

## The reality and performance of agricultural imports and agricultural output in the Iraqi economy For 2004-2019

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**Abstract :** After the economic and political events and developments that occurred after 2003 and the adoption of the open-door policy in foreign trade and the subsequent shocks to the Iraqi economy, but it is necessary to identify the reality of the agricultural sector and its trade. The Iraqi market still suffers from a severe dumping of agricultural products, as well as a very small contribution of agricultural exports to Iraq's total exports, and a persistent deficit in the agricultural trade balance. The research aims to analyze the indicators of agricultural imports and agricultural production in Iraq for the period 2004-2019 to show the effects of the change that took place after 2003 and the repercussions of the shocks that the Iraqi economy has been exposed to. The output of the gross product, the high rate of coverage, agricultural exposure and the average tendency to imports.

**Keywords** - Agricultural Trade Balance, agricultural sector.

### I. INTRODUCTION :

After the economic and political events and developments that took place after the 2003 M. 2003 and the adoption of the open door policy in foreign trade and the subsequent shocks to the Iraqi economy, but it is necessary to know the reality of the agricultural sector and its trade . Iraq, in all its aspects, certainly bears the brunt of this deterioration.

### II. The importance of research:

Understanding the behavior of the demand function for agricultural imports in any small developing country such as Iraq is essential in formulating agricultural and trade policy. Imports are an essential part of international agricultural trade and imports of intermediate agricultural goods play a vital role in injecting economic growth.

### III. Research hypothesis:

The hypothesis of the research begins with the following question: What is the impact of the changes after 2003 on indicators of agricultural imports and agricultural output in Iraq?

#### **IV. Search goal:**

The answer to the above is that accurate estimates of these indicators help the economic decision maker use the most appropriate agricultural, trade and monetary policy instruments to manage Iraq's agricultural imports. In addition, the research tries to show the reality of the structure of agricultural imports and agricultural products in Iraq and highlight the most important variables during the researched period.

#### **Research methodology**

The descriptive method of analysis is used on the basis of the descriptive analytical approach, as quantitative observations of imports are extrapolated and evolved, their relative importance and the factors influencing them.

#### **Search limits**

- Time limits: Duration 2004-2019 Annual data
- Spatial borders: The State of Iraq.

#### **First. The role of agricultural activity in the national economy**

Trade is the engine of economic growth in all countries, expanding significantly among countries due to excess production and easy transport. Agricultural imports are part of agricultural activity, through their role in providing agricultural and food goods to meet the deficit in agricultural products and meet the growing demand for these products and close the gap between supply and demand as a result of population growth and high income levels, as well as the abundance of raw materials for agriculture for agricultural production from abroad, in addition to the expansion of modern technological imports will encourage the expansion of agricultural investment and thus lead to better production quality and quantity, leading to Growth of agricultural product in third world countries. Import control has an undesirable effect, because of its negative effects on national economic sectors, which negatively reflects in low income and employment. Trade in agricultural goods and food is one of the most important items of world trade because it is linked to meeting the growing demand for these goods in order to provide food security. Agriculture has become increasingly important

recently due to a large and significant food gap in the national economy in major grain crops, making food security one of the most important priorities to be addressed, narrowing the gap and achieving self-realization. Just the main crops. The growing capacity of developing countries to secure agricultural growth requirements is closely linked to agricultural imports to ensure the flow of capital and intermediate goods needed to implement agricultural growth programmes. Historically, high agricultural growth and increasing national incomes have affected the pattern of foreign agricultural traders in light of contemporary international changes. The importance of research comes from the fact that agricultural imports are one of the most important economic activities in Iraq through its role in preparing food commodities to fill the gap of domestic demand as a result of population growth and high income as well as providing the necessary inputs in the process of agricultural production, where increased agricultural imports led to strong competition for imported products on local products and deterioration of domestic production, which requires identifying the most important in this regard, in addition to its role in providing agricultural technologies Modern needed and important for the growth and development of the agricultural sector in Iraq. Agricultural imports reflect demand for foreign goods, which increases demand for foreign exchange and leads to higher foreign exchange rates compared to the local currency, thus adversely affecting the agricultural trade balance. Iraq's agricultural sector contributes only a small percentage of production to meet the country's food needs. This has led to the import of various types of food products such as fruits, vegetables, cereals, white and red meat, as well as agricultural production inputs. Inefficient management of the agricultural sector and low prices of imported products against domestic products, as well as (dumping policy) reduce the efficiency of agricultural production and thus reduce the self-sufficiency of agricultural products. This import policy and decision-making has had a weak impact on overall agricultural economic development and the inability of agricultural imports to achieve the desired growth in the agricultural sector. The research assumed a causal relationship between agricultural imports and agricultural product during the study period, where agricultural imports will lead to increased agricultural production, especially the import of agricultural investment goods such as agricultural machinery and equipment as well as production requirements such as improved seeds, fertilizers, pesticides and new irrigation techniques on the one hand, as well as the import of modern agricultural techniques on the other, especially with the high productivity of each acre of grain crops such as wheat.

## **Secondly. Iraqi agricultural imports performance develops for 2004-2019**

### **1. The evolution of the size and relative importance of Iraqi agricultural imports**

#### **A.. The evolution of the volume of agricultural imports**

Agricultural imports reflect the ability of agricultural output to meet the actual need within the national economy, as agricultural imports have increased, as well as the weak role of agricultural output in meeting domestic demand for agricultural commodities and vice versa. Agricultural imports in Iraq rose to 3,056 million dinars in 2005 from 2,303 million dinars in 2004, with an annual change rate of about 33 percent, according to Table 1 and Figure 2. It continued to rise to 3,224, 3,295 and 5,849 million dinars, respectively, with a positive annual change of 7.7 percent in 2008. The value of agricultural imports fluctuated between the rise and fall during the period 2009-2016 and with an average negative annual change of 3.3%, as agricultural imports achieved a significant increase in 2010, the highest value of agricultural imports during the research period of 6,101 million dinars. During the last three years of the research period, imports increased slightly to 1,470 million dinars during the last year. This required that all resources be directed, although scarce, to the war effort. The performance of the imports improved later.

