The Effect of Oil Prices, Oil Demand, Oil Licensing Round, Oil Product Capacity, Oil Sector Development, and Inflation on The Economic Development of Iraq's Economy

Mohammad Drai Ahmed

The University of Mashreq/ Baghdad/ Iraq Email: Mohammad.d.ahmed @uom.edu.iq

Maki Mahdi Abdulhasan

Al-Nisour University College/Baghdad/Iraq Email: dr.makimahdi@yahoo.com

Hassan Taher Braiber

Accounting Department, Al-Mustaqbal University College, Babylon, Iraq

Email: hassan.taher@mustaqbal-college.edu.iq

Zainab Abed Almoussawi

College of Islamic Science /Ahl Al Bayt University /Kerbala / Iraq

Email: zainabalmoussawiii@gmail.com

Nidhal Raheem Mardood

Accounting and Economics/ Al-Esraa University College, Baghdad, Iraq

Email: nidhal@esraa.edu.iq

Hareth Shallan Moshref Alaamery

Al-Amarah University College/ Al-Amarah, Iraq Email: <u>harith.shealan@alamarahuc.edu.iq</u> The oil-producing nations contribute significantly to the economic expansion of the oil exporting business. Political instability and infrastructure degradation have negatively impacted Iraq's economic growth. Less economic stability is a significant factor in Iraq's inflation rate. This study aims to determine the impact of oil prices, oil demand, licensing rounds, oil product capacity, oil sector development, and inflation on Iraq's economic development. This research uses secondary data from papers and surveys to determine its findings. The study indicated that oil prices, oil demand, the oil licensing round, oil product capacity, oil sector development, and inflation have an essential impact on Iraq's economic growth. This work is novel from a theoretical standpoint because previous research has ignored this gap in the literature. This study has produced empirical proof of economic growth in Iraq due to the oil industry and the issuance of oil licenses to various enterprises, which has significant consequences for practice.

Key words: Oil demand, oil prices, oil sector development, oil licensing, economic development

1. INTRODUCTION

In modern times, oil sector production and export are regarded as the most significant economic revolution and contributors to the growth of any nation that exports oil (Al-Jafar et al., 2019; Axelgard, 2019). Middle Eastern countries are well-known for their oil production since they export substantial quantities of oil to meet the demands of the rest of the world's non-oil exporting nations (Kraidi et al., 2020; Salim et al., 2021). Iraq is also one of the world's largest oil suppliers, enabling the rest of the world to meet its energy needs (Abdullah et al., 2021; Qais et al., 2019). Iraq's economy primarily depends on the oil and gas industry, which helps the stability of the economic crises to the benefit of the people (H. S. M. Al-Obaidi, 2022; Alshami et al., 2022). Similarly to other gulf countries, Iraq's oil and gas output climbed in 2012 as the global demand for Iraqi oil increased (Abbas et al., 2020; Al-Khazraji et al., 2020). Oil output is directly proportional to demand since huge firms refine oil according to the demand of importing countries' populations (Handhal et al., 2020; Wu et al., 2018). The oil industry in Iraq is not always booming, and the economic problem is also growing (M. A. Abbas et al., 2019; Ahmad, 2018). The crisis in any economy is a significant impediment to advancement. Consequently, the Iraqi government must emphasize oil production and its equitable distribution to consumer nations to improve their learning (Abdul-majeed et al., 2020). The foreign ties of many countries with Iraq depend on Iraq's oil exports to the rest of the world (Al-Khafaji et al., 2020; El Diasty et al., 2018).

The conflict between Iraq and other oil-exporting nations is crucial to the nation's economic development (Oader et al., 2021; Saymour, 2022). The nation has viewed oil production and export as key factors in international relations and economic development (Albidhani et al., 2019; Fadhel et al., 2019). Due to Iraq's status as a war zone, less attention is paid to the oil sector and the maintenance of its logistical infrastructure. As a result, the country's oil exports have been constrained (Albidhani et al., 2019; Shlimon et al., 2020). United Nations limits on oil exports pose a significant obstacle to the Iraqi government's efforts to strengthen the oil sector (Ali et al., 2019; Chen et al., 2022). Particular countries have different economic growth drivers; Iraq's oil-producing industry, which is developing and contributing to the country's development, is the most important economic growth engine (Al-Hawash et al., 2018; Jirjees et al., 2019). The economic war between Iraq and other oilproducing nations is in constant conflict with Iraq's economic status, which is not conducive to economic growth (S. A. M. Al-Obaidi, 2021; Li et al., 2018). Since 2012, Iraq's oil production has increased despite the inefficiency of its logistic system to support the economy in a manner conducive to attaining sustainable development and meeting the oil demand of consuming

nations (Al-Obaidy et al., 2019; Mahibes et al., 2020). Different refineries in Iraq are working to build the oil industry profitably, but the country's economic progress is intimately tied to its political development (Ahamad et al., 2019; Buraq A Al-Baldawi et al., 2019; Almalikee et al., 2019). Therefore, the government in every nation must improve economic growth with the political stability required for foreign direct investment in the country's economic stability (Ahamad et al., 2019). There have been times of increased and decreasing export of Iraqi oil (Al-Jaberi et al., 2020). Figure 1 depicts the oil exports of Iraq.

