

Measurement and Analysis of the Financial Costs of Licensing Rounds and their Implications on Addressing Imbalances in the Sectors of the Iraqi Economy for the Period (2004-2020)

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Abstract

The oil sector serves as a crucial lifeline to the Iraqi economy. Any investment and progress within this sector have far-reaching implications for other economic sectors. Considering the deterioration and lack of development in the sector's infrastructure due to neglect and wars, this study seeks to address one of the most pressing challenges confronting Iraq's oil industry.

The research delves into the debate surrounding the oil contracts entered into by the Iraqi Ministry of Oil in 2010. On one hand, dissenting opinions perceive these contracts as leaning closer to a production-sharing approach, while proponents view them as contracts centered around services rendered by foreign oil companies. Consequently, the research aims to analyse the landscape of foreign direct investment within Iraq's oil sector and conduct a detailed study of Iraqi oil service contracts. The study comprehensively outlines all associated costs, compares them with oil revenues, and reveals the magnitude of losses incurred during the 2004-2020 period.

The research's objective is to validate the hypothesis that licensing rounds have not significantly impacted the rectification of economic imbalances in Iraq. Although these rounds have contributed to the development of export-oriented production capacities within the oil sector, their impact remains limited due to the Gross Domestic Product's sensitivity to oil prices rather than production quantities.

The study concludes that these contracts are geared towards extracting substantial oil quantities without local investment possibilities. As a result, there is wastage of this valuable resource and neglect of the rights of future generations in the face of depleting resources. The research highlights the necessity of formulating a future oil policy guided by an independent national vision and economic policies focused on modernising the Iraqi oil sector. These policies should be well-defined and serve as guidance for the utilization of oil resources, primarily aiming to promote economic growth and employment.

Keywords: oil sector, production-sharing approach, oil contracts.

Introduction

Oil stands as the principal source of industrial resources and energy fuel. Iraq has been blessed with extensive oil reserves, rendering it one of the wealthiest oil reserves globally. To harness and grow this wealth, it is imperative to invest it appropriately. This can be

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achieved through either direct investment by activating national efforts or indirect investment via foreign investment companies that contract with oil-producing nations through legal agreements that safeguard the equitable distribution of rights and obligations between the parties.

Problem Statement:

The study's problem revolves around the fact that the Iraqi oil sector has experienced a technological and technical stagnation since the 1980s. This isolation has kept the sector detached from global advancements in the field of oil industry.

Study Hypothesis:

Licensing rounds have not significantly impacted the rectification of economic imbalances in Iraq. While they have contributed to developing productive export-oriented capacities within the oil sector, their impact remains limited due to the fact that the Gross Domestic Product is influenced by oil prices, not production quantities.

Study Objective:

The study aims to analyze the status of foreign direct investment within the Iraqi oil sector, along with an in-depth examination of Iraqi oil service contracts. It seeks to comprehensively outline all associated costs, compare them to oil revenues, and detail the extent of resulting losses. Additionally, the study aims to elucidate the sector's reserve, production, and export capacities for the period 2004-2020."

The scope of the study

The scope of this study extended from 2004 to 2020 to examine the Iraqi oil sector. The study methodology was designed to achieve its objectives and validate its hypothesis. Consequently, the study relies on the descriptive-analytical approach.

The first section discusses both the oil sector's status and the structural imbalances within the Iraqi economy. The initial inquiry delves into the current state of the oil sector, outlining its components and significance within Iraq's economic landscape.

The first requirement: The status of the oil sector

Fundamentals of the oil sector in Iraq

The Iraqi oil sector holds paramount importance as a catalyst for economic growth and a primary revenue source for the general budget. Its revenue plays a pivotal role across various economic activities. The sector's significance escalated following the nationalization process in June 1972, leading to increased annual production rates, daily exports, and confirmed reserves. Consequently, Iraq emerged as a significant player globally among oil-producing nations (Abdullah & Iyad, 2010, p. 2).

Iraq possesses an extensive array of discovered fields, totaling 81, with 15 of them being productive oil fields. Several fields harbor substantial oil reserves, meeting global standards for giant fields, such as Al-Rumaila, Majnoon, and West Qurna. Notably, West Qurna ranks as the second-largest oil field worldwide. Iraqi oil fields are categorized as follows: (Al-Shammary & Al-Nadawi, 2013, p. 3).

1. Super Giant Fields: These fields hold unconfirmed reserves of 133.885 billion barrels, including West Qurna, Al-Rumaila, Majnoon, Kirkuk, East Baghdad, and Al-Zubair.
2. Giant Fields: These fields possess reserves of 29.885 billion barrels, including Al-Halfaya, Al-Nasiriya, Artawi, Buzurgan, Bay Hassan, Gharraf, Al-Ahdab, and Jowhar
3. Very Large Fields: These fields hold reserves of 7.222 billion barrels.
4. Large Fields: These fields possess reserves of 4.292 billion barrels.

5. Medium Fields: These fields have reserves of 0.588 billion barrels.
6. Small Fields: These fields have reserves of 500,000 barrels.

According to the most recent international assessments of the year 2020, Iraq's confirmed reserves amount to 143 billion barrels, representing approximately 11% of the total global reserves. This positions Iraq as the fifth-largest holder of global reserves. The quantity of oil produced by the country reaches 3,400 units, contributing to around 3.4% of the worldwide production of crude oil and granting Iraq a seventh-place ranking on the global scale. The daily exports of oil, totaling around 3,275 units, establish Iraq's standing as the fourth-largest exporter of oil in the global context. This notable positioning of Iraq underscores its significant role within the international arena concerning the trade of crude oil (Monet, 2006, pp. 1-4).

