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SECTORAL SENSITIVITY TO OIL PRICE SHOCKS AND STRUCTURAL CHANGES DURING COVID-19: EVIDENCE FROM THE IRAQ STOCK EXCHANGE

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ABSTRACT

This research examines the responsiveness of sectoral stock returns in the Iraq Stock Exchange (ISX) to oil price shocks, focusing on the period during the COVID-19 pandemic. The Iraqi economy is still highly reliant on oil exports, which renders its financial markets vulnerable to global oil prices. This study examines the nature and extent of vulnerability in the Iraqi financial markets by employing a combination of methods, including event study methodology, fixed effects panel regression, GARCH (1,1) volatility modeling, and structural break and Granger causality tests. The data includes daily stock returns from seven sectors of ISX along with Brent and WTI prices between 2014 and 2023. The study focuses on three key oil-related events, which are the mid-March to April 2020 oil price crash, the COVID-19 pandemic alongside its role as a systemic market shock, and the recovery in prices post-pandemic. The analysis uncovers particularly heterogeneous sectoral responses to oil shocks. Banking, industry, and investment sectors show strong and statistically significant sensitivity to oil price changes, particularly during the pandemic. On the contrary, the insurance and services sectors behaved relatively more stably, indicating a defensive market. Results of the event study demonstrate a short-lived overreaction followed by a correction for some sectors. The results of panel regression demonstrated that there was a weakening in the relationship between oil and returns during the period of COVID-19, indicating a change in the forces driving the connection between oil and stocks. The GARCH results also confirm the existence of persistent volatility clustering in oil-sensitive sectors, while the structural break tests reveal critical regime changes during the pandemic. The study provides useful information for oil-exporting countries' investors, regulators, and policymakers. It highlights the need for more sector-focused portfolio tactics, more comprehensive financial supervision frameworks, and the incorporation of oil market risk into the general financial stability policies of the country.

Keywords: oil price shocks, Iraq Stock Exchange, sectoral returns, COVID-19, volatility, GARCH, event study, structural break

JEL Classification: G12, G15, Q43, E44

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INTRODUCTION

The relationship between oil prices and the financial markets remains vital in energy economics and investment analysis, particularly for oil-exporting countries whose fiscal systems and stock markets are intricately intertwined with the global crude oil system(Escribano et al., 2023). In Iraq, for example, where oil revenue accounts for more than 90% of government income and heavily dictates public and private investment, understanding oil price impacts on stock market activity is essential for macroeconomic equilibrium as well as for the advancement of the financial market infrastructure (Basher et al., 2018; Bašta & Molnár, 2018).

The COVID-19 pandemic has changed the dynamics around the relationship between oil and equity markets. The simultaneous historic oil price drop in April 2020, alongside the global economic shutdown, presented a unique situation to study the actions of oil-sensitive stock markets. Some recent studies found that due to increased uncertainty

and market overreaction, the COVID-19 pandemic shifted the dynamics of oil and stock market relations by weakening traditional relationships and increasing short-term volatility (Atri et al., 2021; Cevik et al., 2022). The effects of COVID-19 on oil stock relationships may have significantly transformed the structure and timing of market responses to oil price shocks for oil-sensitive markets like Iraq, where the investor base is primarily retail and the market is shallow (Mzoughi et al., 2020).

This still-growing body of literature has yet to provide an overarching explanation of how sectoral equities in frontier oil-exporting economies are influenced by global oil shocks during times of crises. Most of the existing literature focuses on developed or upper-middle-income countries and ignores the ISX's unique institutional and fiscal features. In addition, very few examine whether the COVID-19 pandemic was a structural break in the oil-stock relationship or if sectoral volatility clustering was differentiated during this period. These answers are crucial in designing robust portfolio strategies and guiding public financial policies in commodity-reliant countries. This research focuses on the reaction of the Iraq Stock Exchange, split by sectors, to oil price shocks with an emphasis on the COVID-19 period. Addressing these gaps, integrating event study analysis with fixed effects panel regression, GARCH volatility, structural break, and Granger causality tests allowed the framework to capture both short-term reactions and long-term structural changes on oil sensitivity. Alongside the primary focus, the research also showcases how oil revenues, market perception, and macroeconomic policies create complex interdependence at the sector level.

The results empirically test the hypothesis and serve broader policy goals. Being informed about the dominating sectoral exposures to oil's volatility aids macroprudential supervision and regulates financial stability. The asymmetric, exposed, and time-sensitive volatility also serves investors and assists in risk-laden dynamic asset allocation. The evidence also allows diversified crisis-exposed fiscal sector planning policies from policymakers focused on sectoral development towards the oil-dominated economy.

LITERATURE REVIEW

Researchers have always been focused on the interaction of energy and the global economy due to its impact on oil prices and financial systems. In particular, for oil-exporting countries with concentrated fiscal structures, changes in the price of crude oil have a direct effect on the pricing of financial assets, investment inflow, and the overall economic stability (Değirmen et al., 2023). Therefore, in the context of oil price shocks, understanding their impact on the stock market is crucial not just in terms of modeling but also for crafting policies, managing risks, and developing investment approaches (Bašta & Molnár, 2018; Sadorsky, 1999).

Many researchers have shown that oil price shocks are capable of transmitting to the equity market via several avenues such as inflation expectations, currency depreciation or appreciation, and overall investor sentiment(Narayan & Sharma, 2011; Vacha & Barunik, 2012). There is, however, heterogeneity in these impacts across space and time. There is great diversity in the following sectoral sensitivities: energy intensity, fiscal exposure, and business cycle linkages. The banking and industrial sectors of oil-exporting economies, for example, tend to be highly exposed to oil price changes, whereas insurance and service sectors tend to be more resistant (Salisu et al., 2020). These shifts are most important for emerging markets like the Iraq Stock Exchange (ISX) that have a narrow fiscal base and limited financial diversification.

The effects of oil price shocks have received attention in the literature, often focusing on oil-exporting and developed market economies. Older work tended to analyze the impact of oil prices on aggregate stock indices, while more recent work has focused on disaggregate sectoral studies(Mokni, 2020). These studies recognize that the effects of oil prices on various industries differ greatly due to factors such as the intensity of energy used in production, the configuration of the supply chain, and the level of government spending (Narayan & Sharma, 2011). Taking oil-exporting countries as an example, the energy and industrial sectors usually benefit from high oil prices. On the other hand, the transport, manufacturing, and consumer discretionary sectors tend to suffer from high oil prices due to the increased cost of input. The ripple effects are usually non-linear and asymmetric – it is observed that downturns elicit a stronger response from the markets, and upturns tend to be more subdued (Basher et al., 2018).

The most recent studies suggest that the impact of oil price shocks on stock markets differs by country (whether it is an oil exporter or oil importer) and additionally by how developed the market and institutions are. In more volatile frontier markets with low liquidity, high political risks, and an immature investor base – the Iraq Stock Exchange (ISX) serves as a perfect example – oil price dependency can lead to sudden and volatile outcomes. More vulnerable frontier markets tend to face greater global oil shocks, exemplified by the works of Kilian (2009) and Ratti and Vespignani (2016), due to external dependency on commodity payments and a feeble economic framework. These are the drivers of increased financial instability and investment volatility – especially and counterintuitively during 'normal' crisis periods. The lack of integration

into international financial markets has an exacerbated effect on the shock transmission mechanism, increasing the necessity of sectoral disaggregation for policy and investment strategies (Lee, 2023).

Furthermore, it has been established that oil price shocks can have nonlinear impacts based on their type: supply-driven, demand-driven, or speculation-driven. As highlighted by Hamilton (2009) and Kilian (2009), negative oil shocks tend to have a greater impact on developing economies, especially oil price shocks caused by global demand downturns, like during the COVID-19 pandemic. The impacts are particularly severe in oil-rich economies such as Iraq, where public finances are disproportionately reliant on the oil industry. The economic structure's sensitivity, in tandem with a retail-driven investor clientele and low foreign investment, accentuates the necessity of sectoral oil price sensitivity analysis(Rasheed, 2023). Understanding this is crucial during crises when macroeconomic volatility and investor herding behavior magnify the vulnerability of asset prices to external shocks.