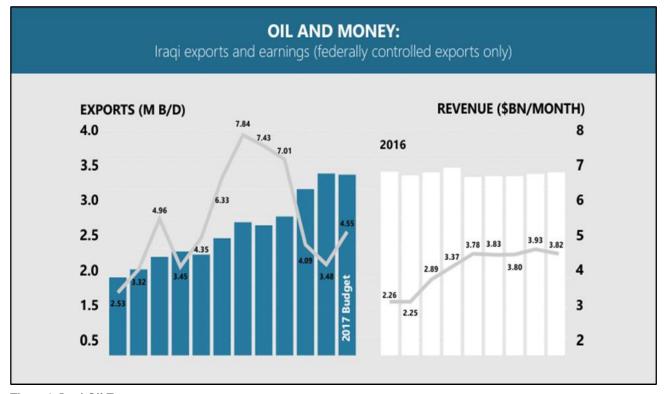


Figure 1. Iraqi Oil Exports Source: Iraq Energy Institute

Numerous studies from the past that are well-known for their theoretical and practical contributions analyze the Iraqi economy (Limin et al., 2019). Undoubtedly, the economy's stability depends on the country's exports and imports (M. A. Abbas et al., 2019; Zhong et al., 2018). In Iraq, the government is upgrading its facilities to an advanced level to expand them to an appropriate level (Moosajee, 2018). The fundamental level of economic growth is achievable through oil exports (Al-Fehdly et al., 2019; Saleh et al., 2021). Since Iraq is one of the world's major exporters of oil and gas, it is one of the largest oil and gas producers (Kraidi et al., 2019). Many of Europe rely on Iraq for their oil and gas needs (Al-Jafar et al., 2019). According to the study of Qais et al. (2019), economic growth in Iraq is attainable given political stability. Wu et al. (2018) concluded that the poor economic position in Iraq is a result of the warzone area

since it has harmed Iraq's infrastructure and logistics. Axelgard (2019) showed that Iraq's infrastructure had been degraded since 2004 when the war in Iraq was at its height. In nations that have failed to sustain political stability, there are fewer opportunities for economic achievement. The Iraqi populace should prioritize economic growth, while the government must promote its oil industry (M. A. Abbas et al., 2019). Different perspectives on Iraq's robust economic growth have been expressed in the available literature. However, there is a lack of research on both the theoretical and practical implications of the role of oil production and the oil demand sector in the country's economic growth. Indeed, Iraq's economy had several ups and downs due to political instability (Kraidi et al., 2020; Qais et al., 2019). However, in addition to political factors, other variables contributed to Iraq's economic success (Kraidi et al., 2020). From 2012 to 2022, Iraq's economy saw a variety of fluctuations, as depicted in Figure 2.

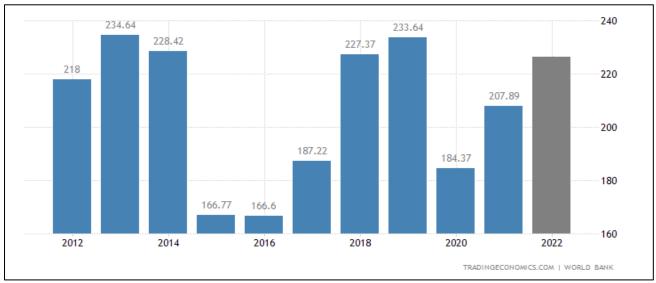


Figure 2. Economic Situation of Iraq from 2012 to 2022 **Source:** Trading Economics

This study aims to determine the impact of oil prices, oil demand, licensing rounds, oil product capacity, oil sector development, and inflation on Iraq's economic development. This study adapted this research from the literature to present empirical proof for Iraq's economic growth advancement. Undoubtedly, the current corpus of literature has previously explored several facets of economic growth in Iraq associated with the oil industry (Al-Fehdly et al., 2019; Kraidi et al., 2019; Saleh et al., 2021). However, no specific study has addressed the uniqueness of research concerning sustainable economic growth and the impact of oil prices, oil demand, the oil licensing round, oil product capacity, oil sector development, and inflation on the growth of the Iraqi economy. This study is theoretically unique because no other research has addressed this topic in such depth.

