

Trade Intensity: Iraq's Status in the Global Market



Dhrgam S. Habib

Abstract— This paper attempts to explore the status of Iraq's foreign trade by examining the trends of Iraq's trade, significance of trade in the country's economy and the trade intensity index between Iraq and major countries for the period between 2007 and 2017. This study relies on average and compound annual growth rates, trade intensity indices (TII) and regression analysis to measure the foreign trade status of Iraq. Abundant natural reserves of oil and gas serve as the engine of Iraq's economic growth. In the last decade, Iraq's foreign trade has increased from about US\$ 47 billion in 2007 to about US\$ 98 billion in 2017. This study demonstrates a significant increase in Iraq's trade with countries like USA, China, Turkey and India. Although Iraq's exports are much higher than imports, there has been a decline in the volume of exports during the study period, while imports have increased impressively

Keywords: Export, import, trade balance, trade intensity, trade performance, crude oil, gross domestic product, trade openness, foreign trade, world trade

I. INTRODUCTION

International trade is particularly important for a developing economy with natural resources of global economic value (Vernon, 2017). Foreign trade, encompassing exports and imports, is an indication of the country's transaction with the world and the extent of the economy's resourcefulness and integration with the global market (Vijayasri, 2013). A country's Gross Domestic Product (GDP) and other economic indicators are influenced by foreign trade, i.e., an increase in trade fetches valuable foreign exchange, which benefits other economic factors like inflation, employment, currency, etc. (Borkakoti, 2017). An effective foreign trade policy facilitates the integration with the global economy, by making international trade simpler and benefits the economy (Pearce et al., 2013). Owing to abundant natural oil and gas, most countries depend on Iraqi crude oil to meet their energy demands. According to the Organization of the Petroleum Exporting Countries (OPEC), Iraq's crude oil and natural gas production was 147 million barrels and 3744 billion cubic meters, respectively in 2017 (OPEC, 2018). Iraq is the fourth largest global oil exporter

and houses world's fifth largest petroleum reserve (WBG, 2017). Iraq, mainly imports food, packaged medicines, machinery, transport equipment, chemicals, etc. Iraq's international trade is influenced by the demand for oil and oil revenue, foreign policies and international relations (Zhong et al., 2017).

Iraq has signed bilateral trade agreements with many countries for economic cooperation and growth (Rudolf, 2017). Iraq's trade relationships with the world between 2007 and 2017 is the basis of the present study, which intends to (i) examine Iraq's foreign trade trends; (ii) measure Iraq's trade openness; (iii) analyze trade ties between Iraq and other countries.

II. LITERATURE SURVEY

Iraq is emerging as a major centre for international trade and has established trade relations with countries across the globe (Ismael, 2017). Abundant natural gas and oil reserves has also placed Iraq in a veritable position in international trade, making it interesting to examine its foreign trade trends (Cordesman, 2018). In one of the earliest studies on Iraq as an oil producer and exporter, Kumins (2003) analysed Iraq's oil reserves, production and potential income and found that owing to politicoeconomic hindrances, Iraq has not explored its oil trade potential and its refineries have become inefficient resulting in a shortage of gasoline and cooking fuel. It was noted that Iraq could boost export earnings by exploiting oil and gas reserves.

Demir et al (2014) investigated the trade relations between Iraq and Turkey. The authors used different forecasting models to analyze the loss of Turkey's exports to Iraq between 1988 and 2003 and its influence on the Turkish economy. The authors estimated that Turkey has lost exports worth US\$ 5,426.06 crores to Iraq, suggesting the rising dominion of Iraq. Oil prices have always exerted influence on the economy of the oil producing countries as indicated by Kotious et al (2016) who found that oil price fluctuations stem from macroeconomic and politicoeconomic factors which impacts the GDP of exporters causing economic destabilization. Iraq's trade ties with the world have been evolving in the recent past as reasoned by Ponoričã et al (2016), who found that between 2004 and 2014, EU emerged as the key trading partner of Iraq and the ratification of the Partnership and Cooperation Agreement has positively affected EU's balance of trade (BoT). Similarly, Iraq has also been a strategic partner of India as implied by Aminuzzaman (2015) who found that the shortage of Iraqi oil imports negatively impacted the Indian economy during the 1990s.

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* Correspondence Author

Dhrgam S. Habib*, Department of Commerce and Management, Acharya Nagarjuna University, Nagarjuna Nagar, Guntur 522510, India. (Email: dhrgam@gmail.com)

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Similar improvement in Iraq's foreign trade has been documented by Dalei et al (2017) who noticed an increase in India's oil imports from Iraq. However, Indo-Iraq trade has not grown in a balanced manner according to Alam (2014) who found that India's oil imports from Iraq were high, and owing to oil price increase, Iraq has witnessed a surplus in trade with India. The extent to which an economy is open to foreign trade plays an important role in determining its trade performance as indicated by Mahmood (2015) who found a positive relationship between trade openness and economic performance and noted that Iraq's economy has benefitted whenever it has been open to foreign trade. A detailed review of the past research on the international trade of Iraq, points out that there is a glaring limitation of literature dealing with Iraq's position in international trade and its ties with the international community.

III. METHODOLOGY

The secondary data for the study were collected from online databases, like World Integrated Trade Solution (WITS) and Trade Map-International Trade Statistics (ITC). The trend of imports, exports and BoT was analysed using compound annual growth rate (CAGR) and average annual growth rate (AAGR) and Iraq's share in world trade was also measured. Trade Intensity Indices were used to analyse Iraq's trade ties and regression analysis was used to measure the impact of imports, exports and BoT on the GDP.

Trade Intensity Index (TII): TII, which reflects the importance of trade between two countries with respect to world trade was developed by Drysdale and Garnaut (1982). TII has been used to indicate trade volume between two countries in studies by Khan and Alam (2016) and Luo et al (2018). Goyal and Vajid (2018) and Alam and Ahmed (2017) have reported it as the share of one country's export to another country as a proportion of the share of world's export to that country. TII, which ranges from 0 to 1 and explains changes in trade flows is calculated as follows:

$$TII_{IC} = (X_{IC}/X_I)/(X_{WC}/X_W)$$

Where, X_{IC} and X_{WC} are Iraq's (I) exports and world exports to partner country 'C' respectively and X_I and X_W are total exports and total world exports, respectively. TII of more than one indicates higher bilateral trade than expected. TII is divided into Export (EII) and Import Intensity Indices (III).

a. **Export intensity index (EII)** between Iraq and its trading partners is calculated as follows:

$$EII_{IC} = (X_{IC}/X_I) / ((M_C)/(M_W - M_I))$$

Where, X_{IC} = export to partner country C; X_I = Total export; M_I = total import; M_W = total world imports; M_C = total imports of partner country.

b. **Import intensity index (III)** between Iraq and its trading partners is calculated as follows:

$$III_{IC} = (M_{IC}/M_C) / ((X_C)/(X_W - X_I))$$

Where, M_{IC} = import from partner country C; M_C = total import of the partner country; X_I = total export; X_W = total world export; X_C = total export of the partner country.

IV. MACROECONOMIC PERSPECTIVE OF IRAQ'S FOREIGN TRADE

Oil revenues have backed Iraq's trade relations and

economic growth (Ledenko et al., 2018) and Iraq's GDP has grown from US\$ 88.8 billion in 2007 to 192.1 billion US\$ in 2017 (Figure 1). Its real GDP grew from 1.38 % in 2007 to 13.94 % in 2012, owing to rising oil prices. Subsequently, the growth nosedived to negative values (-0.78%) in 2017 (Figure 2), which could be due to reduction in oil production and prices. However, between 2007 and 2017, Iraq's GDP grew at an annual rate of 7.41% and a CAGR of 5.47% (Table 1), indicating that compared to 2007, the Iraq's growth is modest. While the GDP value expanded moderately, its rate of growth has not been as promising, which can be expected to improve gradually.