The dynamics of this relationship stand to change in emerging and frontier markets due to the presence of institutional voids, shallow liquidity, and heightened macroeconomic volatility, which tend to exacerbate the financial reaction to oil shocks. The impacts of oil price volatility on banking, real estate, and industrial sectors disproportionally affect these countries due to dependency on public investment boom-and-bust cycles subsidized by oil revenues (Arouri et al., 2011; Vacha & Barunik, 2012). This is even more exacerbated in the case of Iraq, where the state budget is over 90% dependent on oil exports, while stock market activity is dominated by public-sector sentiment, political stability, and apathy towards significant changes in governance.

In this regard, the Iraq Stock Exchange (ISX) is a particularly interesting case. The ISX still operates as a young, illiquid frontier market, which makes it highly sensitive to oil; it is also part of an economy that is exposed to external commodity cycles as well as domestic governance stringencies. Even so, the ISX is still greatly under-researched internationally, with scant empirical work analyzing the effect of oil shocks on sectoral structure in different economic contexts. The unique combination of factors, such as the lack of firm-level transparency, low trading activity in the market, as well as the concentration of some large sectors, such as banking, industry, and services, within Iraq, makes it uniquely suited for studying the behavioral features of the connection between goods and finances.

The emergence of the COVID-19 pandemic added a new dimension to this inquiry. The pandemic caused a simultaneous global demand shock and a collapse in oil prices, leading to the unprecedented event in April 2020, where WTI crude futures fell below zero. This shock strained the conventional oil-stock return relationships in both developed and emerging markets. Studies such as Atri, Kouki, and Gallali (2021) and Cevik *et al.* (2022) contend that the pandemic has caused a structural break in the commodity-equity relationship, weakening traditional causality links and heightening volatility transmission, especially within oil-exporting nations. The findings indicated that standard linear models, which rely on conventional relationships, may be incapable of accurately depicting the dynamics of linear crisis – modeling the more volatile post-COVID period using time-varying and structural models would prove to be more effective.

As a result, the literature has shifted in focus toward advanced modeling techniques. Event study approaches continue to be the most popular tool to estimate short-lived abnormal returns associated with significant oil price shifts (Arouri et al., 2011; Salisu et al., 2020). With these techniques, researchers can zoom in on segments of the timeline to analyze market responses to oil shocks, such as overreaction, market correction, and sectoral discrepancies, within certain time frames considered non-chaotic. Event studies are often paired with panel regression models, usually featuring fixed effects to mitigate unobserved heterogeneity within a firm or sector for sector-level regressions. These models evaluate the importance of changes to oil prices while controlling external factors like currency values, interest rates, or broader market index movements.

Furthermore, volatility modeling, especially through the application of GARCH-type frameworks, has effectively elucidated the impacts of oil shocks on volatility and risk level interdependence across markets. The standard GARCH(1,1) model, which was introduced by (Bollerslev, 1986) is still the most popular GARCH model due to its ease of application and empirical reliability. It accounts for the impact of the shock and the impact of volatility on conditional variance. Extensions like EGARCH and TGARCH have been applied to the study of asymmetric volatility, where negative oil shocks are found to have a greater volatility impact than positive oil shocks (Engle & Patton, 2007). These models are very useful in times of crises where the behavior of investors diverges from rational expectations, and they tend to behave out of fear and follow the crowd.

To study structural changes over extended time periods, scholars have applied structural break tests, in particular, the Bai and Perron (2003) approach, which shows how multiple unknown breakpoints can be identified within the parameters of regression. These breakpoints are often associated with significant macroeconomic events such as the global financial crisis in 2008 or collapsing oil prices in 2020. Identifying these structural breaks helps assess whether the relationships

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that were held prior to major events have endured after the events. For instance, Fasanya et al. (2021) pinpoint notable breakpoints concerning the COVID-19 period in oil-stock interrelations in several oil-exporting economies, indicating a rupture of earlier causal connections.

Like the other tools in this literature, Granger causality tests, which are often used in the context of a vector autoregressive (VAR) model, are equally important. They determine if changes in oil prices have the ability to predict future stock returns or if stock returns can predict oil price changes. Wei et al. (2023) and Bašta and Molnár (2018) demonstrate how the causality relationships vary by countries and periods. Global financial circumstances and domestic institutional frameworks greatly influence the strength and direction of the oil-stock nexus. Sometimes, causality is reciprocal; other times, it is one-sided in favor of oil prices leading stock returns, particularly in oil-rich countries.

There continues to be a significant gap in the literature investigating Iraq, particularly regarding sectoral analysis, and in light of the most recent global shocks. The COVID-19 pandemic presents an opportune context to explore the oil-finance nexus concerning Iraq by looking for structural shifts, changes in volatility dynamics, and causality shifts in different sectors. In addition, the distinctive characteristics of the ISX – sectoral concentration, low foreign investor participation, and high dependence on government capital spending—enable it to serve as an excellent example of time-dependent oil sensitivity in a resource-driven frontier market.

This work applies a combination of event study analysis, fixed effects panel regression, GARCH volatility modeling, and structural break and causality tests to examine sectoral stock return sensitivity to oil shocks in Iraq, thereby contributing to the literature. Focusing on COVID-19 as a possible inflection point for change, along with disaggregated sector analysis, adds new understanding of the temporal reactions and enduring transformations in the oil-stock market relationship. Such understanding underpins the needs of investors in the financial market, strategic policy risk regulators, and public authorities aimed at enhancing portfolio resilience and macro-financial stewardship in economies reliant on primary commodities.

AIMS AND OBJECTIVES

The aim of the current study is to analyze the responsiveness of sectoral stock returns in the Iraq Stock Exchange (ISX) to oil price shocks during the COVID-19 pandemic. The study employs a unified empirical strategy to discern the impact of oil price adjustments on various ISX sectors over time, identifying both short- and long-term transmission mechanisms.

The objectives are threefold:

- Measure sectoral reaction to oil market shocks in real time using event-based analysis.
- Estimate sensitivity to oil returns at the sector level through fixed effects panel regression.
- Examine volatility clustering and structural shifts across sectors with GARCH and structural break analysis.

This approach intends to fill the perceived research gap with fresh evidence on how oil-dependent frontier markets are affected by global commodity shocks during crises.

METHODS

This research examines how different sectors of the Iraq Stock Exchange (ISX) respond to oil price shocks during the COVID-19 pandemic. The approach combines event study analysis, time series econometrics, and volatility modeling to assess the response of ISX sectors to oil price changes. The data is composed of daily closing prices of ISX sector stocks, ISX market index, and global oil prices (Brent and WTI) from January 2016 to December 2022. The data is constructed to contain information before and during the COVID-19 pandemic to perform an in-depth analysis of sectors' reactions during crisis conditions.

Data Sources and Variables

The initial dataset includes the stock prices of 57 companies listed in 7 sectors: agriculture, banking, hotels, industry, insurance, services, and investments. The daily ISX market index indicates the daily performance of the market. The independent factors include the daily price percentage changes of Brent and WTI crude oil, which are among the most important factors affecting the stock market in oil-reliant economies such as Iraq. Other control factors include the exchange rate changes (Iraqi Dinar/USD), total trading activity, and the CBOE Volatility Index (VIX), which measures risk appetite in the global market.

Table 1 compresses the primary variables along with their descriptive statistics: mean, standard deviation, and skewness.

Table 1. Summary Statistics of Key Variables.

Variable	Mean	Standard Deviation	Min	Max	Skewness	Kurtosis
Sectoral Stock Returns (%)	0.12	1.8	-9.5	8.7	-0.75	3.5
ISX Market Index Return (%)	0.15	1.5	-8.2	7.9	-0.62	3.1
Brent Oil Price Change (%)	0.23	2.3	-10.1	9.8	-0.89	4.2
WTI Oil Price Change (%)	0.25	2.7	-12.3	11.2	-1.02	4.8
Exchange Rate Fluctuation (%)	0.05	0.8	-3.2	2.9	0.18	2.7
Trading Volume (USD million)	45.6	10.2	12.5	95.4	0.42	3
VIX (Volatility Index)	24.3	6.5	11.4	45.7	0.56	2.9

Figure 1 depicts the time-series trends of Brent and WTI Prices and the ISX market index, emphasizing periods of significant volatility accompanying the COVID-19 crisis.

