



The economic growth of Iraq was influenced by the oil price fluctuation from 2000 to 2021

Zaid Ali Ahmed¹, Asmaa Nori Hameed^{1*}

¹ College of Dentistry, Tikrit University, Iraq.

* Corresponding author: asmanuroi@tu.edu.iq

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Abstract

The primary intention of work is to know the influence of oil price fluctuation from 2000 to 2021 on Iraq's economy. For this, some other elements are also need to include in this study including the fluctuation of GDP, crude oil demand in international market and the Price of oil. The fluctuation means to the elements of when the oil price increases or decreases due to any incident. Global pandemic, Iraq war and unemployment rise in 2016 are the causes of fluctuation in oil price in Iraq and the impact of this incidents are also included in the study. This study collected data from different authorized sources and analyzed them in the section results. The relation between the different components related to oil price fluctuation is obtained. Secondary method of data collection and a mixed method for analysis are the elements used in the result section to know about the ascendancy of price bin the oil on Iraq's growth through economic factors. The result of this paper shows that the oil export industry in Iraq contributes around 92% of the total GDP. When the oil price fluctuation is studied in Iraq, it is observed that the fluctuation rates in GDP and oil prices are quite similar. Some of the incidents including the Iraq war and the global pandemic disrupted international oil trading, due to the economic growth of Iraq also declines. Therefore, the oil price in Iraq is proportional to Iraq's economic growth, and from 2000 to 2021 it fluctuates rapidly due to the global pandemic and war. The availability of limited data on this matter causes a limitation in this study.

Keywords: Oil price, OPEC, Iraq's economy, Economic growth, Oil revenue contribution.

Introduction

Iraq is the second largest exporter of Crude petroleum; therefore, many countries across the world depend on the country for petroleum. In recent times, petroleum prices are going upward due for various reasons. As Iraq contributes more than \$72 billion in Crude petroleum and due to this, petroleum becomes the highest exported product within the country. Approximately 92% of the foreign exchange earnings come from exporting petroleum. Therefore, it can be postulated that the economic growth of the country is performed by exporting crude petroleum.

Aim and objective

Aim: The major aim of this thesis is to estimate the influence of oil price fluctuation in the last 20 years on the economic growth of Iraq. The Annual Federal Budget of Iraq primarily depends on crude petroleum exportation. Therefore, it is necessary to evaluate the impacts to know about any type of downwards in Iraq's economy on a prior basis. Analyzing the economic growth of the last 20 years in Iraq helps to forecast the future economic growth. Even this data advantage this thesis paper by knowing the contribution of crude petroleum exporting to the country's GDP.

Objectives

- To know about the fluctuation rate of oil prices in the Middle Eastern country especially in Iraq.
- To pinpoint the interdependence with oil price fluctuation and Iraq's growth related with their economy.
- To understand the way which accelerates Iraq's economic growth.

Research question

RQ1: What is the authority of oil price fluctuation on Iraq's GDP?

RQ2: How the price of oil helps to grow the economic condition?

RQ3: What is the fluctuation rate of oil prices in Iraq?

Significance

This thesis is designed to evaluate the influence of petroleum exportation by Iraq on its GDP for the last 20 years. Iraq is considered as one of the largest oil exporters in the world, thus it contributes 92% of the total amount of GDP of the country [1]. The monetary maturing of the country fluctuates favorably in the latest 21 years due to various reasons. As most GDP of the country depends on crude petroleum exportation, thus the investigation takes place with the interconnection of petroleum prices and the economic growth of Iraq. In 2021, the GDP of the country downfall, and while an investigation takes place about this matter, it has been observed that due to the global pandemic supply chain of oil exportation was disrupted and this caused the country to decline economy [2]. The first fall in the expiration of crude oil is observed in 2003 as a result of war and after the global pandemic in 2020, the second fall can be observed. This also impacts the economic growth of the country by -36.7% and -11.3% respectively.

