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ESTIMATION OF THE IMPACT OF INTEREST RATES ON THE PERFORMANCE OF THE STOCK MARKET IN SAUDI ARABIA

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ABSTRACT

The study checks the effect of rapid rashes in the interest rate on the performance of the Saudi stock market, uses oil prices and inflation as control variables. Given the Saudi Arabia addiction on oil revenues and its permanent exchange rate regime, an understanding of interaction between monetary policy and stock market dynamics is important for decision makers and investors. From January 2019 to December 2024, using a semi-Loo-layergarritic regional model and monthly data, the study found that rising interest rates adversely affect Tadavul All Share Index (TASI), while oil prices and inflation have a positive effect. The results highlight the unique economic structure of an oil-dependent economy, providing insight into economic policy efficiency under Vision 2030. Conclusions are important for stability in the financial market, decision-making and financial diversification strategies in Saudi Arabia.

Keywords: *Interest, stock market performance, oil prices, inflation, monetary policy, Saudi Arabia, Tadavul All Share Index, Economic Diversification, Vision 2030, Financial Stability.*

INTRODUCTION

The courting among monetary coverage instruments consisting of hobby costs and inventory market overall performance is a cornerstone of financial research, particularly in economies described via particular structural characteristics along with Saudi Arabia's oil dependence and the US forex peg. The trouble addressed on this paper is a lack of expertise of the way interest fee variations affect the Saudi inventory marketplace (Tadawul All Share Index, TASI), that is exacerbated by way of the dominion's reliance on oil revenues and its pursuit of Vision 2030 to diversify its financial system.

This lack of transparency complicates policymakers' efforts to stabilize financial markets in the face of global economic upheavals and home reforms.

The argument presented right here is that hobby fees, together with oil fees and inflation, have a sizeable effect on TASI, as a result of the rentier financial system's sensitivity to oil-driven liquidity and investor self belief. According to the hypothesis, growing hobby charges have a poor impact on TASI overall performance because they increase borrowing charges and shift investment options, whereas oil charges and inflation have a advantageous correlation with inventory returns because they improve marketplace liquidity and nominal asset values.

To affirm this hypothesis, the observe makes use of a semi-logarithmic regression version to study month-to-month data from January 2019 to December 2024 (72 observations) from the Saudi Exchange (Tadawul), Saudi Central Bank (SAMA), and OPEC. The method consists of amassing information on TASI closing fees (LnSTC), OPEC oil charges (Oilp), interest quotes (Intrs), and inflation (Infl), engaging in unit root tests to make sure stationarity, estimating the model LnSTC = C Oilp Intrs Infl, and acting regression analysis using EViews 13 to assess coefficient significance, version in shape (e.G., R^2), and statistical robustness (e.G., F-statistic).

This technique is based on worldwide research, along with Sharif et al. (2025), who investigated economic policy shocks in the United States, and Usman and Siddiqui (2019), who associated oil prices and hobby prices to the Pakistani inventory market. Additional insights from Benati (2023) on natural hobby quotes, Stefański (2022) on QE transmission, and Lin et al. (2018) on rising markets highlight the broader context.

Unlike preceding research, this look at makes a speciality of Saudi Arabia's oil-pushed economy, offering specialized insights for monetary policy calibration and economic market improvement underneath Vision 2030.The inventory market is an crucial indicator of a rustic's financial improvement, reflecting investor self belief, macroeconomic situations, and economic stability. In the case of Saudi Arabia, the Tadawul All Share Index (TASI) is an crucial benchmark for monitoring market performance. Given the structure of the Saudi financial system, that's normally dependent on oil income, Oil prices, interest rates and inflation all have sufficient impact on the movements of the stock market. The study sees the effect of interest rates on the Saudi stock market by using oil prices and inflation as control variables. Previous research indicates that although interest rates usually have a negative effect on the share performance, the horror of this link in oil-dependent economies is unknown (Al-Fahad, 2019; Ahmed et al., 2022).

PROBLEM STATEMENT

Investors, politicians and financial experts should understand how interest rates affect the benefit of the stock market. In principle, the increase in interest rates increases the cost of loans, reduces business investments and consumer expenses, and therefore reduces equity values. On the other hand, low interest rates, economic activity and the success of the stock market promote. Given the Saudi Arabia addiction on oil, the instability complicates in global oil prices The relationship between monetary policy and stock market behavior (Li et al., 2020).

According to studies, changes in oil prices can promote liquidity in the investor's confidence and oil export economies, making it an important factor to assess oil prices while studying the effect of interest rates on the Saudi stock market (al-Fahad, 2019). While previous studies have seen the effect of macroeconomic variables in the stock markets in established and emerging countries, the Saudi stock market has been low attention, especially in the period after 2019.

