Policy Journal of Social Science Review
Online ISSN 3006-4635
Print ISSN 3006-4627
Vol. 3 No. 7 (2025)

Oil Prices and Equity Market Dynamics: A Sectoral Analysis of the Textile Industry in Pakistan

[1*]Dr. Muhammad Shabbir
[2]Professor. Dr. Muhammad Mahroof Khan
[3]Dr. Shujahat ALi
[4]Muhammad Waseem Shahzad
[5]Nasir Iqbal
[1*]*Assistant Professor, Department of Economics University of Kotli AJ&K*
ORCD ID: https://orcid.org/0000-0001-9739-1500
[2]*Department of Economics University of Kotli AJ&K*
[3]*Assistant Professor, Department of Banking and Finance, University of Kotli AJ&K*
[4]*Lecturer, Department of Economics University of Kotli AJ&K*
[5]*M.Phil Scholar, Department of Economics University of Kotli AJ&K*
[1*]*khan_shabbir7@yahoo.com*

Abstract

This research study investigates how fluctuations in oil prices influence the stock returns within Pakistan's textile sector. The analysis relies on secondary data from 40 composite textile firms listed on the Pakistan Stock Exchange (PSX), selected based on the consistent availability of their stock price data from 2004 to 2016. Stock price statistics were collected from the PSX, crude oil prices were obtained through Bloomberg, while exchange rate and interest rate data were gathered from the International Financial Statistics (IFS) database maintained by the International Monetary Fund (IMF). The study applies various econometric techniques, particularly assessing both the Fixed Effects Model (FEM) and the Random Effects Model (REM). To identify the more appropriate model, the Hausman test was conducted. Findings suggest that the exchange rate exerts a significant and positive effect on stock returns, whereas both oil prices and interest rates negatively affect them. The evidence indicates that an increase in oil prices tends to reduce stock returns in Pakistan's textile industry.

Keywords: Oil Prices, Stock Return, Exchange Rate, Interest Rate,

Article Details:

Received on 29 June 2025
Accepted on 30 July 2025
Published on 31 July 2025

Corresponding Authors*:
Dr. Muhammad Shabbir

Policy Journal of Social Science Review
Online ISSN 3006-4635
Print ISSN 3006-4627
Vol. 3 No. 7 (2025)

INTRODUCTION

Crude oil is a vital source of energy, powering households, industries, and transportation systems globally. Its price fluctuations significantly impact economic activities, especially in oil-importing nations. Changes in oil prices affect inflation, production costs, investment decisions, and overall market performance. Historically, major oil shocks—such as those in the 1970s, 1990, and 2008—have disrupted global economic stability.

Oil price volatility has both direct and indirect consequences on macroeconomic indicators like GDP, inflation, and stock returns. For oil-importing countries, rising oil prices usually lead to reduced economic growth, increased inflation, and higher production costs, ultimately decreasing corporate profits and stock values. In contrast, oil-exporting nations may benefit from such price increases. Several studies (Hamilton, 1983; Papapetrou, 2001; Park & Ratti, 2008) confirm the adverse effects of oil price hikes on output and employment.

OIL AND THE ECONOMY OF PAKISTAN

Pakistan heavily depends on imported oil, with over 30% of its energy needs met through crude oil. Rising oil prices strain Pakistan's economy by increasing the trade deficit, reducing investment, and driving inflation. In 2016, a decline in global oil prices helped reduce Pakistan's oil import bill by 37%, demonstrating the sensitivity of the economy to oil price movements.

Pakistan's reliance on oil-based power generation, especially in transportation and industrial sectors, makes oil price volatility a key factor influencing macroeconomic stability. High oil prices reduce consumer spending, limit business profitability, and increase uncertainty for investors.

TEXTILE INDUSTRY IN PAKISTAN

The textile sector is central to Pakistan's economy, contributing 8.5% to GDP and employing over 15 million people. It accounts for around 60% of total exports. Given its energy-intensive nature, the textile industry is particularly vulnerable to oil price shocks. While many studies assess oil prices' impact on broader economic variables, limited attention has been given to sector-specific effects. This study focuses on examining how fluctuations in oil prices affect stock returns.

PROBLEM STATEMENT

Earlier research in this area has predominantly focused on developed economies, leaving limited insight into how oil price movements affect specific sectors in developing nations like Pakistan. In particular, the textile sector—despite its economic importance—has received little academic focus in relation to oil price fluctuations. Recognizing this gap, the present study seeks to examine how changes in oil prices influence stock returns within Pakistan's textile industry. By applying quantitative analysis, this research aims to address the lack of sector-specific evidence and contribute meaningful findings relevant to the local context.