Literature review

Influence of oil price on Iraq's economic development

Iraq is considered one of the largest crude petroleum exporting countries, and exporting contributes to around 92% of the country. Most economic activities conducted within the country are controlled by the revenue that comes from oil exports. Thus, the economic infrastructure of the country developed through this crude expiration. The author of this paper aimed to search the ascendancy of oil price, production, and licensing on economic development takes place in Iraq [3]. A quantitative research method, this paper analyzes the data on economic growth in the last 29 years. Database for analyzing the data was collected from “World Development Indicator” and “Trading Economics” for the years 1981 to 2019. The author analyzed the data in the “Augmented Dickey-Fuller” for “unit root test to check the stationarity” of the autoregressive and variables distributed lag model. Through conducting the author reveals that the price of oil is related with the economic growth of Iraq. While the price of oil depends on the current trading rate and international requirements.

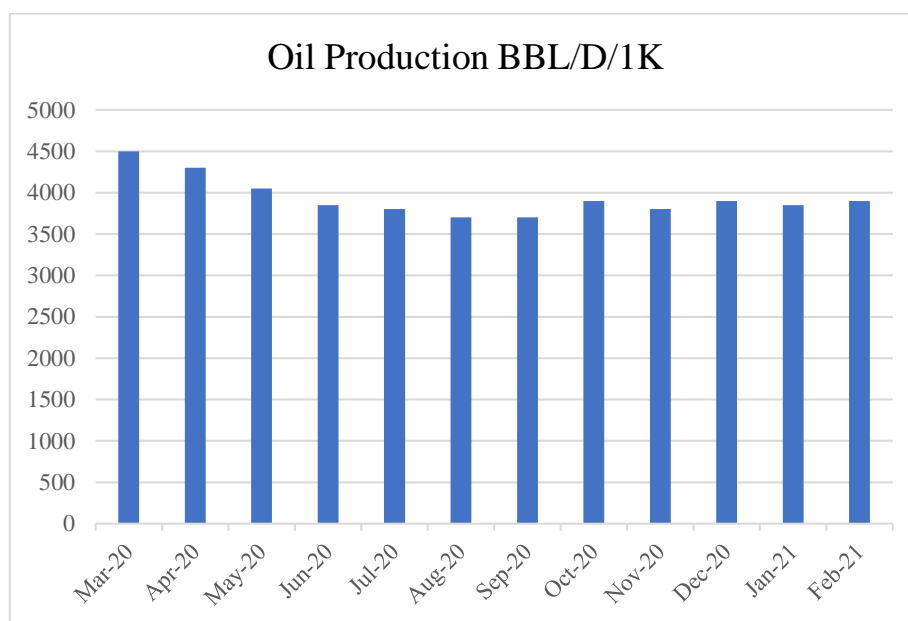


Figure 1: Oil production in Iraq

From the generated graph on the production of petroleum in Iraq, it can be observed that the production of crude oil fluctuated within the country, but the facilitation did not vary too much. This is the amount per barrel produced in 2020 by Iraq in months and the rate per barrel in 2020 was \$55.20269 while in 2021 the price was set at \$54.18420 and in this time, the production of petroleum also decreases. This implies that the revenue that comes from oil expiration decreases in that year which also lowers the growth of Iraq's economy [4]. Hence, it can be concluded from studying this article that the

development, international requirements, and the market price of crude petroleum impact the growth of Iraq's economy directly.

Ascendency of price fluctuation in oil sector on Iraq's growth in economic perspective

Oil is one of the main sources of power, thus oil plays a pivotal role in the world economy. Iraq is one of the largest exporters of oil and this causes an impact on the country's economic factors. The authors of this paper wanted to investigate how the fluctuation in oil prices accelerate the economic growth in Iraq. Through the study of the Impulse Response Function (IRF) and variance decompositions (VDC) are used to know about the impacts of the incident [5]. Vector Autoregressive Model is employed in this analysis to investigate the consequence of the natural petroleum outlay and trading on the economic growth of Iraq. Authors use a mixed method in this study as IRF requires a qualitative study and VDC requires a quantitative one.