#### **B. The relative importance of agricultural imports**

The contribution of agricultural imports to total imports Table 1 presents the actual contribution of agricultural imports from total imports, rising from 12% in 2004 to 16% in 2005, and fluctuating between the decline and the rise during the period 2006-2012, achieving the lowest decline in 2011 by 9.3% and the highest rate of rise in 2012 at 18.4%. During the remaining period 2013-2019, the contribution of agricultural imports to total imports continued to decline, from 4% in 2013 to the lowest rate in the search period of 3% in 2016. Overall, the contribution of agricultural imports is small and is commensurate with the importance of the agricultural sector and a cycle in economic development.

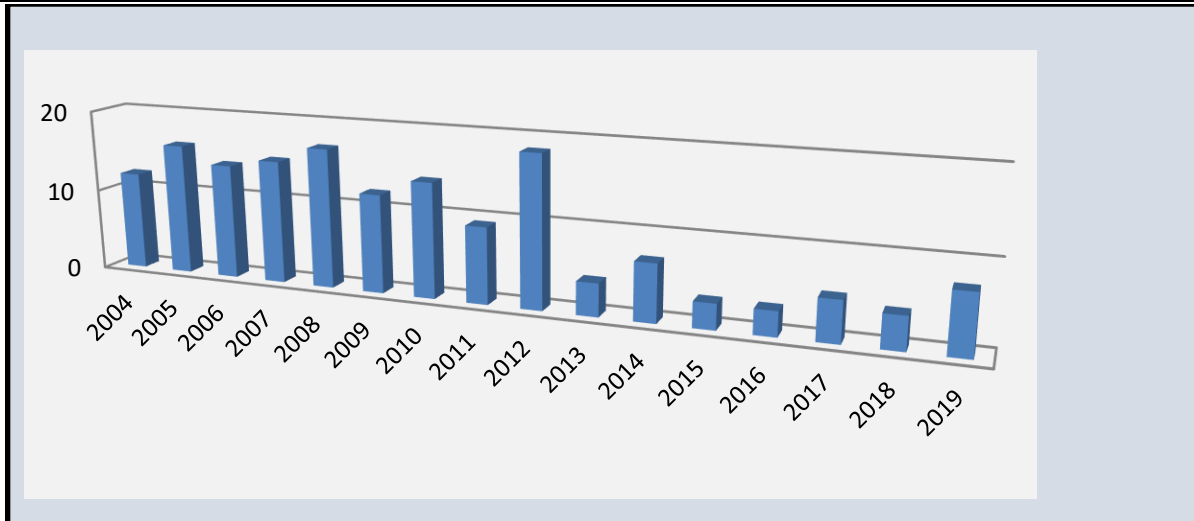
**Table (1) Evolution of agricultural imports and their relative importance in total imports for 2004-2019**

% importance	Total imports	Change%	Agricultural imports	The year
12	19953	--	2302	2004
16	19343	32.7	3056	2005
14	22963	5.5	3224	2006
15	21332	2.2	3295	2007
17	35011	7.7	5849	2008
12	41512	(14.1)	5023	2009
14	43915	21.4	6101	2010
9.3	49141.60	(25)	4572.6	2011
18.4	28600.00	15.3	5272.68	2012
4	33383.70	(74.3)	1354.31	2013
7	37064.5	95.8	2651.8	2014
3.1	41644.1	(50.6)	1310	2015
3	48594.9	4.9	1374	2016
5	31572.9	3.6	1424	2017
4	36952.7	1.7	1449	2018
7.3	20903.3	1.4	1470	2019

**Source:** Ministry of Planning, Central Privatization Agency, Foreign Trade Statistics, Various

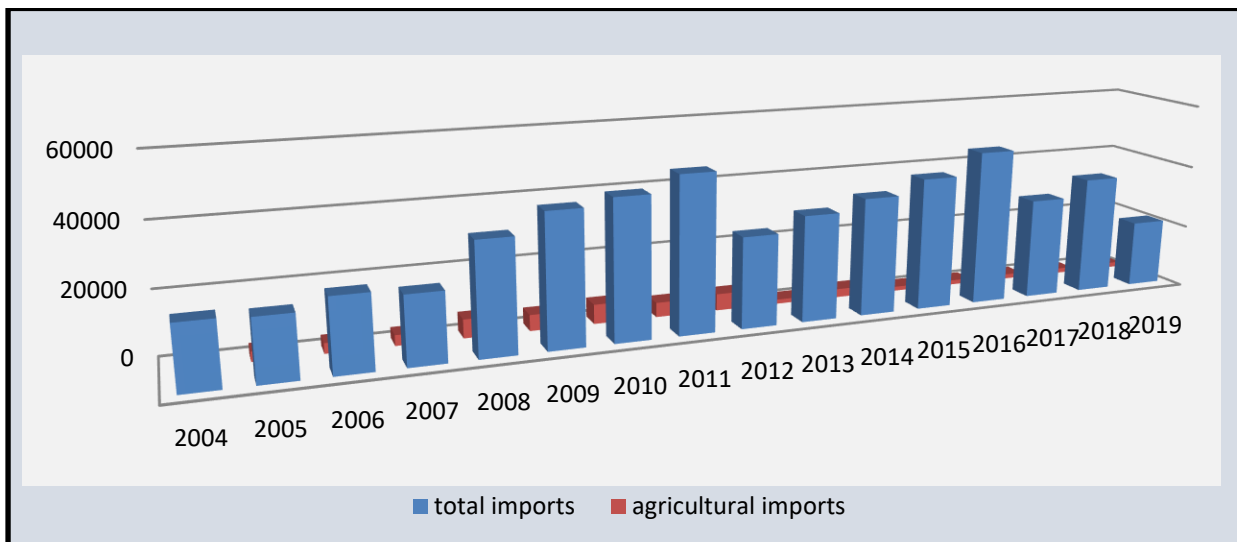
Years

**(1) Development of Iraqi agricultural imports for 2004-2019**



Source: Table 1 Data.

