitigate economic misery by signaling confidence, stimulating economic growth, and acting as a stabilizing mechanism during turbulence (Shiller, 2015; Frieden, 1991; Yellen, 2015). However, the multifaceted nature of this relationship may vary based on economic contexts and market characteristics. In the long run, education level's significant positive coefficient (0.197912, p-value = 0.0477) suggests that higher education levels are associated with slightly higher economic misery in South Asia, even when considering the moderation effect. This aligns with the nuanced impact of education on economic outcomes, dependent on contextual factors (Mincer, 1974). The statistically significant negative coefficient for economic growth (-

0.684660, p-value = 0.0455) emphasizes its persistent influence on economic misery, even with the moderation effect. Higher economic growth correlates with lower misery levels, reflecting improved living standards and well-being (Barro, 1991). Population density's negative coefficient (-32.02052, p-value = 0.0289) remains influential, indicating that higher density is associated with lower economic misery, consistent with economies of scale and urban opportunities (Outridge et al., 2018). The highly significant positive coefficient for the amount of remittance (0.761708, p-value < 0.0128) underscores that higher remittance amounts are linked to higher economic misery in South Asia, aligning with the long-run outcome without moderation (Mincer, 1974).

Table-6: Long Run Outcomes with Moderation

Dependent Variable: MIS				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
MOD	-0.015638	0.006342	-2.465679	0.0155
EDU	0.197912	0.098646	2.006284	0.0477
EG	-0.684660	0.337787	-2.026901	0.0455
PD	-32.02052	14.43530	-2.218210	0.0289
PR	0.761708	0.300310	2.536408	0.0128

Table-7: Short Run Outcomes Without Moderation

C	216.6593	124.2771	1.743357	0.0847
SMP	0.021290	0.021575	0.986766	0.3264
RIR	0.073328	0.092841	0.789815	0.4317
EDU	-0.024585	0.145832	-0.168583	0.8665
EG	-0.105106	0.184290	-0.570329	0.5699
PD	-500.5045	449.5631	-1.113313	0.2685
PR	-2.075693	0.844225	-2.458695	0.0159
ECT	-0.385669	0.215494	-1.789696	0.0169

Economic growth's coefficient is -0.289191, statistically significant at the 5% level (p-value = 0.0380), indicating that higher economic growth is associated with lower economic misery. This aligns with economic theory, as growth creates job opportunities, increased incomes, and improved overall well-being, contributing to lower economic misery levels (Barro, 1991). Additionally, economic growth can reduce income inequality, mitigating a key driver of economic misery (Wilkinson & Pickett, 2009). Population density's coefficient is -91.71923, highly statistically significant (p-value < 0.0001), suggesting that higher population density associates with lower economic misery. Densely populated regions may benefit from economies of scale, efficient resource allocation, increased job prospects, and community support networks, contributing to improved living standards and reduced economic misery (Bebbington and Unerman, 2018; Henderson, 2003). However, governance quality and policy implementation influence the effectiveness of these dynamics. The amount of remittance's coefficient is 3.487834, highly statistically significant (p-value < 0.0001), indicating that higher remittances associate with higher economic misery. Heavy dependence on remittances may hinder local investment, economic diversification, and resilience, exacerbating income disparities within regions (Ratha et al., 2011; Adams & Page, 2005). Regions reliant on remittances may also be more vulnerable to economic downturns in host countries, disrupting remittance flows and increasing economic hardship at home (Abdih et al., 2012). These findings highlight the shaded relationships between key variables and economic distress, emphasizing the importance of considering contextual factors and the multifaceted nature of economic dynamics.

Table 7 presents short-run results without moderation. The constant term, while not highly significant (p-value = 0.0847), signifies the baseline economic misery when other variables are zero. Stock market performance changes (coefficient = 0.021290) and interest rate fluctuations (coefficient = 0.073328) lack statistical significance, indicating no immediate impact on South Asian economic misery. Education level changes (coefficient = -0.024585), economic growth variations (coefficient = -0.105106), and population density fluctuations (coefficient = -500.5045) also lack significance in the short run. However, higher remittances (coefficient = -2.075693, p-value = 0.0159) are linked to lower economic misery, suggesting an immediate positive effect. The error correction term (ECT) coefficient of -0.385669 (p-value = 0.0169) is statistically significant, revealing short-term adjustments towards long-term equilibrium after shocks.