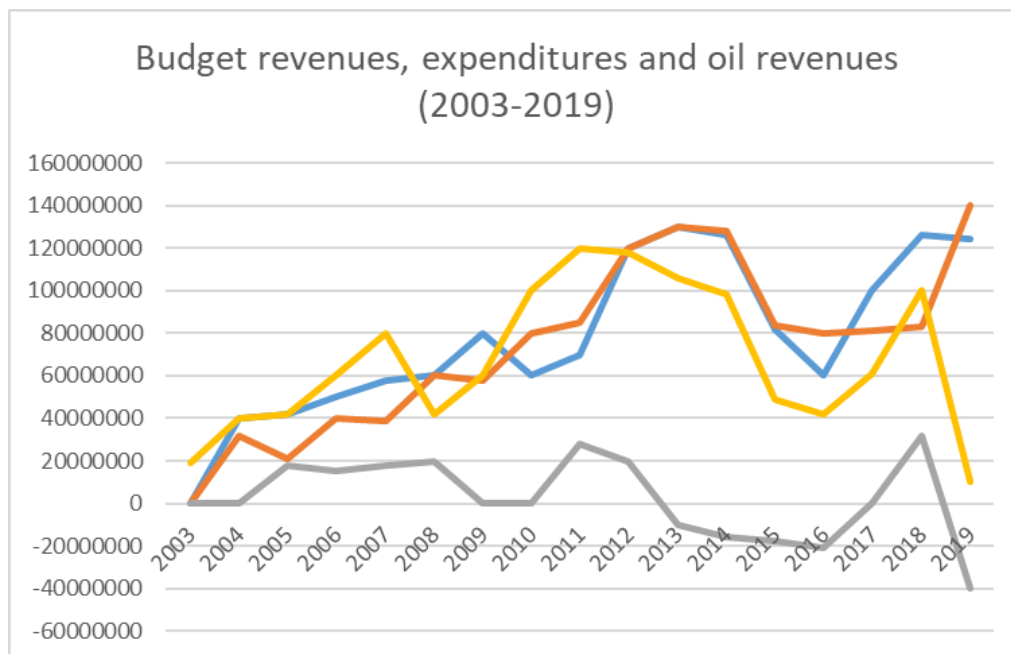


Figure 2: Oil revenue, expenditure, and budget in Iraq

Through this study, a great level of fluctuation is recorded in the price of petroleum and this influences the growth of the economy in the country. Besides the impacts of resource management, rampant corruption is cause a high level of fluctuation in the oil price. Through this analysis, it can be stated that the decision and policymakers of Iraq are required to take a necessary look at this matter, and through this, the policies related to economic growth need to be developed [6]. From the perspective of the

authors, they advised the decision and policymakers to include a matter of diversity within the country to enhance its growth of the country. Therefore, through the entire analysis, it can be concluded that Iraq needs to develop a regulating framework for its economic growth to reduce the ascendancy of the public sector.

Understanding the impact of Covid-19 on Iraq's economy

The spread of the novel coronavirus impacts the global economy as the rates of economic growth declined during this time. Disruption in trading and transportation was mostly stopped in this time which impacts the global economy. The trade movement of the country slows down, the financial market faces a sharp loss and the growth of the economy fell dramatically as a result the global oil market face great trouble. Iraq's economy depends on the exportation of oil [7]. During the global pandemic, the exportation of crude oil reduces and this causes an impact on the GDP of the country as oil exportation is the main source of their revenue. During this, the trading oil price decreases by up to 50% due to a reduction in the supply chain of oil and this impacts the economy of most OPEC "(Organization of the Petroleum Exporting Countries)" and especially Iraq. In addition, the economy related to the trading factor declines due to a lack of agreement and weak global demand.

Table 1: Annual Growth rate of oil price

Years	Oil price	1995 as a base year
1995	16.86	-
1996	20.29	0.203
1997	18.86	0.118
1998	12.28	-0.271
1999	17.44	0.034
2000	24.2	0.637
2001	23.12	0.371
2002	24.36	0.444
2003	28.1	0.666
2004	66.05	1.138
2005	50.59	2
2006	61	2.61

2007	69.04	3.094
2008	94.1	4.58
2009	60.86	2.609
2010	77.38	3.589
2011	107.46	5.373
2012	109.45	5.491
2013	105.87	5.279
2014	96.29	4.711
2015	49.49	1.935
2016	40.68	1.412
2017	52.51	2.114

The authors of this paper aimed to evaluate the economic effects of the global pandemic in Iraq due to the disruption in oil exporting. Through a secondary data collection method authors investigate the labor income, disruption in industrial activities disrupted due to the global pandemic, global trade shattering, and the impacts of the global economy during this time [8]. The above graph is generated by the authors to know about the revenue that comes from oil exports, budget revenue and deficit, and other expenditure. This graph is presented the data from 2003 to 2019. Through the graph, the economic condition of Iraq and other factors related to it can be measured. This shows that each year the oil revenue increases while the surplus of the country fluctuates. In addition, other matters related to the revenue fluctuate 2012 to 2018 for various reasons [9]. The oil revenues of the country declined in 2019 due to the starting of the global pandemic while the expenditure of the country increases in that year. Therefore, this shows, due to these reasons the economic growth of the country declined.