Following the events of 2003, Iraq found itself in a new transitional phase. According to a report from the OPEC organization in 2004, Iraq announced in April 2004 that its oil refineries were undergoing comprehensive development programs to increase production by a quarter. Upon program completion, Iraqi refining capacity will reach 600 thousand barrels per day. The development programs encompass 12 refineries, and Iraqi refineries currently refine around 475 thousand barrels per day. It's worth noting that production figures can vary due to acts of sabotage.

Gasoline production amounts to 12 million liters per day, along with 10-12 million liters per day of gas oil and around 2500 tons of crude oil daily. Iraq plans to build two new refineries, each with a capacity of 140 thousand barrels per day - one in Mosul in northern Iraq and the other in Samawah. Oil & Gas Journal indicates that Iraq's oil refining capacity in January 2005 reached approximately 500,597 barrels per day out of a design capacity of 700 thousand barrels per day for its refineries, none of which were damaged during the events of 2003. Salahuddin Refinery in the Baiji region is the largest refinery in Iraq, with a production capacity of about 310 thousand barrels per day. This is followed by Basra Refinery with a production capacity of 150 thousand barrels per day, and Daura Refineries with a production capacity of 110 thousand barrels per day (Nema, 2015, p. 25).

Second Demand: Types of Imbalances in the Iraqi Economy

As a result of imbalanced economic policies in the management of economic resources, several distortions and aberrations have emerged within the structure of the Iraqi economy. These discrepancies are clearly evident in the lack of equilibrium among the exchange ratios of the sectors constituting the national economy (Al-Rawi, 2013, p. 229).

Firstly, Financial Imbalance (Qabil, 2018, p. 40)

The economy of Iraq grapples significantly with financial disequilibrium due to the expansion of developmental expenditures, undertaken in pursuit of breaking free from underdevelopment and poverty. Additionally, there is an elevation in military expenditures aimed at enhancing the country's military capabilities. This takes place within a context where production methods suffer from backwardness and limited productive capacity. Combined with a scarcity of economic resources available for development and their inefficient utilization, the predicament of general budgetary imbalances in Iraq has reached an escalating and persistent state, driven by various structural factors. Consequently, the process of reinstating fiscal equilibrium for the nation is complicated and obstructed (Al- Faris, 1997, p. 145).

The issue of general budgetary deficit is a global concern affecting both advanced and developing nations alike, including Iraq. This imbalance, according to Shandi et al. (2020, p. 59), manifests in two main aspects. Firstly, there exists an imbalance between government expenditures and revenues, leading to what is referred to as a budget deficit (Al-Rawi, 2013, p. 329). This stems from a heavy reliance on oil as the primary source of

budget financing, while neglecting other financial resources such as taxes and fees. This negligence arises from reasons including a weak tax base and the inefficiency of revenue collection mechanisms.

Through Table (1), which illustrates the magnitude of actual expenditures, revenues, deficits, and surpluses, encompassing the components of the general budget for Iraq during the period 2004-2020, it is evident that the general budget achieved financial surpluses during the years 2004-2006, amounting to approximately 25,979,529 million dinars. This bolstered the accumulated reserves. However, in the years 2007 and 2008, the general budget incurred a deficit of -36,417,026 million dinars due to the global financial crisis and the worldwide economic recession, which led to a decline in crude oil prices that fund the public revenues. By the accumulated reserves, we mean the funds of the countries that were transferred from the oil-for-food program to the Development Fund for Iraq (DFI), which is approximately (11.1) billion dollars, and the frozen funds transferred to the fund, which are approximately (1.6) billion dollars Ahmed Abrihi Ali, The Internationalization of Iraq under Chapter VII of the Charter.

The period 2009-2012 witnessed a fiscal surplus of nearly 47,413,724 million dinars, attributed to the global increase in oil prices, surpassing the \$100 per barrel threshold. Nevertheless, these surpluses were squandered due to ill-considered contractual plans of an operational nature, including inflated salaries, wages, and favoritism to retain positions of government sovereignty at the time.

In the span of 2013-2016, the dual shock of economic recession and the drop in global oil prices, combined with heightened government spending due to the war against ISIS, resulted in a budgetary imbalance and a state of deficit. Following the improvement in oil prices in 2017 and 2018, the budget achieved a financial surplus of around 27,628,703 million dinars. The preceding events led to an increase in general price levels and a decrease in the purchasing power of the local currency.

However, during the years 2019-2020, the budget incurred a deficit of approximately 82,414,517 million dollars due to the worldwide economic disruptions caused by the COVID-19 pandemic, as confirmed by the United Nations Development Report for Iraq. While the macroeconomic and financial conditions in Iraq were broadly positive in recent years, two significant shocks, namely the oil crisis and the COVID-19 pandemic, severely impacted society, particularly in terms of income, employment, and poverty (United Nations Development Programme, 2022, p. 2).

Table (1): Actual Revenues, Actual Expenditures, Surplus, and Deficit in the Iraqi General Budget for the period (2004-2020) in billion dinars.