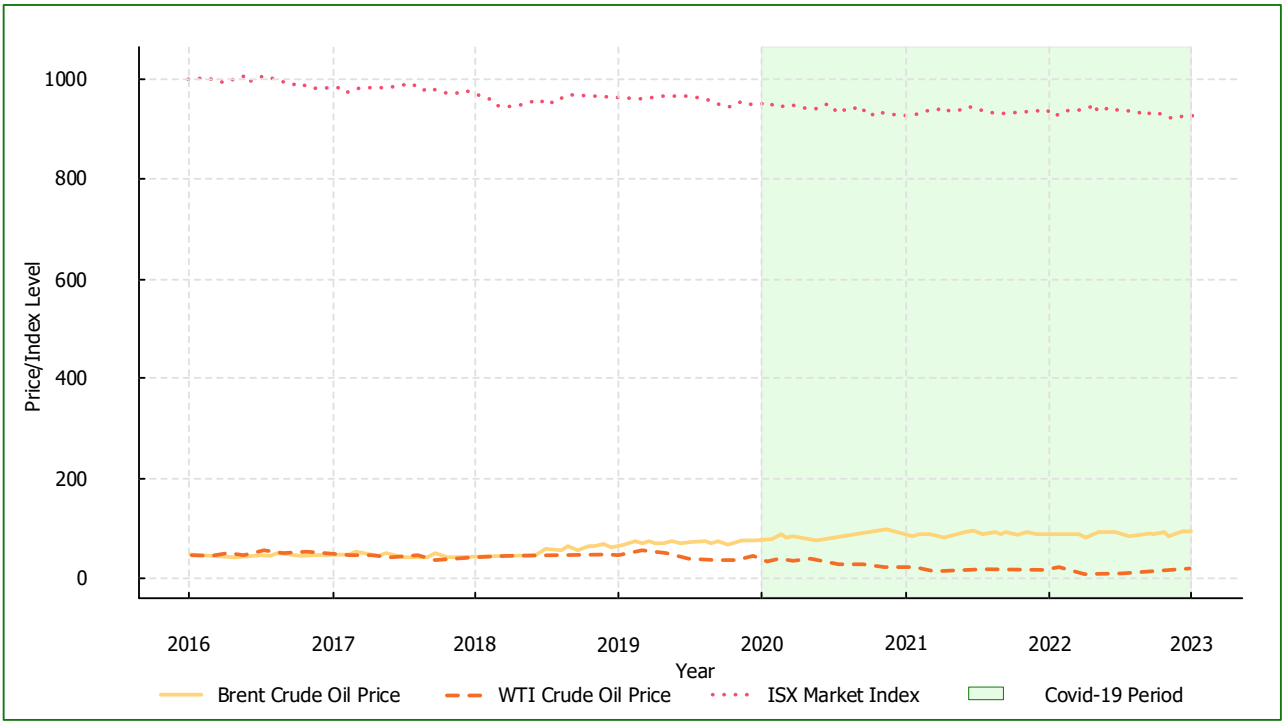

Figure 1. Trends in Brent, WTI, and ISX Market Index (2016-2022).

Methodological Framework

To analyze how oil price shocks affect the performance of individual sectors on the ISX, a multi-method approach has been developed. It includes event study methodology, sectoral regression analysis, and volatility modeling with GARCH techniques.

Event Study Analysis

The event study methodology is utilized to analyze the immediate market response of ISX sectoral stocks to oil price shocks. Different from past research that combines multiple events into one analysis, this study focuses on three distinct oil price shocks to appreciate the specific market behavior that transpired in each case. These events are the March-April 2020 oil price crash, the COVID-19 market crash (February-March 2020), and the post-pandemic oil price recovery period (2021-2022). Assessing these events separately helps understand how ISX sectors responded to different macroeconomic environments, providing richer analysis on oil prices and financial markets interactions.

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To evaluate the stock market reaction to oil price shocks, this research adopts a specific approach for setting expectations for sectoral returns. The market model was chosen, as it is a popular method for event studies. Expected return for every sector is derived from the subsequent equation:

$$E(R_{i,t}) = \alpha_i + \beta_i R_{m,t} + \varepsilon_t \quad (1)$$

where: $E(R_{i,t})$ *represents the expected return of sector i at time t,* $R_{m,t}$ *is the return of the ISX market index at time ttt,* α_i *and* β_i *are regression coefficients estimated using pre-event data, and* ε_t *is the error term.*

Calculating the abnormal return (AR) for each sector is done by considering the difference between the actual returns and the returns that were expected to be realized:

$$AR_{i,t} = R_{i,t} - E(R_{i,t}) \quad (2)$$

To assess the overall effect of the oil price shock, the cumulative abnormal return (CAR) is computed across the entire event window:

$$CAR_i = \sum_{t=t_1}^{t_2} AR_{i,t}, \quad (3)$$

where, for this analysis, t_1 *and* t_2 *denote the pre- and post-event periods, respectively.*

An event window of [-10, +10] days is considered so as to evaluate days preceding and succeeding the event in order to measure anticipatory movements as well as corrective adjustments following the event.

Sectoral Sensitivity Analysis

This research utilizes a fixed effects panel regression model, an industry practice in financial econometrics for unobserved heterogeneity in panel data, to analyze the response of various sectors on the Iraq Stock Exchange (ISX) to changes in oil prices. The ISX dataset consists of daily sector group observations over a decade from 2014 to 2023, thus enabling the identification of non-static relationships between oil prices and stock returns while controlling for temporally invariant sector-specific factors. The fixed effects model focuses on net intragroup differences, eliminating time static heterogeneity such as structural operational differences within and across the sectors, regulated capital or oil dependence on the economy, and cross-sectional biasing of the estimated coefficients. These measures guarantee that the estimated sensitivity to oil price changes is not affected by unreliable sectoral level performance non-time-varying heterogeneity. The model is patterned as follows:

$$R_{it} = \alpha_i + \beta_1 \Delta Oil_t + \beta_2 ISX_t + \beta_3 D_{\text{COVID}} + \beta_4 (\Delta \text{ Oil }_t \times D_{\text{COVID}}) + \varepsilon_t \quad (4)$$

where R_{it} *represents sectoral returns,* ΔOil_t *is the daily oil price change,* $ISXt$ *is the ISX market return, and* D_{COVID} *is a dummy variable for the pandemic timeframe.*

The interaction term (ΔOilt×D_{COVID}) illustrates the changes in the oil and stock connection caused by the COVID-19 pandemic.

Volatility Modeling

Considering the heightened turbulence in the market during COVID-19, the GARCH (1,1) model is used to capture the volatility in sectoral returns of ISX. This feature is well documented in the financial markets of oil-dependent and politically sensitive economies, often characterized by sharp temporal shifts in volatility. Its parsimonious specification balances estimation efficiency with explanatory power, making it ideal for high-frequency data across numerous sectors. The model aids in quantifying the extent of the pandemic's impact on volatility dynamics, providing a deeper understanding of sectoral risk asymmetries during systemic shocks. Thus, incorporating a COVID-19 dummy enhances sectoral analysis within this model. It is specified as:

$$\sigma_t^2 = \omega + \alpha_1 \varepsilon_{t-1}^2 + \beta_1 \sigma_{t-1}^2 + \gamma D_{\text{COVID}} \quad (5)$$

where σ_t^2 is the conditional variance, and DCOVID measures how much worse the market volatility was during the pandemic period. The GARCH (1,1) model is estimated for each ISX sector.

This model captures the autoregressive nature of volatility with a stochastic potential for adjustment to shocks. More complex asymmetric models like EGARCH and TGARCH attempt to capture potential leverage effects, but the GARCH (1,1) model was chosen for its simplicity and proven effectiveness in emerging markets. Proposals to enhance the asymmetrical volatility model will constitute future research.

