

Innovations

Growth of Total Exports and Imports in India and Iraq

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Abstract

The energy trade relation between India and Iraq has witnessed substantial growth and has become an integral part of their bilateral ties. Both countries are major players in the global energy landscape, with India being one of the world's largest energy consumers and Iraq possessing significant oil reserves. India heavily relies on imports to meet its growing energy demands, and Iraq has emerged as one of its key suppliers. Oil forms the backbone of their energy trade, with India importing a significant amount of crude oil from Iraq. The Indian refineries are well-equipped to process the Iraqi crude, making it a mutually beneficial partnership. Over the years, India and Iraq have signed several agreements and memoranda of understanding (MOUs) to further strengthen their energy cooperation. These agreements cover various aspects, including exploration, production, refining, marketing, and investment in the energy sector. Both countries have also collaborated on enhancing oil infrastructure and storage facilities.

1.1 Introduction

There have been talks about expanding the energy trade to include renewable energy sources and natural gas in addition to oil. India has shown interest in looking at potential partnerships for renewable energy projects in Iraq as a result of its growing emphasis on renewable energy. In addition to helping India satisfy its energy needs, commerce in energy between Iraq and India has been vital to the country's economic growth. It has promoted closer people-to-people and commercial relations between the two countries. As both India and Iraq continue to strengthen their cooperation, the energy trade relationship is expected to flourish further. The partnership holds immense potential for sustained growth, energy security, and mutual benefits for both countries. The energy trade between India and Iraq has significant economic implications for

both nations. India relies on Iraqi oil imports to meet its energy requirements, ensuring a stable energy supply for its industries and consumers. On the other hand, Iraq benefits from the revenue generated through oil exports to India, which contributes to its economic development and reconstruction efforts. Indian oil companies have actively pursued exploration and production opportunities in Iraq. Indian firms have participated in bidding processes and secured contracts for oilfield development in Iraq, establishing a presence in the country's energy sector. These investments strengthen the energy trade relation while fostering technology transfer and expertise sharing. India and Iraq have signed several bilateral agreements to enhance energy cooperation. These agreements cover areas such as oil exploration, production sharing, and cooperation in the field of oil and gas. The countries also collaborate on training programs, knowledge exchange, and research and development initiatives related to the energy sector.

India possesses significant refining capacities, and its refineries are equipped to process the heavy crude oil imported from Iraq. This compatibility in refining capabilities has further facilitated the energy trade between the two countries, enabling smooth processing and utilization of Iraqi oil resources. Both India and Iraq have engaged in discussions and collaborations to develop energy infrastructure. This includes the establishment of oil pipelines, storage facilities, and refineries, promoting efficient transportation and storage of oil resources. These infrastructure developments strengthen the trade relation and support the long-term sustainability of energy supplies. The India-Iraq energy trade relation holds immense potential for growth and diversification. India's increasing energy demands, coupled with Iraq's vast oil reserves, provide opportunities for further collaboration. There is scope for expanding the trade to include natural gas and exploring renewable energy avenues, aligning with India's commitment to sustainable energy sources.

However, despite the potential benefits of energy cooperation between Iraq and India, there exist several challenges and uncertainties that need to be addressed. The problem statement of this research study revolves around understanding and analysing the role of Iraq in India's energy sector, with a focus on identifying the key challenges, opportunities, and implications associated with this bilateral energy relationship.

1.2. The Statement of Problems:

Prior research has primarily focused on bilateral commercial relations between two nations. The research paper looks at the current trends and patterns in Iraqi-Indian energy trade. This entails examining the amount and worth of gas and oil that India imports from Iraq as well as any variations or alterations in these trade flows over time. India's growing energy consumption and its reliance on energy imports from Iraq are the subjects of the study. Examining India's industrialization, population dynamics, economic growth, energy consumption

trends, and policy frameworks that influence the dynamics of the energy supply and demand may be part of this. The study is identified and analyse the challenges and risks associated with Iraq's role in India's energy sector. These challenges may include geopolitical factors such as regional conflicts and instability, economic considerations such as price volatility and market dynamics, and technological aspects such as infrastructure limitations and transportation logistics. The research work is examining potential areas of cooperation and collaboration between Iraq and India in the energy sector. This may involve exploring avenues for investment, technology transfer, joint ventures, and exploring alternative energy sources or diversification of energy supplies. The study is assessing the implications of Iraq's role in India's energy sector on the energy security and strategic interests of both countries. This includes analysing the impact on India's energy diversification strategies, the vulnerability of energy supply chains, and the geopolitical implications of energy dependence.