Foreign investments, economic rehabilitation and improvements in oil production can accelerate Iraq's economic growth in the future (Solarin and Ozturk, 2016). Oil continues to dominate the exports and generates funds for infrastructure development (OPEC, 2018) and Iraq's exports also include precious stones, hides and skin, and imports include machinery, electrical equipment, stones and glass (WBG, 2017).

V. IRAQ IN THE INTERNATIONAL MARKET

Iraq's importance in international trade is due to the world's dependence on natural oil and gas (Ftiti et al., 2016). Oil price fluctuations and constraints to Iraq's oil exports have affected the global economy previously (Rudolf, 2017). Despite the politicoeconomic turmoils, Iraq is developing steady international trade ties (Gadea et al., 2016). During the study period, there was a twofold increase in the Iraq's trade value, which increased from US\$ 47.3 billion to US\$ 98.5 billion by 2017 and BoT remained positive due to rising oil export, indicating trade surplus (Table 1).

Iraq's exports grew at an average rate of 11.13% and CAGR of 5.38%, and imports have grown at an AAGR of 13.83% and CAGR of 10.69%, (Table 1), i.e., twice the exports. Iraq's imports and exports, have together increased at an AAGR of 11.14% and a CAGR of 6.9%. Although Iraq's exports are higher, imports growth better. Iraq's BoT has remained positive throughout, growing at an AAGR of 16.17%, implying that exports are higher than imports (Table 1; Figure 4). While the dominance of Iraq's export is undeniable imports have grown swiftly, as reflected by the CAGR of BoT, i.e., 1.64%, indicating that exports have grown weakly, compared to imports. Figure 3 makes it apparent that both imports and exports have a similar increasing trend up to 2012-13, followed by steep fall up to 2016 and sudden increase in 2017, the fall in exports is more steep than that of imports. Although Iraq's BOT is positive, it is clear that Iraq's imports are increasing fast.

Iraq's share in the world trade has improved from 0.16 % in 2007 to 0.29 % in 2017 (Table 2; Figure 5) and grown at an AAGR of about 7.4% and a CAGR of 1.4% (Table 2), implying growing significance in world trade. Although Iraq's share in world trade has grown, the trend of its trade openness is not positive. Trade openness refers to an economy's integration with the international market, measured by the contribution of foreign trade to the GDP.

Iraq's trade openness remained negative and showed a positive trend only in 2017 (Table 2; Figure 6). Openness was 53% in 2007, increased to 58% in 2012, declined to 45% in 2016 and recovered in 2017, i.e., 51%. Iraq's trade openness declined at a rate of -0.09% annually and reduced at a CAGR of -0.33%, indicating that Iraq has not been very open to international trade. However, irrespective of the negative trend, the increase in openness in 2017 implies that Iraq's foreign trade is would improve in the future.

Liberalization of foreign trade by eliminating tariff barriers and utilization of trade revenues for boosting the local industries help in boosting international trade (Singh, 2018). Findings regarding Iraq's trade, indicate that its foreign trade policies need to be reformed to improve trade ties with other countries, especially the OPEC. Iraq has signed several important trade agreements with to boost trade ties including the Memorandums of Understanding (MoU) Iraq with 32 trade partners and nine multilateral groups (Salem, 2013). Iraq exports oil and gas to the United States (US), the European Union (EU), India, Turkey and China, and imports from these countries, which indicates synergistic trade relationships (WBG, 2017). According to the Observatory of Economic Complexity (OEC) Iraq ranked 43rd and 65th in global export and import respectively in 2017 (OEC report). According to World Trade Organization (WTO), in 2017, excluding intra-EU Trade, Iraq ranked 51st and 78th in the export of merchandise and commercial services, respectively (WTO, 2017).

VI. IRAQ'S TRADE WITH THE OPEC AND NON-OPEC COUNTRIES

Iraq's natural oil and gas reserves have boosted its economic growth, which is evident in its GDP (Ben-Salha et al., 2018). Iraq has international trade ties with two categories of countries, namely, OPEC and non-OPEC countries. The Organisation of Petroleum Exporting Countries (OPEC), is an intergovernmental union of 14 oil producing and exporting countries of which Iraq is a member (Yang et al., 2015). In the present case, only major OPEC countries, i.e., Kuwait, UAE, Turkey, Iran and Saudi Arabia have been considered along with non-OPEC trade partners, like the EU, the USA, India, China, South Korea and Italy.

Among the OPEC countries, UAE was the biggest trading partner of Iraq in 2017 with bilateral trade worth US\$ 578 billion, followed by Turkey (US\$ 391 billion), Saudi Arabia (US\$ 347 billion), Iran (US\$ 157 billion) and Kuwait (US\$ 88 billion). This trend was similar to that in 2007; except that UAE had replaced Saudi Arabia as the leading trade partner. Therefore, Iraq's trade ties with the OPEC are more or less the same. Among the non-OPEC partners, EU is the biggest trading partner with bilateral trade worth US\$ 4224 billion, followed by China (US\$ 4107 billion), USA (US\$ 3955 billion), South Korea (US\$ 1052 billion) and Italy (US\$ 954 billion) and India (US\$ 738 billion). While this trend is similar that in 2007, China has displaced USA from the position the second biggest trading partner, relegating it to the third position. While Iraq's trade with all the countries has increased, trade with Italy has reduced from US\$ 1012 billion to US\$ 954 billion.

6.1 OPEC Countries

Among the OPEC countries, UAE is the largest trade partner of Iraq (Figure 7) as Iraq-UAE trade increased from US\$ 284 million on 2007 to US\$578 million in 2017, i.e., more than doubled. The share of Iraq-UAE trade in Iraq's foreign trade increased from 6.4% to 13.1%, an almost twofold increase (Figure 9). Similarly, the TII between the countries is satisfactory and increased at a CAGR of 15% from 0.2 to 0.7 (Tables 3-5). Further, EII also increased at 15% from 0.1 to 0.7 implying increased imports from Iraq. However, there was a fall in the III from 25.9% to 20.4% in 2017 at a CAGR of -2.14% (Figure 11), although the index were higher than EII. Higher values indicate that Iraq imported substantially from UAE, but negative growth indicated that Iraq's import dependence on UAE is decreasing, and exports are increasing.

Turkey-Iraq trade interdependence is because of their geographical proximity (Demir et al., 2014). Iraq-Turkey bilateral trade tripled from US\$ 3.5 billion in 2007 to US\$ 10.5 billion in 2017. In 2007, Iraq imported commodities worth US\$ 2.8 billion from Turkey, which increased to US\$ 9.1 billion in 2017. Iraq's share in Turkey's trade has steadily increased from 6.6 % in 2007 to 10.4 % in 2017 (Figure 9). Further, barring a decline in 2008, the share of Iraq-Turkey trade in Iraq's overall foreign trade has increased, indicating Turkey's emergence as an important trading partner.

There was a marginal increase in Turkey's TII with Iraq, i.e., from 1.6 to 1.8 registering a CAGR of 1.8% (Tables 3-5). Further, the EII also increased from 1.5 to 1.6 at a CAGR of 0.6%; whereas, import intensity decreased from 35.9 to 29.7 at a CAGR of -1.71% indicating a decrease in imports from Iraq. Consistently higher III values indicated that regardless of the decline (Figure 11), Iraq is the largest export market of Turkey. Iraq's export to Turkey, which fell between 2008 and 2013 gradually improved by 2017, which reflected by the reduced EIII. Higher III compared to EII indicates that Iraq imports from Turkey are more than exports, suggesting Iraq's trade deficit with Turkey. In the last decade Iraq's import from Turkey constituted 20 to 29 % of Iraq's total world imports. Turkey is one of Iraq's largest suppliers of clothing, food products, vegetables, etc.