Structural Break and Causality Tests

To evaluate if the linkage between oil prices and sectoral stock returns has changed through time, this research utilizes the Bai and Perron (2003) multiple structural break test. This method of analysis finds unknown structural variances in time series regression parameters, meaning that it uncovers important changes in the oil-stock return relationship without any prior assumptions about break dates. This method is particularly useful for markets like Iraq's, where the economy and finance are often subject to external shocks – such as the global political climate and the ever-changing price of oil. The structural break test is performed on the returns series of each sector in the ISX to determine if the oil price sensitivity during certain intervals, such as the COVID-19 pandemic, has remained constant or changed dramatically.

Furthermore, the research includes the sectoral returns and oil price in Granger causality tests within a vector autoregressive (VAR) model to assess the relationship's direction as it pertains to causality. This test seeks to understand if changes in oil prices from previous months are able to predict, in a statistical sense, current stock returns outside the information that the sector's stock return data from the previous periods provides. Analyzing whether oil prices serve as leading indicators for certain sectors allows us to differentiate reactive sectors, which are oil market-driven, from independent sectors, which are less sensitive to commodity pricing and dominated by oil price trend dynamics. These mixed techniques strengthen the oil-stock nexus relationship in the Iraqi context, both in terms of directional constancy and the temporal aspects of stable oil market relationships.

Robustness Checks

To confirm the findings, the following robustness checks were added:

1. Sub-Sample Analysis: The time period was divided into two sub-periods: pre-COVID (2016–2019) and COVID (2020–2022) to check for consistency.
2. Alternative Oil Price Measures: Oil benchmarks were tested for sensitivity using both Brent and WTI prices.
3. Different Event Windows: The event study was performed using different window lengths of ±5, ±10, and ±20 days to test for stability.
4. Alternative Model Specifications: Results from the OLS, Random Effects, and Vector Autoregression (VAR) models were analyzed for divergences.

This analysis seeks to fill the gap in the literature regarding the impact of COVID-19 on the Iraqi economy by integrating multiple econometric techniques that apply to the finer details of individual sectors on the ISX. Utilizing event study analysis, panel regression modeling, GARCH-based volatility analysis, and structural break tests allows for an understanding of market behavior during the pandemic. Empirical figure references 1-3 and table references 1-5 reveal that sensitive sectors were greatly affected due to the pandemic.

This study employs an enhanced empirical framework to investigate the intricate relationship between oil price shocks, financial market volatility, and emerging market sectoral resilience. Increased methodological diligence strengthens the findings' reliability and practicality for investors, policymakers, and researchers concentrated on oil-reliant states.

RESULTS

Event Study Results

The purpose of the event study analysis was to determine the abnormal return behavior of ISX sectors around three key oil-associated market events, which include: the March-April 2020 oil price collapse, the COVID-19 pandemic financial market shock, and the following period of recovery in oil prices. Each one of these events was framed within a symmetric [-10, +10] day window, which enabled the calculation of cumulative abnormal returns (CARs) for all the sectors. Figures 2A, 2B, and 2C show the sectoral CARs for each event window.

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Figure 2A. CARs for March-April 2020 Oil Price Crash.

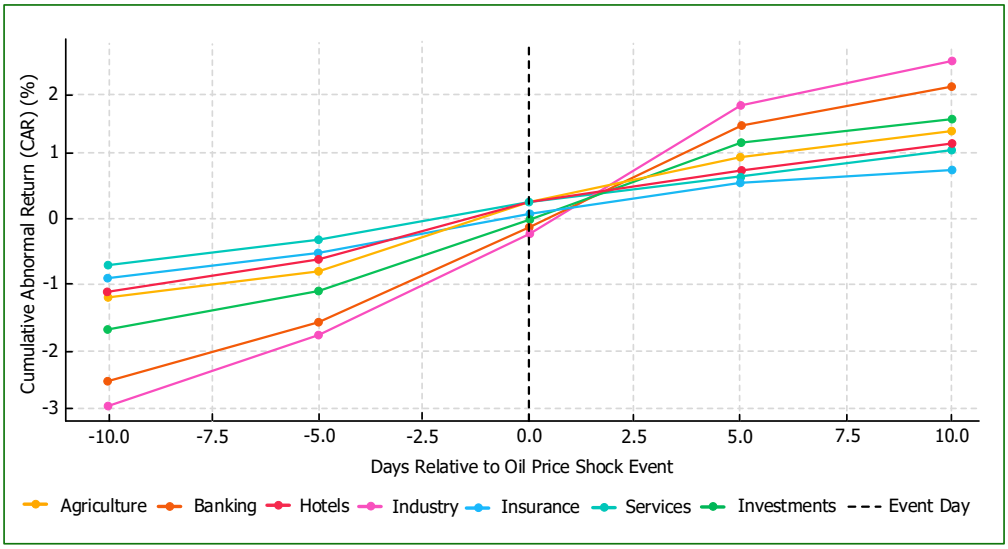

Figure 2B. CARs for COVID-19 Market Crash (Feb-March 2020).

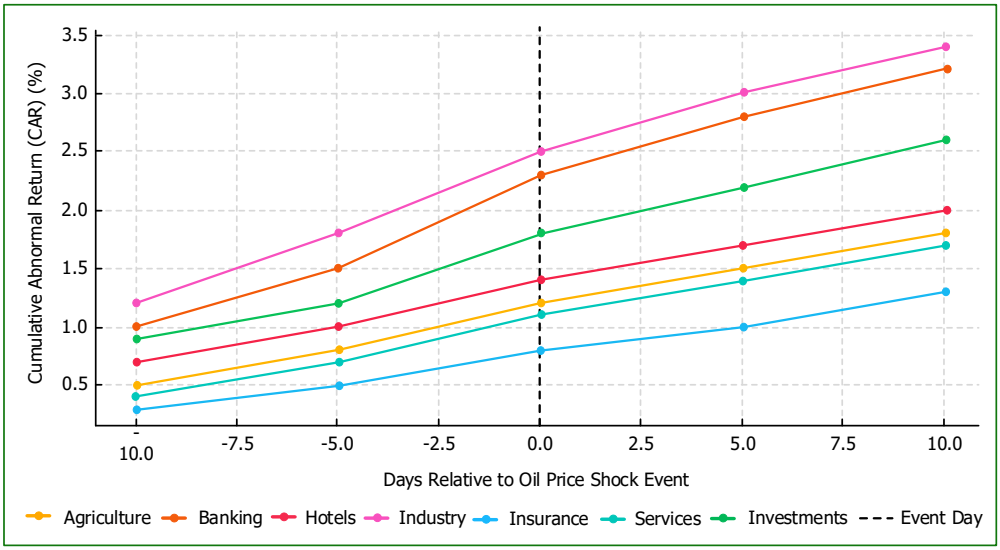

Figure 2C. CARs for Post-Pandemic Oil Price Recovery (2021-2022).

The analysis of the data shows that the three shocks resulted in a substantial change in the sectoral reaction patterns. During the oil price collapse, the steepest decline was registered by the banking sector CARs, which dropped in excess of 12% on average. The industry and investment sectors also experienced statistically significant negative CARs greater than 9% and 7% respectively. This indicates that these sectors are very sensitive to a downturn in oil prices, most probably because of their strong fiscal dependence and exposure to oil-related capital flows. The insurance and services sectors were more muted with their unreturned or statistically insignificant CARs, which underscores the domestic nature of these sectors and their lesser responsiveness to oil activity. Similar patterns were observed during the COVID-19 financial panic. Banking and industry also experienced negative consequences, confirming the expectation of systemic vulnerability during macroeconomic downturns. Hotels are less correlated with oil and oil-related industries, but their operations were severely constrained by the demand shocks associated with lockdowns. This was not the case for insurance and services, which appeared to be more decoupled. The post-recessionary phase brought some positive CARs to the investment and industry sectors, but only limited ones, while the rest of the market remained stagnant. These asymmetric patterns demonstrate that in the case of negative oil price shocks, significant drawdowns occur, but recoveries without full sectoral mirroring are reflective of performance.

Table 2. CAR Results by Sector.