An investigation on Iraq's economic growth as an influence of fluctuation in oil price

The increasing price of crude oil impacted the global economy. Most countries depend on crude oil for power generation to transportation. In this, OPEC countries are associated with international oil exportation. Among the Middle Eastern countries, Iraq is considered as one of the leading oil-exporting countries and has around 90% of its budget come from oil exporting. In recent times, the crude oil price is increasing rapidly and this impacts the economy of the country [10]. Through performing this study, the authors of this paper try to evaluate the impact of increasing oil prices, exporting crude oil, and oil

production on Iraq's economy. Knowing about this matter critically, the authors collected data from the OPEC website and analyze it quantitatively.

The above table was generated from the data of OPEC by the authors to know about the annual growth rate of Iraq due to oil price fluctuations. The base year for this analysis was 1995. Through the above table, the fluctuation in oil prices and growth rates can be observed. The annual compound rate for an oil price increase is around 0.05% and it represents that the overall oil price in Iraq fluctuates way too much at this time [11]. In the base year, it was 16.86 per barrel, while in 2012 it raised to 109.45 and in 2017 it fall to 52.51. Similarly from other tables and graphs generated by authors the fluctuation can be observed in GDP and oil production in the country. Hence, through the statistical analysis, it is concluded that the oil price and GDP of Iraq are connected, thus it impacted the economic growth of the country as well.

Proposed methods

Research approach, philosophy

Approaches and philosophies opt to depend on their suitability in this matter. For the research approach, the inductive deductive and inductive approach is included in the study, while for philosophy the interpretivism research philosophy is obtained [12]. Booth of this approach will help this research by making general assumptions on any specific research through specific observation on the oil price fluctuation and the deductive research approach will help to know about the constructive association between the oil price fluctuation and growth economical sector in Iraq. Interpretivism research philosophy will help to know about the validation of the thesis paper and the outcome will be derived close to the truth. Each of these photos and approaches has significance in this study and helps this study in several ways [13]. Interpretivism philosophy helps to know about the fluctuation of oil prices and its relation with other variables including international demand for oil, price rate, and supply chain of oil in the international market. Oil price fluctuation and economic growth are two different incidents; through the adaptation of a deductive approach the relation between these two incidents will be evaluated.

Research strategy and method

Any research needs to choose a proper strategy and method, thus the data analysis can be performed effectively. Opting for a suitable strategy is vital for this thesis paper as opting for the wrong one might impact the entire research. This research specifically focuses on the phenomenon of economic growth in Iraq due to oil price fluctuation, therefore case study analysis of Iraq's economic data is the most

appropriate one for this thesis paper and the data is collected based on the case study of economic growth [14]. In addition to this, the method required to know about the data analysis method of a research paper. This thesis paper used a mixed method. The mixed method helps this research by providing more accurate data about this research and knowing the influence of price fluctuation and other variables related to economic growth in Iraq.

Method of data collection and analysis

It is important for a thesis paper to use the proper method of data collection and analysis for gaining an outcome of the research. This thesis paper is aimed to investigate the economic growth in Iraq as a result of oil price fluctuation from 2000 to 2021 [15]. For this, it is necessary to know about the reasons for fluctuations and the contribution of oil export to GDP. The primary method for data collection is one of the key aspects of a thesis paper, but in this topic, it is quite tough to know about this fluctuation directly, thus, a secondary method for data collection is conducted in this study [16]. Data was collected from different authorized sources including the World Bank, Statista, and CEIC. Each of these sources is a trusted way to collect data. The collected data from **The World bank** about the GDP of Iraq in the past 21 years is analyzed in MS Excel in a descriptive analysis and generate some graphs from the data as well. While a graph on the data about the crude oil price increase in Iraq for the last 20 years is collected from **CEIC** and **Statista**.

