DOI: https://doi.org/10.57125/FEL.2025.12.25.02

How to cite: Taha, H. Y. (2025). Rentier economy and the banking sector in Iraq: An integrated analysis of the impact of revenues on assets and credit. *Futurity Economics&Law, 5*(4), 21–38. https://doi.org/10.57125/FEL.2025.12.25.02

Rentier Economy and the Banking Sector in Iraq: An Integrated Analysis of the Impact of Revenues on Assets and Credit

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Received: August 16, 2025 | **Accepted:** October 28, 2025 | **Available online:** December 9, 2025

Abstract: This study aimed to demonstrate the impact of oil revenues in Iraq on banking activities, utilising a monthly time series consisting of 108 observations spanning the period 2016–2024. For this purpose, the ARDL bounds testing approach was used to capture both short- and long-term effects. Diagnostic tests confirm cointegration (F-statistics: 5.28 for assets, 15.74 for credit), affirming the existence of a stable long-run relationship. This study fills a critical research gap by providing the first quantitative econometric assessment of how oil revenues affect Iraqi banking activities under the country's distinctive fixed exchange rate regime and foreign-currency auction system. The results showed that oil revenues have a direct positive impact on the assets (BA) and credit (BC) of the Iraqi banking sector in both the long and short terms. Specifically, increased oil revenues (OR) lead to increases in (BA) and (BC) of (0.035, 0.003) in the short run and (2.852, 0.057) in the long run, respectively. Furthermore, Iraq's use of the foreign-currency auction window to achieve price-level stability through a fixed exchange rate system, alongside significant government employment, has provided a stable source of income for the banking sector. This structure has partially protected the banking sector from the harmful effects arising from oil price volatility during crises. Policy implications emphasise that banking sector resilience requires macroeconomic restructuring rather than regulatory interventions alone. Specifically, the study recommends diversifying government revenues through non-oil sector development and establishing sovereign wealth funds to absorb commodity price shocks, thereby stabilising financial flows and ensuring sustainable banking growth during economic crises.

Keywords: Rentier Economy, Institutional Economics, Financial Regulation, Iraq.

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Introduction

The rentier economy pattern poses a significant global structural challenge, with Iraq serving as a classic model of singular resource dependency, in contrast to diversified economies. The oil sector accounts for approximately 60% of the Gross Domestic Product (GDP) and supplies over 90% of the state budget, creating profound instability in the financial sectors. This hyper-reliance results in a dangerous cyclical relationship that places dual pressure on the banking sector:

1. Negative Shocks: Sudden drops in oil prices directly affect the banking sector, leading to asset erosion and credit contraction.
2. Positive Rebounds: Rising oil prices inject massive government liquidity, substantially driving bank profitability and financial employment.

Despite the explicit cyclical nature of this dependency, previous literature lacks a comprehensive quantitative analysis. This study addresses the knowledge gap by using the ARDL methodology to precisely determine the direct quantitative impact of oil revenues on bank assets and credit over the short and long term, specifically in Iraq's adopted fixed exchange rate environment, thereby offering precise policy insights.

Natural resources have a long history of critical importance and relevance to economic growth and financial development, and have been widely discussed in previous literature. Resource abundance is also discussed from the perspective of the oil curse (Tang et al., 2015). Since Auty (2002) introduced the term “resource curse,” which carries a fundamental contradiction in itself due to differing opinions among researchers, the abundance of resources is widely regarded as a benefit to any economy, as it can increase economic growth and prosperity (Li et al., 2020). However, some believe that resource abundance can constitute a curse and a significant danger to any economy, given the resource curse. Countries that depend on rents are described as afflicted by the oil curse. The oil curse is a condition in which economies rich in non-renewable resources eventually stagnate. This phenomenon stems from over-reliance on natural resources, which leads to the neglect of alternative sources of economic progress (Umar et al., 2021). It can exacerbate corruption and increase the search for Rent, and consequently the inefficiency of the state or institution; the resource curse instils excessive confidence among decision-makers, leading to administrative failure. Finally, investment in intellectual capital is not given much importance (Tang et al., 2015).

Shaffer and Ziyadov (2012) concluded that natural resources, especially those derived from oil, harm economic development in resource-rich countries due to declining institutional quality, increased economic uncertainty stemming from commodity price movements, and the occurrence of “Dutch disease.” These reasons can lead to the failure of many rentier economies to develop their economic sectors beyond the scope of their natural resources. They may result in fluctuations and a decline in economic growth compared to other e countries (Kurronen, 2015). Previous literature identifies the problems faced by the banking sectors in rentier countries. The contribution of the banking sector to economic growth declines as dependence on oil increases (Barajas et al., 2013). The banking sector is also small (Kurronen, 2015). Oil prices translate their impact on financial institutions, by slowing the development of credit and banking investments into the economy. Bilgili et al. (2024) and Ibrahim (2019) identified two channels through which oil price shocks are transmitted to the banking sector in oil-producing countries: the first is indirect, through the impact of oil prices on banking sector risks via macroeconomic variables; the second is direct, through the assets held by banks. Because oil is the primary source of energy, oil price shocks and financial linkages are driven by the banking sector's pro-cyclical behaviour. Rising oil prices can strengthen the financial positions of companies in oil-producing countries by raising their creditworthiness and thus increasing the quality of bank loans. Conversely, a decline in oil prices reduces companies' ability to repay bank loans, increasing defaults. This is because lower oil revenues lead to lower government spending, which negatively affects corporate sector activity and reduces banking sector financial stability. (Al-Khazali & Mirzaei, 2017) IMF researchers