General	Actual Expenses	Actual Revenues	Deficit/Surplus
2004	32,117,491	32,982,739	865,248
2005	26,375,175	40,502,890	14,127,715
2006	38,076,795	49,063,361	10,986,566
2007	39,031,232	15,568,219	15,568,219
2008	59,403,375	20,848,807	20,848,807
2009	52,567,025	55,209,353	2,642,328
2010	70,134,201	70,178,223	44,022
2011	78,757,666	108,807,392	30,0497,26
2012	105139576	119,817,224	14,677,648
2013	119,127,556	113,840,076	-52,874,80
2014	115,937,762	105,364,301	-10,573,461

2015	82,813,611	72,546,345	-10,267,266
2016	73,571,003	53,413,446	-20,157,557
2017	75,490,115	77,422,173	1,932,058
2018	80,873,189	106,569,834	25,696,645
2019	111,723,523	107,566,995	-4,156,528
2020	450,635,097	372,377,108	78257989-

Source: Table prepared by the researcher based on: 1- Ministry of Planning, Central Statistical Organization, National Accounts Directorate, Unified Accounts. 2- The Central Bank of Iraq, General Directorate of Statistics and Research, Balance of Payments Statistics Department, various issues.

Secondly, the Monetary Imbalance (Maatuq, 1989, p. 125):

The monetary stability coefficient serves as a metric to assess the efficacy of monetary policy, which involves the control of the money supply. This criterion has been endorsed by the International Monetary Fund to gauge monetary stability. If its value exceeds unity, this indicates an elevation in inflation rates. To ascertain this, we refer to Table (2), which delineates the monetary stability coefficient in Iraq from 2004 to 2020 throughout the research period. In 2005, it registered a percentage of 0.32%, aimed at combatting the surge in inflation rates subsequent to Iraq's opening to the external world and the escalation of imports to meet local demand for goods and services due to infrastructure destruction.

The years 2006-2007 witnessed an upswing in the percentages of the monetary stability coefficient, reaching (1.18% and 2.44%) respectively. This indicates that economic activity grapples with heightened inflation rates, a natural outcome of rising oil prices and increased oil revenues. The state adjusted the salary scale, raised allowances and wages, and augmented military expenditure due to the deteriorating security situation during those years. However, in the year 2010, there was an upsurge in the percentage of the monetary stability coefficient, reaching (1.67%), following the recovery of oil prices.

Table (2): Monetary Stability Coefficient in Iraq for the Period 2004-2020 (Million Dinars).

Monetary Stability Coefficient %	annual rate of change %	Gross domestic product at current prices	annual rate of change %	money supply M1	the years
-	-	53499238	-	10148626	2004
0.32	38.15	73911088	12.3	11399125	2005
1.18	29.99	96067160	35.6	15460060	2006
2.44	16.54	111961230	40.4	21721167	2007
0.71	41.51	158443584	29.7	28,189,934	2008
-1.9	-16.92	131632210	32.3	37300030	2009
1.67	23.09	163104739	38.7	51743489	2010
0.60	34.03	218617834	20.7	62473929	2011
0.11	16.97	255727068	2.01	63735871	2012
2.12	7.43	274745875	15.8	73830964	2013
0.03	-39.12	167262787	-1.5	72692448	2014
-0.57	17.30	196203013	-9.9	65435425	2015

6.17	1.31	198774369	8.09	70733027	2016
0.01	45.23	288692989	0.6	71161551	2017
-0.20	-11.89	254366708	2.4	72930527	2018
5.98	3.16	262424811	18.9	86,771,000	2019
0.4	-24.25	198774325	-12.1	81230120	2020

Source: Central Bank of Iraq, General Directorate of Statistics and Research, Annual Statistical Bulletin (2004-2020).

* Monetary stability coefficient = rate of change in means of payment / rate of change in gross domestic product



Figure (1): Monetary stability coefficient in Iraq for the period (2004-2020)

Source: Derived from the researcher's work, relying on data from Table No. (2).

The oscillation of monetary stability coefficient persisted, fluctuating between decline and increase due to the substantial disparity between the money supply and the growth in gross domestic product at current prices, a result of structural imbalance, with 90% of it relying on crude oil as a commodity.

Thirdly: Trade balance disparity (Kazim, 2018, p. 10).

The Iraqi economy has consistently been in a precarious situation as it is a seller of a single product (oil), subjecting it to violent shocks resulting from international market conditions. These shocks led to a decrease in national income, with their effects reverberating across all economic activities in the form of reduced production and operational levels, posing significant challenges to development efforts.

Iraq fundamentally relies on oil exports to achieve essential financial surpluses in order to finance economic and social development plans. Capital imports also contribute to enhancing the productive capacity of all sectors that directly or indirectly contribute to the country's economic growth, if indeed they exist. Table (3) (Al- Basri, 2020, p. 8) illustrates the magnitude of Iraq's foreign trade (exports and imports) during the period (2004-2020) as follows:

Table (3): Iraqi trade balance for the period (2004-2020) (million dollars)

oil general	Trade balance with oil	The ratio of oil exports to total exports	total imports	total exports	Non-oil exports	oil exports	Trade balance without
2004	(1,464)	96	19,954	18,490	739	17,751	(19,215)
2005	4,949	96,8	18,748	23,697	747	22,950	(18,001)
2006	9,049	96,6	21,480	30,529	1,029	29,500	(20,451)
2007	19,116	97,4	21,332	40,448	1,015	39,433	(20,317)

