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HEDING THE PRICES OF BASRA CRUDE OIL TO MANAGE VOLATILITY RISKS IN MACROECONOMIC

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[1]Lect. Dr. Ali Qasim Khafeef, 2Asst. Prof. Naeem Sabah Jarrah, [3]Asst. Prof. Zahid Q. Badan; Hedging the prices of Basra crude oil to manage volatility risks in Macroeconomic-Palarch's Journal Of Archaeology Of Egypt/Egyptology 17 (07), 1673-1691. ISSN 1567-214x. Published October, 2020.

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ABSTRACT

The oil sector represented by its revenues plays an important role in the structure of the Iraqi economy, so that fluctuations in the prices of crude oil are not limited to the provision of foreign currency from the oil source in the Iraqi economy when financing imports of goods and services, as the subject is larger than that, The research dealt with the issue of hedging in crude oil prices by relying on the formulation of a model that can control the fluctuations in the prices of Basra crude, for that purpose used a series of monthly and annual data for crude oil prices with an emphasis on the independent variable The spot and future of WTI, which considered to be influential in the dependent variable, and based on the methods of economic measurement to know the amount of significant changes that affect the oil revenues and therefore on the GDP by estimating the relationship between the variables, and because of the high degree of dependence

on Basra crude, Leading to volatility in oil revenues, and thus lead to distortions in the economic structure that show the dependence on oil revenues, and concluded that the study of economic stability requires hedging by relying on future contracts for oil prices , and this research is based on a long-term relationship between the prices of Basra crude and WTI, so the researchers believe that Basra crude prices are going parallel and interconnected road with West Texas crude.

Introduction

The importance of volatility encouraged Several researchers to investigate the relationship between the stock markets and the oil markets in order to explore the causes and the effects on the economies, the study of (Rattia, 2007)sought the relationship between oil prices and their statistical significance on the financial markets in the United States and 13 European countries during the period 1986/1 - 2005/12 using a monthly data of stock price indices, short-term interest rates, CPI, industrial production and Oil prices over this period of time, the findings of Norway as an oil exporter showed a positive correlation between its market returns and crude oil prices. For many European countries, an increase of oil price volatility significantly reduces stock returns.The study finds that the impact of oil price fluctuations is greater than the effect of interest rate changes on the US stock markets and most of the countries in the model, also shows that the increase in the price of oil drives short-term interest rates to rise in the United States and eight out of 13 European countries in a short period as the increase in oil price volatility leads to an increase in the short-term interest rate.

The study of (Imarhiagbe, 2010) attempted to analyze the effect of crude oil prices on stock indices in a group of the major oil producing and consuming countries (Mexico, Russia, Saudi Arabia, India, China and the United States), using a daily data for stock market indices, oil prices in addition to the exchange rate, for the period: Jan2000-Jan2010, running VECM model. The results revealed a long-term relationship in Saudi Arabia, Russia, India, China and the United States, on the contrary, there was no long-term integration between the Mexico's variables.

(Mohamed Arouri, 2009)examined the short-term relations between oil prices and GCC stock market indices, using weekly data for GCC stock markets: (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the UAE), as well as spot prices of the OPEC basket during 2005-2008.

The results of showed that there is an important relationship between the variables in Qatar, Oman and the United Arab Emirates. Thus, the stock markets in these countries react positively to oil prices. The study also revealed that fluctuations in oil prices do not affect the returns of stock markets in Bahrain, Kuwait and Saudi Arabia.

While (Lurion De Mello, 2011) attempted to analyze the financial market of South Korea, using the VECM methodology by involving the variables: The Korean stock market index, interest rates, and industrial production.The study covered the period of financial crisis that hit the Asian countries in 1997, where South Korea was the most affected, as well as covering the period of Gulf War in 1991 which caused a sharp rising in oil prices. South Korea faced a drop in exports in 1989 and a decline

in macroeconomic activity due to the increase of oil prices, lower industrial production, higher costs, wages, and interest rates. The study showed the dominance of oil prices volatility on the financial market, and become more vulnerable over time, as well as causing a high volatility in production cost and inflation rates in the South Korean economy during that period.

Tarak Nath Sahu& Others, (2014) tried to examine the dynamic relationships between oil prices, exchange rates and the Indian stock market during the period 1993-2013, using Johansson & Juselius methodology for detecting long-term co-integration, as well as the VECM. The Indian stock market index, crude oil prices, and exchange rate represented the variables of the study. The results of the Johansson & Juselius and the VECM model indicated a long-term relationship between crude oil prices and the Indian stock market, but it cannot be stated with sufficient confidence that the direction of the long-term relationship is moving from oil prices to the Indian market index. The causality test revealed one-way causal relationship from stock prices to crude oil prices, which give a sign that the volatility of India's stock prices can be explained by the volatility of oil prices and exchange rate in the short term.