On the other hand, the practical consequences of this research are noteworthy since this study has produced evidence of economic growth in Iraq's oil sector and oil licensing to various firms. This research is based on secondary data from multiple sources to contribute to Iraq's economic growth. On the other hand, the future directions of this research are noteworthy for future studies that will address the additional vacuum in the literature concerning the modern economic expansion of Iraq.

2. Literature Review

The fluctuation of oil prices is a significant problem for nations that export oil to others (Kraidi et al., 2019). Indeed, oil prices are determined by worldwide markets, but the government also plays a significant role in managing oil prices (Saleh et al., 2021). The oil prices of countries experiencing economic crises are significantly lower than those of developed nations (Al-Fehdly et al., 2019). Undoubtedly, oil prices play a significant role in international wars, but the oil prices in Iraq fluctuate due to political instability and worldwide market trends (Al-Fehdly et al., 2019). The Iraqi government must decrease oil prices below market levels and enhance its oil transportation infrastructure (Moosajee, 2018). Irag's economic growth is achievable if the country's economic development is based on oil prices (Zhong et al., 2018). Due to a decrease in oil output and availability, global oil prices rise over time (M. A. Abbas et al., 2019). In their quest to export oil, oil-producing nations such as Qatar, Saudi Arabia, and Iran are targeting diverse markets, which significantly impacts oil prices (Limin et al., 2019). Similarly, this oil crisis has posed a challenge to the nation's economic development that is not optimal for the people (Buraq Adnan Al-Baldawi, 2020). The Iraqi government must sustain oil pricing with foreign players to stimulate the economy.

Population and oil usage in various industries contribute to a rise in oil demand in many nations (Al-Jafar et al., 2019). Working in different nations, the refineries refine crude oil for the population and its consumption (Axelgard, 2019). The oil demand is directly related to production (Salim et al., 2021). The oil-producing nations are focusing on the export demand for oil production (Kraidi et al., 2020). Since 2009, Iraq has boosted oil production, since oil demand has surged by 123%. (Qais et al., 2019). Similarly, economic sustainability supports the expansion of the economic sector in Iraq (Abdullah et al., 2021). Iran and Qatar are also increasing their oil output because the market is growing (Alshami et al., 2022). However, the total oil export by Iraq is essential to the economic stability that requires it (H. S. M. Al-Obaidi, 2022). Increasing oil demand from China, Europe, and Asian nations is causing the Iraqi economy to adapt by exporting oil to these regions (Abbas et al., 2020). In addition, oil prices have a crucial role in the export of crude oil when there are numerous rivals on the market (Al-Khazraji et al., 2020). Iran's oil prices have decreased due to market competition (Handhal et al., 2020). Because Iraqi refineries export high-quality oil, the Iranian oil demand does not exceed Iraq's crude oil production (A. K. Abbas et al., 2019). The oil markets are expanding, contributing to the nation's economic expansion (Al-Jafar et al., 2019). The oil-producing well in Iraq satisfies the need for oil exports in the vast global

market (Axelgard, 2019).

The development of the oil industry is essential to the country's economic viability (Kraidi et al., 2019). Various variables contribute to the economic expansion of various nations. Similarly, in Iraq, the role of oil sector development is essential because the oil sector contributes significantly to Iraq's exports of commodities (Al-Fehdly et al., 2019). The political instability in Iraq is a significant obstacle for the Iraqi government as it attempts to grow the oil industry (Moosajee, 2018). The proper development of Iraq's economy is contingent on improving the oil industry (Zhong et al., 2018). As a result of the decreased cost of oil exports, the logistics for exporting oil in Iraq have been improved, contributing to the growth of the oil sector (Limin et al., 2019). In oil-producing countries, economic progress is intimately tied to oil output (Buraq Adnan Al-Baldawi, 2020). Stability in economic growth is required for political sustainability (Ahamad et al., 2019). The United Nations' prohibition of Iraq's oil exports posed a significant obstacle to Iraq's economic development (Almalikee et al., 2019). The terms and conditions of Iraq's oil supply pose a barrier to the government's ability to sustain economic growth (Al-Obaidy et al., 2019). The American war in Iraq decreased oil output because of a significant infrastructure difficulty (Jirjees et al., 2019). Similarly, the restriction on Iran's oil exports harmed Iran's economy, much as the American war in Iraq harmed Iraq's economic progress (S. A. M. Al-Obaidi, 2021).