Limitations and ethics

While conducting a thesis paper maintaining the ethical elements and pointing out the limitation is necessary. As this thesis paper did not include human and sensitive data, therefore, the matter of ethical factors is not invaded due to this study. Other ethical elements related to this thesis paper include maintaining the privacy and security of the data [17]. This thesis paper includes secondary and mixed method analysis, thus, data need to collect from different authorized sources. This matter causes a significant limitation for this study as lack of funding reduces the use of such data related to this research topic.

Results

The result of investigating the oil price fluctuation in Iraq from 200 to 2021 and its impact on economic growth is analyzed in MS Excel through descriptive analysis and the table presented below to know about the fluctuation rate of this matter. Apart from this, some graphs are generated from the data, and some graphs were collected from two authorized websites that to know about the connection between

the GDP rate and oil price fluctuation. After collecting all the data related to it a further discussion was performed in the below section.

The increasing price rate of oil in OPEC

The price of oil depends on many things and in recent years the oil price has increased and this impacts the oil demand. Statista generates a graph on the behalf of oil price increases in OPEC, especially in Iraq.

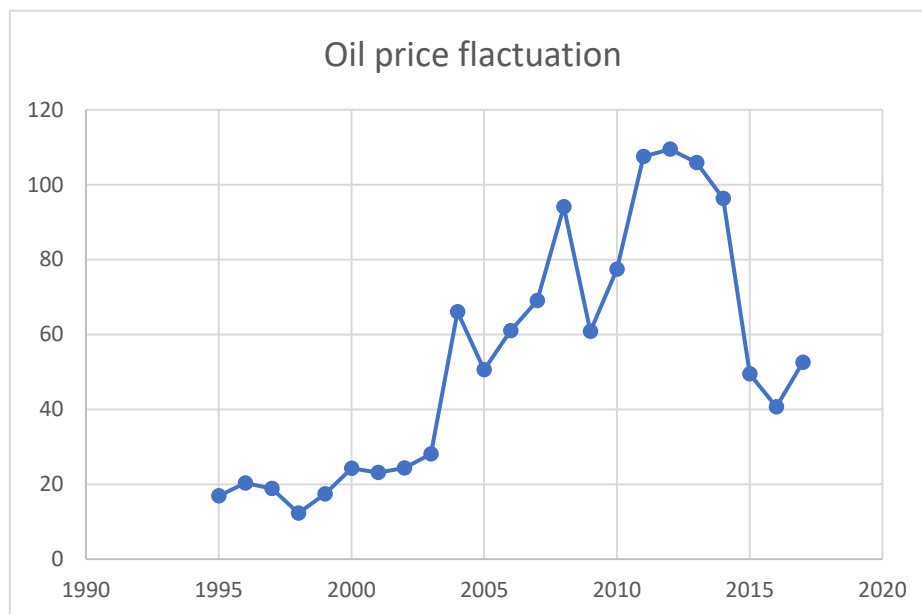


Figure 3: Oil price fluctuation

Though this data from the last 21 years is required, still this graph will help to know about the fluctuation rate of oil prices in Iraq. Considering 2000 is the base year, the graph shows the first fluctuation of oil prices in 2009 as an impact of lower employment and reduction in spending is the main reason behind it [18]. While the second decline occurred in 2016 due to the new data released on the drilling of oil, production, and storage. The last decline occurred in 2020 due to the rapid spread of coronavirus.

Quantity of Iraq's oil-exporting

Oil exporting is the main way to collect revenue and strength the economic prospere4ct in Iraq. The economic factor related to oil export is related to the oil price and quantity of oil exports. Below is a graphical representation of GDP growth of the country [19]. The graph reveals that in 2016 the GDP of Iraq decreases as an impact of increasing unemployment rate.