Iraq-Kuwait trade increased from US\$ 84 billion in 2007 to US\$ 88 billion in 2017 (Figure 7), i.e., a 5% increase. The share of Iraq-Kuwait foreign trade (Figure 9) in Iraq's total trade also increased from 0.2% to 0.5%. Iraq-Kuwait TII and EII increased at a CAGR of 29% each (Tables 3-5), while their III also increased at 7.10% (Figure 11). Although the TII and EII figures grew faster than the III, they were significantly lower than III, i.e., although Iraq's exports were increasing more than its imports, it still imported substantially from Kuwait. Thus, Kuwait was the smallest trade partner of Iraq.

Iraq-Iran trade increased marginally between 2007 and 2017, from US\$ 132 billion to US\$ 157 billion (Figure 7). Further, the share of Iraq-Iran trade in the total foreign trade of Iraq increased from 3.7% to 6.4% (Figure 9). However, Iraq's TII and EII with Iran declined at a CAGR of -5.88% and -5.92% (Tables 3-5) indicating a decay of trade ties.

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However, the situation was better pertaining to imports as Iraq-Iran III increased from 30 to 31, at a CAGR of 0.40% (Figure 11). Therefore, Iraq imported to a minor extent from Iran and there was no strong business relationship between the countries.

Saudi Arabia was the second largest trading partner of Iraq among the OPEC in 2007 with a trade value of US\$ 321 billion, but by 2017, Iraq-Saudi trade though was US\$ 347 billion and it was in the third position (Figure 7). Further, the share of Iraq-Saudi trade in Iraq's foreign trade was stagnant, i.e., decreased from 0.7% to 0.5% (Figure 9). The Iraq-Saudi TII and EII were low, but they grew at a CAGR of 35.6% and 35.5% respectively (Tables 3-5). Higher EII growth indicated that in spite of the lower volumes, Iraq to Saudi exports are increasing. However, III was more than 0.5, but fell at CAGR of -5.6% (Figure 11). Therefore, although Iraq imported more from Saudi Arabia, the import volume is reducing. Therefore, although the Iraq-Saudi trade seems feeble, is improving, as justified in a study by Solarin and Ozturk (2016).

The TII indicates poor bilateral trade ties between Iraq and OPEC countries which could be because the oil and gas rich OPEC countries do not import fuel-related products from Iraq, (Olanipekun et al., 2017). Similar observations were made by Baek et al (2019) in their study on the oil trade of OPEC members. Further, Iraq's imports from the OPEC members was found to be high as confirmed by intensity indices; the import volume is declining gradually. Iraq's imports from OPEC countries, especially the UAE and Iran, include food products, machinery, electrical equipment, precious stones and metals.

6.2 United States (US)

Iraq has strong bilateral economic relationship with the US (Ponorică et al., 2016). In 2013, the Trade and Investment Framework Agreement between Iraq and the US, signed in 2005 was ratified (Salem, 2013), resulting in trade improvement. However, from 2007 the Iraq-US trade declined from US\$ 13.5 billion to US\$ 12.3 billion in 2017. The share of Iraq-USA trade in Iraq's total trade also reduced from 25.4% in 2007 to 12.2 % in 2017 (Figure 10). Further, USA's fuel imports, which were US\$ 11.4 billion in 2007 reduced to US\$ 11.2 billion in 2017, suggesting that the US's dependence on Iraq may reduce as it is working on revitalizing domestic shale petroleum production (Salameh, 2012). However, in the last decade the fuel remained USA's main import from Iraq and it was third largest trade partner of Iraq. A decline in bilateral trade is also reflected in reducing TII (Tables 3 to 5) which fell from 2.5 to 1.3 during the period, at CAGR of -5.89%. Iraq's EII fell from 2.3 to 1.2, at a CAGR of -5.93% and III from 1.8 to 0.4, at a CAGR of -12.92% (Figure 12), implying that Iraq's export and import trade with the US decreased heavily.

6.3 European Union (EU)

EU remained Iraq's largest trading partner of during the study period. The bilateral agreements, namely the [Memorandum of Understanding on Energy Cooperation \(2010\)](#) and the [Partnership and Cooperation Agreement \(PCA, 2012\)](#) between the countries, are fostering trade cooperation (Ponorică et al, 2016). In 2007, Iraq-EU bilateral trade was US\$ 11.3 billion in 2007 and increased to US\$ 19

billion in 2017, a 68% growth. The share of Iraq-EU trade in Iraq's total trade decreased from 23.8% to 19.1% in 2017 (Figure 10). However, Iraq's EII and III with the EU remained above 1 (Tables 3-5) suggesting efficient trade, but the TII, EII and III reduced at a rate of -0.17%, -0.22% and -4.19% respectively (Figure 12).

In the past decade, Iraq's export to the EU constituted 21% of Iraq's total exports. Iraq's exports mineral fuels, lubricants and related materials to the EU. Iraq imports machinery and electrical equipment, food products and chemicals from the EU (WBG, 2017). The findings indicate that although EU remains the largest trading partner of Iraq, reducing TII indicates a decline in trade ties and concrete measures need to be taken to reverse the decline.

Iraq-Italy trade decreased from US\$ 1012 billion in 2007 to US\$ 954 billion in 2017, i.e., a decrease of 6.07% (Figure 8). Similarly, the share of the Iraq-Italy trade in Iraq's overall international trade reduced from 8.8% to 3.9% in 2017 (Figure 10). The Iraq-Italy TII also reduced from 3.3 to 2 (Tables 1-3), at a CAGR of 4.72%. Further, the Iraq-Italy EII Italy reduced at a CAGR of -4.76%, while the III increased at a CAGR of 5.78% from 0.4 in 2007 to 0.7 in 2017 (Figure 12), i.e., although Italy's imports from Iraq have reduced, Iraq continues to be Italy's important export destination.

6.4 Asia

China is the second most prominent trade partner of Iraq (Figure 8) and this relationship is based on oil and gas exports (Liu, 2016). Iraq-China trade has increased from US\$ 1.4 billion in 2007 to US\$ 22 billion in 2017, a 15-fold increase. Share of Iraq-China trade in the overall trade of Iraq grew from 2.8% to 21.8% in 2017 (Figure 10), suggesting the prominence of China as a trading partner and Iraq's share in China's trade has increased over the study period.

Compared to 2007, Iraq exported 270 million barrels of oil to China in 2017, which is 8.8% of China's oil import (WBG, 2017). China's TII remained high during the period, registering a CAGR of 19.3% (Tables 3-5). Similarly, its EII and III indices also grew at a CAGR of 18.3% and 8.2% respectively (Figure 12). The observations on TII suggests synergistic bilateral trade. The growth in EII and III suggests that Iraq's export to China has increased compared imports, confirming China's dependence of Iraq. In 2015, Iraq and China signed five agreements and a Memorandum of Understanding (MOU) to expand cooperation in the energy sector and to invest on boosting exploration and development of new oil fields in Iraq (PMO Release, 2015).