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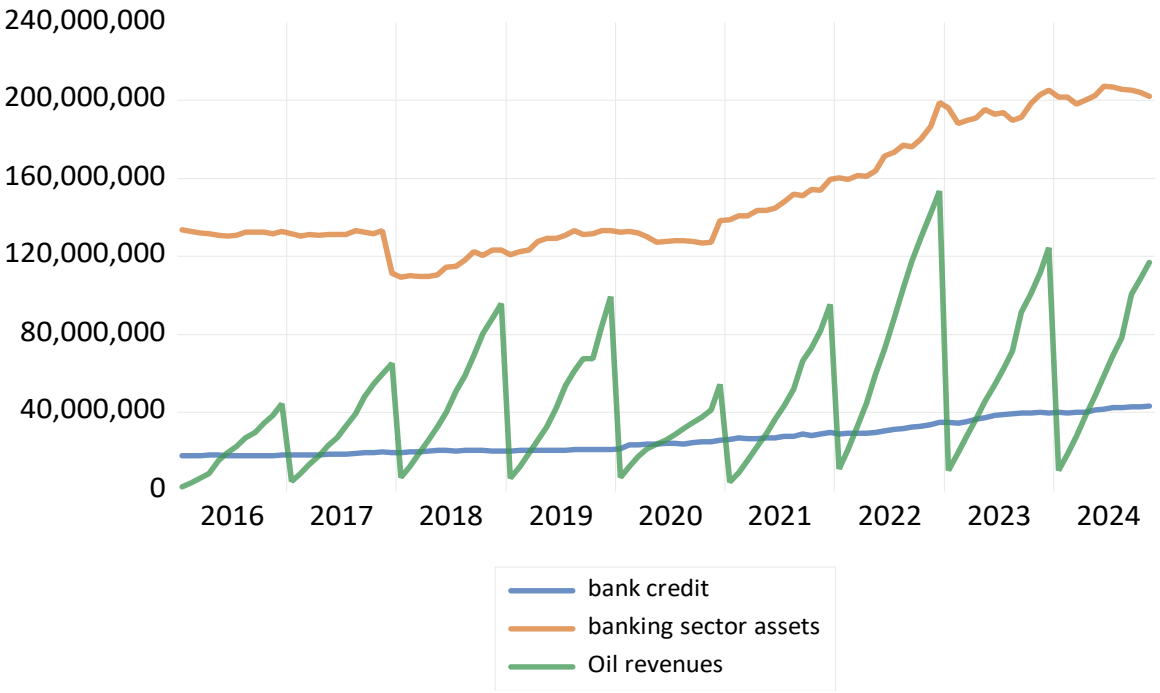
concluded that A 1% drop in oil prices leads to an increase in the ratio of non-performing loans in banks by about 0.1 percentage points (Callen, 2015). However, in non-oil countries, the mechanism differs because the rise in oil prices affects institutions' operations. This may lead to higher energy costs, which in turn lower corporate income and, consequently, weaker financial performance for banks (Dwumfour et al., 2018; Ma et al., 2021).

In Iraq, Figure 1 illustrates the development of oil revenues, banking sector assets, and private credit during the period 2016-2024. Oil revenues show significant fluctuations over the period, which is expected given the fluctuations in global oil prices and exported quantities. There was also a significant decline in oil revenues during 2020-2021 due to the COVID-19 crisis, which affected oil revenues and subsequently led to declines in assets and credit in the Iraqi banking sector. Banking sector assets also show an upward trend over the period, indicating growth in the volume of funds managed by Iraqi banks. Private credit (represented by loans and credit facilities provided to the private sector) also shows gradual growth, but it is relatively slower compared to banking sector assets. This may indicate that a significant portion of bank assets remains directed toward activities other than private-sector lending, or that factors are limiting the growth of private credit. The large gap between the size of banking-sector assets and the size of private credit may also indicate opportunities to allocate more funds to private-sector financing, which could help enhance economic growth and diversification.

Figure 1

Oil revenues, assets and credit of the banking sector in Iraq 2016-2024



Research Problem

This study examines the critical impacts of the oil sector on banking activities by constructing short- and long-term cointegration models to determine the nature and direction of the relationship between oil revenue fluctuations and the assets and credit of the banking sector in Iraq. The scientific problem is that the Iraqi economy is highly dependent on oil revenues, making it vulnerable to shocks from fluctuations in global oil prices. These fluctuations can affect various aspects of the economy, including the banking sector. Despite the vital importance of the banking sector in supporting economic growth by mobilising savings and providing credit, the extent and timing of the impact of oil revenue fluctuations on the sector's assets (including its size and structure) and its ability to provide credit to the private sector remain unclear in the Iraqi context. Understanding this relationship is essential for policymakers to take measures to enhance the stability of the banking sector and its ability to contribute

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to sustainable economic development in a rentier economy affected by oil price fluctuations. It is directly aligned with the strategic national objectives of Iraq's Vision 2030 for Sustainable Development and the government's White Paper for Reform, making it a crucial tool in enhancing the stability and resilience of the banking sector in the face of global shocks.

Research Focus

The primary focus of this study is a comprehensive, up-to-date quantitative analysis of the impact of oil revenues (as core rentier shocks) on essential banking activities in Iraq. Specifically, the research aims to:

1. Quantify the direct and measurable effect of oil revenues on bank assets and bank credit (to the private sector).
2. Determine the nature (positive/negative) and magnitude of this relationship across both the short term and the long term, utilising the ARDL methodology to provide an integrated explanation of the interaction between rentier public finance and the banking sector in Iraq.

Study Objective and Research Questions

This study aims to conduct a comprehensive, up-to-date quantitative analysis of the impact of oil revenues (as core rentier shocks) on essential banking activities in Iraq. Specifically, the study seeks to:

1. Quantify the direct and measurable effect of oil revenues on bank assets and bank credit.
2. Determine the nature and magnitude of this relationship in both the short and long terms, utilising the ARDL methodology.

The following empirical questions guide the study:

1. Does the volatility of oil revenues affect banking sector assets (BA) in the short run and the long run?
2. Does the volatility of oil revenues affect total bank credit (BC) in the short run and the long run?
3. Is there a stable long-run cointegrating relationship between oil revenues (OR) and the key banking indicators (BA and BC) in Iraq?

Literature Review

There is a large body of prior literature examining the impact of dependence on oil resources on the banking sector. Some addressed the impact of oil resources on the banking sector in oil-producing countries, while others addressed it at the level of non-oil-producing countries. The study by Naceur and Ghazouani (2007) examined the role of financial market development and banking in economic growth across the countries of the Middle East and North Africa region. He made oil prices an arbitration variable to capture their effects on the economic sectors and concluded that the oil sector drove regional economic growth. Significantly, Elhannani et al. (2016) concluded that financial development enhances economic growth in Algeria. However, it did not mitigate the negative effects of oil revenues, and the financial sector did not contribute to enhancing growth. Alqahtani et al. (2020). The researchers also examined the relationship between the oil sector and banking performance in the economies of the Gulf Cooperation Council countries. They concluded that oil prices have a direct impact on banking performance up to $95 per barrel, after which the impact is negative. Saif-Alyousfi et al. (2018) concluded that oil and gas price shocks do not directly affect non-performing loans of Islamic banks in the State of Qatar. Islamic banks also generate significant profits from increased capital flows driven by rising oil and gas prices, which reduce their non-performing loans compared to commercial banks.