Oil licenses are essential to expand oil production and export from its refinery (Al-Jafar et al., 2019). The oil-producing nations are granting oil sector licenses to various global corporations (Axelgard, 2019). Multiple multinational corporations labor in Qatar to export oil and support the government's economic expansion (Salim et al., 2021). Financial sustainability is attainable when the most productive firms in the oil industry are granted licenses (Kraidi et al., 2020). The importance of the oil sector's supporting sectors stems from the contribution these businesses make to economic growth (Qais et al., 2019). Oilproducing enterprises are responsible for producing and refining crude oil for the market (Abdullah et al., 2021). The multinational corporations operating in Iraq should improve their level of knowledge by enhancing their working capacity (Abbas et al., 2020). The licenses should be provided to enterprises functioning in the oil sector through foreign direct investment (Wu et al., 2018). In Russia, the number of oilproducing enterprises has expanded due to issuing several licenses to international firms that can work for it (Ahmad, 2018). Foreign direct investment has enhanced Russia's oil exports, which contributes to the country's economic viability (Fadhel et al., 2019; Saymour, 2022). Figure 3 depicts the conceptual framework describing the effects of the variables in this investigation.

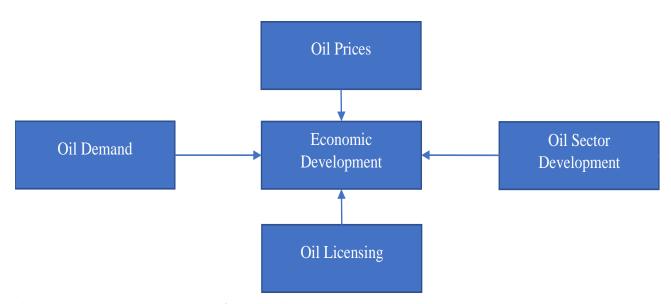


Figure 3. Study Conceptual Framework for Economic Development

3. RESEARCH METHODOLOGY

This study utilizes secondary data to give empirical evidence regarding the impact of oil industry performance on economic growth in Iraq. Earlier research on the importance of the oil industry in various nations is also based on secondary data extracted from different papers and documents (Ahamad et al., 2019; Buraq Adnan Al-Baldawi, 2020; Al-Jaberi et al., 2020). Similarly, secondary data are included in this analysis because reports and other papers about Iraq's oil sector's performance are readily accessible. On the other hand, this study uses data from previously published research papers on oil sector demand (Al-Jafar et al., 2019; Axelgard, 2019), oil licensing (Abdullah et al., 2021; Alshami et al., 2022; Qais et al., 2019), and the oil sector's contribution to economic growth (A. K. Abbas et al., 2019; Abdullah et al., 2021; Ahmad, 2018; Alshami et al., 2022; Handhal et al., 2020). The data from past research were thoroughly analyzed to

give empirical evidence on the effect of oil prices, oil demand, oil licensing rounds, oil product capacity, oil sector development, and inflation on Iraq's economic development. Similarly, our study has utilized these statistics to comprehend the impact of the oil business on Iraq's economic growth. In addition, this study has used this fact to draw relevant conclusions that would boost the economic growth of Iraq through oil sector development.

4. FINDINGS

This research has uncovered a rise in various oil industry industries in Iraq. The findings of this study indicate that Iraq's oil demand climbed by 200 percent between 2003 and 2021. (Al-Fehdly et al., 2019; Moosajee, 2018; Saleh et al., 2021). In addition, this analysis determined that Iraq's oil prices climbed by 79% between 2003 and 2021. Similarly, this analysis revealed that Iraq's number of oil licenses increased by 13% between 2003 and 2021. From 2003 to 2021, Iraq's oil industry development expanded by 44%, according to the findings of this study. From 2003 to 2021, these factors indicate that oil demand, oil prices, and licensing to the oil supporting industry and oil sector are increasing in Iraq. Indeed, this increase strongly impacts Iraq's economy (see Table 1).

Table 1. Increase from 2003 to 2021

No	Variables	Increase from 2003 to 2021
1	Oil Demand	200%
2	Oil Prices	79%
3	Oil Licensing	13%
4	Oil Sector Development	44%

In addition, this study determined that the performance of Iraq's oil industry increased alongside the country's economic growth (Albidhani et al., 2019; Ali et al., 2019; Fadhel et al., 2019; Shlimon et al., 2020). In this regard, statistics indicate that Iraq's oil sector logistics and infrastructure rose by 17% in 2003, while oil sector economic development increased by 5%. Moreover, according to the statistics, Iraq's oil sector logistics and infrastructure rose by 19% in 2004, while oil sector economic development increased by 7%. In addition, statistics indicate that Iraq's oil industry logistics and infrastructure rose by 16% in 2005, while economic growth in the oil sector increased by 4%. Similarly, statistics indicate that Iraq's oil sector logistics and infrastructure rose by 23% in 2006, while oil sector economic development increased by 5%. Moreover, according to the statistics, Iraq's oil sector logistics and infrastructure rose by 34% in 2007, and oil sector economic development increased by 2%. Moreover, statistics indicate that Iraq's oil industry logistics and infrastructure expanded by 16% in 2008, while economic growth in the oil sector increased by 9%. Iraq's oil sector logistics and infrastructure grew by 178% in 2020, while oil sector economic development increased by 114%, according to statistics. According to statistics, Iraq's logistics and infrastructure expanded by 198% in 2021, while oil sector economic development increased by 127% (see Table 2).