Table-8: Short Run Outcomes with Moderation

C	104.3759	35.52207	2.938339	0.0041
MOD	0.004240	0.005017	0.845080	0.4002
EDU	-0.012093	0.141452	-0.085490	0.9321
EG	0.048070	0.233351	0.206001	0.8372
PD	-148.0203	131.3835	-1.126628	0.2627
PR	-0.987003	0.421624	-2.340956	0.0213
ECT	-0.501010	0.143422	-3.493260	0.0007

In table 8 shows, short-run results without moderation reveal a highly significant constant term (C) at 104.3759 (p-value = 0.0041), representing the baseline economic misery when other variables are zero. The moderation effect's coefficient (0.004240) lacks statistical significance (p-value = 0.4002), suggesting no immediate impact on South Asian economic misery. Changes in education level (coefficient = -0.012093) and economic growth (coefficient = 0.048070) lack statistical significance in affecting short-term economic misery. Similarly, short-term fluctuations in population density (coefficient = -148.0203) do not significantly impact economic misery. Notably, higher remittance amounts (coefficient = -0.987003, p-value = 0.0213) are associated with immediate reductions in economic misery, underlining their positive effect. The error correction term (ECT) coefficient of -0.501010 is highly significant (p-value = 0.0007), indicating that economic misery levels tend to correct towards long-term equilibrium after short-term disturbances

Based on our estimated results, we assess the hypotheses related to the impact of various factors on economic distress in South Asia. $\boldsymbol{H0a}$: The null hypothesis suggesting that stock market performance does not impact economic misery is accepted. Our results indicate a negative but statistically insignificant impact, rejecting the alternative hypothesis ($\boldsymbol{H1a}$), concluding that stock market performance does not contribute to economic misery in South Asia. $\boldsymbol{H0b}$: Contrarily, the null hypothesis stating that interest rates do not impact economic misery is rejected. Our findings show a significant negative impact, supporting the alternative hypothesis ($\boldsymbol{H1b}$), suggesting that a rise in interest rates reduces economic misery in South Asia. $\boldsymbol{H0C}$: The null hypothesis positing that the level of education does not impact economic misery is rejected. Our results reveal a positive and significant impact, supporting the alternative hypothesis ($\boldsymbol{H1C}$), implying that an increase in education level raises economic distress in South Asia. $\boldsymbol{H0d}$: The null hypothesis asserting that economic growth does not impact economic misery is rejected. Our results demonstrate a significant negative impact, supporting the alternative hypothesis ($\boldsymbol{H1d}$), indicating that higher economic growth reduces economic misery in South Asia. $\boldsymbol{H0e}$: The null hypothesis suggesting that population density does not impact economic misery is rejected. Our findings reveal a positive and significant impact, supporting the alternative hypothesis ($\boldsymbol{H1e}$), indicating that population density has an inverse impact on economic misery, depressing it in South Asia. $\boldsymbol{H0f}$: The null hypothesis stating that the amount of remittances does not impact economic misery is rejected. Our results show a positive and significant impact, supporting the alternative hypothesis ($\boldsymbol{H1f}$), signifying that an increase in remittance amounts contributes to economic misery in South Asia. $\boldsymbol{H0g}$: The null hypothesis proposing that the interaction of interest rates with moderated stock market performance does not impact economic misery is rejected. Our findings demonstrate a negative and significant impact, supporting the alternative hypothesis ($\boldsymbol{H1g}$), indicating that the joint forces of interest rates and stock market performance depress economic misery in South Asia.

5. CONCLUSIONS

In conclusion, this study offers valuable insights into the relationships between various factors and economic misery in South Asia, both with and without considering moderation effects. Without moderation, the findings suggest a nuanced association between stock market performance and economic misery, with a lack of statistical significance. Conversely, higher interest rates are robustly linked to reduced economic misery, aligning with established economic theories. Education levels exhibit a counterintuitive positive association with economic misery, while economic growth, population density, and remittances show expected negative associations. The role of remittances, however, indicates a potential downside, highlighting the importance of diversifying income sources. Incorporating moderation effects emphasizes the significant impact of stock market performance, indicating its role in mitigating economic misery when moderated with interest rates. Education levels maintain their nuanced positive relationship with economic misery, suggesting a need for targeted improvements in education quality and relevance. Policy suggestions derived from the findings include maintaining stable interest rates through prudent monetary policies, enhancing education quality and relevance to improve workforce employability, prioritizing strategies for sustained economic growth, promoting planned urban development to harness population density benefits, and addressing the potential negative impact of excessive remittance dependence through income diversification. Regulatory bodies should focus on ensuring transparent and stable stock markets, promoting investor confidence, and establishing mechanisms for real-time monitoring. Transparency in market operations is crucial for building investor trust and fostering economic stability. In essence, these conclusions provide actionable insights for policymakers seeking to address economic misery and promote sustainable development in South Asia. Implementing these policy suggestions can contribute to fostering economic stability, reducing vulnerability, and supporting long-term development goals in the region.

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