2008	30,738	96,0	32,888	63,626	2,515	61,111	(30,373)
2009	5,547	98,2	36,858	42,405	737	41,668	(36,121)
2010	15,324	95,7	39,275	54,599	2,309	52,290	(36,966)
2011	35,054	96,9	50,581	85,635	2,629	83,006	(47,952)
2012	35,386	99,6	59,006	94,392	302	94,090	(58,704)
2013	30,393	99,5	59,349	89,742	383	89,359	(58,966)
2014	31,329	99,7	53,177	84,506	203	84,303	(52,974)
2015	10,358	99,6	39,045	49,403	154	49,249	(38,891)
2016	5,177	99,6	38,713	43,890	137	43,753	(38,576)
2017	18,699	99,3	38,569	57,268	389	56,879	(38,180)
2018	40,624	99,8	45,736	86,360	101	86,259	(45,635)
2019	23,274	99,7	58,138	81,585	173	81,412	(57,965)
2020	(1339)	99,7	48,150	46,811	137	46,674	(48013)

Source: The table is prepared by the researcher based on:

1. Ministry of Planning, Central Statistical Organization, National Accounts Directorate, Unified Accounts.
2. Central Bank of Iraq, General Directorate of Statistics and Research, Balance of Payments Statistics Department, 2018.

Through Table (3), it is observed that the trade balance achieved a financial surplus throughout the study period, except for the year 2004 when it incurred a deficit. This deficit was due to the total imports exceeding total exports, a result of increased consumer demand for goods and services following the country's trade liberalization. Crude oil exports constitute over (96%) of total exports. In contrast, the non-oil trade balance registered a deficit throughout the study period, representing a significant structural imbalance in Iraq's trade balance due to the lagging non-oil sectors.

The period (2004-2008) witnessed a rise in total exports from \$18.490 million in 2004 to \$63.626 million in 2008, an increase of (28%). This was attributed to the surge in crude oil exports, reaching \$61.111 million in 2008 compared to \$17.751 million in 2004, driven by both higher oil prices and quantities exported. Oil exports in 2008 amounted to around 1.85 million barrels per day, compared to approximately 488,000 barrels per day in 2004. The price of Iraqi oil per barrel escalated to \$88.8 in 2008, up from \$34.4 in 2004.

In 2009, the sharp decline in global trade flows following the global financial crisis had a reverberating impact on the country's foreign trade. The contraction in global demand for oil, coupled with the plummeting global oil prices, led to a steep decrease in the quantity of oil exports for the country (Central Bank of Iraq, Annual Economic Report (2008, p. 19). The total exports' proportion dropped to about 50% compared to 2008, with oil exports accounting for around 46.6% of the total exports. However, imports for the year 2009 witnessed an increase, reaching \$36.858 million, up by approximately 10.7% compared to 2008. This was attributed to reconstruction, foreign investments, and the development of Iraq's oil sector (Arab Monetary Fund, 2008, p. 19).

As for the period 2010 - 2013, global oil prices improved, and global economic growth increased, reflecting a rise in global oil prices due to the increased demand for oil, reaching more than \$103 per barrel in 2013. The value of oil exports surged to \$89.359 million in 2013 from \$52.290 million in 2010, marking an increase of around 14.3% of the total exports, which in turn rose to \$89.742 million in 2013, a rise of approximately 13.2% from 2010. In terms of total imports, their value escalated to \$59.349 million in 2013, compared to \$39.275 million in 2010, representing a 10.8% increase. This was primarily due to the increased import of equipment and transportation machinery by 38.5%, diverse manufactures by 15.8%, as well as a rise in imports of foodstuffs, mineral fuels, oils, animal and vegetable fats by 5.4%, 9.8%, and 6.4% respectively (Central Bank of Iraq, Annual Economic Report, 2013, p. 82).

The period 2014 - 2020 was characterized by significant fluctuations. A series of events occurred during this period, including the severe global economic recession in 2014, the occupation of several Iraqi provinces by ISIS, as well as the decline in oil prices to \$36 per barrel in 2016, coinciding with the implementation of the production reduction agreement reached by OPEC and non-OPEC oil-producing countries. Additionally, the United States increased its shale oil production to around 419,000 barrels per day in 2017, reflecting a 9.2% increase from 2016 (Arab Monetary Fund, 2918, p. 91). reaching approximately 5.806 million barrels per day. Oil exports continued to increase until 2020, reaching 46.674 million barrels per day, constituting about 99.7% of total exports. All of these factors contributed to a trade imbalance in Iraq's foreign trade, particularly concerning the quantity of oil exports, which negatively impacted the overall exports. Similarly, the total import volume was negatively affected due to the aforementioned reasons, with its proportion dropping to 7.7% of the total foreign trade during the same mentioned period.

Chapter Two: Financial Losses from Oil Licensing Rounds (2010-2020)

The primary objective of the oil licensing rounds was to increase the production capacity of Iraq's oil fields. However, all the producing giant fields as well as the discovered but undeveloped fields were awarded to foreign oil companies for a nominal amount not exceeding \$2 for each additional barrel produced beyond the baseline in fields like Rumaila, Zubair, and West Qurna 1, and less than \$1.5 for each additional barrel produced in fields like West Qurna 2, Majnoon, Halfaya, and Gharraf. Nevertheless, official data from the Ministry of Oil and statements by its media office revealed that accumulated financial dues to foreign companies in 2014 amounted to approximately \$9 billion. The media office further stated on 2nd March 2015 that the dues for the year 2015 (Mirza, 2015, p. 547) were estimated at around \$4.5 billion for each quarter, totaling approximately \$18 billion. This constituted more than one-third of the oil revenues for 2015. The decline in crude oil prices in global markets led to a reduction in financial returns to the general budget for the year 2015 (Al-Kaabi, 2017, p. 36, resulting in insufficient financial allocations to settle the obligations of foreign companies and accumulated debts.