1.3 Objectives:

1. To Examine the exports and imports between India and Iraq
2. To examine Role of Iraq in bilateral trade with India
3. To analyse the policy frameworks and regulatory environments in both countries related to the energy sector.

1.4 Research Methodology:

The study's foundation is secondary data, which is information that has already been gathered by others for unrelated reasons but may still be pertinent to the investigation. The information relates to energy production, exports, imports, trade policies, and other aspects of bilateral energy commerce between Iraq and India. International organizations, government reports, industry reports, academic research, statistical databases, and publications from the energy sector were the sources of the data. Reports from the World Bank, OPEC, the Indian and Iraqi governments, the International Energy Agency (IEA), and energy sector associations are a few examples of secondary data sources that might be used for the study. Research articles, industry publications, and reputable research institutions focused on energy and international relations can also serve as important sources of data. The secondary data was collected from 2000-01 to 2019-20 (20 years).

1.5 Scope of Study:

The study's time frame was roughly from 2000–01 to 2019–20. The primary subject of the study is bilateral energy cooperation between two nations. Only the bilateral trade with regard to the energy sector is the subject of this study. A recent MOU and bilateral deal with the Iraqi government are also analyzed in the report. The study examines the past patterns, present situation, and potential

future developments in the energy trade between Iraq and India. Concentrate on the kinds of energy commodities exchanged, the volume and value of those exchanges, and the main variables impacting bilateral energy commerce.

1.6 Growth of Total Exports and Imports

The growth of India's exports to and imports from world in terms of US dollars at market prices has been furnished in Table -1. A cursory glance at the table indicates that India's total exports to world rising from \$251.14 billion to \$291.16 billion during the 11 year period from 2010-11 to 2020-21 registered a paltry CAGR of 0.85 per cent. The highest year to year growth rate of 21.83 per cent was registered during the year 2011-12. The highest negative growth rate of -15.49 per cent was observed in the year 2015-16 due to weak global demand. The growth of exports during this period was not statistically significant as the computed t-value of 1.07 is lower than the theoretical or table or critical t-value of 2.26 at five per cent probability level. Since, there are wide variations in the yearly exports, the R² value is also very low at 0.11. India's imports during the same period rising from \$369.77 billion to \$393.61 billion exhibited a surge of about 6.45 per cent. The highest year to year (y-to-y) positive growth rate of 32.33 per cent was registered in the same year as the exports that is during 2011-12. The imports also registered an abysmally low CAGR of 0.22 per cent and it was also not statistically significant. The model is also not a good fit for the data as the coefficient of determination (R²) is very low at 0.004. As could be observed from the table, the imports have all along the period exceeded exports and as a result, the trade balance continued to be negative during the entire study period. India's total trade in dollar terms, rising from \$620.91 billion to \$684.77 billion, registered CAGR of 0.48 per cent during the 11 year period from 2010-11 to 2020-21. The growth rate is also not statistically significant. The poor fit of the semi- log model, $y=ab1$ to the data is given by the low R² value of 0.024. The negative trade balance has reached the peak level of -23.06 per cent 2011-12 and the floor level of -2.40 per cent in the year 2012-13.

Table 1

India's Exports, Imports and Trade Balance in terms of US Dollars From 2010-11 to 2020-21

Year	Exports in Million	Change in exports %	Imports in Million	Change in imports %	Trade Balance	Total Trade	Trade Balance as % to Total Trade
2010-2011	251136.2	16.54	369769.1	25.65	-118632.9	620905.3	-19.11
2011-2012	305963.9	21.83	489319.5	32.33	-183355.6	795283.4	-23.06
2012-2013	300400.6	-1.82	490736.6	0.28	-190336.0	791137.2	-2.40
2013-2014	314415.7	4.66	450213.6	-8.26	-135797.9	764629.3	-17.76
2014-2015	310352.0	-1.30	448033.4	-0.49	-137681.4	758385.4	-18.15
2015-2016	262291.1	-15.49	381007.8	-14.96	-118716.7	643298.9	-18.45
2016-2017	275852.4	5.17	384357.0	0.87	-108504.6	660209.4	-16.43
2017-2018	303526.2	10.03	465581.0	21.13	-162054.8	769107.2	-21.07
2018-2019	330078.1	8.74	514078.4	10.41	-184000.3	844156.5	-21.80
2019-2020	313361.0	-5.07	474709.3	-7.66	-161348.3	788070.3	-20.47
2020-2021	291163.5	-7.09	393610.6	-17.09	-1024471	684774.1	-14.96
CAGR in %	0.85	-	0.22	-	-	0.48	-
R ²	0.11	-	0.004	-	-	0.024	-
't' cal value	1.07	-	0.19	-	-	0.47	-

Note: 1. The t-table value at $n-2 = 11-2 = 9$ degrees of freedom at one per cent probability level is 3.25 and that at five per cent level is 2.26.