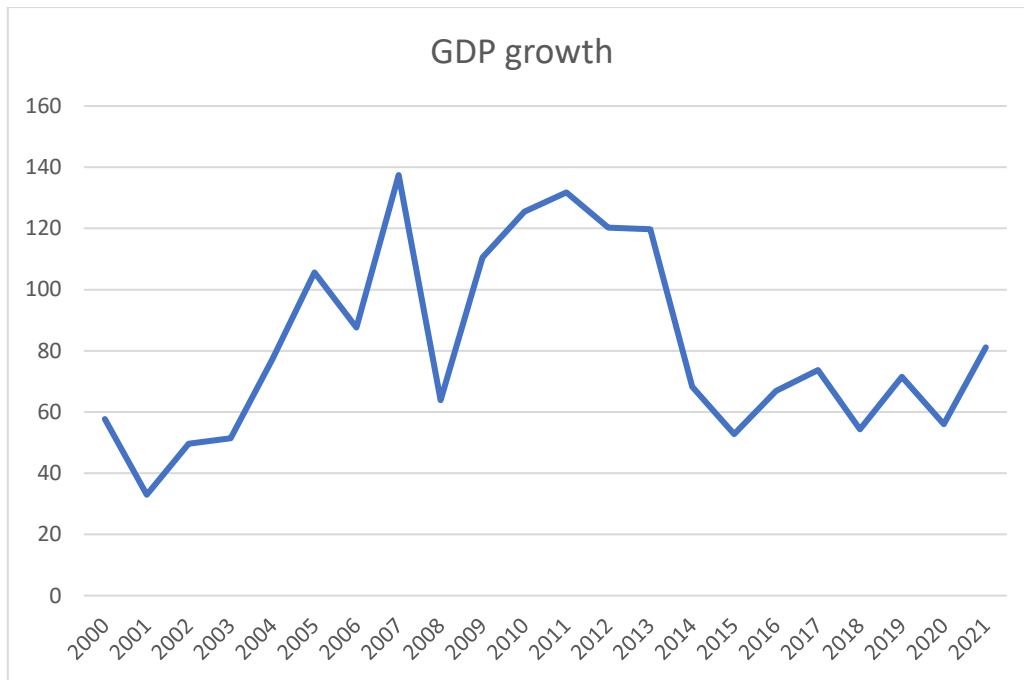


Figure 4: GDP growth over year

Despite the oil price increase during this time, the decrease in oil exporting caused a significant impact on the country and this influence lowered the GDP.

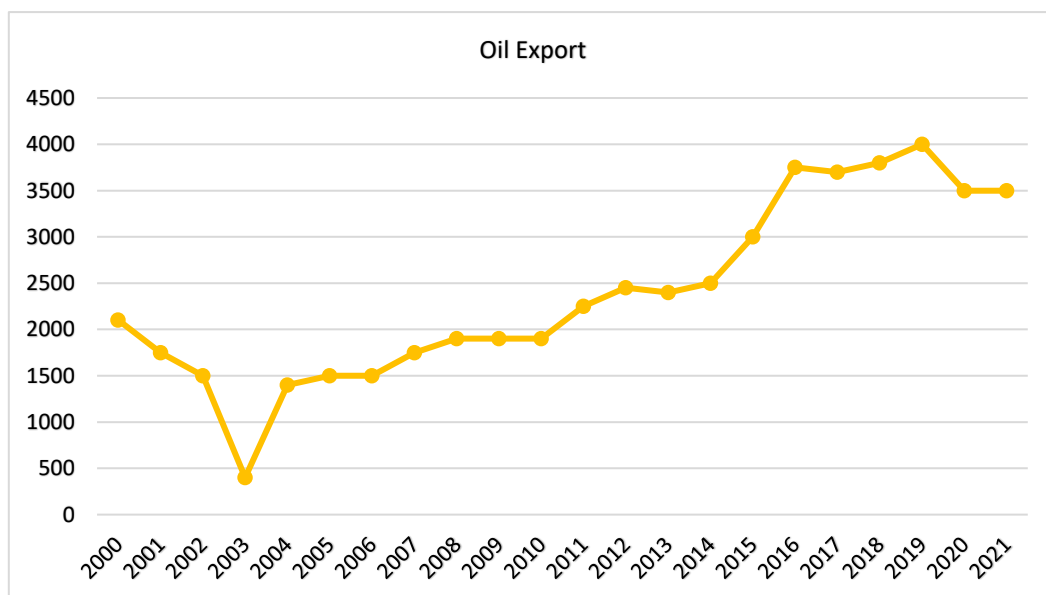


Figure 5: Iraq's oil-exporting from 2000 to 2021

The above line graph shows the crude oil exportation from Iraq from 2000 to 2021. Apart from the decline in 2003, the next decline can be observed in 2019 as an impact of the global pandemic [20]. Despite a vital decline. Several other fluctuations can be observed in the oil export in the country.