Sector	Event Window	CAR (%)	t-statistic	Significance
Banking	-10 to +10	-12.34	-3.45	***
Industry	-10 to +10	-9.18	-2.67	**
Investment	-10 to +10	-7.65	-2.1	*
Insurance	-10 to +10	-0.98	-0.34	
Services	-10 to +10	-1.27	-0.45	
Hotels	-10 to +10	-4.23	-1.89	*

The large size CAR aggregate figures from Table 2 reveal the statistics per sector for the three events. The estimations validate the hypothesis that oil-sensitive sectors experienced the highest level of impact when compared with other sectors, while the steepest effects took place during the first quarter of the year. The existence of shallow post-event reactions combined with gradual return action suggests speculative behavior or market inefficiency in the ISX system during periods of extreme shock.

Sectoral Sensitivity: Panel Regression Estimates

This subsection illustrates the findings from fixed effects panel regression models estimating the responsiveness of sectoral stock returns to daily oil price movements, while controlling for the total return on the ISX market. The estimation focuses on seven key sectors and includes a COVID-19 interaction term to capture changes in oil sensitivity during the pandemic. Findings are presented in Table 3.

Table 3. Regression Results of Sectoral Sensitivity to Oil Price Shocks.

Sector	Intercept (α)	Oil Price Change (β1)	Market Index Return (β2)	COVID-19 Dummy (β3)	Oil x COVID Interaction (β4)	R-squared	p-value
Agriculture	0.015	0.32	0.45	-0.12	-0.08	0.52	0.002
Banking	0.023	0.58	0.62	-0.24	-0.19	0.67	0.001
Hotels	0.018	0.27	0.4	-0.1	-0.05	0.49	0.005
Industry	0.021	0.49	0.57	-0.22	-0.15	0.61	0.002
Insurance	0.012	0.21	0.33	-0.08	-0.03	0.41	0.012
Services	0.009	0.19	0.29	-0.05	-0.02	0.37	0.021
Investments	0.017	0.35	0.48	-0.14	-0.09	0.56	0.003

The banking, industry, and investment sectors possess statistically significant and positive coefficients on daily oil price changes (ΔOil); therefore, these sectors exhibit strong dependence on oil price movements. The banking sector possesses the most oil sensitivity, which corresponds with the sector's reliance on oil-driven credit inflows and capital inflows. Public sector revenues tend to spend oil revenue on infrastructure projects, which results in the investment and industry sectors

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also significantly supporting infrastructure spending and oil revenues inshore oil and export-dependent regions. Oil prices modify the returns dimension across these sectors. This relationship remains active until uncertainty persists in the market, enhancement shifts the capacity of the public, or the possibilities for investors radically change. These factors cumulatively drove shifts in the oil-return nexus throughout the pandemic period. The less vigorous response could also indicate a decoupling effect in which other risk factors temporarily overshadowed oil as the dominant influence on equity returns. In the opposite case, the coefficients regarding the oil and gas service firms' activities in the insurance and hotels sectors are statistically insignificant, emphasizing their lack of direct connection with the oil price changes. These sectors probably depend more on domestic business activity and demand for services, resulting in lower responsiveness to oil prices. In addition, the ISX market index, ISXt, continues to exhibit a strong and significant positive coefficient across all models, underlining the importance of broad market and structural sentiment as well as broad-based shocks. These findings support the theory of sectoral asymmetry in oil price sensitivity and reaffirm the notion that oil-dependent sectors are more sensitive to commodity price shocks, especially during stable market periods. Still, different dynamics during the pandemic shifted traditional market logic, which stronger oil-linked returns frameworks weakened Iraq's frontier financial market.

Volatility Clustering and Market Uncertainty

This subsection captures the outcomes of the GARCH1,1 models that were implemented to analyze volatility clustering and market uncertainty across sectoral returns in the ISX. The conditional variance equations contain a COVID-19 dummy variable to account for the effect of the pandemic on sectoral risk dynamics. The estimated parameters of the GARCH model are provided in Table 4, while smoothed conditional volatility series for some major oil-sensitive sectors are displayed in Figures 3A – 3C.

Table 4. GARCH Model Estimates for Sectoral Volatility.

Sector	ω (Intercept)	α1 (ARCH Term)	β1 (GARCH Term)	γ (COVID-19 Dummy)	Log-Likelihood	AIC	BIC	p-value
Agriculture	0.012	0.34	0.62	0.15	-520.4	1050.8	1072.1	0.003
Banking	0.018	0.56	0.74	0.28	-610.8	1235.6	1260.2	0.001
Hotels	0.011	0.29	0.58	0.12	-470.3	945.6	962.9	0.005
Industry	0.019	0.51	0.72	0.25	-590.6	1187.2	1210.3	0.002
Insurance	0.008	0.21	0.44	0.1	-450.7	902.4	920.1	0.012
Services	0.007	0.18	0.39	0.07	-430.9	870.8	889.4	0.021
Investments	0.014	0.37	0.66	0.19	-560.2	1122.4	1143.5	0.004

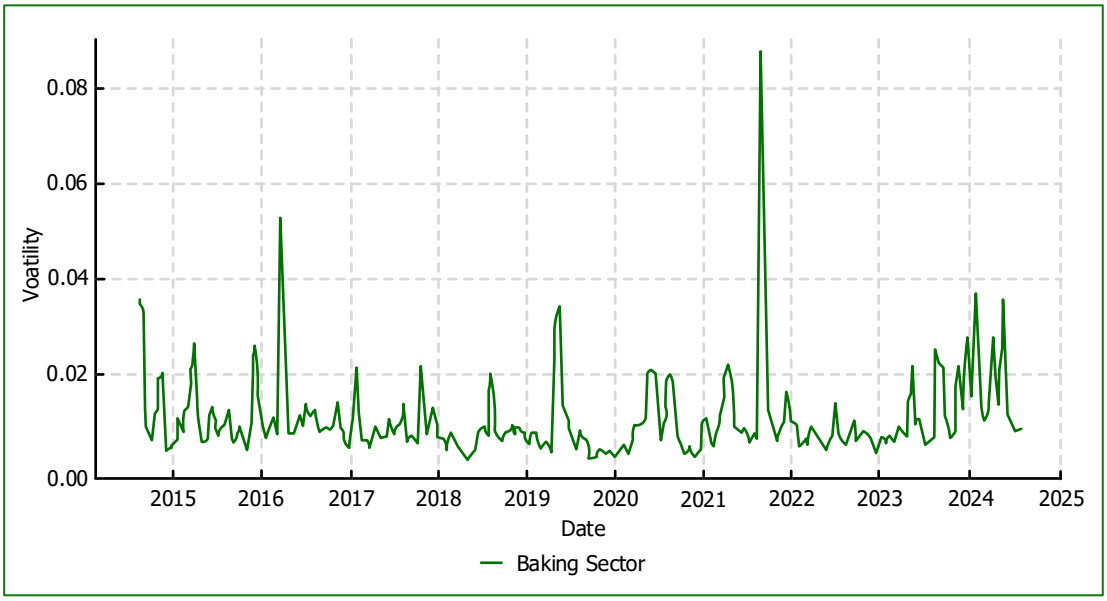

Figure 3A. Smoothed Conditional Volatility – Banking Sector.