From the mid-1990s, Iraq-South Korea bilateral trade has grown at a slow and steady pace (Levkowitz, 2012). In 2017, the bilateral trade between them was US\$ 7.8 billion, i.e., a 58 % increase from 2007 (\$ 3.3 billion). South Korea is one of the stable partners with the share of Iraq-South Korea's trade in Iraq's trade increasing from 6.2% to 7.7 (Figure 10). Iraq-South Korea TII and EII remained higher and increased at a CAGR of 0.07% and 0.02% respectively. Although Iraq's III was lesser, it increased swiftly, i.e., 5.78% (Figure 12), indicating that Iraq's imports from South Korea are increasing faster, but exports remained higher.

Further, high EII in comparison to III confirm South Korea's dependence on Iraq's exports. Iraq's mainly exports petroleum-based products to South Korea and imports train accessories, machinery, electrical equipment and iron and steel materials (WBG, 2017).

Indo-Iraq trade ties have been cordial since centuries and there are trade agreements in force to boost trade (Alam, 2014). Between 2007 and 2017, Indo-Iraq trade has tripled from US\$ 5.6 billion to US\$ 16.6 billion and the share of Iraq-India trade in Iraq's trade increased from about 12 % to 17 % (Figure 10). In 2017, India imported fuel worth US\$ 15.3 billion from Iraq, i.e., about 13 % of India's fuel exports. The TII between the countries has remained more than seven, implying a fruitful relationship (Tables 3 to 5); however, the TII fell at a CAGR of -0.91%, indicating a gradual decline. Similarly, although EII remained between 6.1 and 9.7 implying very high imports from Iraq, it reduced at a CAGR of -0.96%, implying a decline in Iraq's exports. Further, although III remained consistently lower, it increased at a CAGR of 1.7% (Figure 12) implying that Iraq's imports from India have been increasing. Iraq imports consumer goods, vegetables, other food products, metals, machinery and electrical equipment, textiles, precious stones and glass from India (WBG, 2017). Therefore, it can be concluded that India must diversify its export offerings to Iraq to achieve a balance in trade.

Promoting smooth foreign trade, limiting restrictions, taxation or custom and ensuring a fair BoT between Iraq and other countries is significantly important for the global economy (Salman, 2016). Encouraging Iraq's foreign trade would ensure the growth of the global energy sector, apart from fostering international trade and economic cooperation and providing a boost to Iraq's economy (Mahmood, 2015).

VII. IRAQ'S INTERNATIONAL TRADE AND GDP & RESULTS

The status of an economy is reflected in its GDP, which is the monetary value of the goods and services produced in a country during a specific period (Moiz, 2017). International trade fetches foreign exchange revenue and impacts the country's public and private consumption, inventories, government spending, investments and other economic indicators, which constitute the GDP (Van den Berg and Lewer, 2015). In order to understand the significance of foreign trade to Iraq's economy, the impact of Iraq's exports, imports and BoT on its GDP was analysed using regression analysis (Tables 6 to 9).

With regard to the foreign trade, Iraq's imports and exports explained about 98% of the changes in its GDP, implying that foreign trade impacts the economy (Table 6) and this relationship was highly significant ($F=190.08$, $p<0.05$). Further, unit change in Iraq's imports caused $B=3.371$ changes in GDP, while unit variation in exports caused $B=0.921$ variation (Table 7) and these influences were statistically significant. Thus, although both exports and imports influenced the Iraq's GDP, imports exerted the highest influence. Therefore, Iraq's import dependence is growing faster than that on exports.

While exports and imports indicate a country's trade performance, BoT determines whether the country depends more on exports or imports (Santos-Paulino and Thirlwall,

2004). A negative BoT implies more imports and less exports and a positive value indicates the converse (O'Sullivan and Sheffrin, 2003). It is necessary to balance the BoT, as a negative value implies a non-productive economy and a highly positive value implies high self-reliance, which is not ideal for international trade (Zakaria, 2014). The BoT of a country influences its GDP as it indirectly implies a rise or a fall in foreign exchange, thereby the national revenue (Vijayasri, 2013; Pant, 2017).

Linear regression was conducted to assess the impact of BoT on Iraq's GDP and the findings are presented in Tables 8-9. Iraq's BoT caused only 34% changes in GDP (Table 8), but this relationship was not statistically significant ($F=4.685$, $p>0.05$). Therefore, BoT does not exert any influence of Iraq's economy. The findings also indicated that every unit change in BoT caused only $B=2.22$ change in GDP, but this relationship was statistically insignificant. Therefore, the BoT of Iraq has failed to affect the economy, which reasserts the values in Table 1 which implied that the BoT has increased slowly.

The findings regarding the impact of import, export and BoT on Iraq's GDP reveals complex, yet interesting state of affairs. The country's imports were found to affect GDP more than the exports, implying that the economy depends more on imports, irrespective of huge exports. Iraq registered consistently positive BoT during the study, indicating trade surplus, i.e., exports are more than the imports, a positive sign; however, regression analysis indicated that the BoT or the trade surplus does not influence the Iraqi economy. Therefore, the dominance of Iraq's exports over imports has not benefitted the economy as it is dependent on its imports. These observations reiterate the findings of Pacheco-Lopez (2014) who found that imports and exports of a country indeed influenced its BoT.

VIII. CONCLUSION

Iraq's international trade has progressed substantially between 2007 and 2017 owing to which the country has emerged as a key player in the international energy market. Between 2011 and 2014, Iraq's overall trade improved due to growth in oil exports and increase in oil prices and Iraq's share in the world's trade also increased by about 0.33 %. Import and export trends indicated that although Iraq's exports and imports grew, imports grew faster, but the BoT as exports were much higher than imports, the BoT values remained high indicating trade surplus. Iraq's share in world trade increased marginally along with its GDP, but the rate of growth of real GDP declined. Further, there was a steady decline in the trade openness of Iraq despite a sudden spike in 2017. EU emerged as the largest trading partner of Iraq, followed by China and USA and UAE was the largest trade partner of Iraq among the OPEC countries.

Iraq's exports to OPEC members was much lesser but export volume increased gradually; whereas, the volume of Iraq's imports reduced over time. Further, China emerged as the largest export market and except China, Iraq's exports to USA, India, South Korea, Italy and EU declined; however, Iraq's imports from these countries increased gradually.

Overall, the present study indicated that although Iraq exported more than what it imported, its export volume is reducing gradually, while its imports are growing, implying potential risks to the trade balance. Encouragement to the private sector, relaxation of import regulations and international tariffs, ventures fostering public-private partnerships are expected to speed up Iraq's international trade (Ponorică et al., 2016). A free foreign trade policy will bring in investments to Iraq, which will increase trade and foreign reserves. Efficient trading facilities and transport infrastructure, such as ports, air routes, road, rail links and sea routes will also help in improving Iraq's international trade opportunities.