GCC countries are experiencing significant credit growth with the steady rise in oil prices, which reduces their liquidity. A study by Chin et al. (2023) examined the asymmetric impact of oil prices on

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loans in Kazakhstan. It concluded that an increase in oil prices improves creditworthiness, thereby reducing non-performing loans. However, after crossing a certain threshold, the relationship became inverse. A study by Wang (2021) also showed that banks in oil-producing countries are highly vulnerable to oil price fluctuations, as these countries linesexperience decrease in deposits, especially on demand, and an increase in non-performing loans. Facing a liquidity shortage, they are forced to reduce their assets, raise interest rates on deposits, and reduce the number of loans granted. A study by Abdul et al. (2021) examined the impact of fluctuating oil revenues on the Iraqi banking sector over a period using financial analysis. It concluded that oil revenues in Iraq generally affect all economic sectors and have a direct impact on bank deposits, subsequently on the volume of bank credit granted. In the same vein, a study by Alsagr (2024) concluded that oil revenues represent A curse on the financial development of the Kingdom of Saudi Arabia because they increase institutional corruption. A study (Maghyereh & Abdoh, 2021) showed that oil supply shocks, not oil demand shocks, are the main drivers of increases in banking risk in the Gulf Cooperation Council countries. Moreover, the change in banking risks in response to these shocks varies over different periods. A study (Elsayed et al., 2023) concluded that oil price fluctuations significantly affect the macroeconomic and financial stability of oil-producing countries, particularly during crises. Studies conducted in non-oil countries include Katırcıoglu et al. (2020), which examined the relationship between banking-sector profitability and its determinants in Turkey and concluded that oil price fluctuations have an indirect impact on Turkish bank profitability through inflation. Oil prices directly affect bank profitability and negatively as a result of the decline in credit granted. In a study (Li et al., 2021), they examined the impact of the resource curse on institutional corruption in the G7 model using the PMG/ARDL model and found evidence of a resource curse in these countries over the long term. However, we clearly identify that this resource curse can turn into a blessing as financial markets evolve. Oil prices have affected interest rates. Hani and Sinambela (2020) found a direct response of the Indonesian central bank's interest rate to changes in oil prices.

While previous literature has focused on macroeconomic relations between countries, few studies on Iraq have examined the link between the oil and banking sectors, despite its heavy reliance on oil revenues. This article aims to fill this gap by examining how oil revenues affect banks' assets and credit in Iraq, to provide insights to help design efficient fiscal, monetary, and prudential policies to mitigate financial risks and promote economic stability.

Materials and Methods

Sample and Participants

The study included a sample consisting of all Iraqi banks, including government, private and foreign banks, for the period between 2016-2024, as the number of observations reached (108). The main reason behind choosing this period is the result of the large fluctuations that occurred in oil revenues during the Corona pandemic, to show the extent of the banking sector’s impact on the crises generated by the oil sector, as the data was obtained from the annual statistical report published on the official website of the Central Bank of Iraq.

Instruments and Procedures

The current study uses the ARDL methodology to estimate the relationship between government revenues and the assets and credit of the Iraqi banking sector for the period 2016-2024, using monthly time series data. The main importance of the ARDL methodology is that it allows you to estimate both short-run and long-run relationships simultaneously within a single model (Javed & Husain, 2020). This eliminates the strict requirement that all variables have the same order of integration, making it ideal for the smaller samples often encountered in specific country contexts (Alzyadat, 2021). Consequently, the ARDL approach provides a robust and reliable test for cointegration in time-series analysis, a capability widely utilised in energy and finance studies in the region (Kareem et al., 2023).

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The number of observations reached 108. To implement the ARDL methodology, a unit root test must be conducted to test the stationarity of the time series. A bounds test is then conducted to determine whether cointegration exists. Estimating the general ARDL model:

$$\boldsymbol{BA_t = \alpha_0 + \sum_{i=1}^{p} \alpha_i BA_{t-i} + \sum_{j=0}^{q} \beta_j OR_{t-j} + \epsilon_t} \quad (1) \quad \textit{Model(1)}$$

$$\boldsymbol{BC_t = \alpha_0 + \sum_{i=1}^{p} \alpha_i BA_{t-i} + \sum_{j=0}^{q} \beta_j OR_{t-j} + \epsilon_t} \quad \textit{(2)} \quad \textit{Model(2)}$$

Where (BA) refers to the dependent variable, which is the banking sector assets, while (OR) refers to the independent variable, which is oil revenues. (P) is the number of lags for the dependent variable, and(q) is the number of lags for the independent variable. (α0)is the constant term, (αi)is the autoregressive lag coefficient for (BA). (βj) is the distributed lag coefficient for OR. t refers to the error term (Pesaran et al., 2001). The error correction model (ECM) derived from ARDL is as follows:

$$\boldsymbol{\Delta BA_t = \phi(BA_{t-1} - \theta OR_{t-1}) + \sum_{i=1}^{p-1} \gamma_i \Delta BA_{t-i} + \sum_{j=0}^{q-1} \delta_j \Delta OR_{t-j} + \epsilon_t} \quad (3) \text{ Model(1)}$$

$$\boldsymbol{\Delta BC_t = \phi(BC_{t-1} - \theta OR_{t-1}) + \sum_{i=1}^{p-1} \gamma_i \Delta BC_{t-i} + \sum_{j=0}^{q-1} \delta_j \Delta OR_{t-j} + \epsilon_t} \quad (4) \text{ Model(2)}$$

Where (ΔBA_t)denotes the first difference of the dependent variable. (ΔOR_t)denotes the first difference of the independent variable. (Φ): coefficient of the speed of adjustment towards long-run equilibrium (must be negative and significant). (Θ): coefficient of the long-run relationship $(-\sum \beta j /(1-\sum \alpha i)$coefficients of the short-run effects of changes in (BA),(δj)coefficients of the short-run effects of changes in the independent variable (Banerjee et al., 1993). If the existence of a cointegrating relationship is confirmed by bounds testing, the long-run coefficients can be derived from the ARDL model's level coefficients. For the ARDL (p, q) model with a dependent variable and an independent variable, the long-run coefficient of x (θ) is:

$$\boldsymbol{\theta = -\frac{\sum_{j=0}^{q} \beta_j}{1-\sum_{i=1}^{p} \alpha_i}} \quad .(5)$$

Data Analysis

The study used the ARDL methodology to estimate the impact of the oil sector on the banking sector. Two models were estimated: the first examined the impact of oil revenues on Iraqi banks' assets, and the second examined the impact of oil revenues on credit. Several diagnostic tests were also employed, including the time-series stationarity test, the bounds test, and tests for autocorrelation and heteroscedasticity.