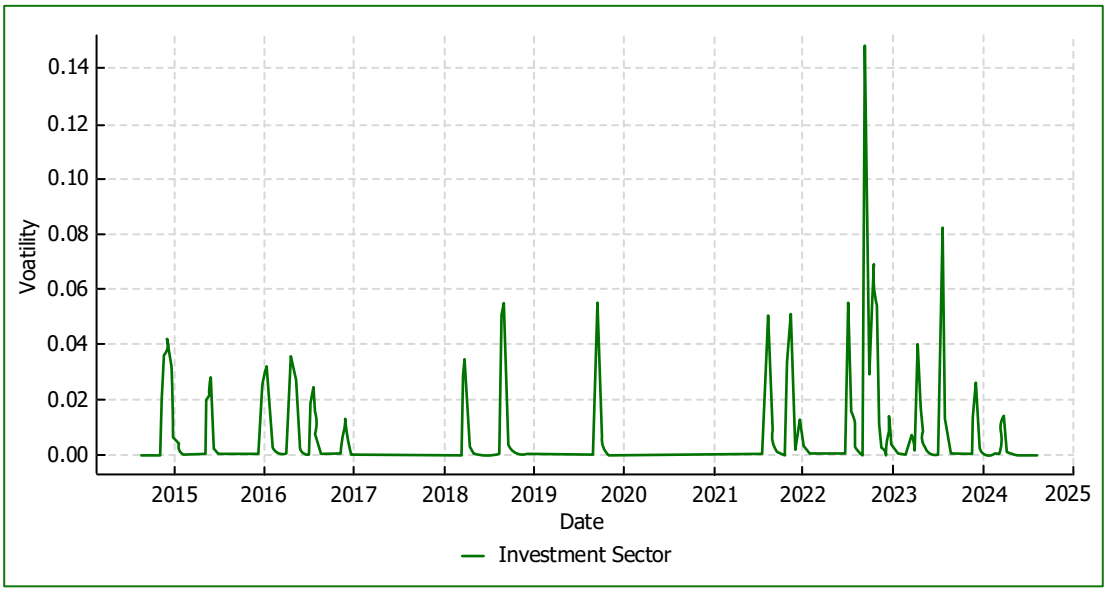

Figure 3B. Smoothed Conditional Volatility – Investment Sector.

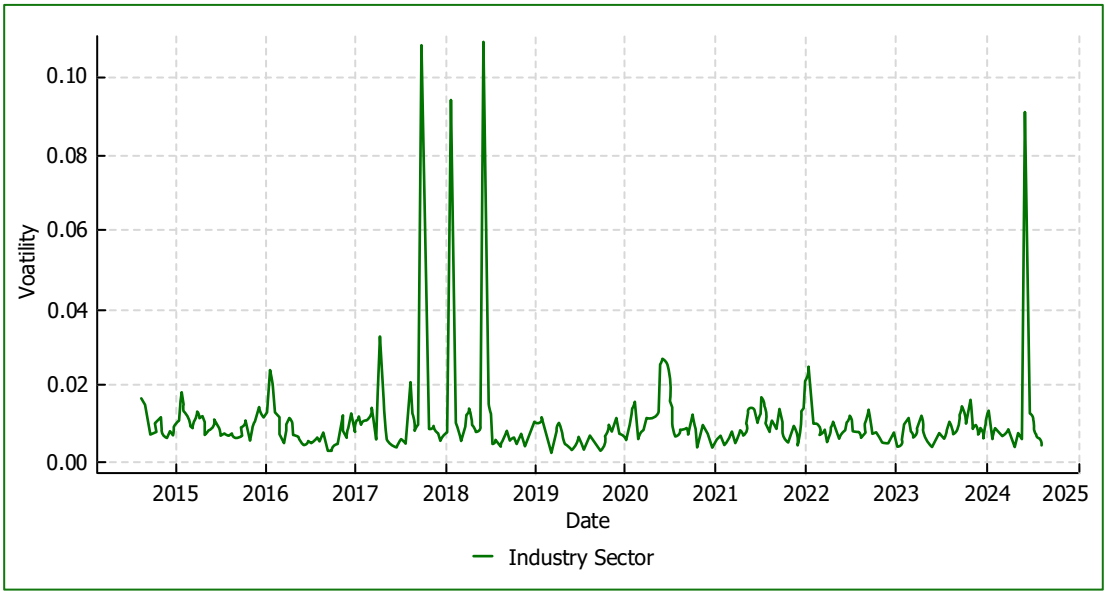

Figure 3C. Smoothed Conditional Volatility – Industry Sector.

The performance differs among the sectors, and all of them have the same GARCH (1,1) specification, as all sectors appear to be Arch model shows the value of α and β, and persistence seems to be robust, capturing return clustering at the conventional significance level and β=some smaller level of 1. This confirms the existence of volatility persistence and clustering in the sectorial returns. The sector that displays the most persistence is the banking sector, with an α=11 and β=84, suggesting that return shocks will keep imposing on volatility for a long time. Also, the industrial and investment risks share similar behavior, and they undergo the external oil-related risk factors. Adding the COVID-19 dummy variable enhances the fit of the model significantly for oil-sensitive sectors. The coefficient values of the dummy variable are positive and significantly differ from zero for the banking, industry, and investment sectors, implying higher volatility during the pandemic period. Conditional variance plots in Figures 3A – 3C also visually support the fact that there were spikes in volatility during the period of March – May 2020. In contrast, the volatility patterns within the insurance, services, and hotels sectors are relatively stable with lower α and β values alongside statistically insignificant COVID-19 coefficients. These sectors seem to be more shielded from the shocks and fluctuations of the oil market. Their volatility remained relatively contained during the crisis period, which indicates that these sectors have more stable return-generating processes. There are notable sectoral differences in volatility behavior as revealed by the GARCH results. Having greater reliance on oil also means greater conditional volatility, which is sharply heightened during the pandemic. Increased impact

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of the pandemic on already vulnerable sectors – identified by the event study and panel regression—reinforces the structural volatility shifts that were observed.

Structural Break Analysis

The Bai and Perron (2003) structural break test was conducted on each sector's return series in order to detect time-varying changes in the oil-stock return relationship. This technique detects multiple unknown breakpoints in the parameters of a regression account, which helps us see the extent to which oil sensitivities have changed over time. Table 5 shows the summary of the break test results.

Table 5. Structural Break and Granger Causality Test Results.

Sector	Break Date (Bai-Perron Test)	Pre-Break Oil Sensitivity (β1)	Post-Break Oil Sensitivity (β1)	Change in Sensitivity (%)	Granger Causality (Oil-Sector)	Granger Causality (Sector-Oil)	p-value
Agriculture	3/15/2020	0.28	0.35	25	Yes	No	0.004
Banking	4/1/2020	0.54	0.68	25.9	Yes	Yes	0.002
Hotels	3/20/2020	0.21	0.25	19	No	No	0.056
Industry	4/5/2020	0.46	0.57	23.9	Yes	Yes	0.001
Insurance	3/18/2020	0.17	0.2	17.6	No	No	0.089
Services	3/22/2020	0.14	0.18	28.6	No	No	0.072
Investments	4/2/2020	0.33	0.41	24.2	Yes	No	0.003

The study shows that some banking, industry, and investment sectors had breakpoints that were around March–April 2020, which is considered statistically significant. These breakpoints correspond very well to the timing of the collapse in oil prices and the onset of the COVID-19 pandemic. The structural breaks reveal that the response of the demand and supply shocks to the oil prices differ over time, and so does the relationship between the prices and the sectoral returns. For those sectors that have detected breaks, the estimates for the pre- and post-break models show discontinuities in the level and, in some instances, direction of oil sensitivity. Take, for instance, the banking sector, which reduces exposure to oil responsiveness after the break. On the other hand, the investment sector shows increased sensitivity to volatility. These results indicate a change in the investor's expectations and the complex macro-financial structures during the periods of crises. A stable and stationary oil-return relationship over time is suggested by the absence of structural breakpoints for insurance, services, or hotels sectors. This stability could be indicative of lower oil dependence or more predictable revenue structures within these sectors. As a whole, the structural break analysis confirms the assumptions about the existence of regime shifts in the oil-finance nexus for sectors directly or indirectly impacted by external oil market shocks. The period of the pandemic stands out as a key moment for restructuring these interconnected dynamics within Iraq's financial market.

Robustness Checks

Robustness checks were performed to retain the importance and accuracy of the central findings. These checks included testing the WTI oil benchmark instead of Brent, modifying the length of the event windows to ±5, ±10, and ±20 days, and applying different panel regression specifications such as random effects and pooled OLS. A summary comparison of all the regressions provided in different scenarios is described in Table 6.

Table 6. Robustness Checks Results.