OBJECTIVES OF THE STUDY

This research was undertaken to explore how variations in oil prices influence stock returns within Pakistan's textile sector. The study further aimed to:

- Evaluate the role of interest rate changes in shaping the stock performance of textile companies.
- Examine the influence of oil price movements on equity returns in the textile industry.
- Investigate the correlation between exchange rate fluctuations and stock performance in the textile sector.

Policy Journal of Social Science Review
Online ISSN 3006-4635
Print ISSN 3006-4627
Vol. 3 No. 7 (2025)

RESEARCH QUESTIONS

This study is guided by the following core inquiries:

1. In what ways do fluctuations in oil prices relate to the performance of stock returns within Pakistan's textile industry?
2. How do the combined effects of oil prices, interest rates, and exchange rate movements impact the stock market outcomes of the textile sector.

SIGNIFICANCE OF THE STUDY

This study uses monthly data from January 2004 to December 2016 to explore how oil prices influence stock returns in Pakistan's textile industry. The findings are useful for investors, analysts, and policymakers. As the textile sector is energy-intensive, understanding oil price volatility can help investors make informed decisions. Additionally, the results can assist policymakers in designing strategies to mitigate the negative impacts of energy price shocks on industrial performance.

LITERATURE REVIEW

Hamilton (1983) was among the first to highlight an adverse connection between increases in oil prices and the economic performance of the United States. Building on this, later research—such as the work of Goodwin et al. (1986) and Al-Mudhaf and Goodwin (1993)—reinforced the idea that oil price shocks contribute to economic slowdowns and can negatively impact stock market returns. Expanding this line of inquiry to developed nations, scholars like Jones and Kaul (1996), Huang et al. (1996), and Cheung and Ng (1998) found that oil price fluctuations affect these markets to varying degrees.

In studies focused on countries like Australia and Norway, Faff and Brailsford (1999) and Gjerde and Saettem (1999) documented a significant relationship between oil prices and stock market trends. Further emphasizing oil price instability as a major financial risk, Sadorsky (1999) and Papapetrou (2001) provided compelling evidence of its broader economic influence. Similar findings emerged from investigations in Canada (Sadorsky, 2001) and across several European countries (Angeloni et al., 2003), reinforcing the global relevance of oil market dynamics.

Emerging market studies yielded mixed results. Maghyereh (2004) found weak oil-stock links, while Rautava (2004) and Cunado and De Gracia (2005) identified strong oil-related effects on economic activity. In Turkey, Eryiğit (2009) and Berk & Aydogan (2012) found industry-specific sensitivities.

Within South Asia, Pakistan-focused studies such as Sidra & Abdul (2014), Fatima & Bashir (2014), and Waheed et al. (2017) confirmed that oil price shocks have substantial effects on stock markets, especially in energy-intensive industries like textiles.In the textile context, Rad (2013) and Shojaei Rad (2013) found co-integrated relationships between oil prices and stock returns. Asteriou et al. (2013) and Ghorbel et al. (2012) used dynamic models (e.g., GARCH) to confirm these effects. Jouini (2013), focusing on Saudi Arabia, found similar results using the VAR-GARCH framework.

Overall, most studies indicate that oil prices significantly affect stock markets across different economies, although the magnitude and direction of this effect vary by industry, country, and market structure

RESEARCH METHODOLOGY

EMPIRICAL MODEL

$$SR = \alpha+\beta_1 OP+\beta_2 ER+\beta_3 IR+\mu \quad \ldots\ldots 1$$

SR= Stock Return

OP= Oil Prices

Policy Journal of Social Science Review
Online ISSN 3006-4635
Print ISSN 3006-4627
Vol. 3 No. 7 (2025)

ER= Exchange Rate
IR= Interest Rate

This study analyses data from 40 composite textile companies listed on the Pakistan Stock Exchange (PSX), selected based on the availability of share price records. The dataset spans the period from 2004 to 2016. Share price data were sourced from PSX, while crude oil price information was obtained from Bloomberg. Data on exchange rates and interest rates were collected from the International Financial Statistics (IFS) database provided by the International Monetary Fund (IMF).

EVALUATION BASED ON STATISTICAL TECHNIQUES

To examine the underlying static associations within the panel dataset, this analysis utilizes both Fixed Effects and Random Effects models. The decision regarding which estimation method is more appropriate is determined through the Hausman test, which assesses model consistency in relation to the specific attributes of the data.