**(2) The relative importance of agricultural imports in Iraqi total imports for 2004-2019**



Source: Table 1 Data .

– Average inclination for agricultural imports

This indicator is measured by the ratio of agricultural imports to the value of agricultural output, called the rate of agricultural dependency, and ranges in value from 100 if the country's agricultural output is fully dependent on imports, and zero on the contrary. Table 2 and Figure 4 show that during the research period, the index rose to nearly 100, reflecting a near-absolute dependency on agricultural production abroad.

This was 62% in 2004, down to 60% and 58% in 2005 and 2006. It then rose to its highest level during the research period in 2008 to about 97%. During the period 2009-2011, the index fell steadily to 46% in the last year. It improved in 2012 to 50% and for the rest of the research period there were continued declines in the index and it reached its lowest value in 2019 by 14%. The above presentation shows that the dependency of Iraqi agricultural production abroad has decreased in the duration of the research, reflecting the improvement of agricultural production and its ability to fill a significant part of the need of the local market, as well as the period 2014-2017, a double crisis that hit the Iraqi economy and extended its effects until 2017, had a clear impact on reducing imports due to the lack of public revenues of the government on its part and its support for the agricultural sector by raising the prices of agricultural products it buys from agricultural products. Farmers such as wheat and rice, providing them with chemical fertilizer.

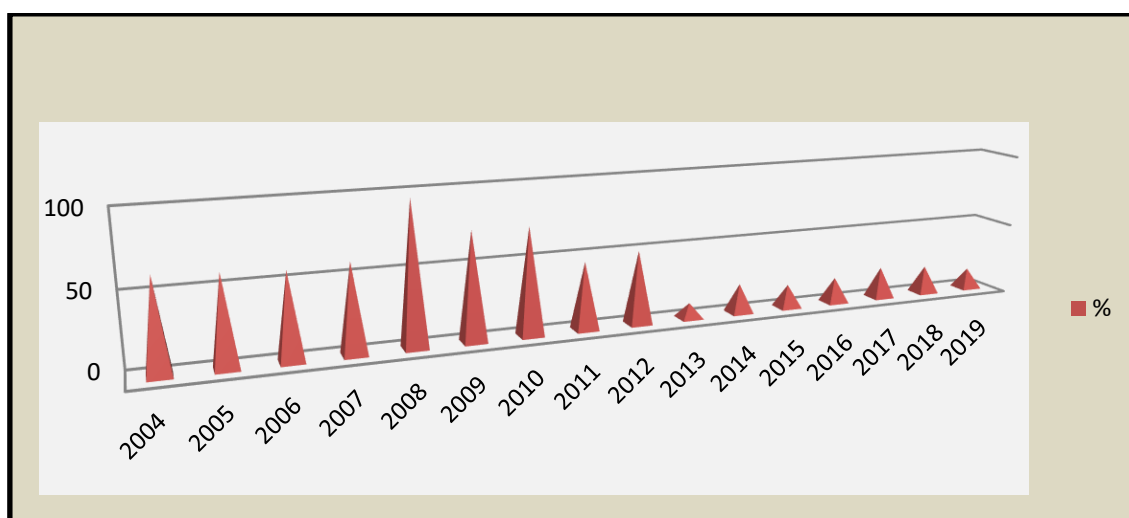
**Table (2) Average inclination for imports in the Iraqi economy for 2004-2019**

%	Agricultural output	Agricultural imports	The year
62.3	3693	2302	2004
60.3	5064	3056	2005
58	5568	3224	2006
60	5494	3295	2007
96.8	6042	5849	2008
73.5	6832	5023	2009
73	8366	6101	2010
46.1	9918	4572.6	2011
50.3	10484	5272.68	2012
10.4	13043	1354.31	2013
20.2	13138	2651.8	2014
16	8160	1310	2015
17.5	7832	1374	2016
21.6	6598	1424	2017
19.1	7572	1449	2018
14.2	10411	1470	2019

Source : Ministry of Planning, Central Privatization Agency, Foreign Trade

Statistics

### (3) Average inclination for imports in the Iraqi economy for 2004-2019



Source: Table Data (2).

## 2. Agricultural imports and food security support policy

Wheat and rice are important crops in the consumer food pattern of the Iraqi individual and most of the wheat consumed comes from the ration card system (and import from flour), while local production accounts for one third of the supply of the crop, as production and consumption are not distributed equally in the country, despite the comparative advantage available in the production of rice crops from water, soil and labor and high average production of these crops of a strategic nature, especially rice, which is one of the finest species. Produced in the world, however, the production of these two crops does not meet the minimum requirements of the Iraqi consumer. Iraq is at the forefront of Arab countries importing agricultural goods after 2003 due to declining agricultural productivity and the agricultural sector in general, as well as an increase in the population and increased domestic demand for agricultural and food commodities, and as Iraq as a major importer of wheat and rice due to the food pattern of the Iraqi population, the focus will be on wheat and rice production and imports. Iraq directs its financial revenues from oil revenues to import agricultural production supplies and import agricultural materials for domestic consumption.