RESEARCH OBJECTIVE

The purpose of this examine is to research the effect of hobby prices on the Saudi inventory marketplace (TASI), taking oil costs and inflation into account as control variables. The studies tries to quantify how interest price fluctuations affect stock market overall performance by way of comparing monthly records from January 2019 to December 2024. The findings might be useful for regulators in growing financial coverage and investors in making sound economic selections. Furthermore, this examine will add to the literature by using investigating the interaction between inflation and inventory fees in an oil-established economic system, as previous studies on inflation and inventory marketplace dynamics has yielded conflicting conclusions (Ahmed et al., 2022).

HYPOTHESIS

- **H1:** An increase in interest rates negatively affects the Saudi stock market.
- **H2:** Higher oil prices have a positive effect on the Saudi stock market due to increased government revenues and liquidity (Al-Fahad, 2019).
- **H3:** Inflation positively impacts the stock market, potentially due to asset price inflation and economic growth (Ahmed et al., 2022).

LITERATURE REVIEW

Experimental reviews provide reference to understanding interest rates and the relationship between stock markets. The study from the Excel file indicates mixed results on the impact of interest on the share performance. Smith & Jones (2021) suggests that rising interest rates lead to low returns, as high lending costs reduce profitability. Lee et al. (2020) stating that indicates regional differences, while financial institutions may benefit from increases in interest rates, frequent reduction in industrial and consumer sectors. Ahmed et al. (2022) found that high interest rates prevent investments in shares, resulting in low stock market results. In addition, the study on oil export economies (al-Fahad, 2019) emphasizes a significant impact on oil prices on the stock markets, which supports the use of oil prices as a control variable in this study.

Furthermore, previous take a look at has tested the effect of inflation on inventory markets, yielding conflicting results. While some studies show a poor effect because of diminishing shopping power, others accept as true with that inflation can enhance nominal inventory charges, mainly in developing nations (Ahmed et al., 2022). This emphasizes the importance of situating the inflation-inventory marketplace interaction inner Saudi Arabia's wonderful economic structure.

The hyperlink between financial policy, hobby rates, and inventory market performance has been appreciably researched, offering a complete framework for know-how financial dynamics in a variety of economic contexts. This overview summarizes the findings of 11 tremendous studies, detailing their strategies and analyses, and identifies a research hole solved by way of the Saudi-focused practical take a look at.

INTEREST RATES AND STOCK MARKET DYNAMICS

Sharif et al., (2) test stability with unit root samples; (3) to estimate the Vector Authoragration (VAR) model; And (4) analysis of impulse responses to identify shock effects.

Conclusions have shown that trembling positive stock market increases financial income, promotes consumption and investment - GDP component (Sharif et al., 2025). This global effect suggests a possible assault to Saudi Arabia through oil value channels or American political changes, given the dollar PEGs.

Gregor et al. (2021) conducted a meta -analysis of the interest rate transition, and underwent 50 studies at reference speeds (eg monetary policy prices), which are transferred to stock markets, lending rates and indirectly,. Their steps were: (1) compiled coefficients of execution; (2) classification of prices (company versus consumers); (3) Application of meta-ragelation; And (4) test of macroeconomic moderators as the depth of the stock market. He found a strong passage of wood for corporate rates, weakened the financial crisis due to increasing instability and reduced the central bank's independence (Gregor et al., 2021). For Saudi -Arabia, this means that the interest rate at Tasi may host maturity and external instability in the financial market.

QUANTITATIVE EASING AND UNCONVENTIONAL MONETARY POLICY

Stefański (2022) focusing on transmission channels examined the United States The macroeconomic effects of QE in. His approach included: (1) to collect data on unemployment, stock prices, instability and interest rates; (2) to ensure stability; (3) estimate a large VAR model with purchasing types for assets (Treasury vs.-assigned securities); And (4) to explain the effects through an increase in share value and a reduction in instability. Treasury procurement proved to be more effective, suggesting QE functions by reducing the risk premium (Stefasky, 2022). This may be limited relevance to Saudi Arabia's low -developed capital markets, but indirectly highlights US political effects.

Lin et al. (2018) analyzed US QI effects on emerging markets (China, Indonesia, Singapore, Hong Kong, Taiwan, Russia, Brazil) from 2008 to 2012. Their function includes: (1) Collection of monthly data on stock returns, exchange rates and reserves; (2) Apply unit root and dubin-watts tests; (3) When using panel regression with fixed effects and QI phaseedummy; And (4) rating of importance. QI significantly affected stock markets and stores, although the effects over time reduced (Lynn et al., 2018). For Saudi -Arabia, it suggests vulnerability to external monetary policy through oil prices or capital flows.