Results

Before conducting the cointegration test, the time series of the studied variables must be tested for stationarity. Cointegration testing can handle all time series, whether stationary at the first level or the first difference, as long as the series are not stationary at the second difference. This makes the (ARDL) methodology a flexible and effective method for studying the short- and long-term dynamics of time series in Iraq. The (ADF)test shown in Table 1 indicates that both bank assets and credit are stationary at the first difference, as both series are integrated at degree zero. In contrast, while the oil revenue series is stationary in first differences and integrated of degree I(1), the optimal lag period was chosen based on the SIC test.

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Table 1

Augmented Dickey-Fuller test statistic

Null Hypothesis: D(CR) has a unit root			Null Hypothesis: OR has a unit root			Null Hypothesis: D(BA) has a unit root		
Prob.*	t-Statistic		Prob. 0.000	t-Statistic		Prob.	t-Statistic	
0.00	-9.28844			-4.0592557		0.000	-9.084491	
	-3.49375	1% level		-3.4931291	1% level		-3.493747	1% level
	-2.88920	5% level		-2.8889319	5% level		-2.889200	5% level
	-2.58160	10% level		-2.581453	10% level		-2.581595	10% level
*MacKinnon (1996) one-sided p-values.								

Source: Prepared by the authors.

The bounds test for cointegration is conducted to determine whether oil revenues are cointegrated with the banking sector's assets. Table 2) shows that the value of (F) is greater than its table values at the adopted significance percentage for both models. That is, there is cointegration between oil revenues and the assets and credit of the banking sector in Iraq.

Table 2

Bounds Test for Cointegration

	Model(1)						Model(2)					
F-statistic	5.2848						15.74257					
	1%		5%		10%		1%		5%		10%	
Sample Size	I(1)	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	I(0)
Asymptotic	5.58	4.94	4.16	3.62	3.51	3.02	5.58	4.94	4.16	3.62	3.51	3.02
* I(0) and I(1) are respectively the stationary and non-stationary bounds.												

Source: Prepared by the authors.

The second stage of the ARDL methodology begins by identifying the appropriate model based on the AIC values of 20 different ARDL models. This criterion aims to create the best models that accurately reflect the underlying dynamics of the data. This criterion identified two models: (1,0) for the first and (1,3) for the second, which has the lowest AIC and is therefore the optimal model, achieving a balance between model complexity and explanatory power.

Table 3 shows that oil revenues have a positive impact on the banking sector's assets in Iraq. If oil revenues increase by one unit, this leads to an increase in banking sector assets by (0.0363), which is significant at a significant percentage of (1%). It is also clear from the table that the value of (F) reached (6.0029), which is greater than its table value. Thus, the model has a statistically acceptable quality. This was confirmed by the probability test, which reached (0.0034). The value of the coefficient of determination test reached (0.1044), meaning that about (90%) of the effects on the assets of the banking sector were not due to oil revenues, but rather to other factors that were not included in the estimated model. It is also clear from Table 3 that the Error Correction Model (ECM) was significant, meaning that in the short term, shocks can occur through which this model corrects the effect and returns to the normal state. This indicates that there is a corrective mechanism that operates in the short term to return the variables to their long-term equilibrium path following shocks or deviations. In other words, if any disturbance causes the variables to deviate from their long-term relationship, the error correction model shows how they will gradually adjust to return to this equilibrium in the short term. Its value appeared (-0.0120).

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Table 3

ARDL Short-Run Model Results and Diagnostics Model 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Error Correction Term				
BA(-1)*	-0.01250	0.01210	-1.02940	0.030570
Short-Run Dynamics				
OR**	0.03560	0.01050	3.40760	0.00090
C	796385.76000	1683415.70000	0.47310	0.63710
Diagnostics				
R-squared	0.10300			
Adjusted R-squared	0.08600			
F-statistic	5.97500			
Prob(F-statistic)	0.00350			
Durbin-Watson stat	1.84500			
Akaike info criterion	32.93100			
Schwarz criterion	33.00600			

Source: Prepared by the authors.

Table 4 also shows that the oil sector in Iraq has a positive impact on bank credit. A one-unit increase in revenues leads to an increase in banking sector assets by (0.0069000), which is significant at a significance level of (1%). The table also shows that the value of (F) reached (4.4450000), which is greater than its table value, and thus the model has a statistically acceptable quality. This is confirmed by the probability test, which reached (0.0060000). The value of the determination coefficient test reached (0.1170000), meaning that about (89%) of the effects on private banking sector credit were not due to oil revenues, but rather to other factors that were not included in the estimated model. Table 4 also shows that the Error Correction Model (ECM) was significant, meaning that, in the long term and in the short term, shocks can occur, which this model corrects and returns to normal. This indicates that there is a corrective mechanism operating in the short term to return variables to their long-term equilibrium path following shocks or deviations. In other words, if any disturbance in oil revenues leads to a deviation of variables from their long-term relationship, including bank credit, then the error-correction model shows how these variables will gradually adjust to return to this equilibrium in the short term. Its value appears to be (-0.0127000).

Table 4

ARDL Short-Run Model Results and Diagnostics Model 2

Variable	Coefficient	t-Statistic	Prob.
Error Correction Term			
COINTEQ*	-0.0127000	5.2530000	0.0000008
Short-Run Dynamics			
D(OR)	0.0032000	1.2140000	0.2280000
D(OR (-1))	0.0041000	1.5510000	0.1240000
D(OR (-2))	0.0069000	2.6050000	0.0110000
Diagnostics			
R-squared	0.1170000		
Adj. R-squared	0.0900000		
F-statistic	4.4450000		

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Prob(F-statistic)	0.0060000
Durbin-Watson stat	2.0460000

Source: Prepared by the authors.