After 2003, Iraqi agricultural imports focused on vegetable oils, wheat, rice, sugar, flour, dairy products, milk, barley, vegetables, tea, table eggs, meat and all kinds. Wheat exceeds all grain crops with calories and proteins it supplies to the body, and the amount of agricultural imports of wheat and rice in 2004 was 2501 and 652 thousand tons respectively, with self-sufficiency of 42% and 28%, respectively, as evidenced by a clear decrease in productivity for both crops in Iraq. Going back to Table 3 and Figure 5, Iraq's lowest self-sufficiency in wheat yields is in 2008 at 30%, either the lowest rice rate in 2015 due to armed groups controlling areas of agricultural land and burning large areas of it with other terrorist acts. From the foregoing, it is clear to us that the dunum yields of wheat and rice crops have been affected by waste in cultivated areas or by inadequate natural environmental conditions, diseases, <sup>12</sup>and sometimes water scarcity, and the high prices of agricultural production supplies due to the increase in subsidies provided by the state after 2003 for a number of production supplies, particularly seeds, fertilizers and control materials. Production, which has shown unemployment in some elements of production, and the second shows the possibility of increasing agricultural production vertically, thus closing the local gap between production and consumption. The self-sufficiency rates achieved from wheat and rice are still below the level of ambition in a country that possesses all the agricultural assets that stimulate greater self-sufficiency in order to meet domestic demand for consumers without the need for agricultural imports. Food security has received great attention from researchers in the Arab world in general and Iraq in particular, which defines food security by the World Bank as "enabling members of society as a whole at all times to have proper and adequate access to the necessary food, meet their needs and suit their tastes and desires." Food security is a challenge for the individualization of society, the provision of increased demand for food in Iraq and the filling of the shortage through imports in light of the rise of the iraqi dinar, the decline in average income, the lack of equitable distribution of community and the worsening problem of unemployment and poverty in the country, and international reports show that the number of children suffering from lack of encroachment increased from 6.5 million in 2002 to 10.1 in 2016, while about 22.5% of the population of

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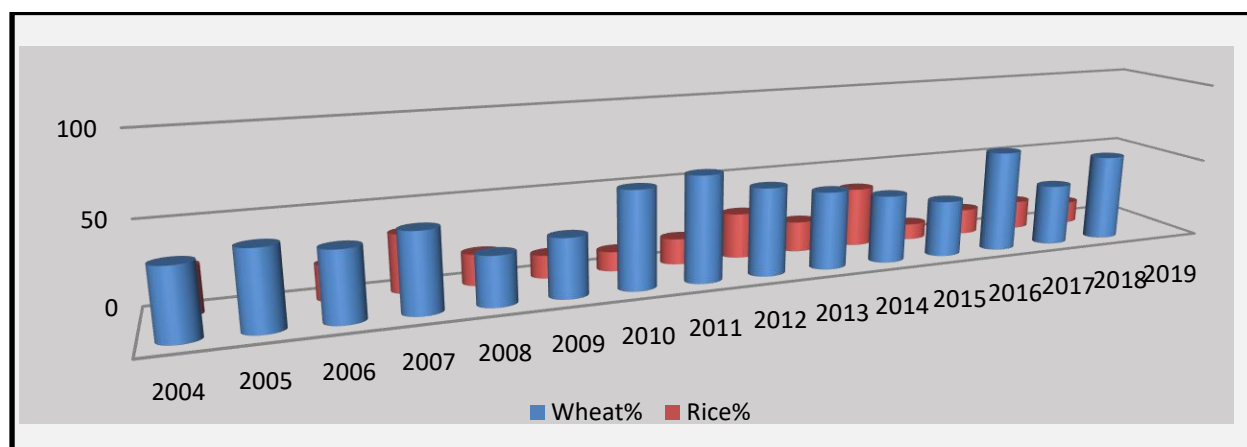
Iraq lives below the estimated local poverty line In dinars 105 dinars /month, while this percentage reaches 40% in some areas in addition to the fact that 30% of the population is at risk of poverty and food insecurity.

**Table (3) Quantity and value of imports and production of wheat and rice and self-sufficiency**

	Production (1,000 tons)		Roses (1,000 tons)		Self, sufficiency	
	Wheat	Rice	Wheat	Rice	Wheat%	Rice%
2004	1833	250	2501	652	42	28
2005	2228	309	2536	831	47	27
2006	2086	363	2839	1329	42	21
2007	2203	393	2424	736	48	35
2008	1255	248	2963	1052	30	19
2009	1700	173	3050	1100	36	14
2010	2749	156	1855	1123	60	12
2011	2965	235.12	987	1187.04	65	16
2012	3876.23	361.34	345	912.06	54	28
2013	4178.00	831.00	44.69	201.95	48	19
2014	5055.00	403.00	68.62	67661	42	37
2015	2645.00	1092.00	50.08	20195	35	10
2016	3053	181.32	175.09	88742	63	16
2017	2974	265.9	478.98	120017	38	18
2018	2178	181.96	1872.25	111467	54	14
2019	4343	5747				

Source: Table of Researcher's Work Based on: Yearbook statistics

**Form (4) shows the self-sufficiency of wheat and rice**



Source: Table 3 Data

A country, since it is self-sufficient, is obviously a product, not an option, as it can remain high and increase in a country that does not have enough foreign currency to import enough food to

meet its needs for increased demand, and therefore self-sufficiency ratios are limited in measuring food security and achieving high self-sufficiency ratios is not necessarily positively associated with achieving a high level of food security, for example, the group of countries with the least intentions. In the Arab region of Western Asia, where the levels of self-sufficiency in most goods are high, food security is low. On the contrary, self-sufficiency rates can remain low or decline in countries where there are no restrictions on currencies or those that give importance to food imports versus consumables. <sup>3</sup>