Table 2: Descriptive analysis of Iraq's GDP

Descriptive analysis	
Mean	4.546718262
Standard Error	3.273957058
Median	4.051081557
Standard Deviation	15.35621978
Sample Variance	235.813486
Kurtosis	6.440162228
Skewness	0.631340719
Range	90.03994686
Minimum	-36.65815267
Maximum	53.38179418
Sum	100.0278018
Count	22

The above table is generated from descriptive analysis based on the GDP rate of Iraq. Through this table, the basic elements related to the country's GDP can be evaluated. The mean rate of GDP growth in the country is around 4.54, while the standard error in the data from 2000 to 2021 GDP is around 3.27. In addition, the Kurtosis and Skewness of the GDP of Iraq are around 6.44 and 0.63. This indicates that the departure is larger from normality and the distribution of Iraq's GDP is fairly symmetrical [21].

Apart from this, in the GDP fluctuation, Iraq's highest rate is around -36.65% and 53.38%. In addition to this, the standard deviation, sample variance, and median of the GDP rate of the country are approximately 15.35, 235.81, and 4.05 respectively. Further analysis of the GDP of the country will be performed through a graphical representation of different graphs on the GDP rate of Iraq to know the fluctuation of the country.

GDP rate from 2000 to 2011

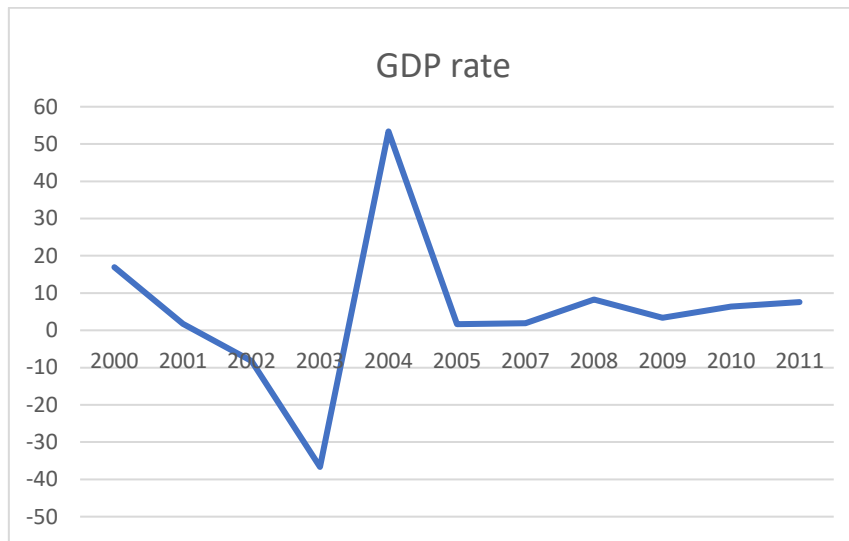


Figure 6: GDP rate of Iraq from 2000 to 2011

This thesis investigates the influence of oil expenses on the economic maturation of Iraq. The above graph shows the GDP fluctuation from 2000 to 2011. The above graph shows the GDP fluctuation from 2000 to 2011. This also helps to understand the phenomenon related to the fluctuation in this scenario. From 2000 to 2003, the GDP of the country declined while in 2004 the economic growth of the country is significant.