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Table 1. Iraq International Trade (Billion US\$)

Year	Exports	Annual Export Growth	Imports	Annual Import Growth	Total Trade	Annual Trade Growth	Balance of Trade (BOT)	Annual Growth in BOT
2007	36.0	-	11.3	-	47.3	-	24.7	-
2008	58.4	62.31	18.9	67.00	77.3	63.43	39.5	60.16
2009	37.6	-35.62	22.8	21.03	60.4	-21.79	14.8	-62.65
2010	49.3	31.02	26.1	14.27	75.4	24.69	23.2	56.92
2011	74.4	51.08	32.8	25.64	107.2	42.27	41.6	79.71
2012	89.6	20.41	37.8	15.36	127.4	18.87	51.8	24.39
2013	85.1	-5.08	42.6	12.61	127.7	0.17	42.5	-18.00
2014	82.1	-3.53	42.4	-0.39	124.5	-2.48	39.6	-6.68
2015	51.5	-37.23	36.3	-14.55	87.8	-29.50	15.3	-61.51
2016	46.5	-9.71	30.5	-15.83	77.0	-12.24	16.0	4.82
2017	64.0	37.66	34.5	13.10	98.5	27.93	29.5	84.51
CAGR	5.38		10.69		6.90		1.64	
AAGR	11.13		13.83		11.14		16.17	

Table 2. Iraq's Share in World Trade and Trade Openness (Billion US\$)

Year	World Trade	Iraq's Share in World Trade (%)	Annual Growth in the Share	GDP of Iraq	Annual GDP Growth	Trade Openness	Annual Growth in Trade Openness
2007	29267.1	0.16		88.84		53.22	
2008	33759.7	0.23	41.68	131.614	48.15	58.71	10.31
2009	26212.6	0.23	0.73	111.66	-15.16	54.12	-7.81
2010	32002.3	0.24	2.13	138.517	24.05	54.40	0.52
2011	38219.7	0.28	19.13	185.75	34.10	57.72	6.09
2012	38281.2	0.33	18.68	218.001	17.36	58.46	1.28
2013	39363.3	0.32	-2.58	234.648	7.64	54.41	-6.94
2014	39243.5	0.32	-2.18	234.648	0.00	53.06	-2.48
2015	34294.0	0.26	-19.33	177.499	-24.36	49.45	-6.80
2016	33226.5	0.23	-9.42	170.56	-3.91	45.16	-8.67
2017	33940.0	0.29	25.24	192.06	12.61	51.31	13.61
CAGR	1.36	5.47		7.26		-0.33	
AAGR	2.36	7.41		10.05		-0.09	

Table 3. Iraq's Trade Intensity Index

TII	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	CAGR (%)
OPEC*												
Turkey	1.6	0.2	0.3	0.3	0.1	0.1	0.1	0.3	0.5	1.6	1.8	1.08
UAE	0.2	0.1	1.7	3.2	1.7	3.2	0.8	0.9	1.0	2.4	0.7	14.99
Iran	0.8	0.4	0.4	0.3	0.6	0.4	0.4	0.3	0.4	0.6	0.4	-5.88
Non-Opec												
China	0.3	0.4	1.2	1.5	1.6	1.6	2.3	2.7	2.7	2.5	2.1	19.35
USA	2.5	3.2	2.2	2.2	2.1	1.9	1.4	1.5	0.7	1.1	1.3	-5.89
India	10.6	9.1	8.0	7.1	10.2	9.0	10.7	8.9	10.2	10.6	9.6	-0.91
Korea	3.7	2.9	4.3	3.6	4.7	4.4	4.4	3.2	5.1	4.7	3.7	0.07
Italy	3.3	3.1	3.1	2.9	1.9	2.1	2.0	2.3	3.2	3.0	2.0	-4.72
EU	2.0	1.8	1.9	1.6	1.5	1.6	1.5	1.7	2.5	2.3	2.0	-0.17

* TII values for Kuwait and Saudi Arabia are not mentioned as they were insignificant

Trade Intensity: Iraq's Status in the Global Market

Table 4. Iraq's Export Intensity Index

EII	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	CAGR (%)
OPEC*												
Turkey	1.5	0.2	0.3	0.3	0.1	0.1	0.1	0.2	0.4	1.4	1.6	0.59
UAE	0.1	0.1	1.6	2.9	1.5	2.8	0.7	0.8	0.9	2.1	0.7	14.94
Kuwait	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.90
Iran	0.7	0.3	0.4	0.3	0.5	0.3	0.3	0.3	0.4	0.5	0.4	-5.92
Non-OPEC												
China	0.3	0.3	1.1	1.4	1.5	1.4	2	2.4	2.4	2.3	1.9	18.27
USA	2.3	2.9	2.0	2.0	1.9	1.7	1.3	1.3	0.6	0.9	1.2	-5.93
India	9.6	8.3	7.2	6.4	9.1	8.0	9.4	7.9	9.1	9.4	8.7	-0.96
Korea	3.3	2.7	3.9	3.2	4.2	4.0	3.9	2.9	4.5	4.2	3.3	0.02
Italy	3.0	2.8	2.8	2.6	1.7	1.9	1.8	2.0	2.8	2.7	1.8	-4.76
EU	1.8	1.6	1.7	1.4	1.4	1.4	1.4	1.5	2.2	2.0	1.8	-0.22

* EII values for Kuwait and Saudi Arabia are not mentioned as they were insignificant

Table 5. Iraq's Import Intensity Index

EII	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	CAGR (%)
OPEC												
Turkey	35.9	27.7	30.3	34.1	37.8	37.8	38.5	33.7	29.6	30.8	29.7	-1.71
UAE	25.9	13.4	14.5	14.9	7.9	14.3	12.6	17.0	10.1	10.3	20.4	-2.14
Kuwait	2.0	1.7	1.5	0.9	0.3	0.4	2.4	3.3	3.9	3.3	4.4	7.10
Iran	29.9	24.0	35.5	26.9	23.1	25.4	32.0	35.0	51.6	42.4	31.2	0.40
Saudi Arabia	2.2	1.4	2.1	1.2	0.8	0.6	0.7	0.8	1.2	1.3	1.2	-5.59
Non-OPEC												
China	0.8	0.8	0.9	1.5	1.2	1.3	1.5	1.6	1.7	2.1	1.9	8.18
USA	1.8	1.5	1.0	0.8	1.0	0.7	0.6	0.6	0.7	0.5	0.4	-12.92
India	1.8	2.0	1.8	2.0	1.4	2.3	1.4	1.2	2.1	2.1	2.2	1.67
Korea	0.8	0.8	1.3	1.7	1.7	1.8	1.7	1.5	1.4	1.7	1.3	5.02
Italy	0.4	0.5	1.0	0.8	0.8	0.9	1.6	1.2	1.1	0.9	0.7	5.78
EU	1.6	1.2	1.5	1.4	1.5	1.5	1.5	1.3	1.3	1.2	1.0	-4.19

Table 6. Impact of Import and Export on GDP

R	R ²	Adjusted R ²	Std. Error	Change Statistics				
				R ² Change	F Change	df1	df2	Sig. F Change
0.990	0.979	0.974	7.8454	0.979	190.082	2	8	0.00

Table 7. Relationship between Imports, Exports and GDP

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	11.830	8.617		1.373	0.207
Import	3.371	0.404	0.682	8.343	0.000
Export	0.921	0.209	0.360	4.400	0.002

Table 8. Impact of Balance of Trade on GDP

R	R ²	Adjusted R ²	Std. Error	Change Statistics				
				R ² Change	F	df1	df2	Sig.
0.585	0.342	0.269	41.7829	0.585	4.685	1	9	0.059

Table 9. Relationship between Balance of Trade and GDP

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	102.937	33.983		3.029	0.14
Balance of Trade	2.220	1.026	0.585	2.165	0.059