The problem of research is that oil revenues represent the main proportion of the public budget. Therefore, the fluctuations that have occurred have created a large deficit and imbalances in prices and distorted the economic structure. Therefore, the study is trying to hedge the prices of Basra crude to avoid fluctuations in oil revenues. The study assumed that it is possible to formulate the prices of Basra's future crude to avoid fluctuations in oil revenues, or hedging prices by relying on futures contracts, which contributes to stabilize oil prices and thus stability of oil revenues. The importance of research stems from the role of the oil sector in the Iraqi economy, analysis and discussion and measurement of fluctuations in crude oil prices, trying to develop solutions to give a moral impetus to get rid of the problem of structural imbalances in the Iraqi economy. The research goals are:

• Avoiding external shocks

• Stabilization of oil revenues and thus government spending

• Achieving economic stability, eliminating the deficit.

Theoretical background

Hedging instruments of price risk in future markets

Futures markets are considered the time and place where sellers and buyers meet for the conclusion of transactions. So, each contractual obligation to customers is with future markets. Futures markets are non-profit, voluntary organizations that provide an organized market. They establish rules governing the performance of their members and prevent fraud and forgery. The rules are reviewed by the Commodity Futures Trading Commotion (CFTC), which is the government authority responsible for dealing in future markets.

Discovery of the future price Discovery

The discovery of the future price is known as the reversal of information about market prices (futures) through futures markets. This is achieved through three factors: the availability of future price information, the accuracy of future price forecasting by futures markets and the prediction of future markets with other methods Other prediction.

Hedging

In the general sense, the concentration of two positions is different, so that the losses to one of the centers must balance the increase and decrease, the profits of the other center (Francis, 1991: 219). Therefore, hedging prices using futures contracts for the crude oil markets means taking a position in a futures contract Contrary to the position taken in the money market (present) to reduce the risk of fluctuations in crude oil prices, and to protect the monetary position from unexpected price fluctuations. In the futures market, regulation is defined as "taking a position in the future market in contrast to the position taken in the (current) money market"

Futures

Is a contract between two parties to exchange assets or services at a specified time in the future at a price agreed upon at the time of the contract. In most traditionally traded futures, one party agrees to deliver a commodity or financial asset at a time in the future, It upon delivery. The first is the seller of the futures, while the latter is the buyer, while the seller or buyer may use the futures contract to hedge from other positions in the same asset, the price changes in the original after the conclusion of the futures contract, one party gains at the expense of the other, the price of the underlying asset increases after the agreement, the buyer earns at the expense of the seller, but if the price of the asset falls, the seller earns at the buyer's expense

Factors Influencing Basra Prices

Crude oil prices are strongly correlated with global growth and economic activity. The difference in the expected rates of growth in energy demand stems mainly from the disparity in the estimation of global economic growth rates, followed by the disparity in the estimate of the global economic growth rate. The factors influencing the development of the level of oil prices in the global market are related to the energy policies of industrial and consumer countries, which seek their needs for crude oil at low prices, and the most important policies of consuming countries:

Strategic Reserves

B) Commercial stocks

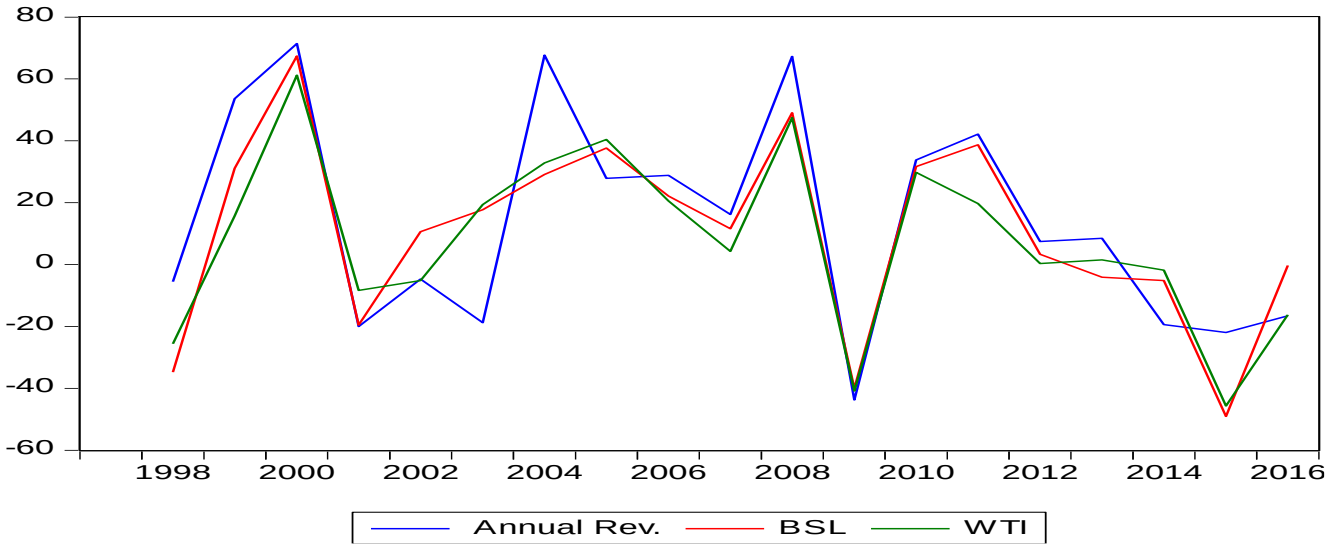
(C) consumption rationalization policies;