The required capital costs for enhancing the oil sector's infrastructure by adding new facilities or improving existing ones led to an increase in the production cost per barrel of crude oil. This increase in production costs began in 2010 concurrently with the transfer of the giant oil fields in southern Iraq to foreign oil companies based on the licensing rounds. The costs multiplied several times compared to the costs of producing one barrel in 2009, which was only \$1. The costs surged to six times that amount in 2014, amounting to a 600% increase. However, these costs decreased in 2015-2016 due to the intervention of the Ministry of Oil, cost monitoring, and expenditure reduction for foreign companies. During this period, the production costs per barrel dropped to \$5.83 in 2015 and \$4.7 in 2016.

It is evident from the data provided by the Ministry of Oil that the profit margin for foreign oil companies was less than 5%. While this is generally acknowledged as modest, it remains illogical and unacceptable for foreign companies investing in the oil sector. This is because the discount rate alone in the oil industry is 12%. Therefore, the question arises as to why these multinational corporations accept such a narrow profit margin (Al-Fatlawi & Al-Zubaidi, 2015, p. 270). The answer lies in the fact that they compensate for it by inflating their costs. Additionally, the dominance of foreign companies over Iraqi oil and their control over one of the world's most crucial strategic commodities can't be ignored (Abdul-Redha, 2015).

Production costs for a barrel of crude oil increased over time. In 2010, the giant southern oil fields were awarded to foreign companies based on licensing rounds, which led to a

substantial increase in costs. These costs escalated several times compared to the costs of producing one barrel in 2009, which was only \$0.12. With the increased production achieved in 2016, reaching 607 million barrels annually or 1.6 million barrels per day, the cost per barrel rose to \$1. The reasons behind this increase included a higher employment rate leading to an increased workforce and higher wages.

Table (4) below (Al-Abadi & Al-Marsoumi, 2019, p. 14) demonstrates the escalating costs concurrent with the signing of the first and second oil licensing rounds contracts. These rounds included giant producing fields such as Rumaila, Zubair, West Qurna 1, and Majnoon. The cost per barrel of crude oil rose from \$1.89 in 2010 to \$5.99 in 2014, then dropped to \$4.78 in 2016.

Due to the revealed increase in production costs, Iraq suffered significant economic losses. Some of these losses are evident in the data published by the Ministry of Oil, specifically in the General Contracts and Licensing Directorate's Table 4.

Table (4): Distribution of Crude Oil Barrel Production Costs in Oil Fields for the Period (2010-2020).

General	Annual output million dollars	Operational annual production costs + service wages + depreciation / billion dollars	Production costs per barrel in dollars
2010	588,429	1,241,406	1.89
2011	665,883	2,654,787	3.55
2012	734,913	3015.310	3.64
2013	767,390	3,961,753	4.62
2014	897,053	6,011,719	5.99
2015	1,031,830	6,730,026	5.83
2016	1,170,834	6,261,175	4.78
2017	1,180,000	5,332,000	4.1
2018	1,421,000	6,001,000	3.9
2019	1,421,000	6,001,000	3.9
2020	1,421,000	6,001,000	3.9

Source: Derived from the research conducted by relying on Nabil Jaafar Abdul Ridha and Mustafa Jabbar Sannad, "Production Cost per Barrel of Crude Oil in Basra Oil Company 2016-2009," Tehran: Al-Mahwar Center for Strategic Studies, 2017, multiple pages.

Table (5): Losses Resulting from Cost Increase in Southern Iraqi Fields for the Period (2009-2020)

General 1	Production costs per barrel 2	Cost difference per barrel compared to 2009 3	Annual production million barrels 4	Financial losses billion dollars 4 x 3 = 5
2009	1			
2010	1.89	0.89	588,429	0,523,701
2011	3.55	2.55	665,883	1,698,001
2012	3.64	2.64	734,913	1,953,370
2013	4.62	3.62	767,390	2,777,951
2014	5.99	4.99	897,053	4,476,294

2015	5.83	4.83	1,031,830	4,983,738
2016	4.78	3.78	1,170,834	4,425,752
2017	4.1	3.1	1,180,000	3,658.0
2018	3.9	2.9	1,421,000	4,120.9
2019	3.9	2.9	1,421,000	4,120.9
2020	3.9	2.9	1,421,000	4,120.9
Total				11,928,031,523.701

Source: The researcher's work based on the data of the two tables (4).

It is observed from Table (5) that the cost of producing one barrel of crude oil before the implementation of oil contracts, specifically in the year 2009, was \$1, which can be considered as the baseline year. With the initiation of the contracts in the year 2010, the cost increased to \$1.89, representing an increase of \$0.89 per barrel. Considering the production from the fields of the South Oil Company, which amounted to 88,4295 million barrels annually, the resulting loss due to cost differentials borne by the Iraqi economy is \$3.70152 million for the same year.

In the year 2011, the second year of contract implementation, the cost per barrel increased to \$3.55, an increase of \$2.55. With the production of the same year reaching 665.883 million barrels, the incurred losses amount to \$18.00961 million. The trend of rising production costs continued, reaching \$3.64 per barrel in 2012, an increase of \$2.64 from the baseline year. The production for this year was 734.913 million barrels, resulting in losses of \$1.953370 million.