The two equations illustrate the long-term impact of oil revenues on the assets and credit of the banking sector in Iraq.

CE = BA (-1) - (2.852923*OR +63752358)

CE = BC (-1) - (0.057869*OR(-1) + 19669741)

Based on Figure 2, the Cumulative Dynamic Multiplier (CDM) indicates that, following a shock, there is a long-run relationship between the variable representing banking sector assets (BA) and oil revenues (OR). In other words, a positive shock to oil revenues increases banking sector assets over time.

Figure 2

Cumulative Dynamic Multiplier: OIL_REVENUES on BANKING_SECTOR_ASSETS

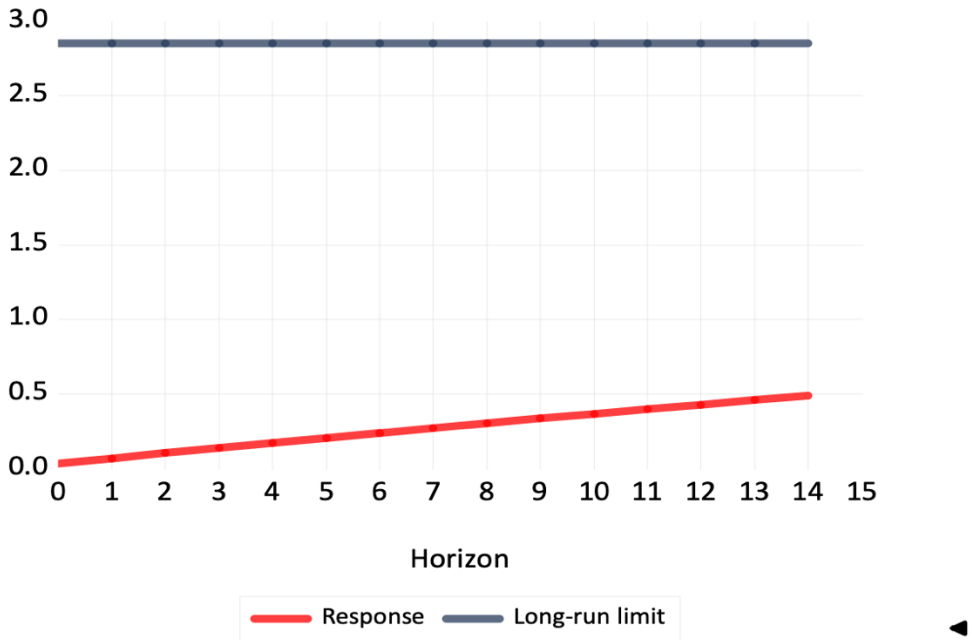

Figure 3 shows the cumulative dynamic multiplier, which measures the cumulative effect of a positive oil revenue shock (one unit) on bank credit over time. Initial effect: The effect starts positive and peaks in the second or third time period with a value of approximately 0.012. This graph confirms that the relationship between oil revenues and bank credit is positive in both the short and long run. However, the effect is relatively weak, with its peak value not exceeding 0.012 in the short run. Decreasing effect: After the peak, the effect gradually decreases, slowly moving toward the long-run equilibrium value.

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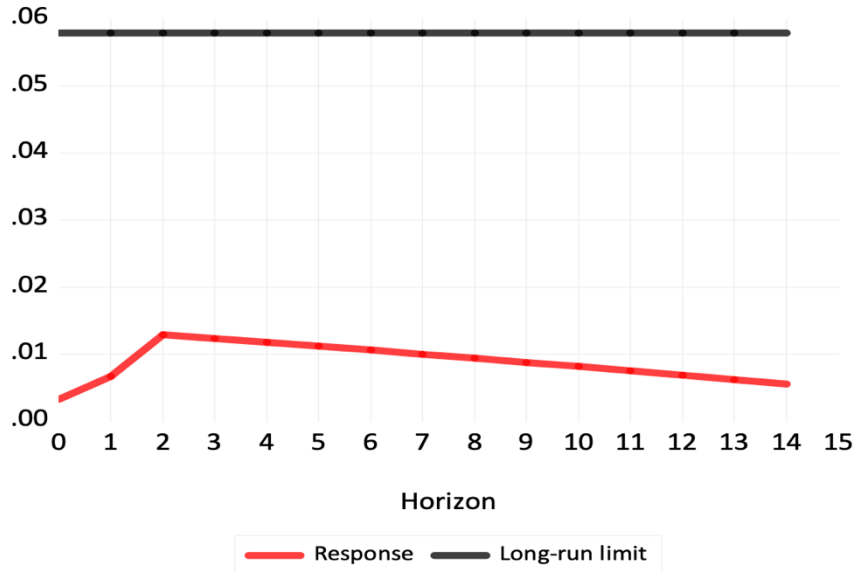
Figure 3

Cumulative Dynamic Multiplier: OIL_REVENUES on BANK_CREDIT



At this stage, some diagnostic tests are conducted to ensure that the model is free of autocorrelation in the data (by running the Brush-Godfrey test) and that there is no heterogeneous error variance (by running the Brush-Pagan-Godfrey test). Looking at the results of Table 5) for Model (1), it is noted that the value of the F statistic (probability value) reached (0.468661), which is greater than the accepted significance level. Therefore, we do not reject the null hypothesis. This means there is no autocorrelation between the residuals of the estimated model, and this is confirmed by the Chi-square test, where the probability value (0.45955) is greater than 0.05. As for the heterogeneity test, it is noted that the value of the F statistic reached (0.421695), which is greater than 0.05. This indicates that there is no strong statistical evidence of heterogeneous error variance based on this test. The Chi-square probability value (0.414279) is greater than the accepted significance level. Therefore, there is no problem of homogeneity of error variance. In the estimated model, as is the case for Model (2), looking at the results in Table 1, it can be noted that for the F-statistic, the probability value is (0.84495), which is greater than (0.05). This means that there is no autocorrelation between the residuals of the estimated model, as confirmed by the chi-square test, where the probability value reached (0.840835), which is greater than 0.05. As for the variance test, the percentage of the F-statistic reached (0.588753), which is greater than 0.05. This indicates that there is no strong statistical evidence of heterogeneous error variance based on this test. The chi-square test confirmed the probability value (0.578832), which is greater than the accepted significance percentage. Therefore, there is no problem with the homogeneity of error variance in the estimated model.