The movement of Basra crude prices is directly related to fluctuations in the global market, especially WTI, due to the nature of the oil policy in Iraq after the change in the political regime in 2003. The importance of stocks (strategic and commercial) has increased significantly in the last two decades in terms of the depth of their impact on the international market Oil, and it turns out that the process of pricing crude oil can no longer be productive countries, but moved to the hands of industrial consuming countries, and there are many policies behind the determination of oil prices, and the phenomenon of supply and demand, but an external appearance of this phenomenon, How effective major in the process of global oil pricing is the party capable of storing oil and marketing and clutch on the mysteries oil bourse, and no doubt that the US oil companies top companies in this area and that the United States has increased its strategic stored.

It is clear to us that the prices of Basra crude are not different from the prices of West Texas crude, as evidenced by the following diagram shows the relationship between the prices of Basra Light and West Texas crude during the period (1997-2016)

The relationship between the price of Basra Light and West Texas crude

The pricing policies of crude oil are important topics in the economic structure of oil, especially in the Iraqi economy, which depends on oil exports very much, and to draw these policies through the knowledge of the global variable and independent, so that researchers can advise the oil policy makers and decision-makers The variation in the prices of Basra Light and WTI prices during the period (1997-2016) shows that there is a very clear correlation between the two prices so that Basra crude continued to the West Texas crude prices in the same direction The changes were very clear from the first month in 1997 until the fifth month of 2000. Basra Light was going along with WTI and in the same direction with the increase and decrease, and the correlation continued to be clear until the year 2016, giving the impression and outlook for the future that the prices of Basra crude continue to be linked to West Texas crude prices in the future.



On the other hand, it is known Iraq's reliance on oil revenues to a high degree in the financing of economic activity and represent the basis of national income, so the researchers calculated and analyzed the degree of volatility of prices of Basra light oil and oil revenues, and indicated the pattern of relationship in the case of oil policy makers in Iraq to deepen the use of hedging tools in the export of crude oil based on the standard deviation to illustrate the change in prices and returns, the low volatility of Basra light crude and oil revenues showed significantly during the period 2017-2022 compared to previous periods, during which the researchers Forecasting Basra Light Prices will be seen in the next part of the study. The results give an important indication of the effectiveness of the adoption of hedging instruments to mitigate volatility in crude oil prices and thus generate returns that do not suffer from major changes affecting the country's financial situation. Table (1) shows the results of the measurement of the standard deviation of Basra light crude oil and oil revenues.

No	Period	WTI	BSL	Annual Rev.
1	1997-2003	5.1435069	5.032971897	4938974.892
2	2004-2016	21.409845	25.02024855	22840528.51
3	2017-2022	1.8313643	2.460864864	16149425.72

Outlook for Basra crude prices

The price of Basra's crude oil and its revenues is one of the most important elements of economic growth and the main source of funding for the general budget in Iraq. Thus, the deterioration of oil prices and then its impact on the financial centers of the Iraqi economy since the beginning of the nineties has led to a decline in the rate of economic growth. Economic and integration of Iraq with the global economy has emerged the need for forecasts of what will be the price in the future, as well as the proponents of economic policy to form a long-term view on the prices of Basra crude before making the decision to enter a budget, the future of Basra will usually take the form of alternatives based on assumptions that may or may not be achieved. Three options are usually adopted. The first is the high price and the best expectations for the phenomenon are assumed. The second is the low price assuming the worst and then the last probability is the average. The future of oil prices is necessary to develop a strategy to guide the decision-making, both in the medium and long term, these studies contain several errors, including the impact of emergency events, such as the sharp decline in oil prices during (1998), which makes them impact the events The two researchers relied on historical and current information on the price of Basra crude and its high correlation with West Texas crude, and expected its correlation in the future to the same degree, which means the characterization of the independent variable of WTI prices and Basra ore prices, thus avoiding fluctuations Which occur on an emergency basis and the use of futures contracts for the sale of Basra crude at expected WTI prices.