Figure 1. Trend of Iraq's GDP

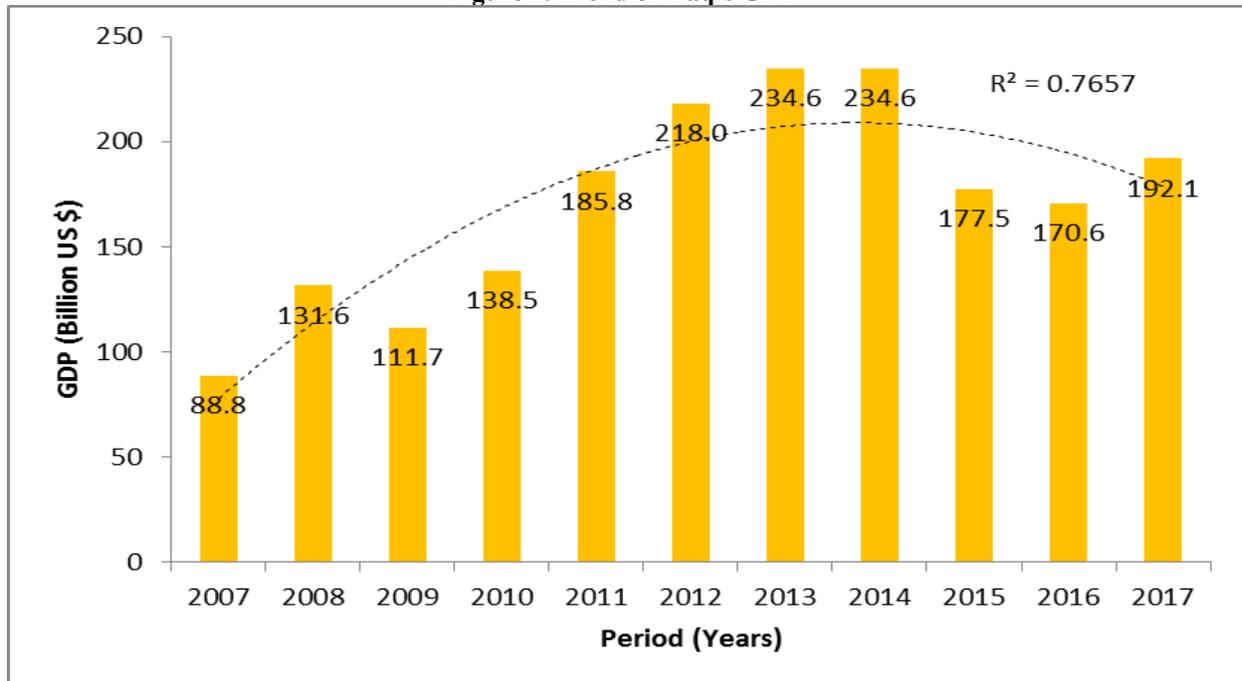
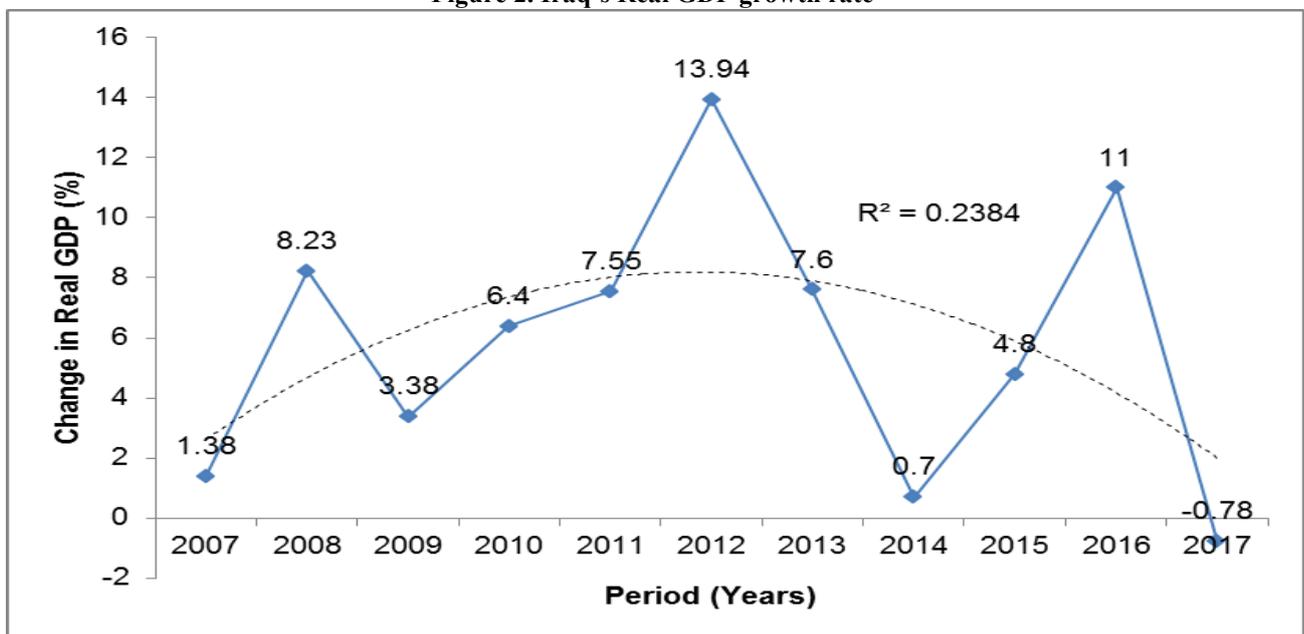


Figure 2. Iraq's Real GDP growth rate



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Figure 3. Imports and Exports