In 2013, the cost differential reached \$3.62 per barrel, representing an increase from the baseline year. Consequently, the incurred losses were \$512.7779 million. In 2014, the cost differential was \$4.44, leading to cumulative losses of \$4.476294 million. In 2015, the cost per barrel was \$35.8, an increase of \$1.83, resulting in a loss of \$4983.738 million. The cost remained higher than the baseline year in 2016, reaching \$3.78 per barrel. Therefore, the resulting losses due to cost increases amounted to \$4425.752 million.

The cost per barrel continued to rise, leading to a total loss borne by the Iraqi economy over the 10-year period of the contracts. This loss, caused by the endeavors of the foreign oil companies to increase their profits through heightened costs, reached a staggering \$11.928.031.523.701 billion. This considerable loss emphasizes the urgent need for the Iraqi economy to obtain such revenues. The losses borne by the Iraqi economy are essentially the payments made to foreign oil companies under the label of oil company entitlements. This substantial inflation in the entitlements is primarily due to reducing the government partner's share from 25% to 5% and the absence of oversight on the expenses of these companies, which seek to inflate oil costs significantly to maximize their profits in compensation for the meager amount received for each additional produced barrel (Mirza, 2021, p. 547).

Upon closer examination and monitoring of most of the tenders prepared by contracting companies, attempts to inflate oil costs are evident. It is observed that these contracting companies exaggerate the estimated costs for some of these tenders. It can be concluded that foreign companies operating in the oil fields strive to inflate oil costs since these costs are recovered from the field's revenues as oil costs. Furthermore, the source of most of these costs cannot be accurately tracked by the Iraqi workforce. The costs of foreign labor are also extremely high, all of which ultimately favor foreign companies and result in losses for Iraq. Therefore, it can be stated that these contracts are unfair to Iraq compared to what these companies have offered in terms of low production rates, which have been scientifically proven to be significantly worse than participation contracts.

Chapter Three: Measurement and Analysis of the Relationship between Financial Costs and Structural Imbalances in the Iraqi Economy (2004-2020)

Estimating the Relationship between Financial Costs and Structural Imbalances in the Iraqi Economy

First Equation: The Impact of Financial Costs on the Trade Balance

Testing the Model's Validity

The appropriate model according to the (ARDL) methodology is (4.3), indicating four lagged periods for the trade balance and three lagged periods for the financial costs variable. The overall significance of the model is also confirmed by the (F) test, as illustrated in the following Table (6):

Table (6): The Impact of Financial Costs on the Trade Balance

Selected Model: ARDL(4, 3)				
Variable	Coefficient	std. Error	t-statistic	Prob.*
LNTB(-1)	2.927259	0.119777	24.43932	0.0000
LNTB(-2)	-3.362874	0.327696	-10.26218	0.0000
LNTB(-3)	1.795741	0.337099	5.327044	0.0000
LNTB(-4)	-0.395946	0.130254	-3.039798	0.0037
LNTC	2.150094	0.643767	3.339862	0.0016
LNTC(-1)	-5.851771	1.740700	-3.361734	0.0015
LNTC(-2)	5.610757	1.723959	3.254576	0.0020
LNTC(-3)	-1.896415	0.621791	-3.049924	0.0036
C	0.225994	0.094817	2.383467	0.0208
R-squared	0.996932	Mean dependent var		9.673473
Adjusted R-squared	0.996460	SD dependent var		0.795690
SE of regression	0.047342	Akaike info criterion		-3.127387
Some squared residence	0.116546	Schwarz Criterion		-2.815947
Log likelihood	104.3853	Hannan-Quinn criter.		-3.005331
F-statistic	2,112,138	Durbin-Watson stat		2.125315
Prob(F-statistic)	0.000000			

Source: The researcher's work based on the statistical program Reviews 12.0 Source: Based on the research conducted by the researcher, relying on the statistical software Eviews 12.0.

The logarithmic equation mentioned above was selected to align with both economic and statistical theories, as it avoids standardization issues. The statistical test indicates the quality of the estimated model through the adjusted (R²) value, which is (99.6%), in addition to the value of (F) which is (2112.138) with a significance level of (0.00). As for the standard tests, they demonstrated the absence of autocorrelation issue, as indicated by the Durbin-Watson test with a value of (2.125).

The long-term relationship was estimated based on the optimal model that yields the lowest value of the AIC criterion for estimating the long-term equilibrium relationship, as shown in Figure (1).

