



Research Article

Indicators of Intra-Arab Agricultural Trade in Light of Recent and Emerging Crises and Risks

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Abstract

The study aimed to shed light on the policies and mechanisms to enhance Arab trade exchange in light of the repercussions of recent and emerging crises and risks, based on the principle of common economic interests, in addition to proposing a set of policies to support Arab agricultural trade exchange and enhance the competitive position of Arabic agricultural foreign trade. The results have shown that there is a relative similarity in the geographical structure of the most important exporting and importing Arab countries within the framework of intra-Arab trade, which indicates the concentration of intra-Arab trade in a group of Arab countries such as the UAE, Saudi Arabia, Egypt and Jordan, which is a negative indicator in the future of inter-Arab trade exchange due to a lack of geographical diversity, which increases the exposure of intra-Arab trade to risks and crises. Also, the overlapping of the negative and the positive effects of contemporary crises and risks and the difficulty of predicting them in the long term, as well as the intensity of their impact on Arab economies in general and on Arab trade and agricultural exchange in particular. The study proposed a set of policies that would enhance Arab agricultural trade and protect it from risks. These policies are based on three axes: The first: increasing the exchanged quantities between the Arab countries of agricultural commodities by promoting them to a larger number of importers within the Arab markets, improving the quality of exported commodities, and increasing commodity diversity. The second: increasing Arab countries contribution to the intra-Arab agricultural trade, especially the markets of the countries of Morocco. The third: overcoming the negative impact of recent and emerging crises and risks that effect on inter-Arab agricultural trade exchange.

Keywords: Economic study; intra-Arab; trade; agricultural exports; Arab food security.



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Introduction

In light of the current regional and global developments, Arab economic integration has become an urgent necessity for the Arab countries in order to reduce the risks of global fluctuations and their negative effects on the growth of the economies of the Arab countries, increase the strength of the economies of the Arab countries and remedy their shortcomings, and reduce economic dependence with developed countries. In light of the increase in the repercussions of modern and emerging crises and risks, which are

characterized by being deep and rapid in impact on Arab economies - especially in light of the economic openness of Arab countries to the world - the chances of Arab trade being affected by the rapid regressive impact of structural shocks in the global economic environment are increasing. The most important of these crises - which cannot be Predicting its occurrence and its future effects - in both the Russian-Ukrainian war and the repercussions of the Covid-19 crisis, while the most important risks - which can be predicted - are the shortage of global supply chains, the high costs of international shipping, the repercussions of changes in energy prices, and the increase in the chances of waves of inflation in global markets.

It is important to stress that these current crises and risks are the beginning of a new global economic climate that is characterized by an increase in the emergence of transient variables and their severity. The development of inter-Arab trade exchange is the real starting point through which effective steps can be taken to achieve the desired level of Arab economic integration in light of contemporary crises and risks. It can be emphasized that the development of Arab agricultural trade is one of the fastest and easiest mechanisms to increase the opportunities for the development of intra-Arab trade, because Arab countries enjoy regional differentiation in agricultural commodities between producing countries that have degrees of diversity in production suitable for these commodities and others that consume them greatly in which consumers' desires differ.

Research problem

In light of the importance of working on the development of Arab trade exchange to reduce the negative repercussions of recent crises and emerging risks, it is important to stress that the operations of conducting intra-Arab agricultural trade face many challenges and difficulties, including those related to the negative effects of these crises and risks, and others related to the resulting negative effects. Existing challenges related to the regulatory procedures followed by the Arab countries in controlling agricultural exports and imports, the Arab rules of origin for agricultural commodities, and other existing challenges, which negatively affect the penetration of Arab agricultural commodities into imported markets in the Arab world, and reduce the chances of increasing Arab trade exchange and achieving Economic integration, especially in light of the new global economic environment, which is characterized by increased exposure to risks and crises, and the need to achieve Arab economic integration to reduce the effects of these crises and risks on Arab economies.

Research Objectives

The study aims to shed light on policies and mechanisms to enhance Arab trade exchange in light of the repercussions of modern and emerging crises and risks, based on the principle of common economic interests, in addition to proposing a set of policies and mechanisms through which it is possible to support Arab agricultural trade exchange, and to enhance the competitive position of agricultural foreign trade in Arab countries, provided that the increase in inter-Arab agricultural trade is the starting point for increasing the volume of total intra-Arab trade in all other goods and services.

Research method and data sources

The research method relied on the descriptive and quantitative analysis approach. The study also relied on foreign trade data published in the International Trade Data Center trademap.org, with reliance on the concept of agricultural and food commodities included in the commodity classification "Harmonized System" (H.S CODE) from customs item (01) to customs item (24) except Items related to alcoholic beverages, pork and products that are not consistent with the culture and belief of consumers in Arab countries.

The study relied on the period from 2015 to 2021 as a timeframe for the study, as this period was characterized by the beginning of the emergence of successive crises and risks, which the study identified as follows:

Crises: These are temporary variables that are not expected to occur and were identified in each of the repercussions of the Covid-19 crisis and the Russian-Ukrainian war, as the impact of these variables began to appear from 2019 to 2021 AD.

Risks: They are represented in the accidental variables that can be predicted and identified in each of the following: the repercussions of the international trade conflict, the change in the prices of global energy and petroleum products, the lack of global supply chains, the high rates of global inflation, and the repercussions of political crises in the Arab region, where the impact of these risks began to appear. Variants beginning in 2015.

Theoretical framework of the vector autoregressive model

To measure the current impact of the most important effects resulting from recent and emerging risks and crises, as well as to predict their future effects, the Vector Autoregressive Model was used, which is abbreviated to var, which has many advantages in estimating the mutual effect between the variables under study, the most important of which is comprehensiveness in impact analysis And flexibility in identifying the actual behavior of the independent variables in the model, and accuracy in measuring and predicting these variables on the dependent variable.

Introducing the model

The work of this model comes within the framework of a multivariate time series, in which the current observations of the series items are linked to each of the previous observations of the series items and the previous observations of another variable in the standard model equation.

Thus, var models allow the transfer of information and estimates between the variables of the model, and then the mutual effect of the independent and dependent variables in the model can be known in both directions (contrary to the multiple autoregressive model that measures the effect in one direction).

In var models all variables are treated in the same way without any conditions (especially regarding their exclusion or being internal and external) and they are all entered into the equations with the same number of time lags.

The var model contains a number (K) of variables and a number of slowing periods (p). Through the model, it is possible to create a kind of statistical regularity in entering the variables and taking the mutual dynamic effects between the variables into account when estimating the model, according to the following:

whereas:

- y_t is a random variable
- t indicates time
- (p) denotes the number of deceleration periods
- (K) indicates the number of variables

It is clear from the previous equations that each of the model equations is a regression equation for the variable y_t on the previous observations of it and the previous observations of the other variables.

Model forms

The traditional method of building standard models, especially dynamic ones, relies on some assumptions to reach the optimal definition of the standard model (identification) such as the shape and distribution of the time delays for the variables, where the var model takes many forms that differ according to the purpose of estimating the model, and this can be explained in the following:

1- Short form model

- In which each variable is a function in the previous values of the same variable and the previous values of other variables in the model.
- In this form of the model, it is not possible to estimate the effect of shocks and structural changes occurring in the independent variables on the dependent variables because the random error is linked through the model equations only.

2- Iterative model

- Contains the components of the abbreviated form form
- It allows some variables to be functions of other variables in the model and thus allows measuring the mutual dynamic effect and estimating the shocks and structural changes that occur in the independent variables on the dependent variables.

3- Structural Model

- It allows knowing the direction of causality between the variables included in the model's estimation better than the previous two models.
- It is possible to measure the mutual dynamic effect and estimate the shocks and structural changes that occur in the independent variables on the dependent variables.
- It can predict the effects of shocks and structural changes occurring in the independent variables on the dependent variables.

Steps for preparing, building and estimating the model:

1- Model description and parameter estimation.

2- Statistical inference of the model.

3- Structural analysis of variables and model estimation.

4- Estimating the effect of structural changes occurring in the independent variables on the dependent variable.

This is done through the following general form:

$$Y_t = \alpha_1 + b_1 y_{t-1} + b_2 y_{t-2} + c_1 x_t + c_2 x_{t-1} + c_3 x_{t-2} + d_1 R_t + d_2 R_{t-1} + d_3 R_{t-2} + E_1$$

$$X_t = \alpha_2 + b_3 y_t + b_4 y_{t-1} + b_5 y_{t-2} + c_4 x_t + c_2 x_{t-1} + c_5 x_{t-2} + d_4 R_{t-1} + d_5 R_{t-2} + E_2$$

$$R_t = \alpha_3 + b_6 y_t + b_7 y_{t-1} + b_8 y_{t-2} + c_6 x_t + c_7 x_{t-1} + c_8 x_{t-2} + d_6 R_{t-1} + d_7 R_{t-2} + E_2$$

Results and Discussion

First: The reality of intra-Arab trade

A: The reality of Arab trade with the world:

Arab trade with the world is affected by many variables, and Arab countries can be classified as severe and vulnerable to global changes. This may be because Arab countries are classified as net importers of food and many industrial commodities and their dependence on exporting unprocessed commodities, which are often in their raw form, or semi-finished.

1- The contribution of the Arab countries to world trade in light of the recent and emerging risks and crises

The data in Figure 1 indicates a significant decrease in the contribution of Arab countries to both global exports and imports, as it was found that the average contribution of Arab countries to global exports for the period (2018-2021) amounted to about 5.2% compared to 3.9% for the period (2015-2017), with a decrease of about 1.3%, while the Arab countries' contribution to global imports, on average, for the period (2018-2021) amounted to about 4.4%, compared to 5.1% for the period (2015-2017), a decrease of about 0.9%.

From the foregoing, it is clear that the decline in the contribution of exports is greater than the decrease in the contribution of imports, and this may be due to the low flexibility of Arab imports, as these imports are often represented in basic and food commodities, while it was found that Arab exports to the world were affected by a large percentage as a result of recent and emerging crises and risks. These results indicate the extent to which Arab foreign trade is affected by crises and risks to which the global trade environment is exposed.