Table 5

Testing The Problem of Autocorrelation and Heterogeneity

Model(1)				**Model(2)**			
Breusch-Godfrey Serial Correlation LM Test Null hypothesis: No serial correlation at up to 1 lag				Breusch-Godfrey Serial Correlation LM Test: Null hypothesis: No serial correlation at up to 1 lag			
Prob. F(1,102)	0.468661	F-statistic	0.529079	Prob. F(1,101)	0.84495	F-statistic	0.038443

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Prob. Chi-Square(1)	0.45955	Obs*R-squared	0.54699	Prob. Chi-Square(1)	0.840835	Obs*R-squared	0.0403310
Heteroskedasticity Test: Breusch-Pagan-Godfrey Null hypothesis: Homoskedasticity				Heteroskedasticity Test: Breusch-Pagan-Godfrey Null hypothesis: Homoskedasticity			
Prob. F(2,103)	0.421695	F-statistic	0.870753	Prob. F(3,102)	0.588753	F-statistic	0.6435734
Prob. Chi-Square(2)	0.414279	Obs*R-squared	1.76243	Prob. Chi-Square(3)	0.578832	Obs*R-squared	1.9691612
Prob. Chi-Square(2)	6.975700	Scaled explained SS	19.13831	Prob. Chi-Square(3)	0.072676	explained SS	6.9757110

Source: Prepared by the authors.

The cumulative sum (CUSUM) test is one of the most important diagnostic tools for assessing the stability of the estimated model parameters. It was specifically developed to demonstrate structural changes or shifts that may affect the model's efficiency and effectiveness. Figures (4) and (5) illustrate the stability of the model parameters over the observation period. The CUSUM line lies within the 0.05 significance level, indicating no significant gaps or structural shifts in the model parameters. This result reinforces the model's apparent stability and validity, as well as its ability to generate accurate predictions.

Figure 4

Structural stability of the CUSUM Model 1

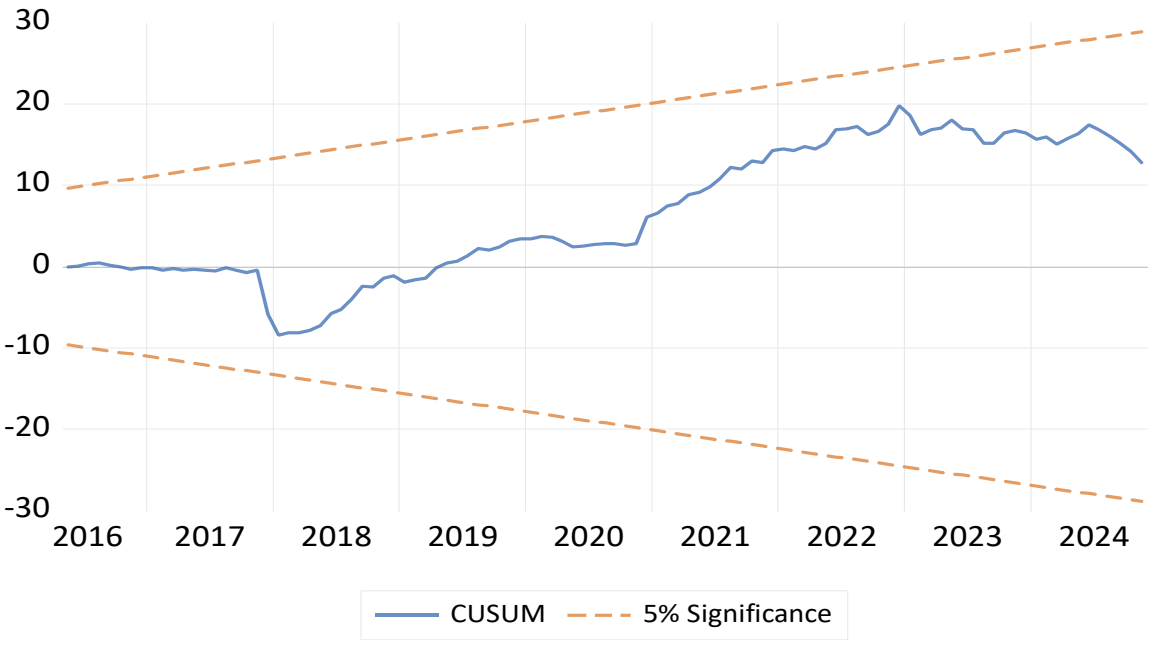

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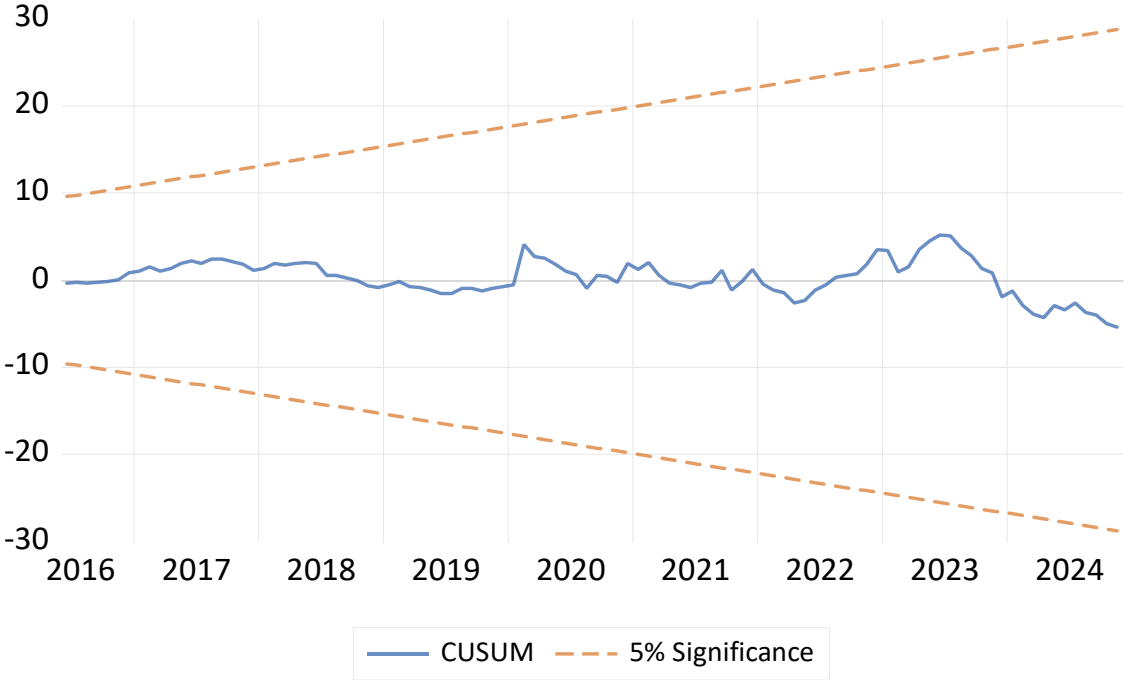
Figure 5