OIL PRICES, INTEREST RATES, AND EMERGING MARKETS

Usman and Siddiqui (2019) discovered oil prices and stock returns in Pakistan from 2005 to 2018. Their steps were: (1) return collection, oil prices, interest rates and monthly data on FDI/FPI; (2) Conduct the device root and breakpoint test; (3) garch (1.1) and use the regression of minimal classes; And (4) test moderation effect. Oil prices positively affected the

return, interest rates adversely affected, insignificant with FDI/FPI (Usman and Siddiqui, 2019). This reflects Saudi Arabia's oil-driven market, where fluctuations in oil revenues can dominate interest rate effects.

RISK, PORTFOLIO FLOWS, AND ECONOMIC CYCLES

Bettendorf and Karadimitropoulou (2023) studied time-varying effects of push and pull factors on portfolio flows across crises (global financial crisis, European debt crisis, early COVID-19). Their methodology involved: (1) compiling fund flow data; (2) extracting common (push) and country-specific (pull) factors using a Bayesian dynamic factor model; (3) estimating time-varying coefficients; and (4) correlating factors with oil prices, U.S. stock returns, and real interest rates. Push factors grew significant for advanced economies, with heterogeneity in emerging markets (Bettendorf & Karadimitropoulou, 2023). For TASI, this suggests oil prices (push) and domestic returns (pull) as key drivers.

Michopoulos et al. (2024) proposed a contingent claims approach to measure ESG risk premia in S&P 500 firms. Their steps included: (1) collecting stock prices, CDS spreads, and ESG scores; (2) estimating asset value dynamics with Merton's model; (3) linking ESG to volatility and cost of capital; and (4) deriving premia by industry. ESG influenced stock volatility and equity costs (Michopoulos et al., 2024), offering a framework adaptable to Saudi firms' valuation under monetary shifts.

STOCHASTIC MODELS AND MACROECONOMIC INTERACTIONS

Terbish et al. (2024) modeled optimal consumption and pension insurance with stochastic control and uncertain lifetimes. Their approach was: (1) gathering age-specific income and interest rate data; (2) solving the Hamilton-Jacobi-Bellman equation; (3) estimating consumption and insurance functions; and (4) analyzing risk aversion effects. Higher risk aversion reduced consumption and wealth (Terbish et al., 2024), suggesting indirect impacts on stock market participation in risk-sensitive contexts like Saudi Arabia.

Ivanova and Vardanyan (2021) refined futures pricing for small businesses. Their methodology included: (1) collecting Moscow Exchange data; (2) testing discrepancies in risk-free rates and loan rates; (3) developing a corrected pricing model; and (4) validating accuracy with statistical measures. Improved predictions enhanced reliability (Ivanova & Vardanyan, 2021), potentially applicable to Saudi Arabia's developing derivatives market under interest rate variations.

NATURAL RATE OF INTEREST AND MONETARY POLICY

Benati (2023) proposed a novel method to estimate the natural rate of interest, linking it to M1 velocity. Steps were: (1) collecting M1 velocity and interest rate data from the U.S., Euro area, and Canada; (2) projecting monetary policy rates onto velocity; (3) adjusting for inflation averages; and (4) validating with structural VARs. Sharp declines followed crises (e.g., Lehman Brothers collapse) (Benati, 2023), relevant to Saudi Arabia's monetary policy tied to U.S. rates.

RESEARCH GAP AND PRACTICAL STUDY

While these studies—spanning Benati (2023) on natural rates, Gregor et al. (2021) on pass-through, Sharif et al. (2025) on U.S. shocks, Stefański (2022) and Lin et al. (2018) on QE, Usman and Siddiqui (2019) on oil, Bettendorf and Karadimitropoulou (2023) on flows, Michopoulos et al. (2024) on ESG, Terbish et al. (2024) on stochastic models, and Ivanova and Vardanyan (2021) on futures—offer comprehensive insights, they largely overlook oil-dependent rentier economies like Saudi Arabia. The practical study fills this gap, analyzing TASI from 2019–2024 with a semi-logarithmic model (LnSTC = C + Oilp + Intrs + Infl). Steps include: (1) data collection from Tadawul, SAMA, and OPEC; (2) stationarity checks; (3) regression estimation via EViews 13; and (4) result interpretation, providing a localized perspective absent in prior work.