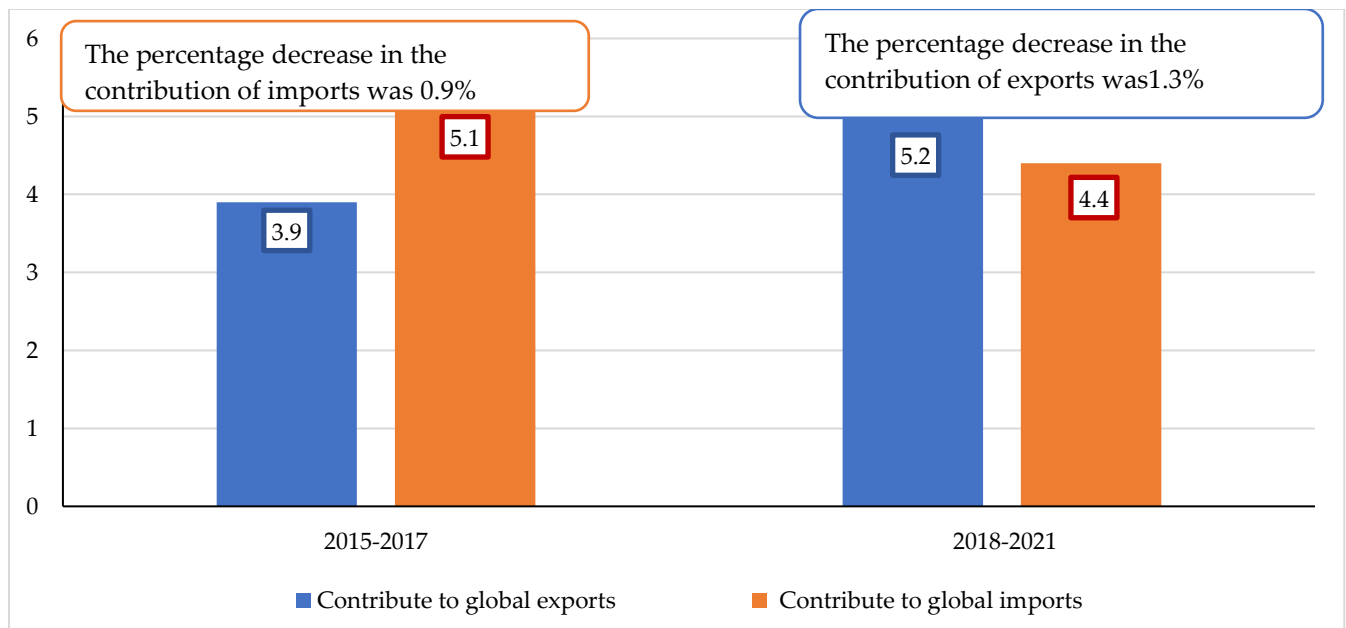


Figure 1. Contribution of Arab countries to global exports and imports for the period 2018-2021.

Source: calculated and collected from Trade statistics for international business development (<https://www.trademap.org/>).

2- The development of Arab trade with the world in light of recent and emerging risks and crises

Table 1 shows that total Arab exports amounted to 984 billion dollars as an average for the period (2018-2021) compared to 1044 billion dollars as an average for the period (2015-2017). It was found that total Arab imports amounted to 818 billion dollars in the average period (2018-2021). compared to 1131 billion dollars as an average for the period (2015-2017), while the total Arab trade amounted to 1913 billion dollars as an average for the period (2018-2021) compared to 2175 billion dollars on average for the period (2015-2017). It was also found that the rate of change in Arab exports between the average period (2015-2017) and the period (2018-2021) was about (-5.7%), while the same rate for Arab imports was about (-27.7%) and for total Arab trade about (-12%).

Table 1. Development of Arab trade with the world for the period 2015-2021 in billions of dollars

Description	2018	2019	2020	2021	Average for the period 2017-2015	Average for the period 2021-2018	The rate of change between the average period (2015-2017) and the period (2018-2021)
Total Arab exports	1095.1	1017.7	837.6	983.9	1044	984	5.7-
Total Arab imports	870	875	769	760	1131	818	27.7-
Total Arab trade	1758.5	1505	1743	1965	2175	1913	12.0-

Source: calculated and collected from Trade statistics for international business development (<https://www.trademap.org/>).

From the foregoing, it is clear that the decrease between the averages of the period (2015-2017) and the period (2018-2021) in Arab imports to the world is greater than the decrease in the percentage of Arab exports to the world. 2015-2021, as a natural and immediate response to the repercussions of the crises and risks that the global trade environment was exposed to during that period, which negatively affected economic growth in most Arab countries, the most important of which are the Arab countries bordering the Mediterranean basin, Arab African countries, and some Gulf countries.

Second: The reality of intra-Arab trade

Intra-Arab trade is affected by many variables, whether directly or indirectly. The most important of these variables are the aspects related to facilitating import and export operations and the procedures regulating them, which are approved by the Arab countries based on the new variables, crises and risks facing the Arab countries.

1- The development of intra-Arab trade

Table No. (2) shows that inter-Arab exports amounted to \$62 billion for 2021 compared to \$103 billion for 2015, with a decrease rate of -39.8% compared to 2015. It was also shown that inter-Arab imports amounted to \$70 billion for 2021 compared to \$107 billion for 2015. With a decrease rate of -34.6% compared to 2015, while the total intra-trade amounted to \$131 billion for 2021 compared to \$210 billion for 2015, with a decrease rate of -37.5%.

2- The contribution of intra-Arab trade to the total Arab trade

Figure No. (2) shows that the contribution of intra-Arab trade to the total Arab trade amounted to 12% for the year 2021 compared to 8% for the year 2015, with a decrease of about 37.6%, which indicates the existence of a transfer of Arab trade to the world and other non-Arab countries, This is regarded as a negative indicator in the short, medium, and long term.

The reason for this decline may be due to the increase in the challenges and difficulties faced by inter-Arab trade, especially with regard to regulatory procedures and rules of origin, as well as the negative impact of recent and emerging crises and risks faced by Arab economies, which contributed to increasing the negative impact on inter-Arab trade.

Table 2. The development of the total intra-Arab trade volume during the period (2015-2021) in billion dollars.

Description	2015	2016	2017	2018	2019	2020	2021	The rate of change between 2015 and 2021
Inter-Arab exports	103	92	121	140	135	123	62	39.8-
inter-Arab imports	107	97	118	132	130	112	70	34.6-
total intra-trade	210	189	239	272	265	235	131	37.6-

Source: calculated and collected from Trade statistics for international business development (<https://www.trademap.org/>).

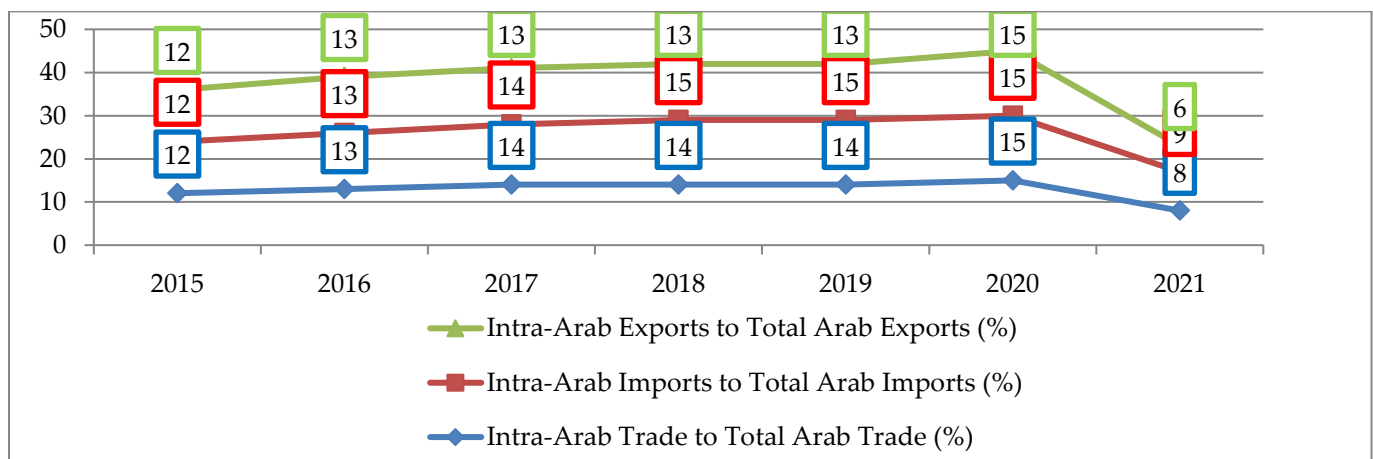


Figure 2. The evolution of the contribution of intra-Arab trade to total Arab trade for the period 2015-2021.

Source: calculated and collected from Trade statistics for international business development (<https://www.trademap.org/>).

3- Commodity distribution of intra-Arab trade:

The commodity structure of any country's exports is a real indicator that expresses the strength and progress of its economy and the development of its production situation. It is clear from Figure (3) that the most important components of the commodity structure of the intra-Arab trade as an average for the period (2018-2021) were jewelry and metals by 20% in the first place. This may be due to the intra-Arab trade between the Arab Gulf countries for this type of goods, machinery and electrical equipment in Second place with 18% fuel and mineral oils in third place with 15%, machinery and mechanical devices in fourth place with 11%, plastics and their products in fourth place with 11%, vehicles and their parts in fifth place with 8%, and iron and steel in sixth place with 5% Iron and steel products, aluminum and its products, and dairy products ranked seventh with 4% each.

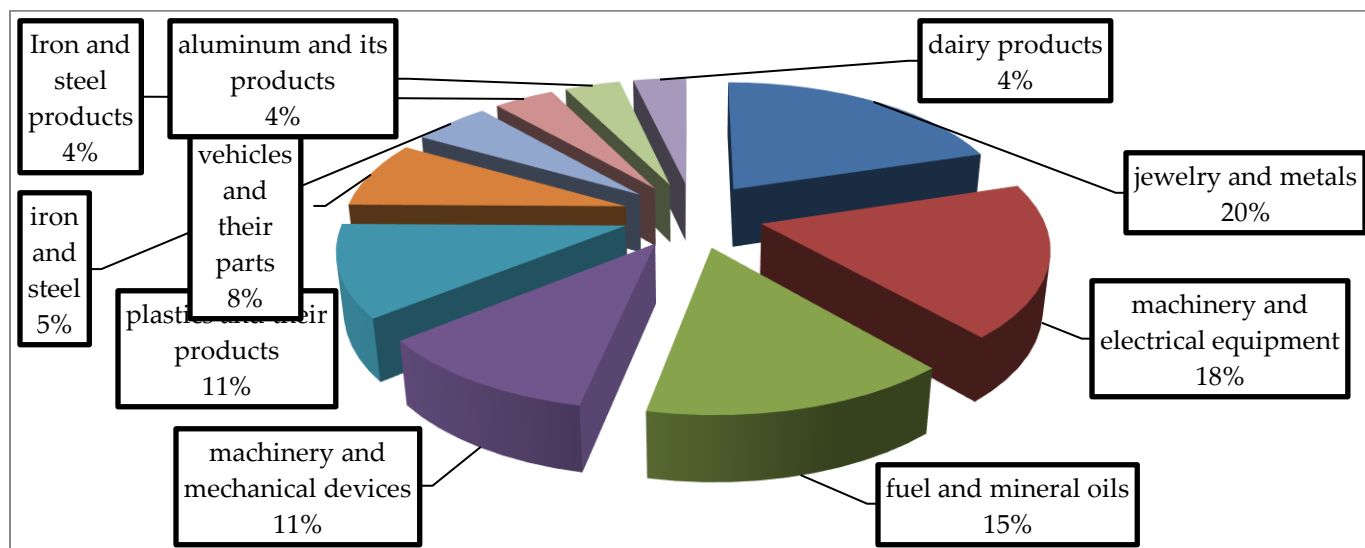


Figure 3. Commodity distribution of intra-Arab trade as an average for the period 2018-2021.

Source: calculated and collected from Trade statistics for international business development (<https://www.trademap.org/>).