Table 2. Oil Industry Performance and **Economic Development in Iraq**

Years	Increase in Oil Sector Logistic and Infrastructure	Economic Development in Iraq with Oil Sector
2003	17%	5%
2004	19%	7%
2005	16%	4%
2006	23%	5%
2007	34%	2%
2008	16%	9%
2009	21%	14%
2010	54%	33%
2011	76%	49%
2012	60%	20%
2013	43%	15%
2014	78%	47%
2015	83%	52%
2016	121%	77%
2017	125%	80%
2018	117%	50%
2019	149%	120%
2020	178%	114%
2021	198%	127%

Conclusion

This study concludes that the Iraqi government plays a significant role in the oil sector's performance in boosting the country's economic growth. Iraq has become one of the world's leading oil producers, helping to meet the demands of other countries. The petroleum and gas business is a significant contributor to Iraq's GDP, stabilizing the market and meeting the population's needs. In the meantime, as in other gulf states, Iraq's oil output increased by 2013 as demand for Iraqi oil increased globally. Since enormous firms refine oil in response to consumer requests in nations that purchase it, the amount of oil produced is proportional to this demand. Although the oil business in Iraq is not consistently booming, the country's economic status is deteriorating. Although the oil business in Iraq is not consistently booming, the country's economic situation is worsening. Any economy's problems are obstacles to progress. The responsibility of the Iraqi government to emphasize oil production and its equal distribution to buyer nations is essential for enhancing their educational grasp. The oil exports from Iraq to the rest of the globe affect international relations.

The research indicates that economic progress in Iraq is possible if the state's administration is keen to strengthen its ties with other nations to expand the oil business. Because the price of crude is one of the most influential variables in the growth of Iraq's oil income, the administration must enhance the procedures for stabilizing oil and gas prices on the market. According to this report, Iraq's oil production cannot keep up with the market's expanding demand for oil, despite increasing the market's need for oil. To increase the efficiency of the petroleum industry, the Iraqi government must attract foreign investment. If petroleum exporting enterprises operate more efficiently and move more heavy crude, Iraq's infrastructure and logistical network must be enhanced. The worldwide agreement has a significant impact on economic development. There should be good relations between the Iraqi government and its neighbors, and efforts must be taken to increase oil exports.

Implementations

This research has significant practical and theoretical consequences for the growth and development of the Iraqi economy. The study introduced the literature relationship that oil demand substantially affects economic growth. In the case of Iraq, no prior research has explored this role in the economy's sustainability. In addition, this study has demonstrated the critical influence of oil prices on Iraq's economic growth for sustainable development. Similarly, the older research did not examine this relationship between oil price swings and Iraq's economic growth. Thirdly, this study contributed to the literature by demonstrating that the licensing of different enterprises functioning in the oil support industry substantially impacts the economy's development when the government operates effectively.

Moreover, previous research only addressed the role of foreign direct investment in boosting the Iraqi economy. Consequently, this contribution to the corpus of knowledge is essential, as it has influenced the economic development of Iraq. In addition, this study contributed to the literature by highlighting the importance of oil sector development in Iraq for the country's financial sustainability. Indeed, this research has developed a conceptual framework for the literature.

Second, this study has substantial practical consequences that are essential for the Iraqi government to improve the oil sector's performance for the country's economic development. The study indicates that economic growth in Iraq is achievable if the country's administration is interested in extending the oil market through international relations. The price of oil is one of the primary factors in the development of the oil sector in Iraq; consequently, it is the government's job to increase policies for stabilizing oil prices on the market. Similarly, the study revealed that the market's oil consumption is rising, but Iraq's oil production is insufficient to supply this demand. Therefore, the Iraqi government should promote foreign direct investment to improve the oil sector's performance. The upgrading of Iraq's infrastructure and the logistic system is also crucial for enhancing the ability of oil exporting corporations to refine and sell crude oil. Indeed, the international accord has a significant impact on economic growth. The Iraqi government should cultivate cordial relations with its neighboring nations and increase oil exports.

3. **Future Directions**

Intriguingly, the purpose of this study is to determine and assess the impact of oil prices, oil demand, oil licensing rounds, oil product capacity, oil sector development, and inflation on Iraq's economic development. This study concludes that these characteristics are crucial to the economic prosperity of every nation. However, this study has several drawbacks. Undoubtedly, oil prices are essential for the growth of the oil industry and its interactions with other nations. Still, this study does not address the significance of international relations in the oil industry context. In this sense, scholars must consider Iraq's foreign relations concerning the oil industry's performance. This study examines the idea of oil demand but does not address the function of oil production and refining. Therefore, future studies should not be confined to the demand for oil but should instead stress Iraq's capacity to satisfy market demand. Thirdly, this study's approach is limited because it depends on secondary data. To establish this link's influence on the Iraqi economy's growth, it will be necessary to perform more research based on the questionnaire's primary data.