### 3 . Imports of agricultural production supplies

The policy of providing agricultural production supplies from (machines, seeds, chemical fertilizers, biofertilizers, organic fertilizers and specialized fertilizers) is of great importance in the process of agricultural production and increasing agricultural productivity, and has an economic impact because of its role in stimulating and developing agricultural production and the development of agricultural industries. After 2003, Iraq experienced a decline in the provision of agricultural production supplies to 0.3 per total. This means that the neglect of this main aspect of the production process reflects this on the production yield of one dunum, as the use of modern technology, mechanization, chemical fertilizers, etc. leads to an increase in productivity and practical agricultural production by 60-70%, while technological backwardness and the use of rudimentary methods in production lead to significant economic losses, and the delay of the seasonal harvest process for 20-25 days leads to a decrease in productivity per dunum by about 50%, Manual seeds drain 20% of the seeds and as a result contribute to a 20% reduction in productivity per dunum of production, and data indicate that the area cultivated with grain in 2007 was about 10,654.3 dunums, i.e. there is one harvester per 127 3.3 dunums, while the global average harvest is one for every 500 dunums, either agricultural pumps report that the preparation equipped for farmers by the General Company for Agricultural Equipment between 2004 and 2008 is estimated at about 300 pumps. Today, agricultural technology is a key and important factor in bringing about a qualitative shift in the process of agricultural development and the lack of use in Iraq is one of the main challenges facing the Iraqi agricultural sector, and the technology here is meant not only machinery and

equipment but also technology related to the innovation of new varieties and improved seeds, hybridization, fertilizer use, irrigation, land reclamation, etc., and for improved seeds to name a few, Iraq has used them since the 1950s and 1960s. The total amount of fertilizers and seeds used on agricultural land did not increase between 2007 and 2010, with the lowest quantities used in 2008 being about 250.9 thousand tons, while in 2010 the maximum was about 324.9 thousand tons as indicated by table 4.

**Table 4 Fertilizers for Farmers**

Years	1,000 tons of processed fertilizers
2004	255.293
2005	438.985
2006	273.694
2007	228.060
2008	250.966
2009	334.807
2010	324.911
2011	550.342
2012	349.066
2013	396.460
2014	228.918
2015	215.453
2016	207.231
2017	480.244
2018	537.122
2019	683.755

SOURCE General Company for Agricultural Equipment, report annual for many years. .

After 2003, Iraq experienced a decline in imports of agricultural inputs, and it is noted through the table that imports of inputs accounted for 0.3 percent of total agricultural imports in 2010, up from 0.9 percent in 2004. <sup>4</sup>

Table (5) showing the amount of imports of tractors and agricultural harvesters for 2014-2018

Value: \$1 million quantity: 1,000 units

The year	Imports of agricultural machinery		Imports of tractors		Imports of harvesting and study machinery	
	Quantity	Value	Quantity	Value	Quantity	Value
2014	6.40	136.21	5.33	125.05	0.57	8.84
2015	40.38	201.86	24.18	87.92	7.69	48.99
2016	35.35	163.34	15.25	55.44	4.94	24.14
2017	-	-	15.54	56.51	4.73	23.13
2018	00	10.74	24.48	90.32	7.57	37.76

### **Thirdly. Development and growth of agricultural output and the level of agricultural trade openness**

#### 1. Development and growth of agricultural output and its contribution to GDP

##### - Development of agricultural output

Agricultural output reflects the overall performance of the agricultural sector, so it is an important indicator. According to Table 6, Iraq's agricultural output rose to 5,064 billion dinars in 2005 from 3,693 billion dinars in 2004, with an annual change rate of about 37 percent. Annual change of about 10%, but during 2007 agricultural output decreased in value to 5,494 billion dinars and at a negative annual change rate of 1.34%. This period included the agricultural initiative launched by former Prime Minister Nouri al-Maliki. It increased from 6,042 billion dinars in 2008 to 9,918 billion dinars in 2011 and continued to rise to 13,043 billion dinars in 2013 and 13,138 billion dinars, respectively. However, the agricultural sector in general and agricultural output in particular were affected by the political and economic conditions that hit the Iraqi economy during 2015 and continued to have effects until the end of 2017 due to the double crisis that hit it from a significant drop in world oil prices on the one hand and the internal crisis represented by the occupation of one third of Iraqi territory by ISIS, which required directing all resources despite its scarcity to the war effort, reducing agricultural output to 8,160 billion dinars in 2015 and at an average rate of Negative annual change of 37.8% and continued to decline during 2016 and 2017 with a value of 7,832 and 6,598 billion dinars, respectively. The value of agricultural output improved during the last two years of the research period to 7,572 and 10,411 billion dinars, respectively.

The year	Agricultural output	Change %
2004	3693	---
2005	5064	37.1
2006	5568	9.97
2007	5494	(1.34)
2008	6042	9.97
2009	6832	13
2010	8366	22.4
2011	9918	18.5

2012	10484	5.7
2013	13043	24.4
2014	13138	0.6
2015	8160	(37.8)
2016	7832	(4.03)
2017	6598	(15.75)
2018	7572	14.76
2019	10411	37.50