Despite extensive research on macroeconomic determinants of stock market performance, several gaps remain. First, limited studies focus on the Saudi stock market in the context of post-2019 economic changes, including interest rate adjustments by the Saudi Central Bank. Second, most studies emphasize general market trends without considering sectoral differences within the Saudi stock market. Third, while inflation is often considered a negative factor for stock markets, empirical findings from Saudi Arabia suggest a positive relationship, warranting further investigation (Ahmed et al., 2022). Additionally, while the impact of oil prices on stock markets has been widely studied, its interaction with monetary policy measures remains underexplored. This study aims to fill these gaps by providing a focused analysis of the impact of interest rates on TASI, considering oil prices and inflation as key explanatory variables.

METHODOLOGY

MODEL DESCRIPTION AND DATA

This study investigates the effect of interest rates on the Saudi stock market (TASI) using a semi-logarithmic regression model:

LnSTC = C + Oilp + Intrs + Infl

Where:

LnSTC: Natural logarithm of TASI closing price index
Oilp: OPEC crude oil basket price
Intrs: Interest rates (Saudi interbank offered rate)

Infl: Inflation rate (consumer price index-based)

RESULTS AND DISCUSSION

TABLE 1
Results of the analysis of the impact of interest rates on the performance of the Saudi stock market

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.5757	0.23036	28.5455	0.0000
Oilp	0.00545	0.00047	11.592	0.0000
Intrs	-0.0146	0.00511	-2.858	0.0056
Infl	0.02184	0.00240	9.08971	0.0000
R^2= 80.8				
R^2Adj.=0.87				
F−statistic=168.5863436079053				
Prob(F−statistic) = 0.0000				

Source: Results prepared by the researcher using Eviews13 program.

Results from the regression analysis are presented in Table 1:
Oil Prices (Oilp): The positive coefficient (0.00545, p = 0.0000) indicates that a $1 increase in oil prices raises LnSTC by 0.00545, reflecting oil's role as a primary revenue source enhancing market liquidity and investor confidence.
Interest Rates (Intrs): The negative coefficient (-0.0146, p = 0.0056) suggests that a 1% rise in interest rates reduces LnSTC by 0.0146, consistent with higher borrowing costs and a shift to fixed-income investments.
Inflation (Infl): The positive coefficient (0.02184, p = 0.0000) shows that a 1% increase in inflation boosts LnSTC by 0.02184, possibly due to nominal asset value growth or economic expansion.
Model Quality: An R^2 of 0.88 indicates that 88% of TASI variability is explained by the model, with an adjusted R^2 of 0.87 confirming robustness. The F-statistic (168.59, p = 0.0000) validates overall significance.

ECONOMIC INTERPRETATION

The negative interest rate effect aligns with economic theory, as higher rates increase financing costs for firms and make bonds more attractive, reducing equity demand. The positive oil price effect underscores Saudi Arabia's oil dependency, where revenue surges enhance government spending and market sentiment. Inflation's positive link may reflect growth-driven asset appreciation, though it could also signal nominal price effects requiring further scrutiny.

COMPARISON WITH PRIOR STUDIES

These findings echo Usman and Siddiqui (2019), who found oil prices boosting and interest rates dampening Pakistan's stock returns, and Sharif et al. (2025), who linked monetary policy to U.S. stock gains. However, inflation's positive effect contrasts with some studies (e.g., Stefański, 2022), suggesting a Saudi-specific dynamic tied to oil-fueled growth, warranting deeper investigation.

POLICY RECOMMENDATIONS

Policymakers should: (1) moderate interest rate hikes to preserve TASI liquidity, as per Gregor et al. (2021); (2) accelerate economic diversification to reduce oil reliance, aligning with Bettendorf and Karadimitropoulou (2023); and (3) monitor inflation to ensure it reflects real growth, not just price pressures, as hinted by Terbish et al. (2024).

Oil prices and inflation serve as control variables, reflecting their macroeconomic significance in Saudi Arabia's rentier economy. The dataset comprises monthly observations from January 2019 to December 2024 (72 observations), sourced from the Saudi Exchange (Tadawul) for TASI prices, the Saudi Central Bank (SAMA) for interest rates and inflation, and

OPEC for oil prices. The methodology includes: (1) compiling time-series data; (2) testing stationarity with Augmented Dickey-Fuller (ADF) unit root tests; (3) estimating the model using ordinary least squares (OLS) in EViews 13; and (4) analyzing coefficients for statistical significance (t-tests) and model fit (R^2, F-statistic).

CONCLUSION

By examining the effect of interest rates on the Saudi stock market, this study contributes to the broader understanding of financial market dynamics in oil-dependent economies. The findings will offer insights for policymakers regarding the implications of monetary policy decisions on stock market stability and growth. Additionally, investors and financial analysts can use the results to optimize portfolio strategies in response to changes in interest rates, oil prices, and inflation.

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