Year	WTI	BSL	Oil Rev.

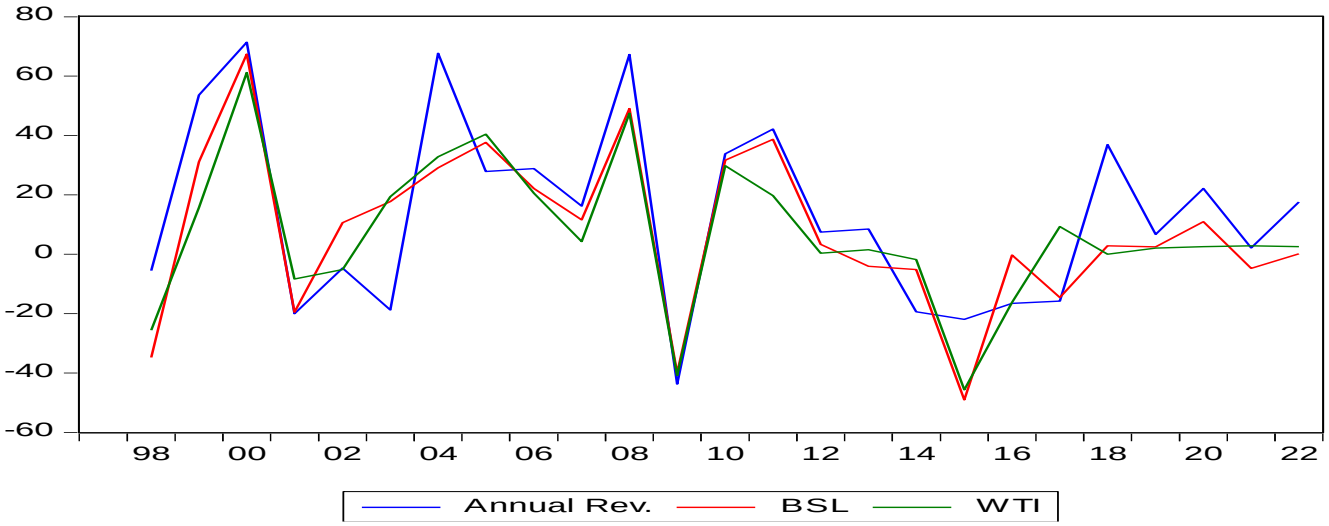
1997	20.817	17.613	9630459
1998	15.493	11.493	9098743
1999	17.927	15.072	13978443
2000	28.898	25.235	23956830
2001	26.49	20.313	19165352
2002	25.115	22.468	18263294
2003	29.992	26.452	14830222
2004	39.849	34.15	24867055
2005	55.96	47.016	31798924
2006	67.462	57.425	40976747
2007	70.331	64.074	47616014
2008	103.72	95.515	79661898
2009	61.322	57.308	44815804
2010	79.59	75.459	59954043
2011	95.266	104.65	85219108
2012	95.622	108.08	91564417
2013	97.078	103.65	99349885
2014	95.357	98.283	80105339
2015	51.804	50.037	62497298
2016	43.389	49.885	52165992
2017	47.423	42.61	43936236
2018	47.407	43.807	60153080
2019	48.391	44.885	64188042
2020	49.62	49.809	78393839
2021	51.033	47.433	80072373
2022	52.318	47.493	94145095

This is considered the beginning of the two researchers to find out the analytical role of investment prospect, which is a very important role to avoid fluctuations and their negative effects on the macro economy, but cannot rely on its results alone to take the investment decision, but is placed in its natural position and cannot be considered a compass for decision- In general, the price of crude oil is influenced by special factors in WTI prices and factors related to the global economy. The analysis focuses on the movements of WTI and frames the behavioral relationship between the two prices and depends on the basic idea that history repeats itself so that the direction of The price and historical movement of supply and demand and the rate of global growth in them, and in the absence of new information that would change the expectations of West Texas crude, the price of Basra crude remains associated with the prices of West Texas crude and the historical information and realistic information can determine future prices as in the following table.