4- Geographical distribution of intra-Arab trade:

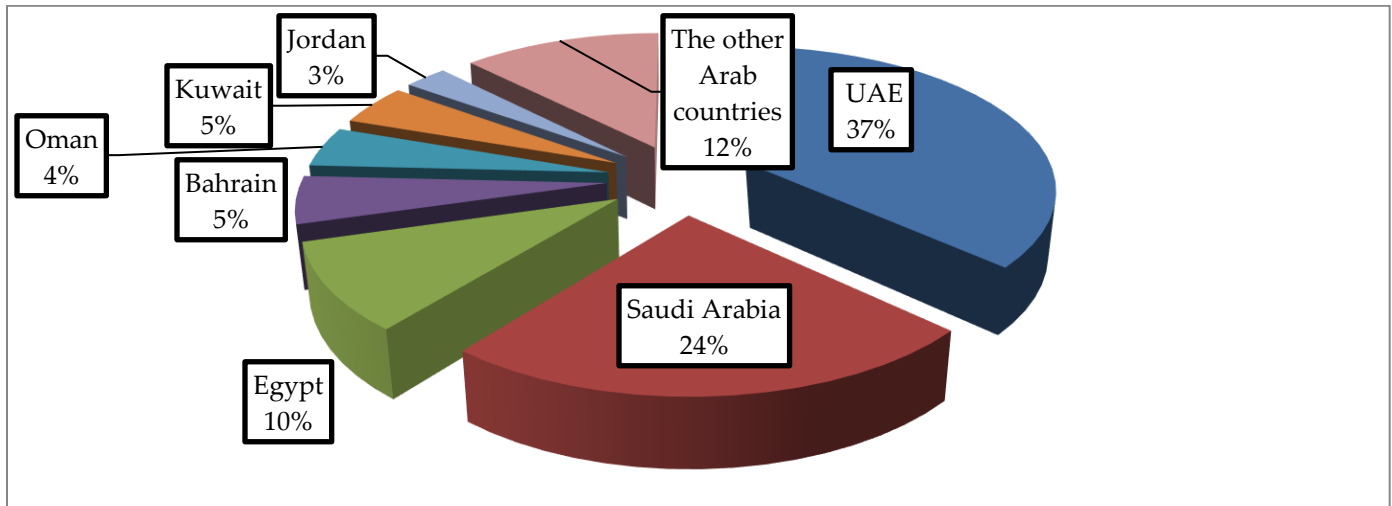
The ability of the Arab countries to contribute to the intra-Arab trade is due to many criteria that differ in terms of contribution to exports or imports. With regard to the contribution to exports, the most important of these criteria are the competitive capabilities and the economic situation of the exporting Arab country, the elements of its economic growth and its arrangement in the business climate index, where These criteria directly and indirectly affect the ability to face competition in the importing Arab market. As for the criteria that determine the contribution of the Arab country to intra-Arab imports, the most important of them are the volume and flexibility of demand for imported goods, import procedures and documents, the ease of entry of goods across its borders, and the extent of cooperation and interests. A joint economy of the importing country with the exporting country, as well as the nature of the consumption pattern and tastes of consumers in the importing market, and other criteria.

The contribution of Arab countries to intra-regional exports as an average for the period (2018-2021)

It is clear from Figure (4) that the most important Arab countries contributing to intra-regional exports as an average for the period (2018-2021) are the UAE with 37% in first place, then Saudi Arabia with 24% in second place, then Egypt with 10% in third place. Figure No. (4) Geographical distribution of the most important countries contributing to intra-Arab exports as an average for the period 2018-2021.

The contribution of Arab countries to intra-regional imports as an average for the period (2018-2021)

Figure 5 shows that the most important Arab countries contributing to intra-imports as an average for the period (2018-2021) are Saudi Arabia with 20% in the first place, then the UAE with 17% in the second place, then Egypt with 10% in the third place.



Source: calculated and collected from Trade statistics for international business development (<https://www.trademap.org/>).

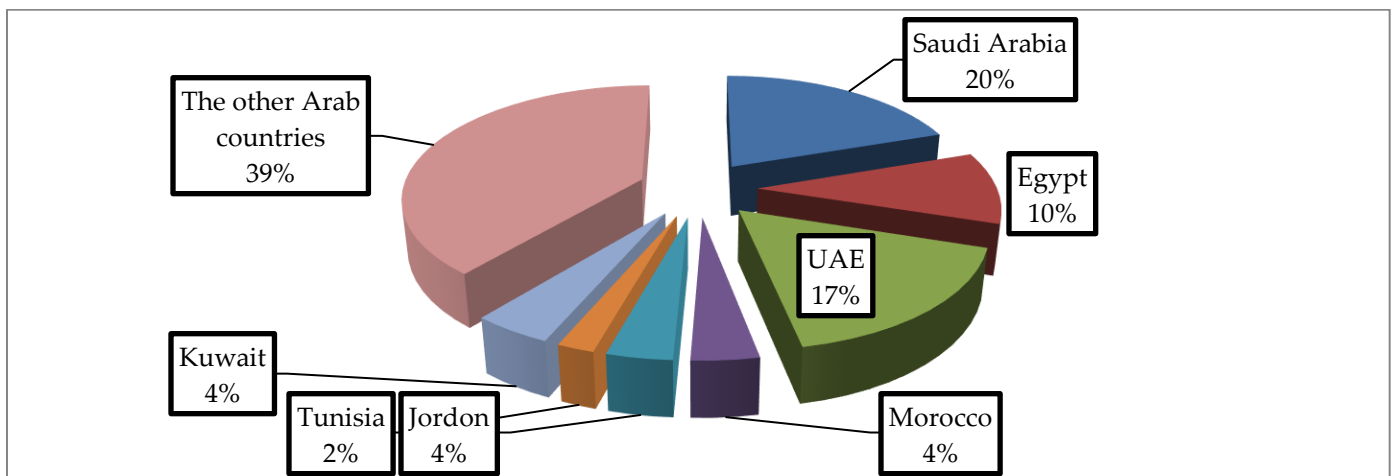


Figure 5. Geographical distribution of the most important countries contributing to intra-Arab imports as an average for the period (2018-2021)

Source: calculated and collected from Trade statistics for international business development (<https://www.trademap.org/>).

By reviewing the general features of the geographical distribution of intra-Arab trade during the period (2018-2021), it is clear from Table No. (3) a set of results, the most important of which are the following:

- ⊙ There is a relative similarity in the geographical structure of the most important exporting and importing Arab countries within the framework of intra-Arab trade, which indicates the concentration of intra-Arab trade in a group of Arab countries, the most important of which are the UAE, Saudi Arabia, Egypt and Jordan, which is a negative indicator in the future of inter-Arab trade exchange, as geographical diversity rates Which increases the chances of intra-Arab trade exposure to risks and crises.
- ⊙ Egypt is considered one of the Arab countries that witnessed a decline in inter-Arab trade exchange during the period 2018-2021 AD compared to the period (2015-2017), This may be due to the protectionist trade policies adopted by the Egyptian state and the imposition of a set of import-related measures that would limit the speed at which imports enter the country in order to reduce the deficit in its trade balance.

© The contribution of the Countries of Morocco to the intra-Arab trade has decreased significantly, and this may be due to the high transportation costs with most of the Arab countries.

Table 5. Geographical distribution of the most important countries contributing to intra-Arab imports as an average for the period (2018-2021).

Country	Average contribution to intra-national exports over the period 2017-2015	Average contribution to intra-national exports over the period 2021-2018	The change between the two periods in the proportion of contribution to exports	Average contribution to intra-national imports over the period 2017-2015	Average contribution to intra-national imports over the period 2021-2018	The change between the two periods in the proportion of contribution to imports
UAE	38.22	36.8	1.42-	18.0	17.0	1-
Saudi Arabia	22.93	24.0	1.07	20.5	19.8	0.7-
Egypt	7.87	9.7	1.83	23.5	10.2	13.3-
Jordan	2.59	2.7	0.11	5.0	3.7	1.3-

Source: calculated and collected from Trade statistics for international business development (<https://www.trademap.org/>).

Third: Opportunities and potentials for the development of Arab agricultural trade in light of crises and risks

a. The most important features of the Arab agricultural trade exchange

1- General features of Arab agricultural trade with the world

Arab countries vary in their agricultural production capabilities, according to what is available to them of land and water resources, and then their needs of imported agricultural and food commodities vary, and then the nature of their trading partners in providing imported agricultural commodities, as well as the nature of the variables and determinants affecting the import of agricultural commodities. The Arab countries take strict measures towards the conditions and specifications for importing agricultural and food commodities, while other Arab countries adopt some policies that contribute to reducing the bill for agricultural imports and focus on importing basic food commodities only, which indicates the existence of a discrepancy and relative difference between the Arab countries in both the structure Commodity and geographical.

The data of Table No. (4) indicates that total Arab agricultural exports amounted to \$38.9 billion in the average period (2018-2021), compared to \$33.2 billion for the average period (2015-2017), with a rate of change of 17.2%. It was found that total Arab agricultural imports amounted to \$119.2 billion. In the average period (2018-2021) compared to 114.4 billion dollars in the average period (2015-2017) with a rate of change of 4.2%, while the total Arab agricultural trade amounted to 158 billion dollars in the average period (2018-2021) compared to 148 billion dollars in the average period (2015-2017) with a change rate of 6.8%.

Through the data of Figure 6, there is a continuous and fluctuating deficit between the high and low in the Arab agricultural trade balance. It also appears from the same figure that the Arab agricultural trade balance deficit witnessed a decrease during the period 2016-2018, while it increased again after 2018 until 2021 AD. This is due to the high prices of food commodities in the world and the high costs of international shipping as a result of the crises and risks to which the global trade environment was exposed during the period 2018-2021.

The previous results indicate expectations of a continued increase in the deficit in the overall Arab agricultural trade balance, which increases the importance of working to

develop and increase the rates of intra-Arab agricultural trade whenever possible, especially in agricultural commodities that can be exchanged between Arab countries to reduce the risks and crises of Arab economic dependence as a result of dependence. To import agricultural and food commodities from outside the borders of Arabia.

Table 4. The development of intra-Arab agricultural trade for the period 2015-2021 (billion dollars)

Description	2015	2016	2017	2018	2019	2020	2021	The average period 2017-2015	The average period 2021-2018	Change rate between -2015 and 2017-2018 and 2021
Total Arab agricultural exports	31.9	31.0	36.8	39.5	39.3	39.3	37.3	33.2	38.9	17.2
Total Arab agricultural imports	116.1	109.3	117.8	121.6	120.8	118.3	116.2	114.4	119.2	4.2
Total Arab agricultural trade	148.0	140.3	154.6	161.1	160.1	157.6	153.5	148.0	158.0	6.8
Total agricultural trade balance	84.2-	78.3-	81.0-	82.1-	81.5-	79.0-	78.9-	81.2-	80.4-	1.0-

Source: calculated and collected from Trade statistics for international business development (<https://www.trademap.org/>).