Structural stability of the CUSUM Model 2



The confirmed stability of the ARDL model parameters, as validated by the CUSUM test falling within the significance level, reinforces the reliability of the estimated long- and short-term relationships and the validity of the policy conclusions derived from this study.

Discussions

The study aimed to answer the research question of the impact of the oil sector in Iraq on the assets and credit of the banking sector in Iraq, using the ARDL methodology. The results of the study are important and valuable because they determine the extent of the banking sector's connection to the oil sector and whether this connection can hinder financial development in the banking sector, from the perspective of the oil curse. Although the oil sector in Iraq has a positive impact on the banking sector's activities, the Iraqi economy's dependence on oil as a significant resource can have negative repercussions that limit the banking sector's growth. This can help policymakers develop comprehensive plans that increase the diversification of government revenue sources and foster the development of other economic sectors.

The study concluded that increasing oil revenues by one unit leads to an increase in the assets of the Iraqi banking sector by (0.03560) in the short term and (2.852923) in the long term. Likewise, increasing oil revenues leads to an increase in the volume of bank credit by (0.0069000) in the short term and (0.057869) in the long term.

Institutional Mechanisms Behind the Oil-Banking Nexus

The results of this study are partially consistent with those of Abdul et al. (2021), which states that oil revenues in Iraq generally affect all economic sectors and have a direct impact on bank deposits and, consequently, the volume of bank credit granted. However, this study did not determine the magnitude of this impact as it used a financial analysis approach. The current study also aligns with the findings of Abdul Aziz et al. (2018), which indicate that credit can increase significantly with rising oil revenues. The current study also aligns with the findings of Elsayed et al. (2023), who report that oil price fluctuations significantly affect the macroeconomic and financial stability of oil-producing countries, especially during crises. According to this study, oil revenues initially affect macroeconomic variables, which are then reflected in the assets and credit of the banking sector. This supports the validity of our

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study's findings. The current study is also consistent with Wang (2021), who found that oil price shocks lead to declines in demand deposits, sharp increases in credit line withdrawals, and increases in non-performing loans.

The current study differs from Umar et al. (2021), which examined the oil sector from the perspective of the oil curse, concluding that oil price surges reduce banking efficiency and increase the likelihood of default. Our study also differs from that of Adetutu et al. (2020), which concluded that bank productivity decreases during periods of high oil prices in Kazakhstan. This negative effect is more evident in banks with greater exposure to foreign currencies.

We believe two factors underlie the positive effects of oil revenues on banking-sector assets and credit. The first is Iraq's extensive hiring, with the number of government employees reaching 4.08 million and the number of retirees at approximately 3 million. This large number ensured a stable income and limited crises in the banking sector caused by fluctuations in oil revenues. This supports the findings of Ozili (2025), which indicate that unemployment has a decisive impact on financial and banking stability. Another factor is the establishment of a currency selling window and the sale of the US dollar at a fixed exchange rate, to ensure the stability of the general price level, thus limiting financial crises that affect the banking sector. Previous research (Mamonov et al., 2024) on banks with high exposure to foreign currencies indicates that uncontrolled exchange rate fluctuations cause a sharp downward bias (up to 30% on average) in banks' cost-efficiency estimates and significantly increase risk costs through foreign exchange revaluation. By adopting a fixed exchange rate, Iraq's mechanism protects local banks from these significant measurement and operational risks, reinforcing the strong stability observed in our econometric results. Kashgar et al. (2020) indicated that exchange rate fluctuations in Iran have negative import effects and are a critical factor in employment, widening the financial gap and increasing credit risks.

Our study confirms the symmetric positive impact of oil revenues on banking-sector liquidity and assets in Iraq, sustained by stable government mechanisms. In contrast, the research by Ali et al. (2022) demonstrated an asymmetric effect of oil shocks on stock market returns within an importing economy using the NARDL approach. The core difference lies in the mechanism: Iraq (an exporter) translates the oil impact into state-directed financial stability, while Pakistan (an importer) experiences it as a cost and risk shock in speculative and real markets.

The Regulatory Framework and Banking Sector Resilience

Despite the partial protection provided by institutional mechanisms, the long-term resilience of the banking sector is undermined by weaknesses in the regulatory framework and poor application of internal governance. It must be noted that the Central Bank of Iraq still faces challenges in applying international standards, as the number of banks fully compliant with Basel II/III standards remains very limited. This regulatory deficit creates gaps that increase oil dependence. This point is also supported by the study, which found that weak corporate governance practices have a significant, direct negative impact on the quality of banking assets, especially in banks that do not strictly adhere to regulatory requirements, thereby increasing Non-Performing Loan (NPL) rates. These gaps include weak lending concentration regulations, limited counter-cyclical macro-prudential tools, and inadequate legal frameworks for Collateral Enforcement. These regulatory restrictions prevent the banking sector from diversifying and operating as an effective financial intermediary for non-oil sectors, keeping the economy trapped in the oil-centric cycle (Omer & Mays, 2022).

Furthermore, the results of our study can provide policymakers with further insights into the impact of oil revenues on the volume of credit granted and banking sector assets. Furthermore, examining the long-term feasibility of the positive relationship between oil revenues and banks' assets and credit, especially in light of potential shifts in global energy markets, would provide crucial guidance for Iraq as it continues its relentless efforts to achieve economic diversification. Future studies could

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also address the role of non-oil sectors in shaping financial stability and bank deposits, as these sectors become increasingly important in the country's economic transformation.