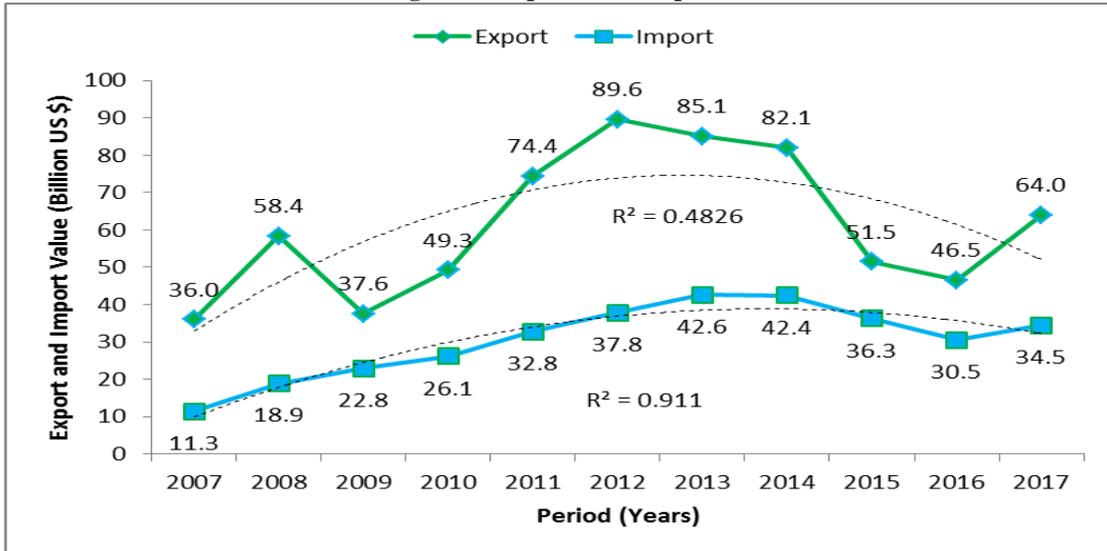


Figure 4. Total Trade and Balance of Trade

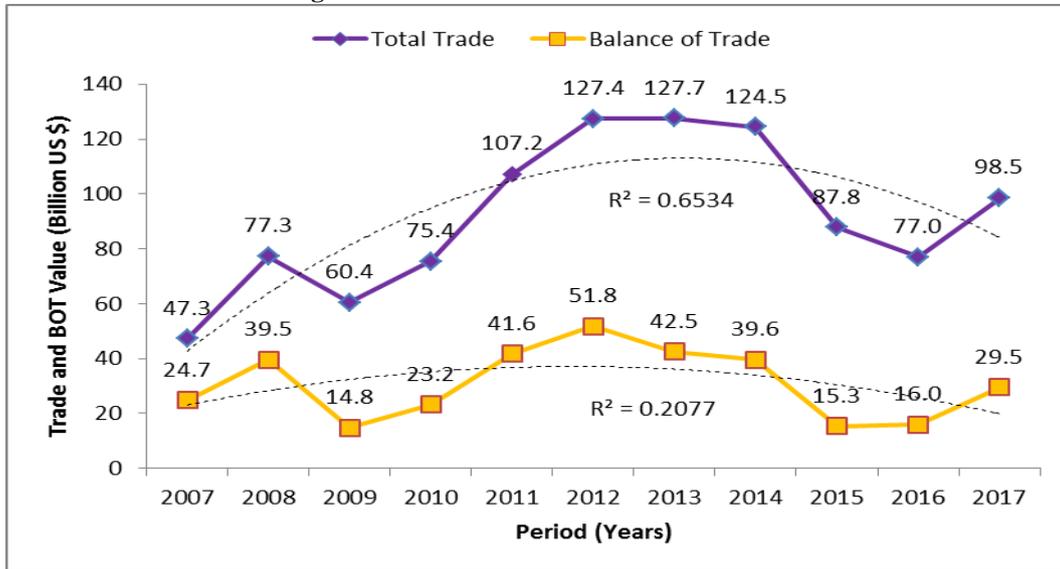


Figure 5. Share in World Trade

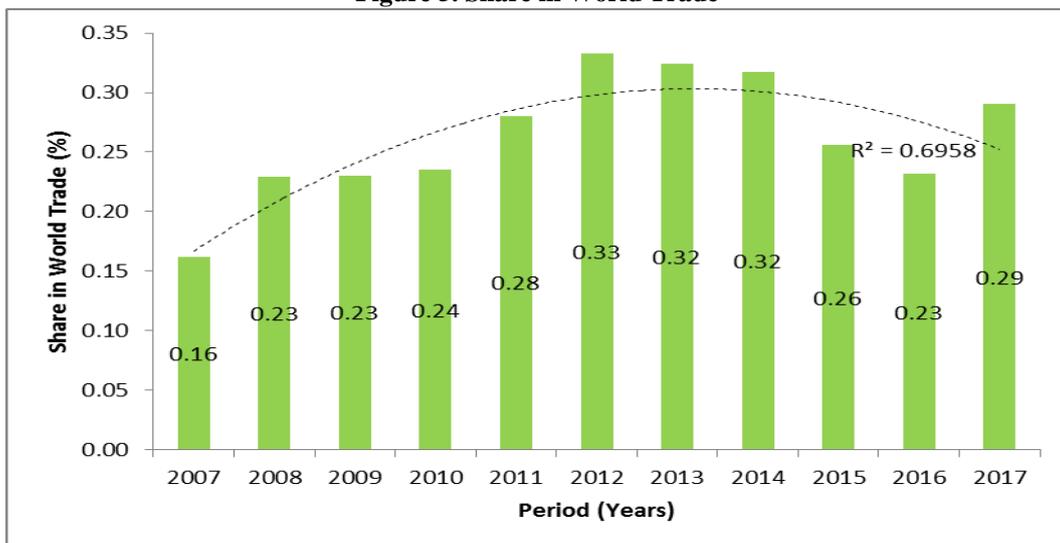


Figure 6. Iraq's Trade Openness

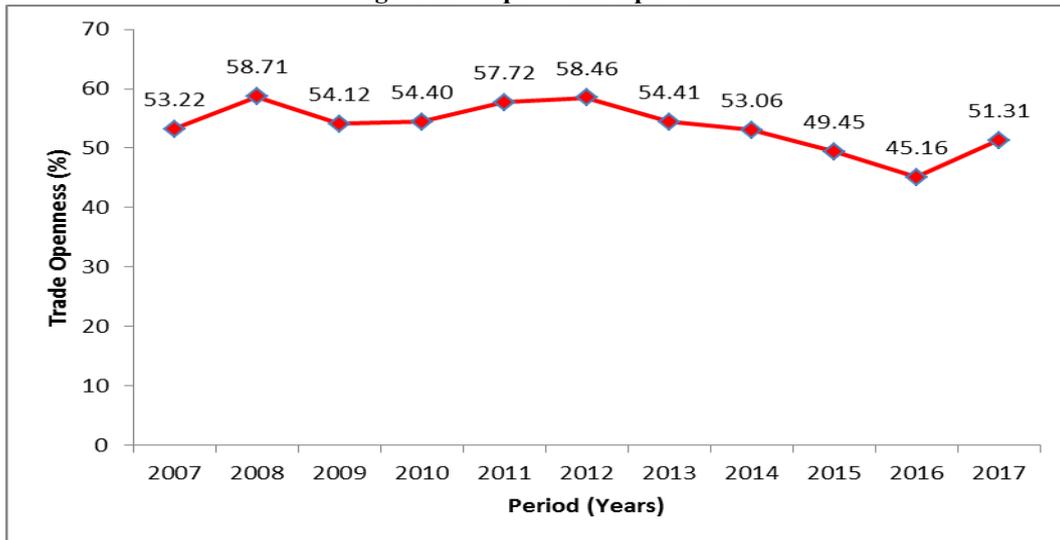


Figure 7. Iraq's Trade with OPEC Countries (Billion US\$)

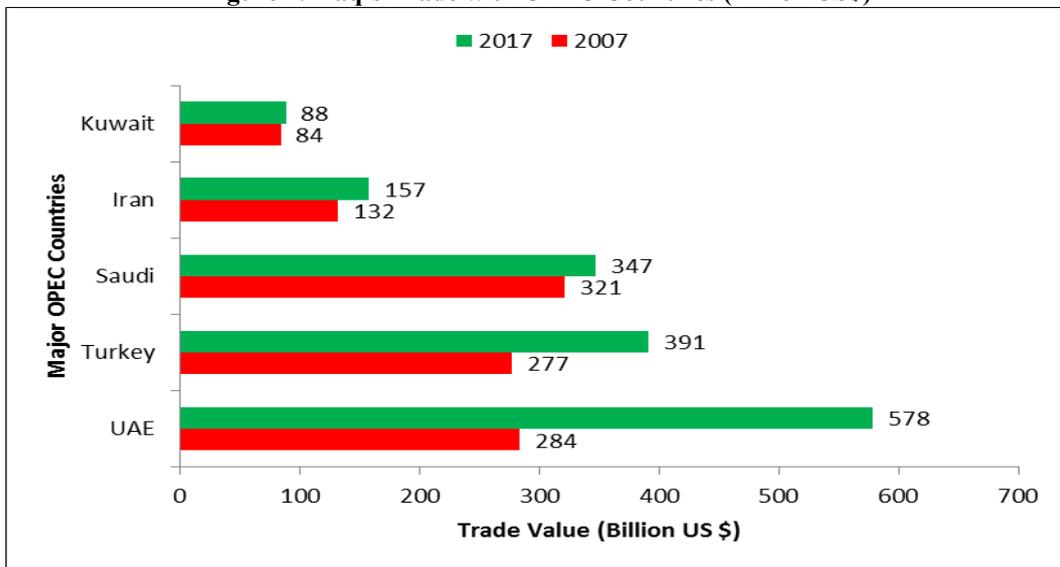
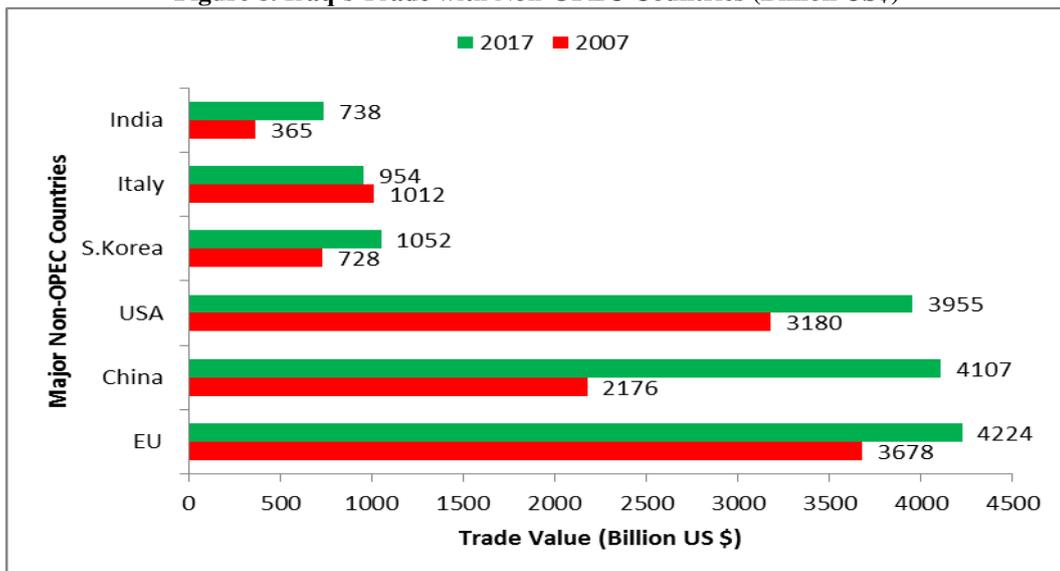