References

- Abbas, A. K., Hamed, H. M., Al-Bazzaz, W., & Abbas, H. (2019). Predicting the amount of lost circulation while drilling using artificial neural networks: An example of Southern Iraq oil fields. Paper presented at the SPE Gas & Oil Technology Showcase and Conference: OnePetro doi: https://doi.org/10.2118/198617-MS
- Abbas, L. K., & Mahdi, T. A. (2020). Reservoir modeling of Mishrif Formation in Majnoon oil field, southern Iraq. The Iraqi Geological Journal, 53(1B), 89-101. Retrieved from https://igjiraq.org/igj/index.php/igj/article/view/139
- Abbas, M. A., & Al Lawe, E. M. (2019). Clustering Analysis and Flow Zone Indicator for Electrofacies Characterization in the Upper Shale Member in Luhais Oil Field, Southern Iraq. Paper presented at the Abu Dhabi International Petroleum Exhibition & Conference: OnePetro doi: https://doi.org/10.2118/197906-MS
- Abdul-majeed, Y. N., Ramadhan, A. A., & Mahmood, A. J. (2020). Petrophysical Properties and Well Log Interpretations of Tertiary Reservoir in Khabaz Oil Field/Northern Iraq. Journal of Engineering, 26(6), 18-34. doi: https://doi.org/10.31026/j.eng.2020.06.02
- Abdullah, E. J., & Mohammed, M. S. (2021). Survey of Air Quality and Health Risk Assessment Around East Baghdad Oil Field, Iraq. Diyala Journal For Science, 17(03), 25-42. https://dx.doi.org/10.24237/djps.17.03.550B
- Ahamad, J., Uthirapathy, S., Mohammed Ameen, M. S., & Anwer, E. T. (2019). Essential oil composition antidiabetic. anticancer activity Rosmarinus officinalis L. leaves from Erbil (Iraq). Journal of Essential Oil Bearing Plants,

- 22(6), 1544-1553. doi: https://doi.org/10.1080/0972060X.2019.1689179
- Ahmad, P. R. (2018). The Politics of Oil in the Kurdistan Region of Iraq. Academic and Applied Research in Military and Public Management Science, 17(3), 5-18. https://doi.org/10.32565/aarms.2018.3.1
- Al-Baldawi, B. A. (2020). Determination of pore types and porosity trends using of velocity-deviation log for the carbonate Mishrif Reservoir in Halfaya Oil Field, Southeast Iraq. The Iraqi Geological Journal, 53(1D), 26-37. https://doi.org/10.46717/igj.53.1D.3Rw-2020.05.02
- Al-Baldawi, B. A., & Nasser, M. E. (2019). Evaluation of Petrophysical Characteristics of Carbonate Mishrif Reservoir in Ahdeb oil Field, Central Iraq. Iraqi Journal of Science, 60(2), 321-329. doi: https://doi.org/10.24996/ijs.2019.60.2.12
- Al-Fehdly, H., ElMaraghy, W., & Wilkinson, S. (2019). Carbon footprint estimation for oil production: Iraq case study for the utilization of waste gas in generating electricity. Procedia Cirp, 80, 389https://doi.org/10.1016/j.procir.2019.01.029
- Al-Hawash, A. B., Alkooranee, J. T., Abbood, H. A., et al. (2018). Isolation and characterization of two crude oil-degrading fungi strains from Rumaila oil field, Iraq. Biotechnology reports, 17, 104-109. doi: https://doi.org/10.1016/j.btre.2017.12.006
- Al-Jaberi, M. H., & A-Jafar, M. K. (2020). Elements distribution for the upper sandstone member of the Zubair Formation in Zubair oil field, southern Iraq. The Iraqi Geological Journal, 53(1E), 55-74. doi: https://doi.org/10.46717/igj.53.1E.5Ry-2020-07-05
- Al-Jafar, M. K., & Al-Jaberi, M. H. (2019). Well logging and electrofacies of Zubair formation for upper sandstone member in Zubair oil field, southern Iraq. The Iraqi Geological Journal, 52(1), 101-124. Retrieved from https://igjiraq.org/igj/index.php/igj/article/view/127
- Al-Khafaji, A. J., Hakimi, M. H., Ibrahim, E.-K., Najaf, A. A., Al Faifi, H., & Lashin, A. (2020). Organic geochemistry of oil seeps from the Abu-Jir Fault Zone in the Al-Anbar Governorate, western Iraq: Implications for early-mature sulfur-rich source rock. Journal of Petroleum Science and Engineering, 184, 106584. https://doi.org/10.1016/j.petrol.2019.106584
- Al-Khazraji, O. N., & Al-Karadaghi, S. S. (2020). Reducing the risk and residual errors by uncertainty analysis of depth conversion in Nasiriya Oil Field, Iraq. Arabian Journal of *13*(13), Geosciences. https://doi.org/10.1007/s12517-020-05479-4
- Al-Obaidi, H. S. M. (2022). The Role of Oil in the Reality Economic and Political Future of Iraq. Regional Studies Journal, 16(53), 89-128. Retrieved from