Empirical Results

Stationary tests (Dickey Fuller & Phillips Perron tests)

Figure 3-1 shows the time course of the three variables of the study and shows the size of the changes that the variables encountered during the studied period. This gives a sign of the existence of the root problem of the unit in the time series. The results of the test showed that these strings did not stay at the level, so the null hypothesis was re-tested, but after taking the first difference to achieve stillness (Mondal, 2014, p 79), Table 2)



At Level							
PP			ADF				Variable
5%	1%	t-Stats	5%	1%	t-Stats		
2.986225-	3.724070-	1.222482-	2.986225-	3.724070-	1.222482-	α	Ann. Revenu
3.603202-	4.374307-	-2.1498	3.603202-	4.374307-	2.101707-	£α	
2.986225-	3.724070-	1.677753-	2.986225-	3.724070-	1.677753-	α	BSL
3.603202-	4.374307-	1.395667-	3.603202-	4.374307-	1.395667-	£α	
2.986225-	3.724070-	1.792083-	2.986225-	3.724070-	1.792083-	α	WTI
3.603202-	4.374307-	1.545108-	3.603202-	4.374307-	1.545108-	£α	
At first difference							
PP			ADF				Variable
5%	1%	t-Stats	5%	1%	t-Stats		
2.991878-	3.737853-	5.079214-	2.991878-	3.737853-	5.079214-	α	Ann. Revenu
3.612199-	4.394309-	4.961069-	3.612199-	4.394309-	4.961069-	£α	
2.991878-	3.737853-	5.112037-	2.991878-	3.737853-	5.112037-	α	BSL
3.612199-	4.394309-	5.268181-	3.612199-	4.394309-	5.263812-	£α	

2.991878-	**3.737853-**	5.577790-	2.991878-	3.737853-	5.577790-	**α**	**WTI**

Cointegration test (Johansson and Juselius method

Prior to the joint integration test, it is necessary to determine the optimal number of lags, and the optimal deceleration number is the number to which the most common criteria have met.

Lag	**LogL**	**LR**	**FPE**	**AIC**	**SC**	**HQ**
0	617.1277	NA	5.57e+18	51.67731	51.82456	51.71637
1	**580.7030**	**60.70773***	**5.72e+17**	**49.39192**	**49.98095***	**49.54819***
2	570.4211	14.56607	5.36e+17*	49.28509*	50.31589	49.55856

Joint integration is detected according to the Johansson Juselius test based on the test: Trace Test and Max Test,

A long-term integrative relationship between variables was revealed in three vectors, as in Table 4.

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.454907	34.96138	29.79707	0.0116
At most 1 *	0.408226	21.00501	15.49471	0.0067
At most 2 *	0.322015	8.938495	3.841466	0.0028
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None	0.454907	13.95637	21.13162	0.3686
At most 1	0.408226	12.06652	14.26460	0.1082

At most 2 *	0.322015	8.938495	3.841466	0.0028

We conclude from the existence of a common integration between the time series studied that there are time paths correcting the imbalances that occur in some variables in the short term, that is, there are corrective paths of the complementary relationship going from WTI to the oil revenues in the sense that the decline and the short term rise in WTI Leads to stable oil revenues of the Iraqi economy in the long term and this achieves the goal of the researchers to achieve economic stability.

4: Vector error correction model - VECM

If the variables that make up the model are characterized by the existence of common integration, the appropriate model for estimating the parameters is the VECM model. This model is used to reconcile the short and long term in economic relations. The economic variables are assumed to tend in the long term to balance when in the short term(Olsen, 2014, p. 19), between them in order to correct their time course in a long-term complementary relationship between Basra light crude oil and oil revenues, and may deviate from the path to which it is destined for temporary reasons but return to achieve balance and correct the long-term path, Hr negative and moral error correction factor, where short-term fluctuations are corrected by 7.49%,

i.e., that all changed by 1% ore Basra leads to change by a correction in oil revenues coefficient. The linear function represented the best representation through the estimations obtained. The value of R2 shows the amount of error in the model or the effect of the variables not included in the model. The value is 60%, which means that Basra and West Texas crude explains fluctuations in oil returns by the coefficient, while 40% are interpreted by other variables not included in the model.

Cointegrating Eq:	**CointEq1**		
ANNUAL_REV_(-1)	1.000000		
BSL(-1)	-3427261.		
	(1490737)		
	[-2.29904]		
WTI(-1)	4234583.		
	(1630940)		
	[2.59641]		
C	-4273681.		
Error Correction:	**D(ANNUAL_REV_)**	**D(BSL)**	**D(WTI)**
CointEq1	-0.572993	-7.49E-07	-7.85E-07
	(0.20559)	(2.2E-07)	(2.0E-07)
	[-2.78705]	[-3.47676]	[-3.84917]
D(ANNUAL_REV_(-1))	-0.165850	8.32E-07	6.16E-07
	(0.30980)	(3.2E-07)	(3.1E-07)
	[-0.53534]	[2.56123]	[2.00499]
D(BSL(-1))	-1135910.	-1.744568	-1.117149
	(617463.)	(0.64721)	(0.61254)
	[-1.83964]	[-2.69552]	[-1.82380]