Figure 8. Iraq's Trade with Non-OPEC Countries (Billion US\$)



Trade Intensity: Iraq's Status in the Global Market

Figure 9. Iraq's Trade with OPEC Countries as a Share of Total Trade (%)

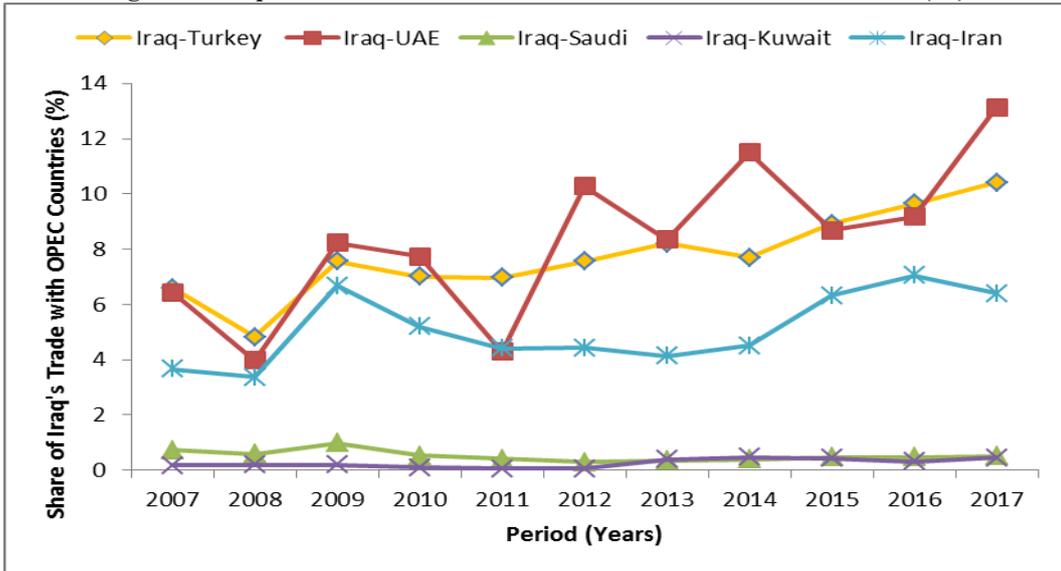


Figure 10. Iraq's Trade with non-OPEC Countries as a Share of Total Trade (%)

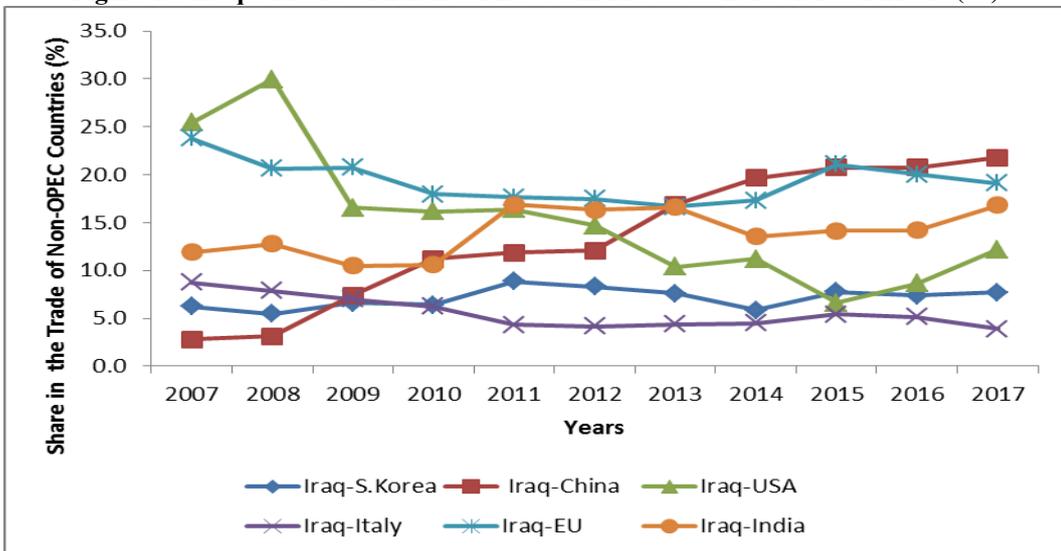


Figure 11. Compound Annual Growth Rate of Iraq's Trade, Export and Import Intensity with OPEC Countries

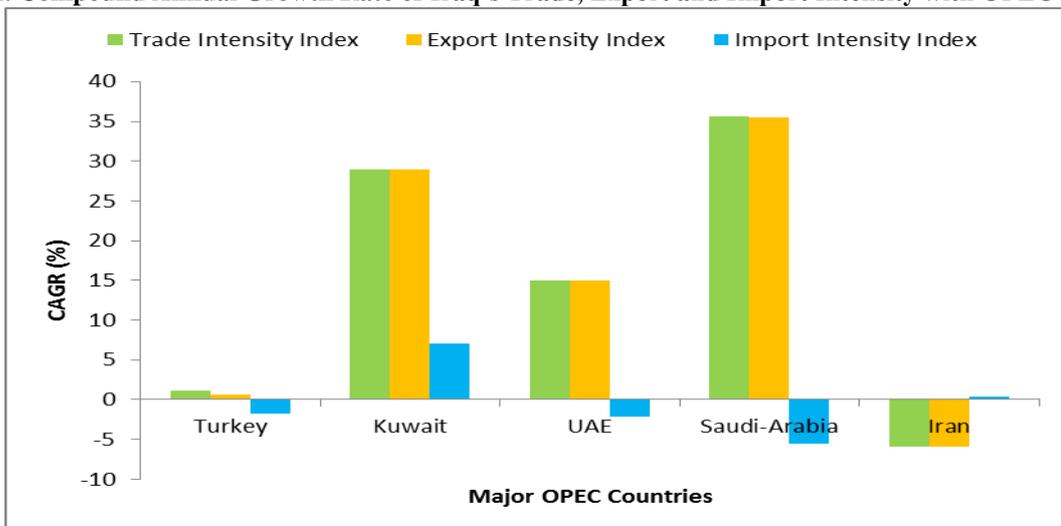


Figure 12. Compound Annual Growth Rate of Iraq’s Trade, Export and Import Intensity with Non-OPEC Countries (%)