Finally, there are still many unexplored logical opinions regarding the nature of the impact of oil revenues on private and government credit, given that the latter constitutes a significant portion of credit volume, and in light of government spending and dollar sales through the foreign exchange window. Furthermore, there is a need to clarify whether oil revenues lead to a crowding-out crisis for the private sector. Therefore, there is an urgent need to conduct in-depth studies that include the aforementioned variables, cover a broader time period spanning all economic periods of the banking sector, and compare the Iraqi banking sector with that of other oil-producing countries.

Limitations of the Study

The primary value of this study is its examination of how the oil sector affects the banking sector. It provides an objective explanation of the positive impact of oil prices on the assets and credit of the banking sector, despite opposing views stemming from the oil curse perspective. However, some limitations affect the study's overall results, including the lack of arbitrage variables such as government spending and the exchange rate, which directly impact individuals' purchasing power and, consequently, banks' assets and credit. Furthermore, the gross domestic product (GDP) accounts for a large share of the impact on the banking sector. Despite the research limitations mentioned above, the current study provides valuable results on the impact of oil revenues, both during periods of high oil prices and during crises, and theiron which effect on banking activities. These results can help policymakers, notably the Central Bank of Iraq and the Ministry of Finance, identify the underlying reasons for the banking sector's close relationship with the oil sector and understand the negative effects the oil sector can have during oil crises.

Conclusions and Implications

The ARDL analysis confirms a direct, positive, and statistically significant impact of oil revenues on the Iraqi banking sector's assets (BA) and credit (BC) across both the short and long term, establishing an explicit pro-cyclical dependency. This finding confirms that banking-sector stability and growth are inherently tied to hydrocarbon revenue inflows. Crucially, the study identifies two structural factors that offer temporary insulation: the adoption of the fixed exchange rate policy through the currency auction window, which partially shields domestic financial stability from global oil price volatility, and high public sector employment, which provides a stable deposit base for banks via guaranteed personal incomes.

These results carry critical and immediate policy implications: they affirm that banking-sector fragility cannot be resolved solely through regulatory adjustments but necessitates a comprehensive macroeconomic restructuring. This mandates an accelerated national commitment to revenue diversification and a deliberate transition away from total reliance on oil toward a system of multi-faceted revenue streams and sustainable sovereign reserve funds, which is essential for ensuring resilient banking growth in the face of future crises. Furthermore, the findings necessitate a re-evaluation of resource allocation efficiency in high public employment, as this structure, while providing short-term stability, may create long-term structural drag, requiring a shift toward strengthening the private sector. Academically, this research closes a significant knowledge gap by providing the first comprehensive, updated quantitative analysis of the oil shock transmission mechanism within a fixed exchange rate environment using the ARDL framework. This approach advances the empirical understanding of financial stability dynamics in rentier economies, offering policymakers an empirically grounded framework to promote stability and evaluate the efficiency of resource allocation.

Institutional Reform Roadmap: Transforming the Banking Sector

The overarching goal of the reform roadmap is to transform the banking sector from a passive recipient of oil rents into an active agent of economic diversification. This requires a structured, multi-

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phased approach focusing on foundational regulatory strengthening, governance overhaul, and ultimately, structural creation of new financial channels for the non-oil economy.

PHASE 1 (2025-2027): Regulatory Strengthening

The initial phase must focus on strengthening the core prudential and legal framework to enhance stability and the functioning of credit markets. This includes adopting essential risk management tools, such as establishing a counter-cyclical capital buffer framework fully aligned with Basel III standards, which forces banks to build capital during economic booms to absorb losses during downturns. Simultaneously, efforts must focus on developing the infrastructure for sound credit markets by implementing a comprehensive credit information system (with the necessary legal basis) and, most critically, strengthening collateral enforcement laws. The latter is vital to reduce credit risk by shortening the asset resolution time from over five years to under two years, encouraging banks to increase productive lending.

PHASE 2 (2027-2030): Governance Reforms

The second phase centres on commercialising the sector and establishing independent oversight. Given that state-owned banks currently dominate the sector with approximately 50% of sector assets, a critical priority is the definitive restructuring of these state-owned banks toward transparent commercial principles. Institutional independence is key, necessitating the establishment of an independent Banking Supervision Authority separate from the Central Bank of Iraq (CBI) to ensure depoliticised and focused oversight. This period also mandates the full adoption of international transparency standards, including achieving 80% compliance and implementing a public beneficial ownership registry to combat illicit financial flows and build international confidence.

PHASE 3 (2030+): Structural Transformation

The final phase involves creating new financial institutions and mechanisms to support economic diversification directly. This requires developing the legal framework for a sovereign wealth fund with a dedicated investment mandate for financing the non-oil sector and long-term national projects, ensuring that oil wealth is converted into sustainable capital. To address the fundamental gap in development finance, a new development bank must be created with a specific legal mandate for targeted lending to the SME and agricultural sectors. Finally, the future economic transition must be supported by implementing a green finance regulatory framework to facilitate the mobilisation of the necessary capital for the energy transition and climate-resilient investments.

Suggestions for Future Research

The insights derived from this study necessitate a unified research agenda to expand the analytical framework and enhance the generalizability of the rentier-banking nexus, particularly among major oil producers. This requires a Cross-Country Comparative Analysis using Panel Data Regression that incorporates structurally diverse rentier states such as Saudi Arabia, Nigeria, and the UAE, along with other oil producers operating under a floating exchange rate regime, to explicitly isolate how different monetary policies mediate the transmission of oil shocks. Advanced ARDL variants and time-series methodologies must complement this analysis: leveraging Nonlinear ARDL (NARDL) and Markov-Switching VAR (MS-VAR) models to explicitly test for asymmetry (e.g., at specific thresholds such as $80/barrel) and endogenous regime switching between boom and crisis periods. Furthermore, future work must disaggregate the sector to assess banking-sector heterogeneity (state-owned vs. private banks) and expand the modelling framework by incorporating a larger Structural VAR (SVAR) system. This SVAR should incorporate intermediate transmission channels such as Government Spending and Central Bank Reserves, and use techniques like CS-ARDL (to address cross-sectional dependence) and ARDL models with structural breaks to ensure robust findings. The temporal sample should be extended (e.g., data from 2007–20*24*) to capture historical shocks, providing a complete and nuanced understanding of oil revenue causality to financial stability.

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Acknowledgements

None.

Conflict of Interest

None.

Funding

The Authors received no funding for this research.

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