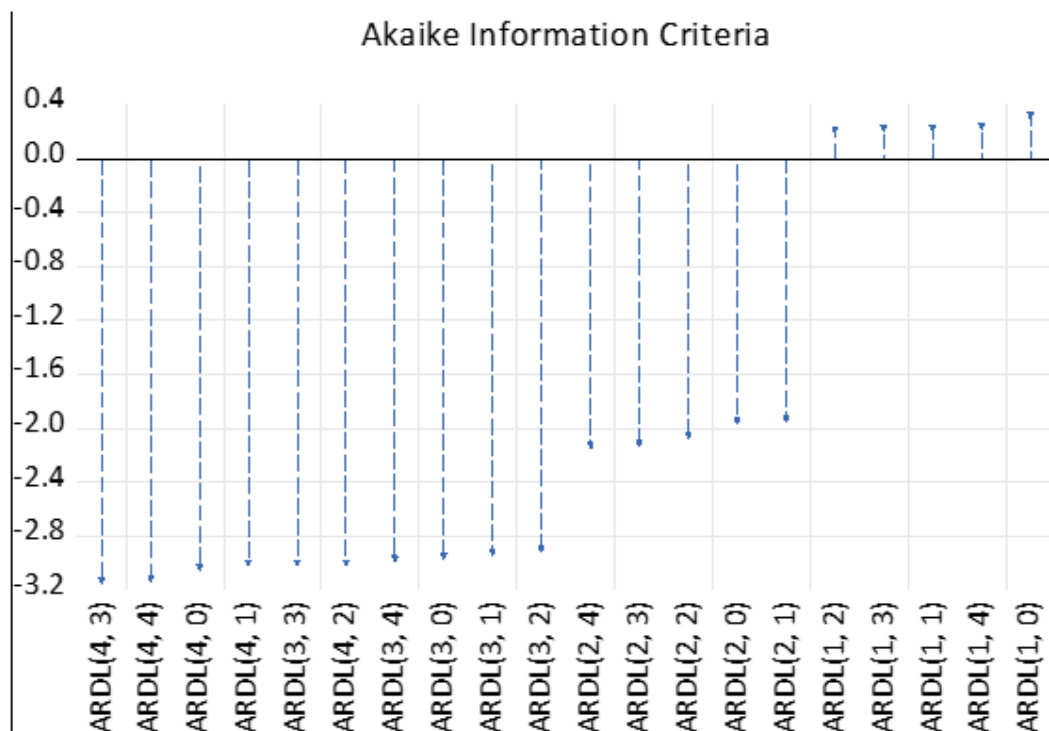


Figure (1): Optimal deceleration model

Source: from the researcher's work based on the statistical program 12.0reviews

The above figure illustrates that the model has a time lag of (4.3) based on the Akaike criterion, which represents the best combination as it provides the lowest value for the criterion. The values are automatically determined by the statistical model, where a value of (1) indicates a one-time lag and (0) signifies no time lag.

Second Equation: The Impact of Financial Costs on the Budget Deficit

Firstly, the quality test for the model:

The appropriate model according to the (ARDL) methodology is (1.2), indicating two lag periods for the budget deficit and one lag period for the financial cost variable. Additionally, the significance of the model as a whole is determined by the (F) test, as illustrated in the following Table (7).

Table (8): The impact of financial costs on the net budget

Selected Model: ARDL(2, 1)				
Note: final equation sample is larger than selection sample				
Variable	Coefficient	std. Error	t-statistic	Prob.*
LNNT(-1)	0.827422	0.136564	6.058838	0.0000
LNNT(-2)	-0.332279	0.133024	-2.497892	0.0154
LNTC	-6.694480	2.811007	-2.381524	0.0205
LNTC(-1)	6.513906	2,726,730	2.388907	0.0202
C	9.491490	2.713350	3.498071	0.0009
R-squared	0.614868	Mean dependent var		15.27522
Adjusted R-squared	0.588307	SD dependent var		1.303190
SE of regression	0.836170	Akaike info criterion		2.556069
Some squared residence	40.55245	Schwarz Criterion		2,726,159
Log likelihood	-75.51616	Hannan-Quinn criter.		2.622966
F-statistic	23.14938	Durbin-Watson stat		1.940042
Prob(F-statistic)	0.000000			

Source: The researcher's work based on the statistical programReviews12.0

The logarithmic equation shown above was selected to align with both economic and statistical theories, as it is devoid of standardization issues. The statistical test indicates the quality of the estimated model through the adjusted (R²) value of 61.4%, in addition to an (F) value of 23.14938 with a significance level of 0.00. Furthermore, the diagnostic tests have revealed that the model is free from autocorrelation problems, as indicated by the Durbin-Watson test value of 1.940042.

Third Equation: The Impact of Financial Costs on Monetary Stability

Firstly, the quality test for the model:

The appropriate model according to the (ARDL) methodology is (0.1), indicating the presence of a lag period for monetary stability. Additionally, the significance of the model as a whole is determined by the (F) test, as illustrated in the following Table (7).

Table (7): The effect of financial costs on monetary stability

Selected Model: ARDL(1, 0)				
Note: final equation sample is larger than selection sample				
Variable	Coefficien t	std. Error	t-statistic	Prob.*
LNMS(-1)	-0.012763	0.128015	-0.099696	0.9209
LNTC	-0.071933	0.083499	-0.861481	0.3923
C	0.006407	0.632460	0.010131	0.9919
R-squared	0.012020	Mean dependent var	-0.527401	
Adjusted R-squared	-0.020373	SD dependent var	0.868426	
SE of regression	0.877228	Akaike info criterion	2.621640	
Some squared residence	46.94123	Schwarz Criterion	2.722838	
Log likelihood	-80.89249	Hannan-Quinn criter.	2.661507	
F-statistic	0.371077	Durbin-Watson stat	1.995216	
Prob(F-statistic)	0.691537			

Source: The researcher's work based on the statistical program Reviews12.0

Figure (2) illustrates that the model has a lag of (1.0) based on the Akaike criterion, which depicts the optimal fit by providing the lowest value for the criterion, automatically determined by the statistical model. A value of (1) signifies a lag of one period, while a value of (0) indicates the absence of a time lag.