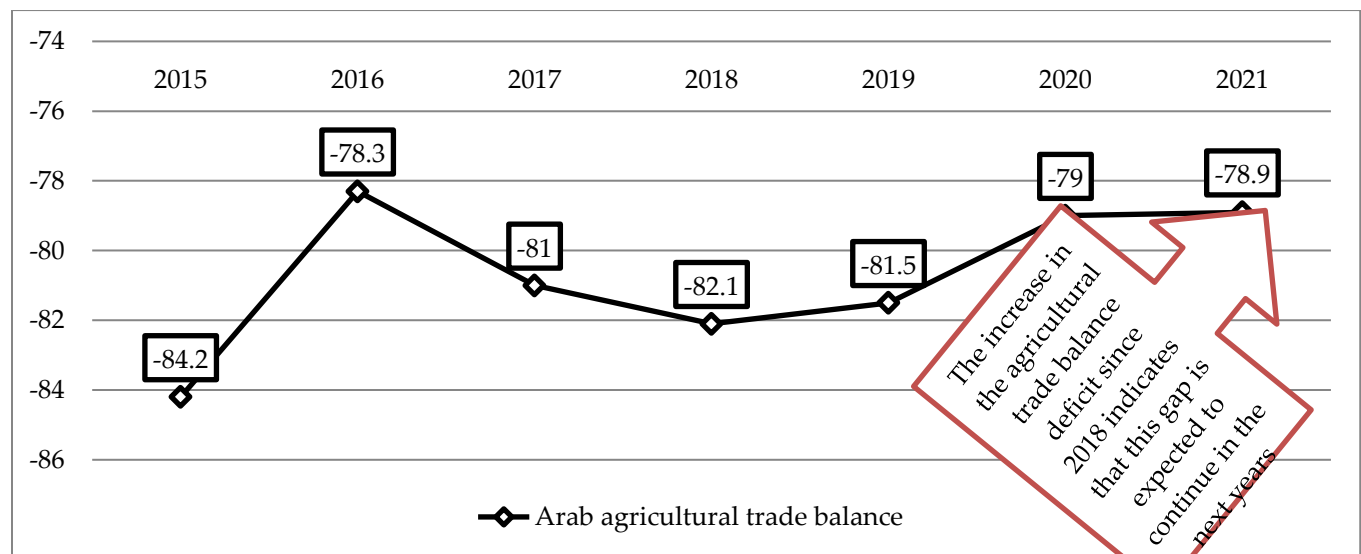


Figure 6. The evolution of the deficit in the Arab agricultural trade balance as an average for the period 2015-2021 (billion dollars)

Source: calculated and collected from Trade statistics for international business development (<https://www.trademap.org/>).

2- General features of inter-Arab agricultural trade:

Arab trade exchange in agricultural commodities is characterized by special features, the most important of which is that agricultural commodities are subject to many examination procedures to ensure the availability of sanitary and phytosanitary conditions. Adequate infrastructure to control the quality of agricultural exports and imports, which is one of the most important challenges facing the commercial exchange of agricultural and food commodities between Arab countries.

The development of intra-Arab agricultural trade:

Table 5 shows that inter-Arab agricultural exports amounted to an average of 17.7 billion dollars for the period (2018-2021) compared to 17.4 billion dollars as an average for the period (2015-2017) at a rate of change of 1.7%, and it was found that inter-Arab agricultural imports amounted to 17.4 billion dollars as an average for the period (2018-2021) compared to 18.6 billion dollars as an average for the period (2015-2017) with a rate of change of -6.4%, while the total intra-Arab agricultural trade amounted to 35.1 billion dollars as an average for the period (2018-2021) compared to 36.0 billion dollars as an average for the period (2015-2017) with a rate of change of around -35%.

Table 5. The development of the volume of intra-Arab agricultural trade during the period 2015-2021 in billion dollars

Description	2015	2016	2017	2018	2019	2020	2021	Average for the period -2015-2017	Average for the period -2018-2021
Inter-Arab agricultural exports	17.7	16.4	18.2	20.3	19.7	19.2	11.7	17.4	17.7
Inter-Arab agricultural imports	18.8	17.2	19.8	19.7	19.2	18.6	12.1	18.6	17.4
Total intra-Arab agricultural trade	36.5	33.6	38.0	40.0	38.9	37.8	23.8	36.0	35.1

Source: calculated and collected from Trade statistics for international business development (<https://www.trademap.org/>).

• The contribution of inter-agricultural trade to intra-Arab trade

By reviewing the contribution of intra-agricultural trade to the total intra-Arab trade, it is clear from Figure No. (7) that its contribution decreased during the period (2018-2021) compared to the period (2015-2017), as this contribution during the first period amounted to 16.9% compared to about 15.6% in the period The second, with a decrease rate of about 8.2%. This may be mainly due to the decrease in the contribution of inter-agricultural imports to the total inter-Arab imports, which indicates the tendency of Arab countries to import agricultural commodities from other non-Arab countries in recent years. This may be due to the increase in the difficulties and challenges facing trade. In recent years, the most important of which is the high transportation costs and the increase in the rates of Arab agricultural commodities being subject to examination procedures in imported Arab ports to ensure that they comply with specifications, and some procedures related to certificates of origin and other difficulties and challenges, which indicates the importance of overcoming these challenges and obstacles facing intra-agricultural trade.

General features of the commodity structure of intra-Arab agricultural trade:

The most important components of the commodity structure in agricultural commodities were vegetables, fruits, dairy products, and sugar. The data of Table No. (6) indicates that vegetables contributed 5.8% of the total agricultural commodities as an average for the period (2018-2021) compared to 8.0% for the period (2015-2017) at an average Change -2.2%, and fruits contributed 10.2% to total agricultural commodities as an average for the

period (2018-2021) compared to 8.0% for the period (2015-2017) at a rate of change - 2.2%, and dairy products contributed 13.6% to total agricultural commodities as an average for the period (2021). -2018) compared to 15.5% for the period (2015-2017) at a rate of change of -1.9%, and sugar and its products contributed 5.5% to total agricultural commodities as an average for the period (2018-2021) compared to 6.3% for the period (2015-2017) at a rate of change of -0.8%.

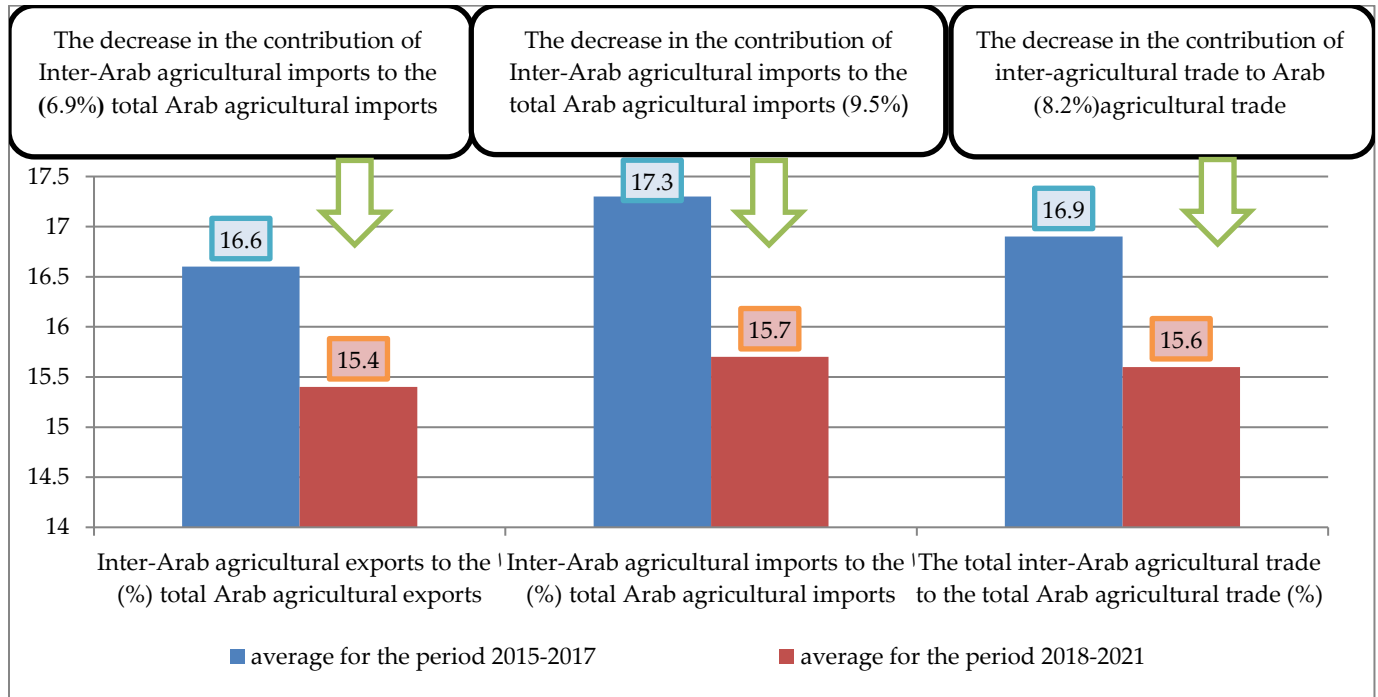


Figure 7. The evolution of the contribution of intra-agricultural trade to the total intra-trade of the Arab countries during the average periods 2015-2017 and the period 2018-2021

Source: calculated and collected from Trade statistics for international business development (<https://www.trademap.org/>).

Table 6. The most important features of the structure of agricultural commodities exchanged in inter-Arab trade during the period 2015-2021 (billion dollars)

Commodity	Average for the period 2017-2015		Average for the period 2021-2018		Percentage change in contribution rate between these two periods
	The value of exports	Contribution to the total	The value of exports	Contribution to the total	
Vegetables	1.4	8.0	1.02	5.8	2.2-
Fruits	1.4	8.0	1.8	10.2	2.2
Dairy products	2.7	15.5	2.4	13.6	1.9-
Sugar and its products	1.1	6.3	0.98	5.5	0.8-
(*) Vegetable and fruit products	1.1	6.3	1.2	6.8	0.5
Living animals	1.4	8.0	0.98	5.5	2.5-
The total of the most important commodities	9.1	52.3	8.38	47.3	5-
Other agricultural and food commodities	7.6	43.7	9.32	52.7	9
Total inter-agricultural exports	17.4	100.0	17.7	100.0	

(*) Food industries include vegetables, fruits, legumes and field crops preserved in various ways, whether they are finished or semi-processed.

Source: calculated and collected from Trade statistics for international business development (<https://www.trademap.org/>).

Figure 8 indicates an increase in the rates of inter-Arab agricultural trade in each of fruits and food preparations such as vegetables and fruits, and at the same time a decrease in the rates of inter-Arab agricultural trade in each of vegetables, dairy products and sugary products.