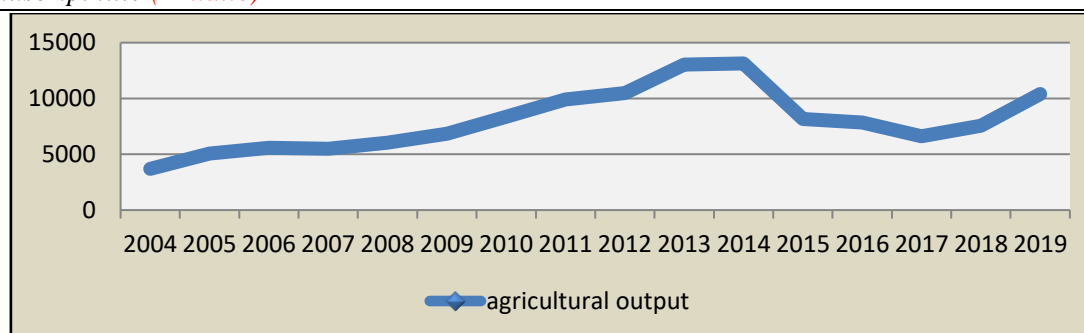
**Table (6)**

**Development of total agricultural output in Iraq For 2004-2019 billion dinars**

Source: Ministry of Planning, Central Bureau of Statistics, 2004-2019

The table above and figure 6 show that the lowest value achieved by agricultural output was 3693 billion dinars in 2004 due to the conditions of occupation of the country and economic and political changes, and the highest value in 2019 was 10,411 billion dinars due to the improvement of economic conditions and the country's passage of the double crisis and the improvement in world oil prices, resulting in increased public revenues of the government.

**Figure (5) The development of agricultural output in Iraq for the period 2004-2019**



Source: Table Data (6).

– Contribution of agricultural output to GDP

The share of agricultural output in GDP reflects the value generated by the agricultural sector of the components of output and its contribution, and although the agricultural sector is an important sector in the Iraqi economy, but it has not occupied a leading position in the composition of output due to the dominance of the oil and service sectors, the focus of the Iraqi economy has been directed towards oil rents, particularly in recent years. Table 7, figure 8 and 9, showed twice the contribution of the sector, with only 7 percent of total output in 2004-2019. This weak contribution fluctuated during the period 2004-2008 with a negative annual change of about 17%, as the sector's contribution to GDP formation decreased from 6.9% in 2004 to 5.8% in 2006. With a negative annual change rate of 14.7% to 3.4% in 2008, a negative annual change of 22.4%, agriculture's share of GDP improved in 2009 to 5.2% and a positive annual change of 36.8%. It declined again in 2010 and 2011, then increased in 2012 and 2013 and continued to decline to the end of the search period by 3.7%.

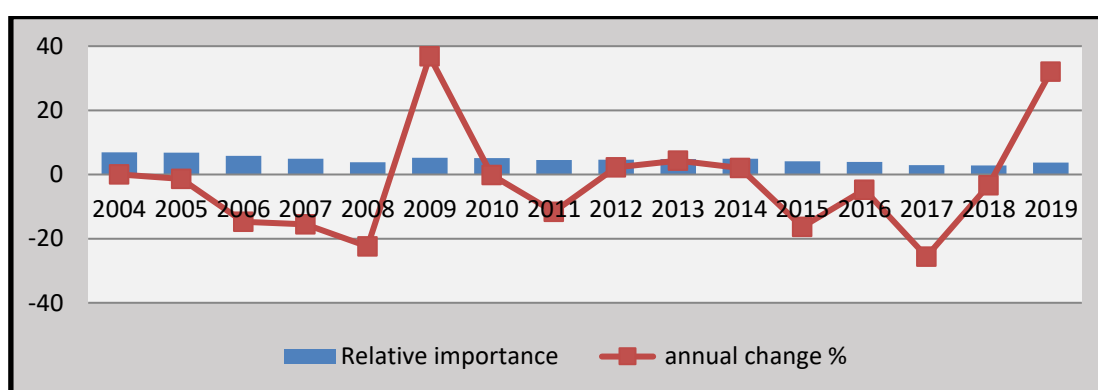
**Table (7) Contribution of agricultural output to the composition of Iraq's GDP for 2004-2019**

Annual change %	% 2:1	GDP (2) Billion dinars	Agricultural output (1) Billion dinars	The year
---	6.9	53499	3693	2004
(1.4)	6.8	73911	5064	2005
(14.7)	5.8	96067	5568	2006
(15.5)	4.9	111961	5494	2007
(22.4)	3.8	158445	6042	2008
36.8	5.2	131632	6832	2009
(0.2)	5.1	163104	8366	2010
(11.7)	4.5	218617	9918	2011

2.2	4.6	225725	10484	2012
4.3	4.8	271754	13043	2013
2	4.9	267262	13138	2014
(16.3)	4.1	196203	8160	2015
(4.8)	3.9	198774	7832	2016
(25.6)	2.9	228692	6598	2017
(3.4)	2.8	268918	7572	2018
32.1	3.7	277884	10411	2019

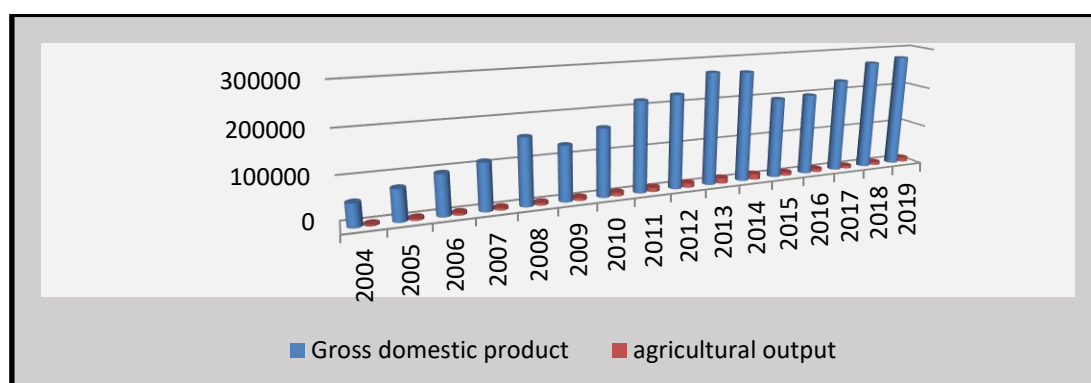
Source : Ministry of Planning, Central Bureau of Statistics, 2004-2019

**Accounted for (7) the share and rate of change in agricultural production of GDP**



Source: Table Data (2).