FIXED EFFECTS MODEL (FE)

The fixed effects approach is utilized when the goal is to assess how independent variables that vary over time influence the dependent variable, while accounting for unobserved heterogeneity that does not change over time. This model assumes that individual-specific effects, such as those related to firms or industries, may differ across entities but remain constant throughout the time period under consideration. By controlling for these time-invariant characteristics, the model reduces the risk of omitted variable bias.

RANDOM EFFECTS MODEL (RE)

Unlike the fixed effects approach, the random effects model posits that individual-specific characteristics are random and not correlated with the independent variables in the model. As explained by Allison (2005), this framework considers these unobserved individual differences as part of the error component. When this assumption is valid, the random effects method proves to be more efficient, as it makes use of both intra-group and inter-group variations. Scholars such as Hsiao (2003) and Wooldridge (2002) argue that the RE model is most suitable when the unique traits of each cross-sectional unit bear no systematic relationship to the explanatory variables.

HAUSMAN TEST

To determine which model—FE or RE—is more appropriate, the Hausman Test is applied. This diagnostic tool compares the estimators from both models and checks whether there is a significant correlation between the individual effects and the regressors. A significant test result suggests that the RE model's assumptions do not hold, and the FE model should be used instead. As described by Greene (2003), the null hypothesis assumes that the RE model is consistent and efficient, while the alternative supports the FE model due to the presence of correlation.

- Null Hypothesis (H_0): The Random Effects model is suitable.
- Alternative Hypothesis (H_1): The Fixed Effects model is more appropriate.

Decision Rule:

- If the p-value is less than 0.05 → Reject H_0 → Use Fixed Effects Model.
- If the p-value is greater than 0.05 → Do not reject H_0 → Use Random Effects Model

Policy Journal of Social Science Review
Online ISSN 3006-4635
Print ISSN 3006-4627
Vol. 3 No. 7 (2025)

RESULTS AND DISCUSSIONS

STATIC PANEL ESTIMATION METHODS

To examine the panel data and assess the impact of oil prices on stock returns in the textile sector, various econometric approaches can be utilized. In this study, both the Random Effects Model (REM) and the Fixed Effects Model (FEM) were evaluated. To determine which model provides a better fit for the data, the Hausman test was employed.

HAUSMAN TEST

To determine the most suitable model between Fixed Effects and Random Effects, the Hausman test was applied. This statistical test evaluates whether the model's unique error components were correlated with the explanatory variables. The test operates under the following hypotheses:

- Null Hypothesis (H_0): The Random Effects model is the correct specification.
- Alternative Hypothesis (H_1): The Fixed Effects model is more appropriate.

The outcome of the Hausman test guides the model selection process, with the relevant results summarized in the table below

TABLE: 4.1 HAUSMAN TEST

Alternative Hypothesis	chi2	Prob > chi2
Fixed Effects Model is appropriate	200.92	0.000

The findings from the Hausman test reveal a statistically significant p-value associated with the chi-square statistic ($p < 0.05$), prompting the rejection of the null hypothesis. This outcome suggests that the Fixed Effects Model offers a more suitable framework for the analysis. As per the standard decision criterion, a p-value greater than 0.05 favors the Random Effects approach, while a value below this threshold supports the use of the Fixed Effects Model. Since the calculated p-value falls beneath the 0.05 level, this study proceeds with the Fixed Effects Model for subsequent estimations.

FIXED EFFECT

The Fixed Effects (FE) model is typically applied when the objective is to examine the impact of variables that vary over time within the same entities. In this research, panel data consisting of stock returns from the textile industry, oil prices, exchange rates, and interest rates has been utilized. The FE model provided more accurate and reliable results for this dataset. Its use is especially common in cases where the sample is not drawn randomly, as noted by Wooldridge (2002). Similarly, Lee et al. (2012) adopted the FE model in their analysis and identified significant relationships among the variables under study. Based on the characteristics of our dataset, the Hausman test also recommended the Fixed Effects model. Therefore, the FE model has been applied in this study to reveal the relationships among the variables, as presented in the results table.

TABLE: 4.2 FIXED EFFECT MODEL (FEM)

Variable	*Coefficients*	*Std. Error*	*T Stat.*	*Prob.**
C	10.24365	4.478248	2.287423	0.0222
Oil Prices	-0.110015	0.041691	-2.638861	0.0083
Exchange Rate	0.624918	0.051008	12.25143	0.0000
Interest Rate	-2.365228	0.359357	-6.581829	0.0000

Policy Journal of Social Science Review
Online ISSN 3006-4635
Print ISSN 3006-4627
Vol. 3 No. 7 (2025)

The Results Fixed Effect Model has been Presented in table 4.2 indicate that all three macroeconomic variables—oil prices, exchange rate, and interest rate—significantly impact the dependent variable. Oil prices have a negative and statistically significant effect (coefficient = -0.1100, p = 0.0083), suggesting that rising oil prices reduce stock returns. The exchange rate shows a positive and highly significant relationship (coefficient = 0.6249, p = 0.0000), indicating that currency depreciation may benefit stock returns, possibly due to improved export performance. Interest rates have a strong negative effect (coefficient = -2.3652, p = 0.0000), implying that higher interest rates lead to a decline in stock returns. The constant term is also significant (coefficient = 10.2436, p = 0.0222), supporting the overall fit of the model.