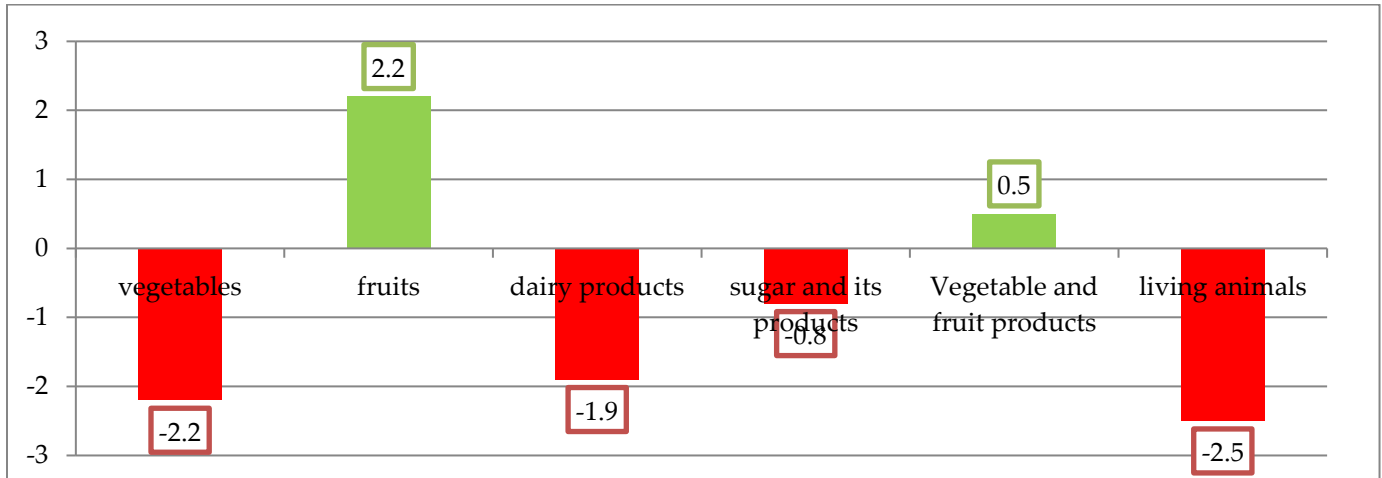


Figure 8. The rate of change in the percentage of participation between the period 2015-2017 and the period 2018-2021 (%)

Source: calculated and collected from Trade statistics for international business development (<https://www.trademap.org/>).

General features of the geographical structure of intra-Arab agricultural trade:

The data of Table No. (7) indicates that the most important Arab countries contributing to intra-agricultural exports as an average for the period (2018-2021) are the UAE by 34% in the first place, then Saudi Arabia by 18.2% in the second place, then Egypt by 15.8% in the second place. Third, these countries collectively represented about 68% of inter-Arab exports.

Table 7. Arab countries' contribution to intra-agricultural exports as an average for the period 2017-2021

The exporting country	The average contribution to -2015 intra-exports for the period 2017	The average contribution to intra-exports for the period 2021-2018	Percentage change in contribution rate between these two periods
Saudi Arabia	17.51	18.2	0.69
Egypt	15.63	15.8	0.17
UAE	31.80	34.0	2.2
Lebanon	3.36	3.5	0.14
Jordan	4.59	5.0	0.41
Sudan	4.75	4.4	0.35-

Source: calculated and collected from Trade statistics for international business development (<https://www.trademap.org/>).

The data in Table 8 also indicates that the most important Arab countries contributing to intra-agricultural imports as an average for the period (2018-2021) are Saudi Arabia by 24%

in the first place, then the UAE by 11.2% in the second place, then Kuwait by 7.8% in the second place. The third place, and these countries collectively represented about 43% in the inter-Arab imports.

Table 8. Contribution of Arab countries to intra-Agricultural imports as an average for the period 2017-2021.

The importing country	The average contribution to intra-imports for the period 2017–2015	The average contribution to intra-imports for the period 2021–2018	Percentage change in contribution rate between these two periods
Saudi Arabia	26.0	24.0	-2.0
UAE	15.6	11.2	-4.4
Kuwait	10.2	7.8	-2.5
Jordon	6.3	5.3	-1.0
Egypt	5.6	3.8	-1.8
Yemen	4.6	4.9	-0.3

Source: calculated and collected from Trade statistics for international business development (<https://www.trademap.org/>).

Reviewing the general features of the commodity and geographical structure of intra-Arab agricultural trade, many results are evident, the most important of which are:

⊙ Vegetables and fruits are one of the most important commodities contributing to the inter-agricultural trade, as their contribution amounted to about 16% of the inter-Arab agricultural trade.

⊙ There is a large geographical concentration in the Arab countries that export agricultural commodities.

⊙ The geographical diversity in inter-Arab agricultural imports is relatively better compared to Arab agricultural exports.

⊙ The most country that has seen a decrease in its contribution to inter-Arab agricultural exports is Sudan, while the UAE was the most country that has seen a decrease in its contribution to inter-Arab agricultural imports.

These results indicate that there is great competition for agricultural exports in the Arab markets, which made it important to shed light on the current situation of the competitive capabilities of Arab agricultural exports in the Arab importing markets compared to competing countries.

3- The competitiveness of Arab agricultural exports in the imported Arab markets

Vegetable and fruit crops are among the most important basic components of dietary patterns in the Arab countries. Hence, they are considered strategic agricultural and food commodities of great importance in achieving Arab food security, in addition to their economic importance in agricultural Arab countries and their role in increasing income in their production areas as well as their role in increasing Arab agriculture exports and what they contributes to the agricultural national income of most Arab countries (especially agricultural ones).

Arab agricultural countries are characterized by having a clear comparative advantage in the production and export of many vegetable and fruit commodities, such as Egypt, Sudan and the countries of Morocco, while the Gulf countries are among the countries that are characterized by a high demand for vegetables and fruits significantly, and from this standpoint comes the possibility of increasing opportunities for the development of Arab trade exchange for Fruits and Vegetables as a real starting point for increasing inter-Arab trade exchange and increasing opportunities for achieving Arab economic integration, despite the great competition from non-Arab exporting countries, where the quality of agricultural exports is one of the most important determinants of increasing trade

exchange rates between countries, and then one of the most important factors contributing to increasing opportunities for trade integration between Arab countries.

Criteria for identifying priority agricultural commodities and exported and imported markets in the development of Arab agricultural trade exchange:

There are many criteria that have been developed to test agricultural commodities through which it is possible to increase the inter-Arab agricultural trade, the most important of which is the exporting Arab countries enjoy a comparative advantage in production and the availability of export components according to international standards, and at the same time the importing Arab countries enjoy a constant and inflexible demand for these products.

The results of tables No. (9,10) and figures No. (9,10) indicate the possibility of extracting a map for the development of Arab agricultural trade exchange in light of regional differentiation in productivity and specialization in export to promote and develop inter-Arab agricultural trade exchange, as the following shows:

- ⊙ The most important fruit crops produced in the Arab countries that can contribute to increasing the rates of inter-Arab agricultural trade are dates, oranges, grapes, watermelons, apples and mangoes.
- ⊙ The most important vegetable crops produced in the Arab countries, that can contribute to increasing the rates of inter-Arab agricultural trade, are potatoes, tomatoes, dry onions, and fresh (leafy) vegetables.
- ⊙ Directing Egypt's exports of oranges, grapes and mangoes to Saudi Arabia and the UAE.
- ⊙ Directing Egypt's exports of potatoes to the UAE and Lebanon.

Table 9. Criteria for determining the countries contributing to the inter-Arab agricultural trade exchange for the most important vegetable and fruit crops for the period 2015-2021.

commodity group	Crop	producing country	(*) Productivity	(**) The most important indicators of global trade							(**) Contribution to global trade			
				Exports		Imports		trade balance		Quantity of rejected exports	Contribution to global exports %		Contribution to % global imports	
				quantity	Value	quantity	Value	quantity	Value		Global ranking of exporting	Contribution percentage to global exports	Global ranking of importing countries	Contribution percentage to global imports
fruit	Oranges	Lebanon	11.5	56.2	17.5	0.6	0.3	56	17	2.2	183	%0.1	156	%0.01
		Syria	11.3	19.4	7.5	35.2	13.4	16-	6-	1.5	178	%0.1	169	%0.001
		Egypt	10.4	948.7	802.4	287	294	662	508	1.2	1	%32.4	167	%0.01
	grapes	Egypt	9.3	103.9	236.2	3.4	7.2	661.7	508.4	0.5	14	%2.3	122	%0.01
		Iraq	7.3	54	89	9.6	9.5	100.5	229	0	66	%1	118	%0.01
		Jordan	6.7	1.02	2.3	4.3	7.3	44.4	79.5	0.6	51	%1	121	%0.01
	dates	Egypt	13.6	9.7	82.8		14.5	8.0	68.3	3.1	11	%2.4	156	%0.3
		Saudi	4	213.4	308		10.2	206.3	297.8	1.1	3	%12.2	133	%0.04
		Iraq	2.3	182	41.2		1.1	177.1	40.1	2.4	8	%4.1	161	%0.01
	watermelon	Bahrain	24.2	16	13		67	66.5-	54.0-	0.2	179	%0.11	114	%0.2
		Saudi	22.9	66	42		72	47.1-	30.0-	0.3	178	%0.12	110	%0.3
		Lebanon	19.5	15	6.5		0.4	14.1	6.1	0.1	171	%0.03	162	%0.01
	apple	Libya	16.7	0.4	0.8	32.1	17.5	31.7-	16.7-	0	172	%0.001	153	%0.13
		Egypt	10.4	5.2	69	271.2	309	-	-	0.9	101	%0.1	156	%0.12

	mango	Lebanon	7.5	50.3	13.2	0.9	0.03	49.4	13.2	0.7	91	%0.2	172	%0.1
		UAE	10.1	8	0.1	79.1	76.9	71.1-	76.8-	0	162	%0.01	111	%2.2
		Sudan	8.6	1.2	15.1	3.7	2.7	2.5-	12.4	0	144	%0.3	167	%0.001
		Egypt	4.3	23.9	44.9	0.1	0.3	23.8	44.6	0.01	19	%2.5	171	%0.001
vegetable	potatoes	Algeria	12.7	1.9	0.7	62.1	0.5	60.2-	0.17	0	71	%0.1	176	%0.01
		Morocco	12.6	36.6	10.5	61.9	30.2	25.3-	19.7-	0	32	%0.2	33	%0.7
		Egypt	11.4	561.4	2219	115.9	269	445.5	1950	0.2	7	%5.2	44	%0.3
	dry onions	Egypt	15.2	367	213.4	4.1	10.1	362.9	203.3	0.1	7	%4.3	80	%0.01
		Lebanon	15.1	7.2	2.1	23.7	12.2	16.5-	10.1-	0.2	69	%1	70	%0.01
		Kuwait	14.8	1.1	0.5	139.2	68.4	-	67.9-	0	86	%0.4	27	%0.8
	tomatoes	Kuwait	56.6	0	0	62.8	30.3	62.8-	30.3-	0	136	0.04	0	0
		Palestine	48.8	1.3	0.6	0.2	0.3	1.1	0.3	0.1	123	0.1	0	0
		Morocco	34.4	597	596	0.3	0.2	596.7	595.8	0.3	4	7.7	0	0
	fresh vegetables	Kuwait	15.4	0	0	21.2	10.8	21.2-	10.8-	0	0	0	113	0.3
Jordan		10.1	12.4	12.4	0.8	0.4	11.6	12	0.1	124	0.2	162	0	
Algeria		9.5	0.3	0.3	0	0	0.3	0.3	0	151	0.1	130	0.02	
Oils	Olive oil	Egypt	4.4	0.5	2.1	1.3	4.8	0.8-	2.7-	0.01	128	0.1	118	0.1
		Tunisia	0.7	367	88.9	0.6	0.8	366.4	88.1	0.01	3	11.7	0	0
		Morocco	0.6	58.8	36.5	6.9	15.5	51.9	21	0.01	86	0.5	0	0

(Productivity is a ton/feddan, the quantity is a thousand tons, the value is one million dollars)

Source: (*) FAO database <https://www.fao.org/faostat/ar/#home>

(**) Trade statistics for international business development (<https://www.trademap.org/>).