**(8) Development of agricultural output and GDP for 2004-2019**



Source: Table 2 Data.

However, in general, the contribution rate has declined to its lowest level in 2018 due to inappropriate agricultural policies, the inability of local agricultural products to compete with



imports, as well as indiscriminate importation, the lack of protection of domestic products and the dumping of agricultural goods from abroad. <sup>5</sup>

Second: the level of trade openness and the coverage ratio

Indicators of trade openness

A. Coverage rate: This indicator reflects the efficiency of the country's foreign

agricultural trade and its ability to cover the expenses of its agricultural imports from the proceeds of its agricultural confiscation, and reflects an increase in its value of more than 100% to the existence of a surplus in the country's agricultural trade balance, since the value of exports is sufficient to meet the expenses of imports and provide the country with foreign exchange, and has been destroyed through the following equation:

$$\text{Coverage rate} = (\text{value of agricultural exports} / \text{value of agricultural imports}) \cdot 100$$

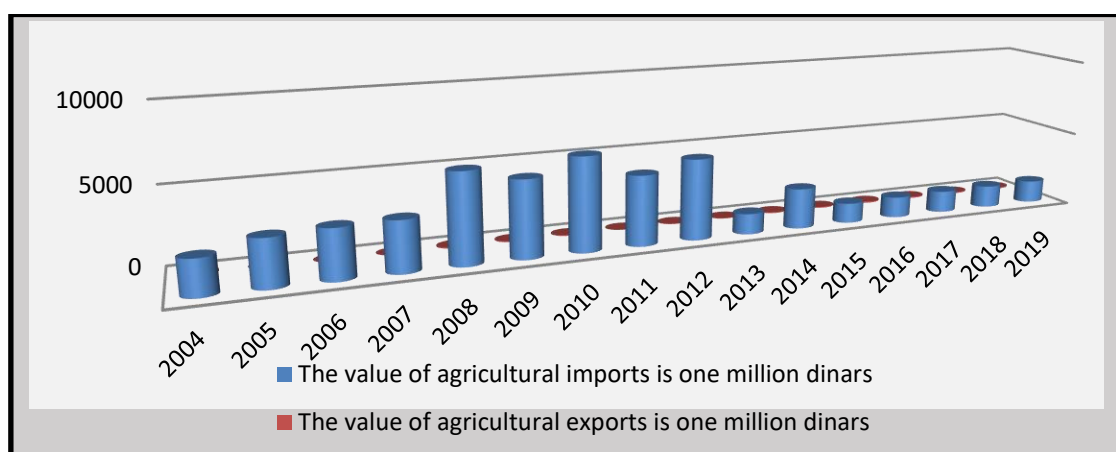
Table 8 and (10) show that this index fell from 4.2% in 2004 to 0.51% in 2007 and rose slightly in 2008 to 1.2% and continually declined throughout 2009-2011 to 0.44%. Then its ratio fluctuated between the rise and the decline for the rest of the researched period. During the period 2004-2019, it did not exceed at its best about 6%, which is very small, clearly reflecting the large deficit in the Iraqi agricultural trade balance, as well as giving a clear picture of the Iraqi economy with its heavy reliance on agricultural imports, despite the availability of agricultural components of good soil, water and working hands, the dominance of the oil sector on the one hand and the neglect of the agricultural sector, as well as the many problems facing this sector, both with the problem of soil salinity Desertification and the scarcity of water supplies and the transfer of quite a few manpower in this sector to the army and police.

Table (8) Iraq Coverage Rate Index for 2004-2019

Coverage ratio %	Value of agricultural imports Million dinars	Value of agricultural exports Million dinars	The year
4.2	2302	96.69	2004

1.0	3056	30.15	2005
0.55	3224	17.99	2006
0.51	3295	16.99	2007
1.2	5849	70.01	2008
1.1	5023	53.73	2009
0.68	6101	40	2010
0.44	4572.6	20.43	2011
0.64	5272.68	34.11	2012
2.24	1354.31	30.40	2013
2.0	2651.8	50.6	2014
5.3	1310	70	2015
5.9	1374	81	2016
5.5	1424	79	2017
5.3	1449	77	2018
5.4	1470	80	2019

### (9) The development of the Iraq Coverage Rate Index for 2004-2019



Source: Table 3 data.

B. Degree of agricultural exposure : This indicator reflects agricultural dependency through the importance of agricultural exports and imports to gross agricultural output:

Degree of agricultural exposure = (value of exports + value of imports) / total agricultural output. 100

Sometimes its rise does not mean evidence of agricultural dependence abroad, but rather indicates that the agricultural sector may be exposed to imbalances due to conditions surrounding foreign agricultural trade, for example, the dumping of goods for imported goods. If this percentage exceeds 40 percent, the agricultural sector is exposed abroad.