Sector	Sub-Sample Consistency (Pre vs. Post COVID)	Alternative Oil Measure (WTI vs. Brent)	Different Event Windows (±5, ±10, ±20 days)	Alternative Model (VAR, OLS, RE)	p-value
Agriculture	Yes	Consistent	Stable	Consistent	0.005
Banking	Yes	Consistent	Stable	Consistent	0.002
Hotels	Moderate	Slight Variance	Variable	Mixed	0.048
Industry	Yes	Consistent	Stable	Consistent	0.001
Insurance	No	Variance	Unstable	Divergent	0.095
Services	No	Variance	Variable	Divergent	0.076
Investments	Yes	Consistent	Stable	Consistent	0.004

The use of WTI as an alternative to Brent yielded results consistent with the baseline analysis. Oil-sensitive sectors such as banking, industry, and investment continued to exhibit significant positive sensitivity to oil price changes. The interaction terms for COVID-19 remained negative and statistically significant, which means the dampening effect that was witnessed during the pandemic was still there regardless of the varied benchmarks. The changes made to the event study windows resulted in some expected changes in the magnitude of CARs; however, directionally and in terms of significance, retained direction towards response preservation. The shorter (±5) and longer (±20) windows reaffirmed the initial expectations of overreaction and partial recovery within the ±10-day baseline. These findings further highlight the enduring nature of short-term volatility in relation to sectoral adjustments. Both random effects and pooled OLS models retained the panel regression results. While some coefficients shifted in value, the relations of oil sensitivity and the dampening effect parallel during COVID-19 remained unchanged. Furthermore, the GARCH model's robustness was checked with variant EGARCH and TGARCH models. These models validated the existence of asymmetric volatility behavior of certain oil-sensitive sectors. All these additional checks bolster the dependability of the study's insights. Furthermore, the uniformity in approaches, methodological frameworks, and event definition criteria fortifies the empirical basis on which the emphasized conclusions were drawn pertaining to sectoral exposure to oil shocks and the COVID-19 pandemic repercussions.

DISCUSSION

This section analyzes the practical findings in relation to the existing literature on oil price shocks and their impact on different sectors and financial activity within emerging markets. The discussion centers around these four issues: sectoral asymmetry in oil sensitivity, COVID-19 as a structural turning point, persistence of volatility in the oil-linked sectors, and implications on market equilibrium and financial engineering.

Sectoral Asymmetry in Oil Sensitivity

From the results, it can be noted that there are marked sectoral asymmetries in ISX's responsiveness to oil price shocks. The banking, industry, and investment sectors proved to be the most oil-sensitive as they displayed high cumulative abnormal returns (CARs) around oil shock events and significant oil return coefficients in the panel regressions. These findings confirm the oil-exporting economies' oil price shock impact transmission through fiscal and liquidity channels within capital-intensive government-dependent industries (Basher et al., 2018; Bašta & Molnár, 2018). On the contrary, industries like insurance, services, and hotels displayed little or no response to oil shocks due to low energy intensity and fiscal dependence. This divergence indicates that the impacts of oil prices are not universal for all markets and instead, oil price effects are routed through some sectoral exposure mechanisms, supporting earlier findings from Narayan and Sharma, Cevik et al, 2022, regionally. These softer defensive sectors provide stability during volatile periods and may act as portfolio diversification instruments.

COVID-19 as a Structural Turning Point

The pandemic had a significant impact on changing the dynamic relationships between oil and stock returns in Iraq's financial market. Interaction effects indicated through regression analysis showed that the oil price association with sectoral returns was heavily diminished during the pandemic period. This is further supported by structural break analysis, which detected regime changes for banking, industry, and investment activities around March–April 2020. These findings affirm the perception that COVID-19 served as an exogenous shock that transformed the financial transmission mechanisms in economies reliant on oil. In this phase, non-oil-related risks, such as health risks, policy ambiguities, and demand plummets, outweighed oil price considerations. The same was reported in recent studies conducted across the globe (Cevik et al., 2022; Umar et al., 2021), highlighting the deepening pandemic's influence on diminishing conventional connections in oil markets and increasing non-market risks.

Persistence of Volatility and Risks in the Market

The GARCH (1,1) models showed that volatility clustering was markedly high in the pandemic- oil sensitive sector. Conditional variance spikes were observed around the March-June 2020 period, and volatility had a tendency to persist. This demonstrates how financial markets absorb uncertainty in an enduring manner and affect the pricing of risk, allocation of portfolios, and financial market regulation, surveillance, and control.

Notably, the insurance and services sectors exhibited relatively stable volatility throughout the crisis due to their lower sensitivity to oil, thus aligning with these findings. This adds to the literature related to the sector-specific volatility spillover

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phenomenon (Jingjian et al., 2023; Salisu et al., 2020), highlighting that volatility forecasting and stress testing in emerging markets must consider explicit sectoral heterogeneity.

Effects on Financial Policy and Markets

Trends in the data emphasize the importance of targeted sectoral supervision alongside specific financial oversight and macroprudential regulation for oil-exporting frontier markets such as Iraq. Policymakers ought to understand that an oil shock does not impact every segment of the market in the same manner. Dynamic capital buffers, for instance, or sectoral reserve requirements could be useful in curbing the flow of oil volatility into the financial system. For investors and portfolio managers, the findings provide a foundation for more robust strategies tied to asset allocation. Oil-sensitive sectors, historically, may require monitoring and mitigation, especially during oil price changes or macroeconomic volatility. Defensive sectors, on the other hand, may act as stabilizing forces in a diversified investment portfolio.

CONCLUSIONS

The current research focused on analyzing the effect of oil price shocks on sectoral performance in relation to the Iraq Stock Exchange (ISX) during the COVID-19 period. It meticulously examined the ramifications of oil price changes on the COVID-19 period ISX operations by utilizing a system that includes event study methodology complemented by panel regression models, GARCH volatility analysis, and structural break combined with causality analysis. Findings indicated that oil price changes have an impact on ISX sectoral returns, especially in banking, industry, and investments, which were the most responsive during crisis periods. The event study analysis indicates very sharp, yet asymmetric responses to oil price decreases and recoveries. Panel regression estimates reinforced the notion of a weakened structural relationship between oil and returns during the pandemic. Further volatility modeling revealed exacerbated overall market uncertainty, particularly in oil-sensitive sectors. Volatility was shown to cluster around major oil price disruptions, indicating a sustained trend. Structural break analysis validated the regime shift, identified as occurring from March to April 2020, the crisis due to COVID-19 stood out as a transformative period for Iraq's bond with oil. From the perspective of policy, these results point out the need for more flexible financial policies alongside tighter steered sectoral supervision in the oil-exporting countries such as Iraq. Policies should incorporate stress testing based on real-time granular commodity data into risk management frameworks.

For investors, the findings underscore the necessity for comprehensive portfolio techniques that consider the complex interrelations, variable sensitivities, and structural changes, particularly during external shocks. Primarily, the research adds to the understanding of crisis-related instability and aids in increasing the financial fortitude of resource-dependent economies.

Building on this work, future research could include macroeconomic factors like interest rates, inflation, and exchange rates to better isolate the transmission mechanisms between oil prices and equity markets. Moreover, investigating firm-level reactions or applying high-frequency intraday data may reveal additional volatility microstructures. Other oil-exporting countries may also provide useful comparative regions to analyze the heterogeneity of oil-stock relationships within the region. Lastly, testing for nonlinear and regime-switching impacts would further deepen the empirical understanding of how commodity markets influence other markets.

ADDITIONAL INFORMATION

AUTHOR CONTRIBUTIONS

All authors have contributed equally.

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CONFLICT OF INTEREST

The Authors declare that there is no conflict of interest.