- ⊙ Directing Egypt's exports of onions to Saudi Arabia and Kuwait.
- ⊙ Directing Saudi exports of dates to the Gulf markets, the most important of which are the Emirates and Kuwait.
- ⊙ Directing Lebanese exports of watermelons and apples to the Gulf markets and the Egyptian market.
- ⊙ Directing Moroccan tomato exports to Mauritania and Saudi Arabia.
- ⊙ Directing Jordan's exports of fresh vegetables to the Gulf markets.
- ⊙ Directing Tunisia's olive oil exports to the Gulf markets.

Table 10. A proposed map of the most important Arab countries exporting and importing vegetables and fruits to increase the rates of intra-Arab agricultural trade

commodity group	commodity	Arab exporting country	Arab importing country	Overall assessment of competitiveness
fruit	Oranges	Egypt	Saudi Arabia	high
			UAE	high
	grapes	Egypt	Saudi Arabia	low
			UAE	low
	dates	Saudi Arabia	UAE	high
			Kuwait	high
	watermelon	Lebanon	Kuwait	high
			Qatar	low
apple	Lebanon	Egypt	high	
		Saudi Arabia	high	
mango	Egypt	Saudi Arabia	high	
		UAE	low	
vegetable	potatoes	Egypt	UAE	low

Oils	dry onions	Egypt	Lebanon	low
			Saudi Arabia	low
			Kuwait	low
	tomatoes		Mauritania	high
	fresh	Morocco	Saudi Arabia	low
	vegetables	Jordan	Iraq	low
		Saudi Arabia	low	
	Olive oil	Tunisia	Saudi Arabia	high
			Kuwait	high

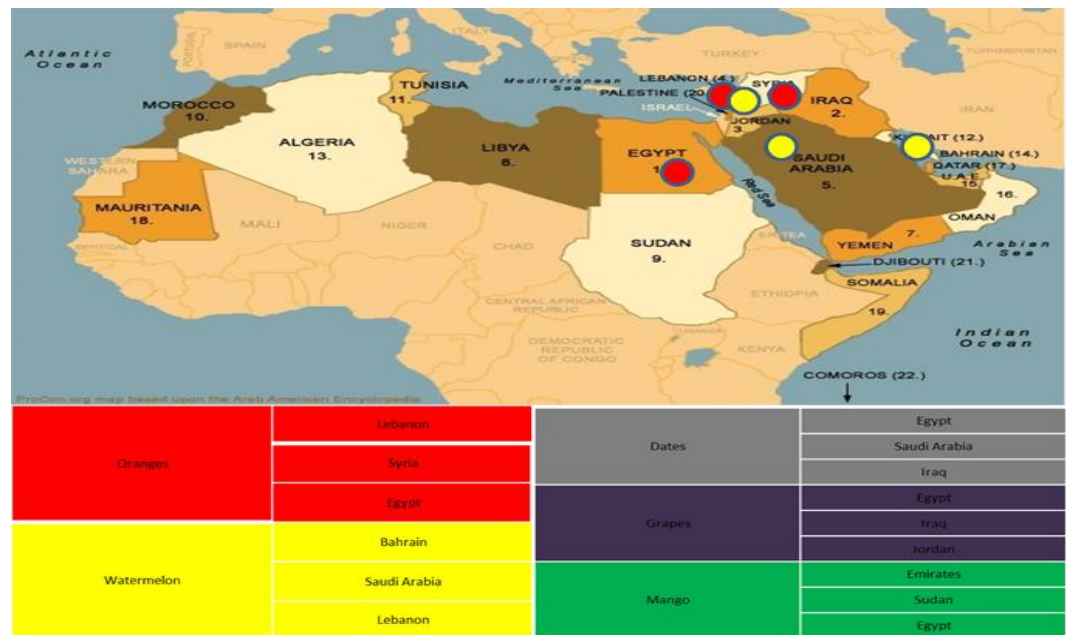


Figure 9. Geographical distribution of the most important Arab countries producing fruit crops and the highest in productivity in the Arab countries for the period 2015-2020.

Source: (*) FAO database <https://www.fao.org/faostat/ar/#home>

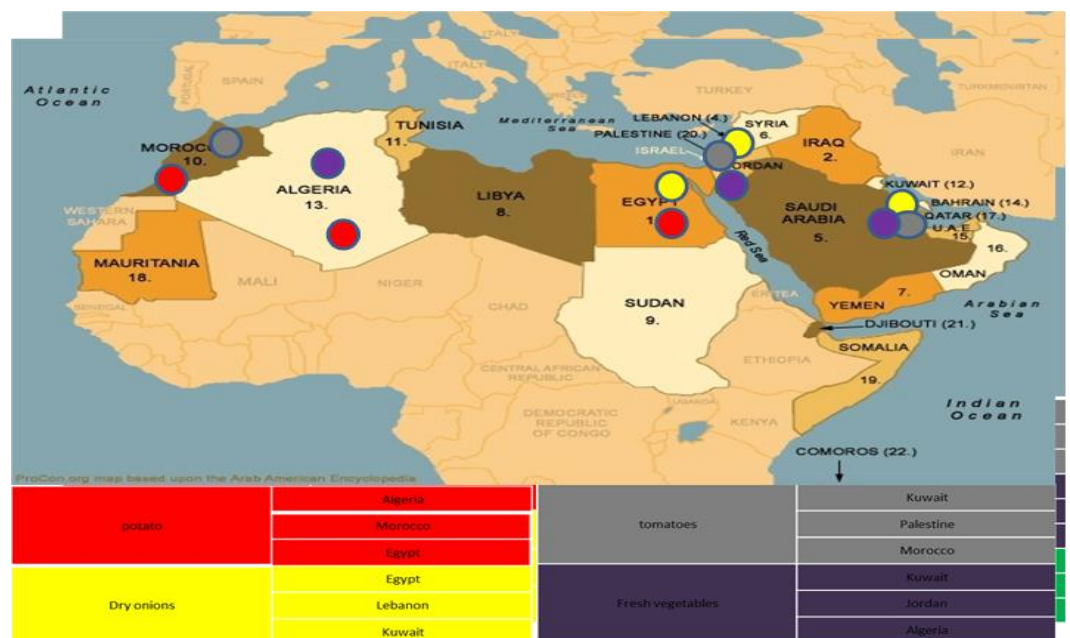


Figure 10. Geographical distribution of the most important Arab countries producing vegetable crops and the highest in productivity in the Arab countries for the period 2015-2020.

Source: (*) FAO database <https://www.fao.org/faostat/ar/#home>

The current situation of the competitive capabilities of Arab exports of fruits

The Arab countries are among the markets in which the demand for fruits is increasing, as Arab imports of fruits represent about 6% of global imports of fruits as an average for the period 2015-2021. Oranges and grapes are among the most important Arab imports of fruits, as orange imports represent about 16.4% of the total Arab fruit imports, while grape imports represent about 5% as an average for the period 2015-2021.

◎ The current situation of the competitiveness of Arab exports of oranges

Egypt is one of the most qualified Arab countries to play an important role in increasing the rates of trade exchange for oranges between Arab countries, according to the criteria of productivity and quality, as Egypt occupies the first place among the most important countries in the world for exporting oranges with a contribution rate in global exports amounting to about 32.4%.

Table No. (11) shows a set of observations on the competitiveness faced by Egyptian orange exports in the most important Arab markets, the most important of which are the following:

◎ The competitive capabilities of Egyptian oranges in the Gulf markets, the most important of which are Saudi Arabia and the UAE, were relatively high, while in other Arab countries, the most important of which was Jordan, they were relatively low, and the most important competitors in those countries were South Africa, where the market penetration rates for Egyptian oranges in The UAE and Saudi Arabia were shown to be high, while it was low in Jordan.

◎ Egypt enjoys a high price comparative advantage for oranges in most Arab markets, which indicates an increase in the chances of achieving Arab economic integration in oranges.

◎ The current situation of the competitive capabilities of Arab exports of grapes

Egypt is one of the most qualified Arab countries to play an important role in increasing the rates of inter-Arab trade exchange of grapes between Arab countries, according to the standards of productivity and quality, as Egypt occupies the fourteenth place among the most important countries in the world for exporting grapes, with a contribution rate of about 2.3% in global exports.

As it can be seen from the data of Table No. (11), a set of observations on the competitiveness faced by Egyptian grape exports in the most important Arab markets, the most important of which are the following:

◎ Low rates of demand for grapes in the Arab markets in general, this may be due to the impact of demand due to the high international prices of grapes.

◎ Egyptian grapes enjoyed relatively high competitive capabilities in the Arab markets, and the most important competitors were India and Iran. However, Egyptian grapes are often used for direct consumption purposes, while Indian and Iranian grapes are used for food processing purposes.

◎ It is noticeable that Egypt enjoys a high price advantage for grapes in most Arab markets (except for the UAE), which indicates an increase in the chances of achieving Arab economic integration in grapes.

The current situation of the competitiveness of Arab exports of dates

Saudi Arabia is one of the most qualified Arab countries to play an important role in increasing the rates of inter-Arab trade exchange for dates between Arab countries,

according to the criteria of productivity and quality, and then achieving Arab economic integration in terms of date exports, especially in light of the enjoyment of Saudi dates with a global trademark, as Saudi Arabia occupies The third place among the most important countries in the world for exporting dates with a contribution to global exports amounting to about 12.2%, mainly due to the fact that Saudi Arabia has a large infrastructure in the field of processing dates and preparing them for export and the presence of large investments in this field and with high production and marketing capabilities that help in improving quality levels Its exports of dates.