D(WTI(-1))	1263581.	1.128107	0.678033
	(649044.)	(0.68031)	(0.64387)
	[1.94683]	[1.65822]	[1.05306]
C	230413.1	-0.279387	-0.125920
	(3517409)	(3.68686)	(3.48936)
	[0.06551]	[-0.07578]	[-0.03609]

This test is supported by the Fisher statistic, which shows that the model is fully significant. This is demonstrated by the probability value of 6.88. The VECM test showed that the model exceeded the problem of self-correlation based on the DW value. The value is within the acceptance area of 2.04. Linear multiplicity due to R2 value

Term	Values
R-squared	0.604681
F-Statistic	6.883208
critical value for (F) at 5%	0.001519
D.WStat.	2.040488

Impulse Response Functions

The IRF measures the effect of the pulse received by an internal variable from within the VAR or VECM on the current and future values of the variables contained in the model. There are two ways to measure the impact of the first shock by measuring the amount of shock by One standard deviation and the other measuring the amount of shock by one unit (Shorbagi, 2004, 20).

What distinguishes the shock functions is that they show the reaction of the system of internal variables after a shock in the errors, which means that the response functions show the effect of a single and sudden reduction of the variable on itself and on the rest of the system variables at all times with the imposition of a lack of correlation between errors.

In the sense that these functions work to track the time course of the various sudden shocks to the various variables involved in the VAR model and reflect how each of these variables responds to any sudden shock in any variable in the model over time (Al-Husami, 2010, 16) The shock in the random variable on Yt and for a given time period (s) by the following equation:

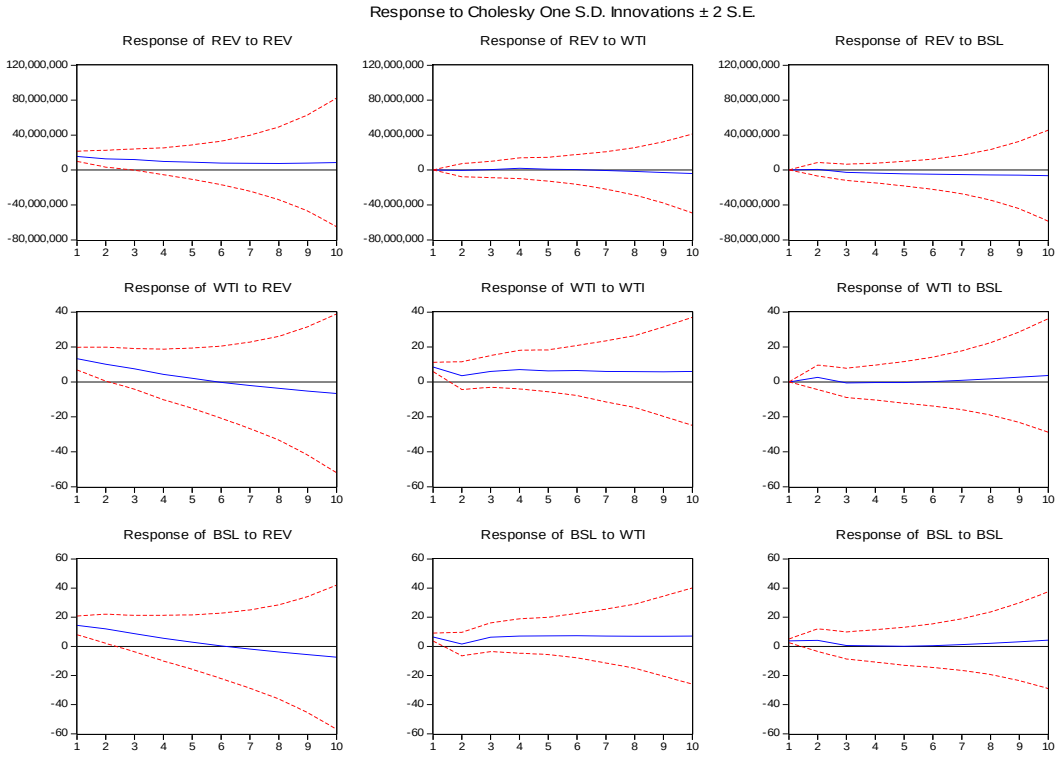
Response of ANNUAL_REV_: Period	ANNUAL_REV_	WTI	BSL
1	16861319	0.000000	0.000000
2	1863920.	-5702196.	4148586.
3	6550498.	-5963969.	5171306.
4	5751632.	-5150325.	3102615.
5	5350148.	-5088913.	4625106.