TABLE: 4.3 GOOD FITTED STATISTICS FOR THE FEM

No of Observations	No of Groups	R-Square	F Statics	P Value
6240	40	0.6512	275.56	0.000

The overall performance of the model, as reflected in the results table, confirms its statistical validity and robustness. The findings indicate that the model applied for analysis was highly significant. The R-squared value of 0.65 suggests that approximately 65% of the variation in the dependent variable was explained by the independent variables included in the model.

DISCUSSION

This study analyzed the influence of key macroeconomic indicators on the stock returns of Pakistan's textile sector. The findings revealed that oil prices have a statistically negative effect on stock returns. Specifically, a 1% increase in oil prices is associated with a decrease of approximately 0.11 units in stock returns, indicating a clear inverse relationship. These findings align with those reported by Rabia and Adnan (2015), who also observed that rising oil prices tend to reduce stock performance. As the textile sector is highly energy-dependent—consuming around 20% of the nation's total energy supply according to IRG (2011)—increases in oil prices raise production costs and reduce profit margins, ultimately depressing stock returns.

Regarding the exchange rate, the analysis showed a positive coefficient of 0.624918, implying that a 1% appreciation in the exchange rate leads to an increase of roughly 62% in stock returns. This positive correlation suggests that as the value of the local currency improves, export-oriented industries like textiles benefit from enhanced revenue streams. These results are consistent with the findings of Ahmed and Rashid (2010), who documented a similar positive relationship between the exchange rate and stock returns in Pakistan.

The study also assessed the effect of interest rates on stock performance. The estimated coefficient was -2.365228, indicating a strong negative association. A 1% rise in interest rates tends to reduce stock returns by more than 2%, reflecting the sensitivity of the textile sector to borrowing costs. Since textile firms often rely heavily on bank financing, higher interest rates increase debt servicing costs, which can negatively impact profitability. Similar conclusions were drawn by Arshad and Bashir (2015), who also found that higher interest rates adversely affect market indices.

In summary, the results suggest that oil price increases exert downward pressure on textile stock returns, exchange rate appreciation supports stock growth, and rising interest rates negatively affect profitability and investor confidence in the textile sector.

CONCLUSION AND RECOMMENDATIONS

This study investigated the influence of oil price fluctuations on stock market returns within Pakistan's textile sector, applying panel data techniques to assess how volatility in global oil markets shapes industry performance. The analysis drew upon monthly observations collected between 2004 and 2016. To determine the most appropriate econometric model, the Hausman test was employed, the outcome of which supported the adoption of the Fixed Effects approach. Empirical results revealed a significant inverse relationship between oil prices and stock returns, indicating that rising oil costs tend to erode profitability in this energy-reliant industry. Interest rates were also found to exert downward pressure on stock performance, potentially due to increased financial burdens related to debt servicing. Conversely, fluctuations in the exchange rate demonstrated a positive association, implying that a weaker local currency may boost the export competitiveness of textile products, which represent a substantial share of Pakistan's foreign trade.

The study's findings hold practical relevance for both investors and policymakers. For investors, keeping a close watch on oil price dynamics is crucial, as shifts in energy costs directly impact the financial health of textile firms. Given the sector's sensitivity to energy expenses, proactive planning around cost management is imperative. From a policy standpoint, there is a clear need for reforms aimed at stabilizing energy inputs—whether through targeted subsidies or promoting alternative energy sources—to support sustainable industrial growth. At the enterprise level, textile firms may benefit from investing in energy-efficient practices and diversifying their energy mix to cushion the effects of oil market shocks on their bottom lines.

While this research offers valuable insight into the textile industry, its scope remains limited to a single sector within Pakistan. Future studies could extend the analysis to other energy-intensive industries, such as chemical production or large-scale manufacturing, or incorporate cross-country comparisons for a broader perspective. Exploring the impact of alternative energy sources—including electricity, coal, and natural gas—on stock market behavior may also provide a more complete understanding of how energy markets influence industrial performance in varying economic contexts.