GDP rate from 2011 to 2021

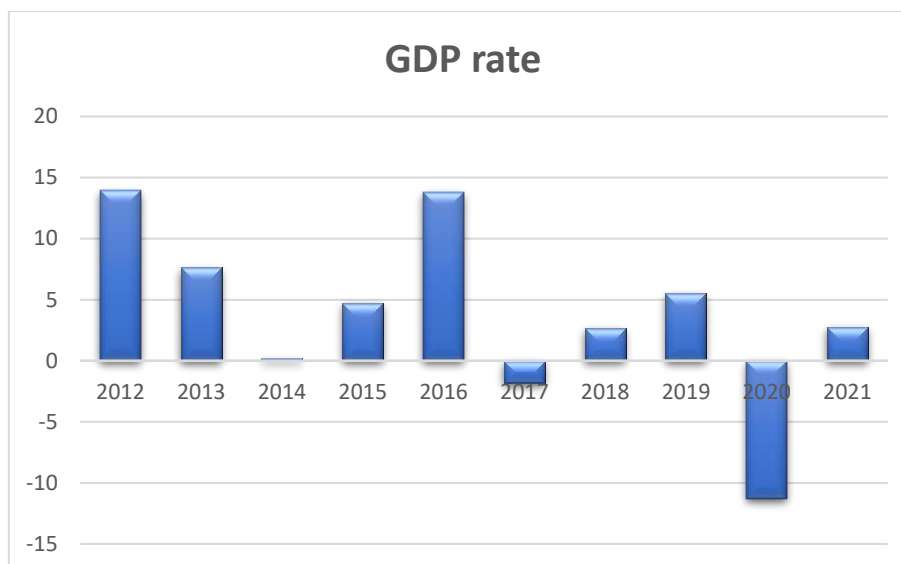


Figure 7: GDP rate of Iraq from 2011 to 2021

After the evaluation of GDP rates up to 2011, the impact of war on the country's GDP is observed. A decline in the GDP of the country can be observed during 2017 as an impact of increasing unemployment. In addition, another decline was in 2020 and this is because of the global pandemic.

Discussion

Oil price fluctuation rate and reason

From the discussion in the result and literature review, a critical analysis of the oil price fluctuation is performed. Three incidents: the Iraq war, the unemployment rate, and Covid 19 are the reasons for the rapid fluctuation of oil prices [22]. In addition, the fluctuation of petroleum expenditures mainly relies on the international demand for crude oil and the supply chain of oil. In these three situations either the injunction or supply chain of oil was disrupted or as a result, the price declined. When the oil price fluctuation is studied in Iraq, it is observed that the fluctuation rates in GDP and oil prices are quite similar.

The linkage between the petroleum expenses and growth related with economy in Iraq

Through the discussion performed on the segment of the economic statement of Iraq, it is observed that approximately 92% of GDP is contributed by Iraq's oil exporting. The economy of Iraq faced three times decline within 21 years period. First during the 2003 Iraq war, second in 2016 due to the unemployment rate, and third in 2020 as an impact of the global pandemic. In three of these situations, the demand for crude oil, production, and supply chain of oil is affected which causes a notable impact on the oil export industry of the country [23]. Some of the incidents including the Iraq war and the

global pandemic disrupted international oil trading, due to the economic growth of Iraq also declines. As a result, the growth related with economic factors of the country was affected and the country had to face several issues due to this. Two variables: international demand and price of crude oil are the most important thing for the growth of Iraq's economy. During 2003, the demand for oil in the international market decreases while the price of crude oil increased and as a result, it can be observed that Iraq's GDP increased. On the other hand, in 2020, oil price crude oil prices were reduced in the international market and the demand sustains, despite it, the economy of Iraq declined.

Conclusion

Linking with objectives

1. Fluctuation rates

A significant fluctuation in oil prices in Iraq is observed and on those three times either the demand falls, the supply of oil is reduced, or the production of crude oil is reduced. Apart from this scenario, two incidents including war and Covid 19 are responsible for the price fall in Iraq. Therefore, it can be stated the first objective to learn about the declining rate of prices in Iraq is achieved.

2. Relationship between oil price and Iraq's economy

A positive and proportional relationship is observed between the two variables. Through the study, it is observed that in three incidents of a global pandemic, the war increased unemployed and decreased oil demand Iraq's economy declined [24]. When the demand and price of crude oil increased, Iraq's economy raised. Therefore. The second objective is also achieved through this study.

3. Reasons for Iraq's economic growth

The economic growth of a country depend on several variables, but Middle Eastern countries mostly depend on oil exports, especially Iraq. 92% of the total economic element is contributed by Iraq. If the price of oil increases economic growth accelerates and if the price and demand decline, then economic growth also declines. Thereafter, the third objective was also achieved through this study.

Recommendation

- Including more data on the exporting and supply chain of crude oil can be included.
- Time for analyzing each element more critically will help improve the study.

- Funds for performing this thesis will give access to many other data that are crucial for this research and make this thesis more accurate.

From this analysis several elements regarding the economic growth of Iraq were observed which helps to know about the influence of oil prices on the country. It is already discussed that most of the revenue of the country is contributed by the oil export industry, therefore, if any significant ups and downs occurred in oil prices significant impacts were observed in the economic growth. While evaluating the economic growth of the country, it is observed that the requirement for crude oil in the international market is also associated with this matter. Hence, oil prices between 2000 and 2021 possess a significant impact on Iraq's economy while the international demand and production of oil in the country have some impact on this matter.

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