6	6119456.	-5729275.	3794577.
7	5323479.	-4934683.	4115282.
8	5978647.	-5636985.	4104960.
9	5523089.	-5123817.	3962203.
10	5788857.	-5440319.	4151126.
Response of WTI:			
Period	**ANNUAL_REV_**	**WTI**	**BSL**
1	12.59042	11.01223	0.000000
2	-0.577223	-4.630370	7.884398
3	1.652807	-0.109670	6.292538
4	2.381047	-1.393048	6.210515
5	1.519583	-0.634783	6.232232
6	2.083429	-1.200022	6.401344
7	1.777584	-0.844670	6.169434
8	1.904191	-1.015011	6.379076
9	1.888726	-0.972633	6.224552
10	1.846745	-0.943353	6.320598
Response of BSL:			
Period	**ANNUAL_REV_**	**WTI**	**BSL**
1	14.61634	8.579538	5.011052
2	2.297714	-6.872633	9.136263
3	2.795456	-0.988982	9.621668
4	5.367200	-4.094488	8.697544
5	2.956069	-1.683174	8.801765
6	4.617697	-3.478742	9.273809
7	3.657205	-2.349395	8.611264

8	4.088595	-2.913599	9.227383
9	4.001694	-2.743432	8.760266
10	3.902162	-2.685527	9.059712

The matrix as represents the response of the model to the occurrence of shock by one standard deviation in the period t in each variable of the model.

Table 7 shows the response of oil returns to a sudden shock by one standard deviation in the same variable and other independent variables. We note that the response of the oil returns to unexpected shocks in the same variable is always positive but was high and decreased in the second shock and remained oscillating between the decline and the rise until the last year A surprise shock response (WTI) at WTI (WTI prices) will have no effect in the first period, which is the time required by Basra Light to correct its price path to keep WTI going up and down,(REV) in the long term, which means that oil returns are comparable to WTI prices but lower than those, while the (REV) response to a sudden shock by deviation of one standard in BSL (crude prices) Basra) will have no effect in the first year and then the impact of this shock is positive in the second year and fluctuates to the end of the period because it is affected by fluctuations in West Texas ore, and this strengthens the hypothesis that the researchers can be hedging by relying on the prices of West Texas To avoid fluctuations in oil revenues that cause haze Violent Iraqi macroeconomic structure of any short-term fluctuations that corrects the annual long-term track and achieve stability and balance.



The figure above shows the response of the REV variable to a shock by one standard deviation by the same variable or other variable. The following forms adopt the variable response to the changes in WTI and BSL, respectively, when a standard deviation occurs in the same variable or other variable.

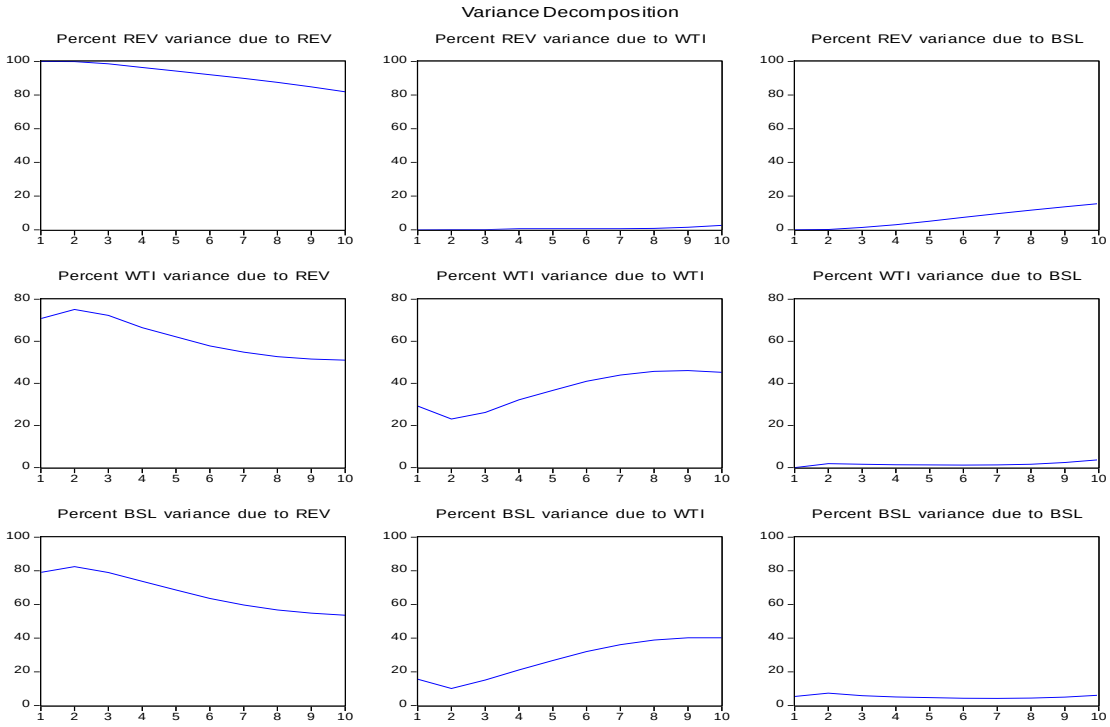
Variance components analysis

The analysis of the variance components measures the amount of variance in the prediction of the dependent variable resulting from the prediction line in the same variable as well as the amount that returns to the line of prediction in the other independent variables of the model (Majali and Druby, 2011, 349). Of the parts are attributed to the dependent variable and the independent variables in each model. Variables and pulse response functions can be obtained by the following model:

Table (8) shows the results of the analysis of the variance components of the REV resulting from the shocks that occur in the model variables. Column 2 of the table shows the standard error S.E, while the rest of the columns represent the variation ratio of each variant of the total variance. From the table, we see that the REV variable interprets 100% of the variance components in REV in the first year when a shock occurs by one standard deviation in the same variable and then retracts to 56.97% after 10 years. The WTI variable interprets 0% In the first year when a shock occurs by one standard deviation and then increases in the tenth year to 23.94% of the components of the variance. The BSL variable does not explain any of the variation components of the REV variable in the first year. In the second year it explains 5.09%

Increasing in the tenth year to 15.93% of the components of the variance Barr variables (WTI & BSL) in the interpretation of the change in the duration of the study during the REV as well as other variables, the impact will be weak compared to the financial and real variables for the interpretation of the change in REV. The following table shows the variance analysis for each variable with the same and with the other variables. The above shows that the impact of the WTI shock through BSL will be direct in the oil revenues and thus reflected on the macro economy and this corresponds to the hypothesis on which this study was based.

Variance Decomposition of ANNUAL_REV_: Period	S.E.	ANNUAL_REV_	WTI	BSL
1	16861319	100.0000	0.000000	0.000000
2	18371284	85.26661	9.633968	5.099424
3	21041018	74.69371	15.37841	9.927884
4	22626484	71.05441	18.48000	10.46559
5	24246041	66.74815	20.49888	12.75298
6	25933408	63.91283	22.79880	13.28837
7	27242755	61.73535	23.94102	14.32363
8	28749578	59.75816	25.34161	14.90023
9	29983251	58.33496	26.21945	15.44559
10	31294330	56.97125	27.09070	15.93805



Conclusions and Recommendations

1Conclusions

1. The oil sector plays a leading role in the economic, social and political life of Iraq. Oil revenues contribute significantly to the composition of GDP, as well as to the feeding of the balance sheet and the management of economic and social development projects, which encourages the proposal of stable prices

2. It can be concluded from the research that during the period (1997-2016), the process of pricing crude oil is no longer available to the producing countries, but has become the controlling party is the strongest party able to store and market oil, and the identification and control of supply has become in the hands Consuming industrial countries through demand management.

3- The standard model prepared for finding the moral factors affecting the prices of Basra crude oil referred to the following:

a. The existence of a long-term equilibrium relationship between the dependent variable and the independent explanatory variables, i.e., there is a correction of the time track and volatility in prices in the short term leads to price stability in the long term

B. When hedging is based on WTI prices, the Iraqi economy can absorb the external shocks resulting from price fluctuations and thus achieve stability

4 - The researchers put forward a model of future prices through which it is possible to achieve growth by increasing oil production as prices are known and fixed for the future. If the economic policy maker wants to achieve growth, it will increase Iraq's share of oil production according to the price movement in the future and the ability of Iraq to increase production. In turn, oil revenues, on which the researchers built their perceptions to address the problems that may arise in the future due to volatility in the prices of crude oil.

5 - Analysis of the volatility of crude oil prices revealed an important difference in the course of changes in Basra light crude oil and oil revenues, as there was a significant decline in fluctuations during the period predicted by the study prices of Basra crude, contrary to the level of high volatility in previous periods.

5-1 Recommendations

1. The policy of stabilizing oil revenues in the long term should be applied strongly by paying attention to the idea of the correlation between the prices of Basra crude and WTI prices to play an active role in its interaction with the growth of the Iraqi economy as well as the need to pay attention to the interdependencies of the constituent sectors of the economy and the oil sector Expected oil revenues

2- To benefit from the results of scientific research from the idea and method of pricing for Basra crude oil to pricing Iraqi crude oil to achieve a balance between oil revenues and macroeconomic policies.

3 - The need to create a database for the Iraqi oil sector and be available to all researchers so that they can write scientific research that helps to overcome economic problems

4 - The importance of deepening the use of hedging tools such as future contracts in the marketing of crude oil to ensure stable returns because of the possibility of reducing the volume of price fluctuations provided by modern financial instruments in the field of hedging and reduce risks.

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