REFERENCES

Al-Mudhaf, A., & Goodwin, T. H. (1993). Oil shocks and oil stocks: Evidence from the 1970s. *Applied Economics*, *25*(2), 181–190. https://doi.org/10.1080/00036849300000021

Angeloni, I., Kashyap, A., Mojon, B., & Terlizzese, D. (2003). Monetary transmission in the euro area: Does the interest rate channel explain all? *European Central Bank Working Paper Series*, No. 234.

Asteriou, D., Bashir, F., & Yousaf, A. (2013). Dynamic relationship between oil prices, stock market prices and exchange rate: Empirical evidence from Pakistan. *Pakistan Development Review*, *52*(4), 499–514.

Berk, A., & Aydogan, B. (2012). Crude oil price shocks and stock returns: Evidence from Turkish stock market under global liquidity conditions. *Ekonometri ve İstatistik e-Dergisi*, *17*, 1–19.

Cheung, Y.-W., & Ng, L. K. (1998). International evidence on the stock market and aggregate economic activity. *Journal of Empirical Finance*, *5*(3), 281–296. https://doi.org/10.1016/S0927-5398(97)00025-X

Cunado, J., & De Gracia, F. P. (2005). Oil prices, economic activity and inflation: Evidence for some Asian countries. *Quarterly Review of Economics and Finance*, *45*(1), 65–83.

Eryiğit, M. (2009). Effects of oil price changes on the sector indices of Istanbul Stock Exchange. *International Research Journal of Finance and Economics*, *25*, 209–216.

Faff, R., & Brailsford, T. (1999). Oil price risk and the Australian stock market. *Journal of Energy Finance & Development*, *4*(1), 69–87.

Fatima, S., & Bashir, F. (2014). Impact of oil prices on stock market returns: Evidence from Pakistan. *Journal of Energy Technologies and Policy*, *4*(11), 16–25.

Ghorbel, A., Jeribi, A., & Rejeb, A. B. (2012). The effects of oil price volatility on sector returns in emerging markets: Evidence from Tunisia. *Energy Studies Review*, *19*(1), 27–48.

Gjerde, & Sættem, F. (1999). Causal relations among stock returns and macroeconomic variables in a small, open economy. *Journal of International Financial Markets, Institutions and Money*, *9*(1), 61–74.

Goodwin, T. H., Hunt, C. L., & Gallagher, K. P. (1986). Oil shocks and the U.S. economy: A disaggregated approach. *Journal of Macroeconomics*, *8*(4), 517–539.

Hamilton, J. D. (1983). Oil and the macroeconomy since World War II. *Journal of Political Economy*, *91*(2), 228–248. https://doi.org/10.1086/261140

Huang, R. D., Masulis, R. W., & Stoll, H. R. (1996). Energy shocks and financial markets. *Journal of Futures Markets*, *16*(1), 1–27.

Jones, C. M., & Kaul, G. (1996). Oil and the stock markets. *The Journal of Finance*, *51*(2), 463–491.

Jouini, J. (2013). Return and volatility transmission between oil prices and stock markets in Saudi Arabia. *Energy Economics*, *36*, 605–612.

Maghyereh, A. (2004). Oil price shocks and emerging stock markets: A generalized VAR approach. *International Journal of Applied Econometrics and Quantitative Studies*, *1*(2), 27–40.

Papapetrou, E. (2001). Oil price shocks, stock market, economic activity and employment in Greece. *Energy Economics*, *23*(5), 511–532.

Rad, A. H. (2013). Oil price shocks and stock market performance in major oil-exporting countries: The case of Iran and Saudi Arabia. *International Journal of Energy Economics and Policy*, *3*(3), 316–332.

Rautava, J. (2004). The role of oil prices and the real exchange rate in Russia's economy—A cointegration approach. *Journal of Comparative Economics*, *32*(2), 315–327.

Sadorsky, P. (1999). Oil price shocks and stock market activity. *Energy Economics*, *21*(5), 449–469.

Sadorsky, P. (2001). Risk factors in stock returns of Canadian oil and gas companies. *Energy Economics*, *23*(1), 17–28.

Shojaei Rad, A. H. (2013). Relationship between oil price and stock market: Evidence from the Tehran stock exchange. *International Journal of Academic Research in Business and Social Sciences*, *3*(10), 313–322.

Sidra, M., & Abdul, R. (2014). Impact of oil prices on stock market of Pakistan. *Journal of Business Strategies*, *8*(2), 15–27.

Waheed, A., Aamir, M., & Shahbaz, M. (2017). Impact of oil prices on stock exchange: Evidence from Pakistan. *Pakistan Journal of Commerce and Social Sciences*, *11*(2), 693–708