The process of exporting dates is characterized by great seasonality, especially at times of high demand for them during fasting periods, and then successful export operations of dates require good planning based on in-depth market studies, as shown by the data of Table 11 that shows a set of observations regarding the competitiveness faced by Saudi date exports in the most important Arab markets, the most important of which are the following:

Table 11. The competitive capabilities of Arab exports of the most important vegetable and fruit crops in the most important Arab markets as an average for the period (2015-2021).

commodity group	commodity	Arab exporting country	Arab importing country	The growth rate of demand for the commodity in the importing Arab % country	The export situation of the exporting Arab country				The situation of the most important competing countries from outside the Arab countries					Overall assessment of competitiveness
					The rate of growth in .commodity exports	proportion of the market	The position of the exporting country among the most important other exporting countries	Market penetration rate	country	The position among the most important exporting countries	The rate of growth in .commodity exports	proportion of the market	Price ratio compared to the price of the exporting Arab	
fruit	Oranges	Egypt	Saudi Arabia	%3	%12	%38	first	1,3	South Afric	Second	%1	28 %	0,7	high
			UAE	%9	%16	%15	Second	1,5	South Afric	first	%8	46 %	1,5	high
	grapes	Egypt	Saudi Arabia	%24-	%17-	%13	third	1.6	India	first	%24-	14 %	1.5	low
			UAE	%42-	%4-	%19.6	third	1.6	Iran	first	%3-	20	0.7	low
	dates	Saudi Arabia	UAE	%4	%20	%12	first	1.3	Pakis	Second	%65	4.	2.7	high
			Kuwait	%21	%23	%14	first	1.8	turke	Second	%40-	8.	3.2	high
	watermelon	Lebanon	Kuwait	%3	%61	%8	Fifth	0.8	Spain	first	%15-	25	1.2	high
			Qatar	%16	%10-	%5	Sixth	0.7	Iran	first	%18	22	0.7	low
	apple	Lebanon	Egypt	%41	%14	%4	fourth	1.1	Italy	first	%18-	13	2.2	high
			Saudi	%1-	%7	%6	Seventh	1.2	Chin	first	%2-	13	2.1	high
mango	Egypt	Saudi	%28	%6	%45	first	1.8	Pakis	Second	%2-	15	0.9	high	
		UAE	%5	%3-	%5	Sixth	0.7	turke	first	%9	11	0.9	low	
vegetable	potatoes	Egypt	UAE	%34	less	%12	Fifth	0,6	Pakis	first	%7-	93	1,5	low
			Lebano	%18	less	%10	Fifth	0,8	South	first	%9	56	1,2	low
	dry onions	Egypt	Saudi	%10-	%28-	%27.3	Second	0.9	Chin	first	%3-	38	1.8	low
			Kuwait	%9	%14-	%10.6	third	0.8	Chin	first	%2	25	1.4	low
	tomatoes	Morocco	Maurita	%12	%6	%18	Second	1.1	Neth	first	%2-	21	1.3	high
			Saudi	%8	%2	%6	Seventh	0.9	Italy	first	%9	11	0.9	low
	fresh vegetables	Jordan	Iraq	%3	%5	%4	Fifth	0.8	turke	first	%2-	31	0.8	low
			Saudi Arabia	%9	%3	%5.1	Eighth	0.9	India	first	%7	13	0.8	low

Oils	Olive oil	Tunisia	Saudi	%12	%32	%9	fourth	1.2	Spain	first	%45-	22	1.3	high
			Kuwait	%5	%15	%4	Sixth	1.4	Spain	first	%2-	18	1.2	high

Source: Trade statistics for international business development (<https://www.trademap.org/>).

⊙ The high competitiveness of Saudi dates in most Arab markets due to their reputation and high quality, especially in the Gulf markets, the most important of which are the UAE and Kuwait.

⊙ The most important competing countries were Pakistan and Turkey, where the high rates of market penetration of Saudi dates in the most important Arab markets were shown.

⊙ Saudi dates enjoy a comparative price advantage compared to competing countries in the most important Arab markets.

⊙ **The current situation of the competitiveness of Arab melon exports**

Lebanon is one of the most qualified Arab countries to play an important role in increasing the rates of inter-Arab trade exchange of watermelon among the Arab countries, according to the standards of productivity and quality, especially in light of the enjoyment of the Lebanese watermelon with a good reputation, as Lebanon occupies the 172nd place among the most important countries in the world for exporting watermelon with a percentage of contribution to World exports amounted to about 0.1%.

To export watermelon, it is necessary to have suitable packages due to its large size, which increases the costs of transportation and export to global markets, as shown by the data of Table No. (11) a set of observations related to the competitiveness that Lebanese watermelon exports face in the most important Arab markets, the most important of which are the following:

⊙ Diversity of capabilities The competitive capabilities of the Lebanese watermelon between high and low in the Arab countries, where the chances of penetration increase in some Arab markets such as Kuwait, while the same opportunities decrease in other Arab countries such as Qatar, and the most important competing countries were represented in Spain and Iran.

⊙ Lebanese watermelon enjoys a relative price advantage compared to competing countries in the most important Arab markets, including Kuwait, while there is no price advantage in markets such as Qatar.

⊙ **The current situation of the competitiveness of Arab exports of apples**

Among the most productive countries in apples among the Arab countries are (Libya, Egypt and Lebanon). However, it is noticeable that Lebanon enjoys a positive trade balance opposite Egypt and Libya. Therefore, Lebanon is one of the most qualified Arab countries to play an important role in increasing the rates of inter-Arab trade exchange for apples between Arab countries, according to the standards of productivity and quality, especially in light of the Lebanese apples enjoying a good reputation, as Lebanon occupies the 91st place among the most important countries in the world for exporting apples, with a contribution rate of about 0.2% in global exports.

Apples for export need quality certificates to ensure that the exported shipments are free from some diseases of stone pests, which makes the success of the apple export process based on quality in the production and marketing processes, as shown by the data of Table No. (12) a set of observations regarding the competitiveness faced by the exports of Lebanese apples in the most important Arab markets, the most important of which are the following:

⊙ The high competitive capabilities of Lebanese apples in the Arab markets and the high rates of market penetration, especially in countries such as Egypt and Saudi Arabia, which have a large number of consumers, and the most important competing countries were Italy and China.

⊙ Lebanese apples enjoyed a comparative price advantage compared to competing countries in the most important Arab markets, including Egypt and Saudi Arabia, due to their preferential trade advantages compared to Chinese and Italian apples.

• **The current situation of the competitive capabilities of Arab exports of vegetables**

The consumption of vegetables in Arab countries is characterized by many features, the most important of which is the diversity in consumer desires and an increase in demand for them, in addition to the enjoyment of demand with low flexibility because vegetables are among the main commodities in the Arab markets, as Arab imports of vegetables represent about 7.5% of global imports of vegetables as an average for the period 2015 - 2021, onions and potatoes are among the most important Arab imports of vegetables, as onion imports represent about 13.2% of the total imports of vegetables in Arab countries, while potato imports represent about 10.4% as an average for the period 20115-2021.

✦ **The current situation of the competitive capabilities of Arab exports of onions**

The most productive countries in onions among the Arab countries are (Egypt, Lebanon and Kuwait), but it is noted the decrease in the quantities exported from Lebanon and Kuwait to global markets, as well as the existence of a deficit in the trade balance of onions for both countries, and then Egypt is one of the most Arab countries qualified to play an important role In increasing the rates of inter-Arab trade exchange of onions between the Arab countries, according to the standards of productivity and quality, as Egypt occupies the seventh place among the most important countries in the world for exporting onions with a contribution rate of about 4.3% in global exports.

Through the data of Table No.(12) shows a set of observations related to the competitiveness faced by Egyptian onion exports in the most important Arab markets, the most important of which are the following:

⊙ High rates of demand for dry onions in the most important Arab markets (except Saudi Arabia).

⊙ Egyptian onions enjoyed weak competitive capabilities in the Arab markets (except Lebanon), and the most important competitor was China. This may be due to the high quality of Chinese onions, which is better than the quality of Egyptian onions.

✦ **The current situation of the competitiveness of Arab potato exports**

Egypt is one of the most important potato exporting countries in the world, as it occupies the seventh place among the most important potato exporting countries with a percentage of its contribution to global exports of about 5.2%. the quality of exported potatoes is one of the most important factors governing its accessibility in the world markets, as a noticeable decrease in the rejected quantities of Egyptian potatoes during the previous years, after the success of Egypt's efforts to increase control over potato exports, control brown mold disease and improve the quality of exported potatoes. Hence, Egypt is one of the most qualified Arab countries to play an important role in increasing the rates of inter-Arab trade exchange for potatoes between Arab countries, according to the standards of productivity and quality, and it is possible to increase Arab integration in potatoes by increasing Egyptian exports to each of the Emirates, Lebanon and Iraq.

Through the data of Table No. (12) shows a set of observations related to the competitiveness faced by Egyptian potato exports in the most important Arab markets, the most important of which are the following:

⊙ Low competitive capabilities of potatoes in the most important Arab markets and low market penetration rates, mainly due to some preferential trade advantages granted by some Arab countries to countries competing with Egypt.

⊙ Egypt enjoys a high price comparative advantage for potatoes in most Arab markets, which indicates an increase in the development of Arab trade in potatoes despite its low competitiveness.

✦ **The current status of the competitiveness of Arab tomato exports**

Morocco is one of the largest countries in the world specializing in exporting tomatoes, as it is characterized by a decrease in the rejected quantities of tomatoes exported to global markets compared to competing countries. This is largely due to the success of the Green Morocco project in improving the quality of agricultural products exported during recent years. Morocco is qualified to play an important role in increasing the rates of inter-Arab trade exchange of tomatoes between Arab countries, according to the standards of productivity and quality, as Morocco occupies the fourth place among the most important countries in the world for exporting tomatoes, with a contribution to global exports of about 7.7%, which is a high percentage.

The data in Table No. (9) shows a set of observations related to the competitiveness faced by Moroccan tomato exports in the most important Arab markets, the most important of which are the following:

⊙ High competitiveness of Moroccan tomatoes in most Arab markets and high rates of market penetration, especially in countries such as Mauritania, which enjoy geographical proximity to Morocco. The most important countries competing for Moroccan tomatoes in Arab markets in general and Gulf markets in particular are Italy and the Netherlands.

⊙ Moroccan tomatoes do not enjoy relative price advantages in most Gulf markets compared to competing countries. This may be due to the high transportation costs of Moroccan tomatoes to Gulf markets compared to competing countries (which indicates a rise in transportation prices for agricultural exports to Morocco countries in Gulf markets).

✦ **The current status of the competitiveness of Arab exports of fresh leafy vegetables**

Jordan is one of the best Arab countries in the surplus of the trade balance of fresh leafy vegetables, and then it is considered one of the most qualified Arab countries to play an important role in increasing the rates of inter-Arab trade exchange for fresh leafy vegetables between Arab countries, according to the standards of productivity and quality, especially since most of these vegetables do not need To large amounts of water, which is commensurate with the Jordanian situation, as Jordan occupies the 124th place among the most important countries in the world for exporting fresh vegetables, with a contribution rate of about 0.2% in global exports.

the data of Table No. (12) shows a set of observations related to the competitiveness faced by Jordanian fresh vegetable exports in the most important Arab markets, the most important of which are the following:

⊙ Low competitive capabilities of Jordanian fresh vegetables in most Arab markets, as well as market penetration rates, especially in markets such as Iraq and Saudi Arabia, the most important countries competing for Jordanian fresh vegetables in India and Turkey.

⊙ The Jordanian fresh vegetables do not enjoy comparative price advantages in most Arab markets compared to competing countries. This may be due to Jordan's dependence in transporting its exports of fresh vegetables on land transportation, which costs higher compared to sea transport.

• **The current situation of the competitive capabilities of Arab olive oil exports**

Tunisia is one of the best Arab countries in the trade balance surplus of olive oil and one of the largest olive oil exporting countries in the world. To play an important role in increasing the rates of inter-Arab trade exchange of olive oil between Arab countries, according to the criteria of productivity and quality, as Tunisia occupies the third place

among the most important countries in the world for the export of olive oil, with a percentage of its contribution to global exports amounting to about 11.7%.