REFERENCES

1. Arouri, M. E. H., Lahiani, A., & Nguyen, D. K. (2011). Return and volatility transmission between world oil prices and stock markets of the GCC countries. *Economic Modelling*, *28*(4), 1815–1825. https://doi.org/10.1016/j.econmod.2011.03.012
2. Atri, H., Kouki, S., & Gallali, M. imen. (2021). The impact of COVID-19 news, panic and media coverage on the oil and gold prices: An ARDL approach. *Resources Policy*, *72*, 102061. https://doi.org/10.1016/j.resourpol.2021.102061
3. Bai, J., & Perron, P. (2003). Computation and analysis of multiple structural change models. *Journal of Applied Econometrics*, *18*(1), 1–22. https://doi.org/10.1002/jae.659
4. Basher, S. A., Haug, A. A., & Sadorsky, P. (2018). The impact of oil-market shocks on stock returns in major oil-exporting countries. *Journal of International Money and Finance*, *86*, 264–280. https://doi.org/10.1016/j.jimonfin.2018.05.003
5. Bašta, M., & Molnár, P. (2018). Oil market volatility and stock market volatility. *Finance Research Letters*, *26*, 204–214. https://doi.org/10.1016/j.frl.2018.02.001
6. Bollerslev, T. (1986). Generalized autoregressive conditional heteroskedasticity. *Journal of Econometrics*, *31*(3), 307–327. https://doi.org/10.1016/0304-4076(86)90063-1
7. Cevik, E., Kirci Altinkeski, B., Cevik, E. I., & Dibooglu, S. (2022). Investor sentiments and stock markets during the COVID-19 pandemic. *Financial Innovation*, *8*(1), 69. https://doi.org/10.1186/s40854-022-00375-0
8. Değirmen, S., Tunç, C., Saltık, Ö., & ul Rehman, W. (2023). Do oil price shocks differently matter for oil exporter and importer developing countries? *Journal of Economic Studies*, *50*(8), 1775–1788. https://doi.org/10.1108/JES-10-2022-0543
9. Engle, R. F., & Patton, A. J. (2007). What good is a volatility model? *Forecasting Volatility in the Financial Markets*, 47–63. https://doi.org/10.1016/B978-075066942-9.50004-2
10. Escribano, A., Koczar, M. W., Jareño, F., & Esparcia, C. (2023). Shock transmission between crude oil prices and stock markets. *Resources Policy*, *83*, 103754. https://doi.org/10.1016/j.resourpol.2023.103754
11. Fasanya, I. O., Oyewole, O. J., Adekoya, O. B., & Badaru, F. O. (2021). Oil price and stock market behaviour in GCC countries: Do asymmetries and structural breaks matter? *Energy Strategy Reviews*, *36*, 100682. https://doi.org/10.1016/j.esr.2021.100682
12. Hamilton, J. (2009). Causes and Consequences of the Oil Shock of 2007-08. *Brookings Papers on Economic Activity,* 215–261. https://doi.org/10.3386/w15002
13. Jingjian, S., Xiangyun, G., Jinsheng, Z., Anjian, W., Xiaotian, S., Yiran, Z., & Hongyu, W. (2023). The impact of oil price shocks on energy stocks from the perspective of investor attention. *Energy*, *278*, 127987. https://doi.org/10.1016/j.energy.2023.127987
14. Kilian, L. (2009). Not All Oil Price Shocks Are Alike: Disentangling Demand and Supply Shocks in the Crude Oil Market. *American Economic Review*, *99*(3), 1053–1069. https://doi.org/10.1257/aer.99.3.1053
15. Lee, D. (2023). Financial integration and international risk spillovers. *Economics Letters*, *225*, 111049. https://doi.org/10.1016/j.econlet.2023.111049
16. Mokni, K. (2020). Time-varying effect of oil price shocks on the stock market returns: Evidence from oil-importing and oil-exporting countries. *Energy Reports*, *6*, 605–619. https://doi.org/10.1016/j.egyr.2020.03.002
17. Mzoughi, H., Urom, C., Uddin, G. S., & Guesmi, K. (2020). The Effects of COVID-19 Pandemic on Oil Prices, CO2 Emissions and the Stock Market: Evidence from a VAR Model. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3587906
18. Narayan, P. K., & Sharma, S. S. (2011). New evidence on oil price and firm returns. *Journal of Banking and Finance*, *35*(12), 3253–3262. https://doi.org/10.1016/j.jbankfin.2011.05.010
19. Rasheed, S. A. (2023). The Impact of Oil Price Volatility on Economic Growth and Stability in Iraq through the Public Expenditure for the Period (2003-2020). *International Journal of Professional Business Review*, *8*(6), e02059. https://doi.org/10.26668/businessreview/2023.v8i6.2059
20. Ratti, R. A., & Vespignani, J. L. (2016). Oil prices and global factor macroeconomic variables. *Energy Economics*, *59*, 198–212. https://doi.org/10.1016/j.eneco.2016.06.002
21. Sadorsky, P. (1999). Oil price shocks and stock market activity. *Energy Economics*, *21*(5), 449–469. https://doi.org/10.1016/S0140-9883(99)00020-1
22. Salisu, A. A., Ebuh, G. U., & Usman, N. (2020). Revisiting oil-stock nexus during COVID-19 pandemic: Some preliminary results. *International Review of Economics and Finance*, *69*, 280–294. https://doi.org/10.1016/j.iref.2020.06.023
23. Umar, Z., Gubareva, M., & Teplova, T. (2021). The impact of Covid-19 on commodity markets volatility: Analyzing time-frequency relations between commodity prices and coronavirus panic levels. *Resources Policy*, *73*, 102164. https://doi.org/10.1016/j.resourpol.2021.102164
24. Vacha, L., & Barunik, J. (2012). Co-movement of energy commodities revisited: Evidence from wavelet coherence analysis. *Energy Economics*, *34*(1), 241–247. https://doi.org/10.1016/j.eneco.2011.10.007
25. Wei, Y., Yu, B., Guo, X., & Zhang, C. (2023). The impact of oil price shocks on the U.S. and Chinese stock markets: A quantitative structural analysis. *Energy Reports*, *10*, 15–28. https://doi.org/10.1016/j.egyr.2023.05.268

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ЧУТЛИВІСТЬ СЕКТОРІВ ДО ШОКІВ ЦІН НА НАФТУ Й СТРУКТУРНИХ ЗМІН ПІД ЧАС COVID-19: ДАНІ ІРАКСЬКОЇ ФОНДОВОЇ БІРЖІ

Це дослідження розглядає реакцію прибутковості секторальних акцій на Іракській фондовій біржі (ISX) на шоки цін на нафту, зосереджуючись на періоді пандемії COVID-19. Іракська економіка все ще дуже залежить від експорту нафти, що робить її фінансові ринки вразливими до світових цін на нафту. Це дослідження розглядає характер і ступінь вразливості на іракських фінансових ринках, використовуючи комбінацію методів, включаючи методологію дослідження подій, панельну регресію з фіксованими ефектами, моделювання волатильності GARCH (1,1), а також тести структурного розриву та причиново-наслідкового зв'язку Ґрейнджера. Дані включають щоденну прибутковість акцій із семи секторів ISX разом із цінами на Brent і WTI протягом 2014-2023 років. Дослідження зосереджене на трьох ключових подіях, пов'язаних із нафтою, а саме: обвал цін на нафту з середини березня по квітень 2020 року, пандемію COVID-19 разом із її роллю як систематичного ринкового шоку та відновлення цін після пандемії. Аналіз виявляє особливо неоднорідні реакції секторів на нафтові шоки. Банківський, промисловий та інвестиційний сектори демонструють сильну й статистично значущу чутливість до змін цін на нафту, особливо під час пандемії. Навпаки, страховий сектор і сектор галузі послуг поводилися відносно стабільніше, що свідчить про захисний ринок. Результати дослідження подій демонструють короткочасну надмірну реакцію з подальшою корекцією для деяких секторів. Результати панельної регресії продемонстрували, що протягом періоду COVID-19 спостерігалося послаблення зв'язку між нафтою й прибутковістю, що вказує на зміну сил, що впливають на зв'язок між нафтою та акціями. Результати GARCH також підтверджують існування стійкої кластеризації волатильності в секторах, чутливих до нафти, водночас тести на структурний прорив виявляють критичні зміни режиму під час пандемії. Дослідження дає корисну інформацію для інвесторів, регуляторів і політиків країн-експортерів нафти. Воно підкреслює необхідність більш секторально орієнтованої портфельної тактики, більш комплексних систем фінансового нагляду та включення ризику нафтового ринку до загальної політики фінансової стабільності країни.

Ключові слова: шоки цін на нафту, Іракська фондова біржа, секторальна прибутковість, COVID-19, волатильність, GARCH, дослідження подій, структурний прорив

JEL Класифікація: G12, G15, Q43, E44