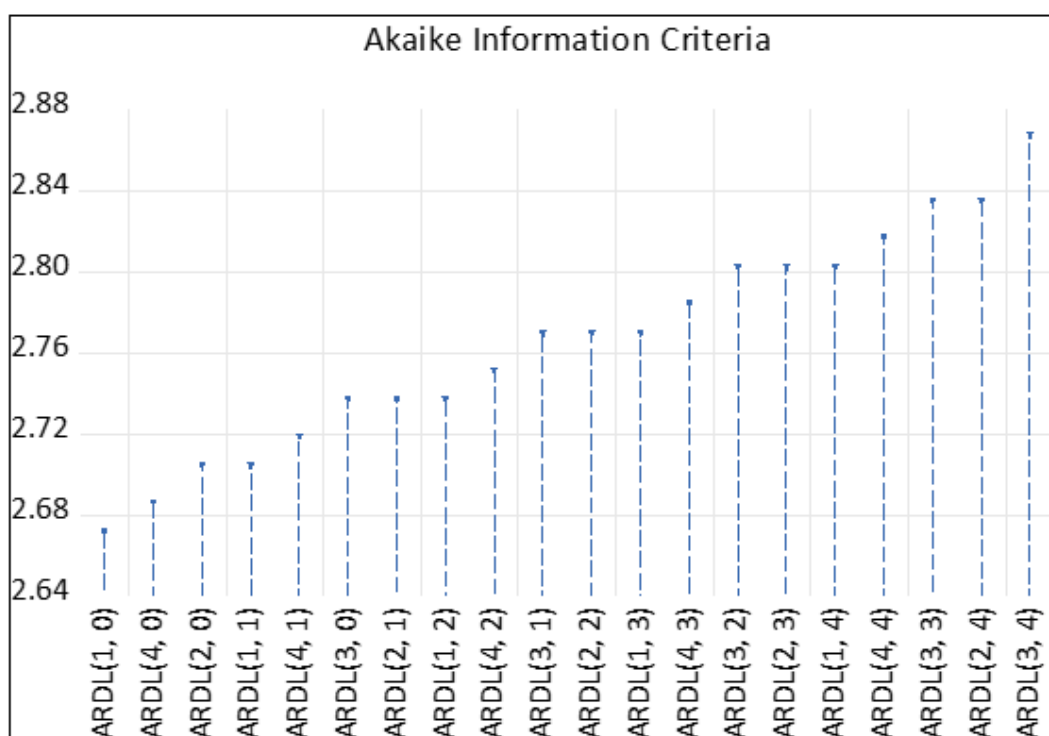


Figure (2): The optimal model for deceleration

Source: The researcher's work based on the statistical program Reviews12.0

Conclusions and Recommendations

Conclusions:

1. Iraq possesses significant oil wealth, ranking second after Saudi Arabia among Arab oil-producing countries in terms of oil reserves.
2. The Iraqi oil sector has suffered substantial damage due to wars and economic sanctions, leading to decreased production capacity, halted projects, technological stagnation, and decreased necessary investments for sector development.
3. The oil policy in Iraq aims to double production capacity to around 6 million barrels per day, driven primarily by the abundance of rich oil fields and the need for financing to revive stalled projects.
4. The heavy reliance on the oil sector in Iraq has resulted in several negative effects on the economy, including structural imbalances favoring extractive sectors and disadvantaging productive ones.
5. The licensing rounds can be considered a turning point in the history of oil contracts on a regional level, representing a significant achievement for both the Ministry of Oil and the government that adopted them.
6. There exists a significant and meaningful relationship between financial costs as an independent variable and the trade balance as a dependent variable. An increase in financial costs associated with licensing rounds will positively impact the trade balance, aligning with economic theory.
7. There is an inverse and significant relationship between financial costs as an independent variable and the budget surplus/deficit as a dependent variable. Higher financial costs associated with licensing rounds result in budget deficits, in line with economic theory.

8. No significant relationship was found between financial costs as an independent variable and monetary stability as a dependent variable.

Recommendations:

1. It is imperative to formulate a future oil policy guided by an independent national vision and economic policies that revitalize the Iraqi oil sector. Clear guidelines are needed for the prudent use of oil resources, primarily targeting economic growth and employment.
2. Collaborating with foreign oil companies is the optimal approach to accelerate the development of the Iraqi oil sector. Such partnerships offer access to the latest technological and managerial advancements, aiding in the use of modern techniques like horizontal drilling to maximize production from existing wells or enhance reservoir recovery rates.
3. Addressing the oil issue must consider the political, social, economic, and technical aspects. Policies focusing on one aspect to the detriment of others prove ineffective, leading to the so-called "resource curse" where oil-dependent nations experience slow growth, less democracy, and heightened conflict.
4. Enhancing the integration of Iraq's oil industry and its connection with the local economy is crucial. Emphasis should be placed on downstream oil industries, including refining and petrochemicals, along with maximizing the utilization of associated and non-associated natural gas.
5. Urgent measures are needed to improve the administrative apparatus of the Ministry of Oil and its subsidiaries. This includes addressing issues such as centralization, rigid bureaucracy, inadequate planning, uneven distribution of personnel, favoritism, authoritarian tendencies, and the prevalence of corruption.
6. Iraq must address the pressing issue of volatile long-term and medium-term oil revenues. This requires fiscal policies that balance budgets, preventing public expenditures from increasing during temporary revenue surges and from decreasing during temporary economic downturns.

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