2. * significant at one per cent probability level.

Source: Reserve of India (2022), Handbook of Statistics on the Indian Economy: 2021-22, Mumbai: RBI, p.177.

1.7 Growth Rates of Exports in Terms of Rupees

The growth rates of major commodity groups of India's exports expressed in terms of rupees during the study period i.e., from 2010-11 to 2019-20 are incorporated in Table 2.

Table 2
Major Commodity Groups and their Shares in India's Total Exports in terms of Rupees from 210-11 to 2020-21
(Rupees in Crores)

Year	Primary Products	Manufactured Goods	Petroleum Products	Others	Total Exports
2010-2011	83618	742658	188789	127868	1142922
2011-2012	123589	909121	267915	165337	1465959
2012-2013	154009	995588	330819	153903	1634318
2013-2014	198625	1170957	383248	152175	1905011
2014-2015	195001	1237152	346082	118209	1896445
2015-2016	164374	1228128	199638	114243	1716384
2016-2017	189596	1335164	211509	113166	1849434
2017-2018	212931	1384425	241435	117721	1956515
2018-2019	228081	1600857	325929	152859	2307726
2019-2020	210923	1567266	292340	149325	2219854
CAGR in %	8.81*	8.01*	0.85	-0.85	6.16*
R ²	0.69	0.93	0.011	0.03	0.78
't' cal value	4.197	10.0	0.293	0.505	5.329
ETI	1.357	0.447	1.879	1.168	0.633
2020-21	245610	1544470	190749	173510	2154339

Note: 1. Data for 2020-21 are provisional and hence were not include in growth analysis.

2. Note: The t-table value $n-2=10-2=8$ degrees of freedom at one per cent probability level is 3.36

3. * The growth rate is statistically significance at one per cent probability level

Source: Reserve Bank of India (2021), Handbook of Statistics on the Indian Economy, Mumbai.

As could be observed from the table, out of five commodity groups, only two commodity groups viz., Primary Products and Manufactured Goods have grown at statistically significant rates. While the exports of Primary products, rising from Rs.83,618 crores to Rs.2,10,923 crores put up the highest and the statistically significant growth rate of 8.81 per cent between 2010-11 and 2019-20, the exports of manufactured goods at marginally lower rate of 8.01 per cent

during the same period. However, the R2 and computed t-values of manufactured exports were relatively high at 0.93 and 10.0 as compared to that for the primary products at 0.69 and 4.197. These results clearly indicate that the exports of manufactured goods were relatively more consistent and reliable than that of primary products. This result is also reiterated by the relatively low value of Exponential Trend Indices (ETI) at 0.447 for the manufactured goods as compared to that for the primary products at 1.357.

Table 3
Oil Export from Iraq since last decades.

Year	India's Crude Imports from Iraq India's Total Crude Imports		India's Total Crude Imports (US\$ Millions)
	Quantity (Thousand Tonnes)	Price (US\$ Millions)	
2000-2001	11485.25	4582.32	14467.21
2001-2002	11695.36	4236.23	12890.32
2002-2003	11720.45	5698.25	16060.65
2003-2004	11855.5	4695.24	18826.77
2004-2005	11095.4	4758.34	2646.63
2005-2006	12555.65	5459.75	38946.32
2006-2007	12831.51	5500.16	47018.75
2007-2008	12635.93	6834.57	64052.5
2008-2009	12222.34	7655.81	77310.75
2009-2010	13883.04	6979.59	77506.56
2010-2011	14767.45	8954.66	92651.77
2011-2012	23769.8	18826.19	1.34154.97
2012-2013	24240.1	19141.11	144519.72
2013-2014	24576.15	18348.42	143638.53
2014-2015	24017.37	14174.33	116442.86
2015-2016	3569.71	10758.45	65922.98
2016-2017	37759	11616.72	70705.39
2017-2018	45740.46	17544.24	87372.27
2018-2019	46612.69	22265.04	114042.12
2019-2020	51566.68	22764.55	102748.77

Source: 1. Statistical Review of World Energy
2. U.S Energy Information Administration (EIA)

Table 4 shows that the India import crude oil from three countries such as Iraq, Iran and Saudi Arabia. Export of oil in terms of volume, which are in rising trends i.e., the total export Rs. 11485.25 in 2000-01 and it was increased 51566.68 million tonnes in 2019-20. In terms of value in 2000-01 4582.32 it was increased 2,2764.55 million US dollars with compound annual growth rate 21.16. The table also shows that India import total crude oil in 2000-01 Rs. 14467.21 million US dollars and it was increased 102748.77 million US dollars with compound growth rate 0.97 percent.