- https://www.iasj.net/iasj/article/238783
- Al-Obaidi, S. A. M. (2021). The impact of the external public debt on the gross domestic product (without oil) in Iraq for the period 2004-2019. Tikrit Journal of Administration and Economics Sciences, 17(55 part 3), 355-379. Retrieved from https://www.iasj.net/iasj/article/218541
- Al-Obaidy, N., Al-Shueli, A., Sattar, H., Majeed, Z., & Hamid, N. A. H. (2019). An experimental study on geotechnical and electrical properties of an oilcontaminated soil at thi-qar governorate/Iraq. International Review of Civil Engineering, 10(3), 148-154. https://doi.org/10.15866/irece.v10i3.16503
- Albidhani, H., Gunoglu, K., & Akkurt, I. (2019). Natural radiation measurement in some soil samples from Basra oil field, IRAQ State. International Journal of Computational and Experimental Science and 48-51. Engineering, 5(1), https://doi.org/10.22399/ijcesen.498695
- Ali, J. A., Kolo, K., Khaksar Manshad, A., & Stephen, K. D. (2019). Low-salinity polymeric nanofluidenhanced oil recovery using green polymercoated ZnO/SiO2 nanocomposites in the Upper Qamchuqa Formation in Kurdistan Region, Iraq. Energy & Fuels, 33(2), 927-937. doi: https://doi.org/10.1021/acs.energyfuels.8b03847
- Almalikee, H. S., & Alnajm, F. M. (2019). Estimation of minimum and maximum horizontal stresses from well log, a case study in Rumaila oil field, Iraq. American Journal of Geophysics, Geochemistry and Geosystems, 5(3), 78-90. Retrieved from https://www.researchgate.net/profile/Hussein-Almalikee-2/publication/336892338
- Alshami, H. G. A., Al-Tamimi, W. H., & Hateet, R. R. (2022). Screening for extracellular synthesis of silver nanoparticles by bacteria isolated from Al-Halfaya oil field reservoirs in Missan province, Iraq. Biodiversitas Journal of Biological 3462-3470. Diversity, 23(7), https://doi.org/10.13057/biodiv/d230720
- Axelgard, F. W. (2019). War and oil: Implications for Iraq's postwar role in Gulf security. In Iraq in Transition (pp. 1-20): Routledge, 1-20. Retrieved from https://www.taylorfrancis.com/chapters/edit/10.4 324/9780429036446-1.
- Chen, P., Guo, L., Li, C., & Tong, Y. (2022). Karstification characteristics of the Cenomanian-Turonian Mishrif Formation in the Missan Oil Fields, southeastern Iraq, and their effects on reservoirs. Frontiers of Earth Science, 16(2), 435-445. doi: https://doi.org/10.1007/s11707-020-0864-7
- El Diasty, W. S., El Beialy, S., Peters, K., et al. (2018). Organic geochemistry of the Middle-Upper Jurassic Naokelekan Formation in the Ajil and Balad oil fields, northern Iraq. Journal of Petroleum Science and Engineering, 166, 350doi: https://doi.org/10.1016/j.petrol.2018.03.031