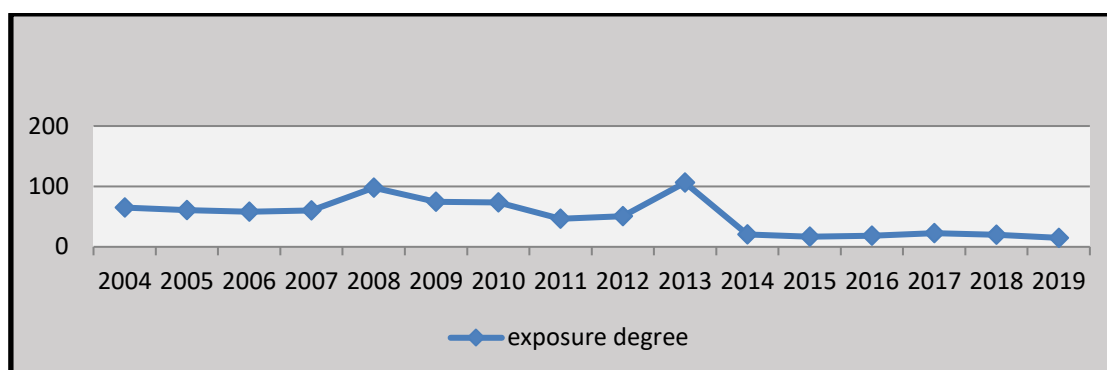
This indicator can be a reflection of a developed or weak situation, as agriculturally developed countries are able to provide a significant and diversified amount of their agricultural production for export purposes due to their production capacities and therefore exports and imports increase and thus increase the importance of agricultural trade while agriculture in developing countries due to their weak production capacity increases agricultural imports. Table 9 below and figure 11 shows that the exposure rate exceeded 40% for most of the search period except for 2014-2019, when the ratios were lower than the standard. This reflects the great exposure of the agricultural sector abroad and the critical food security of Iraq, which imports the majority of agricultural crops from abroad, as well as the policy of dumping goods taken by neighboring countries against Iraq. After 65% agricultural exposure in 2004, it rose to 98% in 2008 and declined in 2009, 2010 and 2011 to about 46%. The figure reached its highest level in 2013 at 106.2. During the period 2014-2019, this percentage achieved declines to about 15% in the last year of the search period. The reason for the double crisis that has hit the Iraqi economy and affected agricultural trade, especially imports, with a focus on supporting the agricultural sector and raising the prices of wheat and barley agricultural crops by the government has somewhat improved agricultural production, which achieved its highest value in 2019 at 10,411 million dinars.

**Table (9) Iraq Agricultural Exposure Index for 2004-2019**

Exposure score%	Gross agricultural output	Export imports	The year
65	3693	2398.69	2004
61	5064	3086.15	2005
58.2	5568	3241.99	2006
60.3	5494	3311.99	2007
98	6042	5919.01	2008
74.3	6832	5076.73	2009
73.4	8366	6141	2010
46.3	9918	4593.03	2011
50.6	10484	5306.79	2012
106.2	13043	1384.71	2013
20.5	13138	2702.4	2014
17	8160	1380	2015
18.6	7832	1455	2016
22.8	6598	1503	2017
20.2	7572	1526	2018
14.9	10411	1550	2019

Source: Ministry of Planning, Central Bureau of Statistics, annual reports for various years.

**Figure 10 The degree of exposure in the agricultural sector for the period 2004-2019**



Source: Table 4 Data

– Food trade gap

Table 10 data show that Iraq's agricultural trade balance suffered from a chronic deficit throughout the research period, and the gap in Iraqi food trade ranged from a minimum of about 1,240 million dinars in 2015, to a maximum of about 6,061 million dinars in 2010. The agricultural gap reached 2,205 million dinars in 2004 and the gap continued to widen during 2004-2008 to 5,778.9 million dinars in the last year. The gap narrowed in 2009 to 4,969 million dinars, then rose to a maximum in 2010. The food gap between the rise and fall fluctuated during the period 2011-2019, achieving an average decline of 1,300 million dinars over the last period.

**Table (10) Agricultural exports and imports and the value of the food gap for 2004-2019**

Gap value	Agricultural imports	Agricultural exports	The year
-2205.3	2302	96.69	2004
-3025.8	3056	30.15	2005
-3206	3224	17.99	2006
-3278	3295	16.99	2007
-5778.9	5849	70.01	2008
-4969.3	5023	53.73	2009

-6061	6101	40	2010
-4552.2	4572.6	20.43	2011
-5238.6	5272.68	34.11	2012
-1323.9	1354.31	30.40	2013
-2601.2	2651.8	50.6	2014
-1240	1310	70	2015
-1293	1374	81	2016
-1345	1424	79	2017
-1372	1449	77	2018
-1390	1470	80	2019

Source: Ministry of Planning, Central Bureau of Statistics, annual reports for various years

### **Conclusions and recommendations**

1. Weak contribution of agricultural imports to total imports, as well as the low relative importance of agricultural output in the composition of GDP, which reflects the lack of interest in this sector on the one hand and the heavy dependence on oil output.
2. The average inclination of agricultural imports in some years exceeded the 97% barrier, but then returned to acceptable rates and the impact of the double shock on the Iraqi economy was significant in reducing this percentage.
3. Double the coverage rate, as it did not exceed 6% at its best, and this gives a clear picture of the Iraqi economy by its heavy reliance in agriculture on agricultural imports, despite the availability of agricultural components of good soil, water and working hands, the dominance of the oil sector on the one hand and the neglect of the agricultural sector and the lack of government support, as well as the many problems facing this sector, both with the problem of soil salinity, desertification and the scarcity of water supplies and the transformation of quite a few labor forces in this regard. Sector to the army and police.
4. The agricultural trade balance suffers from a chronic food gap, which clearly reflects the inability of the Iraqi economy to feed and threatens national food security.

### **Secondly. Recommendations**

1. Increase government support for the agricultural sector and increase its allocations in the general budget.
2. Supporting the private sector in agriculture by providing basic supplies for agricultural production of fertilizers and seeds and encouraging the establishment and establishment of companies and private projects in the field of food security.

3. Rationalizing random agricultural imports, fighting commodity dumping and increasing quantitative taxes on agricultural imports to support the domestic product.
4. Conduct studies and research on the cause of the inseparable relationship between agricultural imports and their relative prices in the long term.
5. Conducting other research by adding other explanatory variables to the function of Iraqi agricultural imports

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