Table 4
India- Import Crude oil from Iraq

Year	INDIA'S CRUDE IMPORTS		Saudi Arabia
	Iraq	Iran	
2000-2001	8.56	17.56	6.32
2001-2002	9.24	12.58	10.56
2002-2003	40.85	22.86	8.24
2003-2004	11.56	25.25	7.15
2004-2005	9.58	22.36	12.48
2005-2006	11.36	18.25	12.95
2006-2007	11.70	23.19	13.87
2007-2008	10.67	23.64	15.24
2008-2009	9.90	20.47	14.27
2009-2010	9.01	18.13	13.15
2010-2011	9.66	17.59	9.95
2011-2012	14.03	19.61	8.67
2012-2013	13.24	19.64	6.63
2013-2014	12.77	21.56	5.88
2014-2015	12.17	18.72	6.05
2015-2016	16.32	20.46	6.05
2016-2017	16.43	19.34	12.60
2017-2018	20.08	17.47	10.28
2018-2019	19.52	18.75	10.62
2019-2020	22.16	19.81	0.97

Source: 1. Statistical Review of World Energy
2. U.S Energy Information Administration (EIA)

1.8 Bilateral Policy Iraq and India

Unlike the previously discussed periods of engagement, the period of 'Pro-active Engagement' entails speculations grounded in certain axiomatic assumptions and lessons from the past. The more genuine and closer to the reality these assumptions are, the more veritable would be the speculations. Given Iraq's historic and strategic importance, the current state of bilateral relations remains underdeveloped, unexplored and unsatisfactory. A large number of factors and events are responsible for the current state of the relations. Apart from the factors beyond India's countenance, there is a need for conscious and systemic efforts to achieve the full potential of the relations. What would such concerted efforts look like? Broadly, the outcome of these efforts should entail a period of 'Pro-active Engagement'. Over the last few years, Iraq has been "limping towards a democratic order," and there are several causes for optimism about the future of Iraqi politics. Moving ahead, Iraq would play a critical role in the region's geopolitics with its vast energy reserves, and its position as an OPEC member makes it imperative for India to devise an informed 'Iraq Policy'. Its role as intermediary between Iran and Saudi Arabia is a welcoming development that would allow Iraq to play a more dominant role in the region.

India, in the past, had enjoyed close relations with Iraq, and as the country seek stability and development, it would be folly for India to disregard Iraq in the region. The decline in violence, electoral reforms, and growing resentment against the Iranian influence over Iraq are promising and vital changes that carry enormous potential for perceptible changes in the country's future.

Furthermore, India's quest for an increasing role in the region, as per the sentiments expressed in statements by Prime Minister Narendra Modi and External Affairs Minister Dr Jaishankar, would encompass taking on an active role in Iraq. To these ends, it is suggested that India should adopt a quadrilateral approach that needs to be executed in a phased manner. Instead of focusing on symbolic gestures, the need is to look towards substance. Following a two-step process, this would involve directing engagement across four broad themes. In step one (called Consolidation), the efforts need to be focused on getting back to the level of cooperation that had existed during the period of 'Active Engagement'. The idea is to identify the existing areas of cooperation and reorganise them. As opposed to the notion of just venturing into new areas, say, renewable energy, the focus must be on creating an improved institutional mechanism through existing modes of cooperation. In step two (called Expansion), newer areas of cooperation can be identified and pursued. The effort would be to build on the success of step one. In addition, from the standpoint of value chains and logistics, it is far easier to extend cooperation into advanced fields once there is already cooperation in certain elementary areas. By doing so, the plans and projects that would be undertaken would strengthen the existing relations before expanding the areas of cooperation

Consolidation Before new avenues are explored, it is vital to consolidate the existing components. However, what does consolidation exactly mean in the context of India-Iraq relations? Essentially, the notion of consolidation here encompasses taking stock of the present status of relations to realise where one currently stands and improving on those areas, by setting up better institutional and logistic mechanisms. First and foremost, there needs to be more Secretary-level engagement. Given the domestic situation in Iraq, the engagement at EAM or higher level would be an unreasonable expectation. However, Joint Secretary level meets need to be frequent from all the concerned ministries, especially Commerce and Energy.