- Fadhel, M. S., & Al-Rahim, A. M. (2019). A new tectono sedimentary framework of the Jurassic succession in the Merjan oil field, Central Iraq. Petroleum Exploration of Production Technology, 9(4), 2591-2603. doi: https://doi.org/10.1007/s13202-019-00750-1
- Handhal, A. M., Al-Abadi, A. M., Chafeet, H. E., & Ismail, M. J. (2020). Prediction of total organic carbon at Rumaila oil field, Southern Iraq using conventional well logs and machine learning algorithms. Marine and Petroleum Geology, 116, 104347. https://doi.org/10.1016/j.marpetgeo.2020.10434 7
- Jirjees, A. Y., & Abdulaziz, A. M. (2019). Influences of uncertainty in well log petrophysics and fluid properties on well test interpretation: An application in West Al Qurna Oil Field, South Iraq. Egyptian Journal of Petroleum, 28(4), 383https://doi.org/10.1016/j.ejpe.2019.08.005
- Kraidi, L., Shah, R., Matipa, W., & Borthwick, F. (2019). Analyzing the critical risk factors associated with oil and gas pipeline projects in Iraq. International Journal of Critical Infrastructure Protection, 24, 14-22. doi: https://doi.org/10.1016/j.ijcip.2018.10.010
- Kraidi, L., Shah, R., Matipa, W., & Borthwick, F. (2020). Using stakeholders' judgement and fuzzy logic theory to analyze the risk influencing factors in oil and gas pipeline projects: Case study in Iraq, Stage II. International Journal of Critical Infrastructure Protection, 28, 100337. doi: https://doi.org/10.1016/j.ijcip.2020.100337
- Li, X., Huang, H., & Lu, H. (2018). Improving the accuracy of permeability prediction modeling based on flow units: An example from the Khasib Limestone Reservoir of Ahdeb Oil Field, Iraq. Paper presented at the 2018 SEG International Exposition and Annual Meeting: OnePetro doi: https://doi.org/10.1190/segam2018-2996525.1
- Limin, Z., Wen, Z., Zhong, Y., Rui, G., Zhimin, J., & Yantao, C. (2019). Control factors of reservoir oil-bearing difference of Cretaceous Mishrif Formation in the H oilfield, Iraq. Petroleum Exploration and Development, 46(2), 314-323. https://doi.org/10.1016/S1876doi: 3804(19)60011-X
- Mahibes, H. A., & Mahmoud, H. A. (2020). The impact of empowerment strategies on the characteristics of work enrichment An exploratory research to the views of a sample of the leaders of the Ministry of Oil in Iraq. journal of Economics And Administrative Sciences, 26(119), 211-233. Retrieved from https://www.iasj.net/iasj/article/184344
- Moosajee, M. A. (2018). Challenging Patronage Networks and Corruption in Iraq: A social accounting

- matrix analysis of citizen-based oil revenue distribution. University of Cape Town, Retrieved from http://hdl.handle.net/11427/29484
- Qader, F. M., Mohialdeen, I. M., Al-Qayim, B., & Al-(2021). Organic Biaty, F. geochemical characterization of crude oil from the Cretaceous reservoir rocks of the Khabbaz Oil Field, Kirkuk Area, Northern Iraq. Arabian Journal of Geosciences, 14(20), 1-22. https://doi.org/10.1007/s12517-021-08467-4
- Qais, M., & Jafar, M. (2019). Time Series Analysis of the Monthly Forecast of Crude Oil Exports in Iraq. Proceedings Book, 162-164. Retrieved from https://www.researchgate.net/profile/Deniz-Kocak-2/publication/342735623
- Saleh, M. Q., Hamad, Z. A., & Hama, J. R. (2021). Assessment of some heavy metals in crude oil workers from Kurdistan Region, northern Iraq. Environmental Monitoring and Assessment, 193(1), 1-8. doi: https://doi.org/10.1007/s10661-020-08818-w
- Salim, H. K., & Al-Ahmed, S. G. K. (2021). Vegetable oil plant wastewater treatment by bacterial isolates: a study in the city of Hila, Iraq. Journal of Water and Land Development, 51(10), 163-167. doi: https://doi.org/10.24425/jwld.2021.139026
- Saymour, I. S. (2022). The oilfields of Mesopotamia: Resource conflict, oil extraction and heritage destruction in Iraq. Human Geography, 19427786221084281. doi: https://doi.org/10.1177/19427786221084281
- Shlimon, A. G., Mansurbeg, H., Othman, R. S., et al. (2020). Microbial community composition in crude oils and asphalts from the Kurdistan Region of Iraq. Geomicrobiology Journal, 37(7), 635-652. doi: Shlimon, A. G., Mansurbeg, H., Othman, R. S., Gittel, A., Aitken, C. M., Head, I. M., . . . Kjeldsen, K. U. (2020). Microbial community composition in crude oils and asphalts from the Kurdistan Region of Iraq. Geomicrobiology Journal, 37(7), 635-652.
- Wu, Z., Wu, Y., Xu, M., & Wu, Y. (2018). Q estimation on CMP gather based on continuous spectral ratio slope method: A Case study in Ahdeb Oil Field, Iraq. In SEG Technical Program Expanded Abstracts 2018 (pp. 1544-1548): Society of Exploration Geophysicists, 1544-1548. doi: https://doi.org/10.1190/segam2018-2995781.1.
- Zhong, Y., Zhou, L., Tan, X., et al. (2018). Characteristics of depositional environment and evolution of Upper Cretaceous Mishrif Formation, Halfaya Oil field, Iraq based on sedimentary microfacies analysis. Journal of African Earth Sciences, 140, https://doi.org/10.1016/j.jafrearsci.2018.01.007