One of the biggest problems with India's policy vis-à-vis Iraq was the 'lack of communication' that has had enormous costs. Before 2003, the individuals and officials that India had communicated with, were no longer in those positions and that posed significant challenges to keep up with political changes in Iraq, let alone following up on trade and commerce opportunities. Subsequent to 2003, the foreign policy of the Iraqi Republic has undergone perceptible change, a most notable feature of which has been a change in the political elites. This has involved the inclusion of diverse groups including the Kurds in Iraq's decision-making process.

India can offer to send observers in future elections. Similarly, economic aspects would require more effort since energy trade has been the core of the bilateral ties for decades. The first thing that India needs to do is conduct an appraisal of the Joint Commission. The Commission had been the centrepiece for expanding economic relations between the two countries. However, the Commission is outdated, as the economic portfolios of the two countries has undergone change and newer avenues for economic engagement have garnered more prominence. Therefore, to move ahead, it needs to be regularised and reorganised in line with current requirements of both sides. The various ambitious policies of the NDA government, like 'Skill India' and 'Digital India', could be incorporated into the mechanism of the Joint Commission. Counterterrorism has emerged as a critical area of cooperation between India and its Middle Eastern counterparts.

Iraq is a crucial case because of the apparent fear of a resurgence of the Islamic State. In the past, too, India cooperated with Iraq on this issue. Still, the fateful case of 39 Indians in Mosul should caution India to take a pre-emptive approach against such tragedies. India has had limited cooperation with Iraq on counterterrorism vis-à-vis institutional mechanisms. As such, attempts need to be made to sign a MoU to monitor Indians travelling to Iraq that can be organised through a small Task-Force. India has the world's largest police machinery, whose experience and expertise can be offered to Iraq. Whether it is institutional aspects or tactical training, India can offer to organise courses and short-term training programmes. Finally, cooperation in sectors like IT, health, education

and humanitarian efforts has been the often-repeated pattern of Indo-Iraq relations. What is needed is to pick out specific areas and set up attainable objectives to strengthen existing cooperation. Healthcare could be a worthwhile sector to explore, given that Iraq's fragile health machinery came under extensive pressure during the pandemic. Furthermore, India can work with various international organisations to increase cooperation on these issues.

Conclusion

The energy trade relation between India and Iraq has witnessed substantial growth and has become an integral part of their bilateral ties. Both countries are major players in the global energy landscape, with India being one of the world's largest energy consumers and Iraq possessing significant oil reserves. India heavily relies on imports to meet its growing energy demands, and Iraq has emerged as one of its key suppliers. Oil forms the backbone of their energy trade, with India importing a significant amount of crude oil from Iraq. The Indian refineries are well-equipped to process the Iraqi crude, making it a mutually beneficial partnership. Over the years, India and Iraq have signed several agreements and memoranda of understanding (MOUs) to further strengthen their energy cooperation.

The study main objective to provide valuable insights into the dynamics of Iraq's role in India's energy sector and offer recommendations for policymakers, industry stakeholders, and other relevant parties to strengthen the bilateral energy cooperation and ensure long-term energy security for India.

The volume of imports from Iraq grew significantly during this decade. During the 2010s, India's oil imports from Iraq experienced significant growth, solidifying Iraq's position as one of the major suppliers of crude oil to India. The volume of oil imports from Iraq to India witnessed a notable increase during this decade. Iraq became one of the largest suppliers of crude oil to India, competing with other major oil-producing countries such as Saudi Arabia and Iran. The exact volume of imports varied from year to year but showed a clear upward trend. Iraq held a significant market share in India's crude oil imports. It consistently ranked among the top suppliers, contributing a substantial portion to India's overall oil import portfolio. Iraq's market share in India's oil imports fluctuated based on various factors, including global oil prices, geopolitical developments, and supply-demand dynamics. However, Iraq has consistently held a significant market share in India's oil imports. India's dependency on Iraq for crude oil imports increased significantly during the 2020s. Iraq emerged as one of the top suppliers, and its share in India's total oil imports grew consistently. This growing dependency on Iraqi oil was driven by factors such as availability, competitiveness, and the compatibility of Iraqi crude with Indian refineries. The 2021s witnessed a shift in the geographical distribution of India's crude oil imports. The share of imports from the Middle East, including Iraq, expanded.

while imports from other regions, such as Africa, declined. This shift reflected the increasing importance of the Middle East, and particularly Iraq, as a key supplier to India.

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