The data in Table No. (11) shows a set of observations related to the competitiveness faced by Tunisian olive oil exports in the most important Arab markets, the most important of which are the following:

- ⊗ The high competitiveness of Tunisian olive oil in most Arab markets, as well as market penetration rates, especially in markets such as Kuwait and Saudi Arabia. The most important competitive country for Tunisian olive oil was Spain.
- ⊗ Tunisian olive oil enjoys relative price advantages in most Arab markets compared to the Spanish competitor. This may be due to the presence of preferential trade advantages for Tunisian olive oil as a result of the outputs of the Arab partnership agreement.

4- Challenges and obstacles facing the development of inter-Arab agricultural trade

In light of the growing repercussions of crises and risks affecting Arab agricultural foreign trade, there are a number of other challenges and obstacles that make it more difficult for the success of efforts to increase inter-Arab agricultural trade rates to reduce the negative effects of risks and global crises.

It is important to emphasize that these challenges and obstacles appear on the surface to be temporary and have limited impact and can be overcome through negotiation between Arab countries, but in fact, in light of their negative impact on inter-Arab agricultural trade rates in the short term, they are often followed by others negative effects extending the impact in the medium and long term, as these temporary obstacles cause the Arab countries to transfer agricultural and non-agricultural foreign trade to other non-Arab markets, which limits the opportunity to increase inter-Arab trade exchange, especially in light of the growing effects and repercussions of modern and emerging crises and risks on the Arab countries and their production and export capabilities.

The challenges and obstacles facing the development of inter-Arab agricultural trade can be classified into challenges related to Arab economies, and others related to regulatory procedures and rules of origin. The most important of these obstacles can be identified as follows:

• Challenges and obstacles related to the economies of Arab countries:

- ⊗ The similarity and relative symmetry in the commodity structure of agricultural exports between the Arab countries due to the relative similarity in the production structure, which contributed to increasing the competitiveness between the Arab countries exporting agricultural commodities and each other.
- ⊗ Relative variation between Arab countries in capabilities related to the infrastructure of foreign trade, port equipment, and technologies used in shipping and unloading.
- ⊗ Relative difference between the Arab countries in the infrastructure related to the control of export and import operations, whether in material or human capabilities.
- ⊗ The variation of Arab countries in their reliance on electronic trade, which creates a relative gap in dealings between Arab exporters and importers.
- ⊗ Weak production and manufacturing capabilities of many Arab countries, low levels of industrialization, levels of economic diversification, and levels of deepening national industries, which contributed to increasing dependence on foreign non-Arab goods and negatively affected inter-Arab trade exchange rates.

• Challenges and obstacles related to regulatory procedures and rules of origin:

- ⊗ Some Arab countries have taken exceptional measures related to the regulatory aspects of export and import operations that contributed to limiting the entry into force of inter-Arab goods and delaying the time required for customs release operations (Egypt, for

example), and although these measures are considered exceptional for specific and temporary circumstances, they negatively affect rates Inter-Arab trade exchange in the short term and other Arab countries are pushing to take similar measures (the principle of reciprocity), which contributes to the continuation of the negative effects of these temporary exceptional decisions in the medium and long term (example: procedures related to the requirement of some Arab countries for the return of land transport trucks empty, which increases export operations costs)

- ⊗ Inadequacy of companies operating in export logistics services such as insurance, customs clearance and land transport, and the need for existing companies in these areas for development and more investments to increase their work efficiency.

- ⊗ The high costs of transportation between the Arab countries, whether sea or land transport, especially in light of the shortage of shipping spaces and containers and the crises that land transportation operations are exposed to among the Arab countries.

- ⊗ The length of time it takes for commodities to enter across borders in Arab ports due to non-customs procedures, the increase in inspection and customs analysis procedures, and the increase in the rates of subjecting agricultural commodities to examination in imported ports.

- ⊗ Not allowing some Arab countries to import some products without obtaining a prior import permit.

- ⊗ Obstacles related to Arab certificates of origin, ensuring that the conditions for fulfilling the percentage of the local component, and re-evaluating some customs outlets in Arab countries, commodities at a price higher than the import invoice attached to the certificates of origin, and then affecting the price competitiveness of Arab commodities in front of non-Arab commodities.

- ⊗ The Arab countries do not agree on some rules of origin for agricultural commodities.

- ⊗ Variation in the Arab countries in adopting standard specifications for goods and products and incompatibility

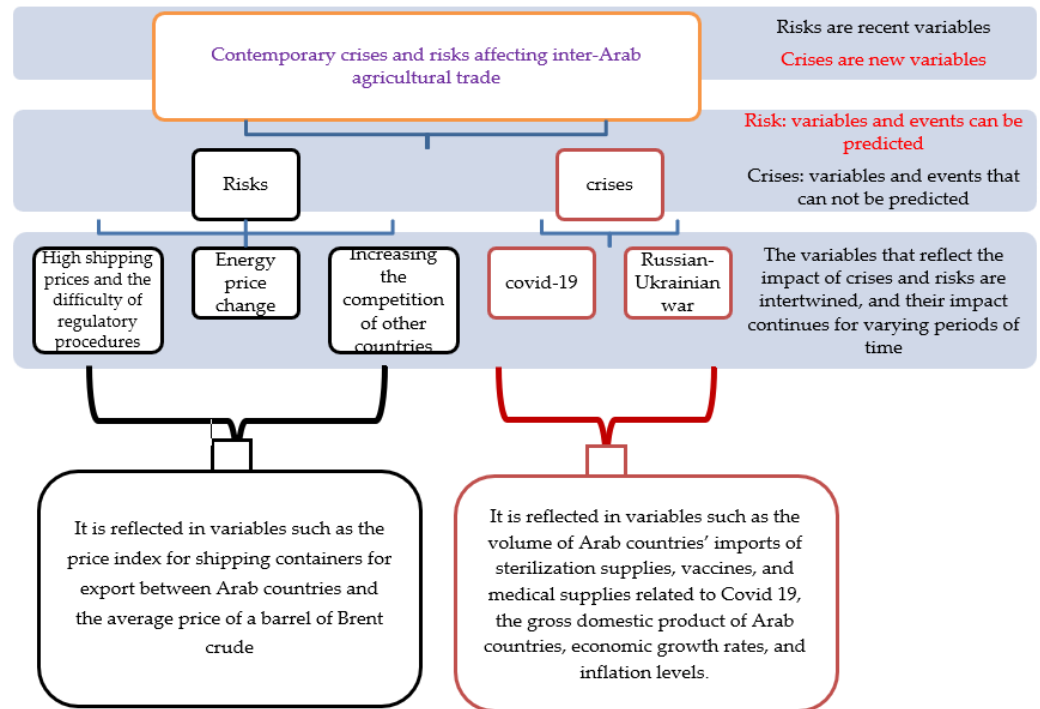
The current and future impact of contemporary crises and risks on inter-Arab agricultural trade

Due to the exposure of the global and Arab foreign trade environment to many rapid, deep and wide-impact changes, the chances of intra-Arab agricultural trade exposure to risks and crises have increased, which affect the demand rates for agricultural commodities in the Arab markets, whether by increase or decrease, and then there is an impact of these new variables as shocks affecting the exchange. Intra-agricultural trade for future time periods.

In view of the seriousness of the effects of recent and emerging risks and crises, it is very important to estimate the current and expected impact of them on inter-agricultural trade exchange, and to search for appropriate policies and mechanisms that guarantee confronting their negative effects, preparing for them, and confronting them, or working to prevent their occurrence from the ground up and benefit from their positivity whenever possible. Work on this by predicting its effects in the short, medium and long term.

It is important to emphasize that there is a fundamental difference between each of the modern risks affecting the inter-agricultural trade exchange and the emerging crises on this exchange, as the risks that affect the inter-agricultural trade exchange are characterized by being variables and events that can be predicted and expected to occur in varying degrees, and these risks need to be addressed. Continuous efforts to reduce its negative effects and benefit from its positives whenever possible. As for the crises that affect inter-agricultural trade exchange, they are characterized by being unexpected changes and events, and they require a strong and rapid reaction from the Arab countries. They are also characterized by being non-continuous and linked to a specific time period.

It is worth noting that work has been done on a statistical estimate of the impact of variables related to crises and risks affecting foreign agricultural intra-trade during the period 2015-2021 on a quarterly basis, using one of the standard statistical models to estimate the impact of shocks caused by these variables on the future of Arab agricultural intra-trade, which is a model Vector Autoregressive Model.



Source: researchers' vision.

Figure 11. Contemporary crises and risks affecting intra-Arab agricultural trade.

The most important modern risks that could affect the future of intra-Arab agricultural trade are represented in the repercussions of the international trade conflict, the change in the prices of global energy and petroleum products, the lack of global supply chains, the high rates of global inflation, and the repercussions of political crises in the Arab region, where the emergence of The impact of these variables starting from 2015, and they are predictable variables and their future effects can be highly predicted.

While the most important emerging crises that could affect the future of intra-Arab agricultural trade are the repercussions of the Covid 19 crisis and the Russian-Ukrainian war, where the impact of these variables began to appear from 2019 to 2021 AD, and they are variables that cannot be predicted and their future effects are difficult to predict accurately or even predict its time span.

Within the framework of the available data, variables related to crises and risks were identified, the effects of which can be measured in the short and medium term through the standard and statistical model used in each of the inflation rates, the average price of a barrel of Brent crude, the medical imports of Arab countries related to the repercussions of the Covid crisis, and the shipping price index. for agricultural exports among the most important ports of the Arab countries.

As for the period of forecasting the effects, it was predicted in the short term, represented by a period of time estimated at one year (2022 AD) or the medium term, represented by a period estimated at two years (from 2021 to 2023 AD), as it is important to stress that in light of the current circumstances and current changes Related to crises and risks affecting the overall inter-Arab trade exchange in general and agricultural exchange in particular. It

is not possible to predict the expected effects of the variables related to these crises and risks in the long term, as the state of uncertainty increases and the accuracy and efficiency of the outputs of forecasting the effects decreases, and then it is possible to work on predicting the effects in the short and medium term. As follows:

• **The expected effects of the repercussions of the Covid-19 crisis on inter-Arab agricultural trade:**

Through the outputs of the statistical analysis and Figure No. (12), it is clear that the repercussions of the Covid 19 crisis are expected to contribute to an increasing positive impact on the increase in intra-Arab trade during the year 2022 (the short term), as the results of Figure No. (12) indicate that in the absence of The occurrence of the Covid-19 crisis was expected to decrease the rates of inter-Arab agricultural trade. In light of the repercussions of the Covid-19 crisis, the data of Figure No. (12) indicates that the positive impact of this crisis on intra-Arab agricultural trade is expected to continue, but at a decreasing rate, starting from 2023 until mid-2024 AD (medium term). Fundamental to the impact of the productive capacities of competing non-Arab countries as a result of the overlapping effects of the repercussions of the Corona crisis with other crises and risks such as the rise in freight rates, the impact of global trade movement, the increase in demand for agricultural commodities in the imported Arab markets, and other variables.

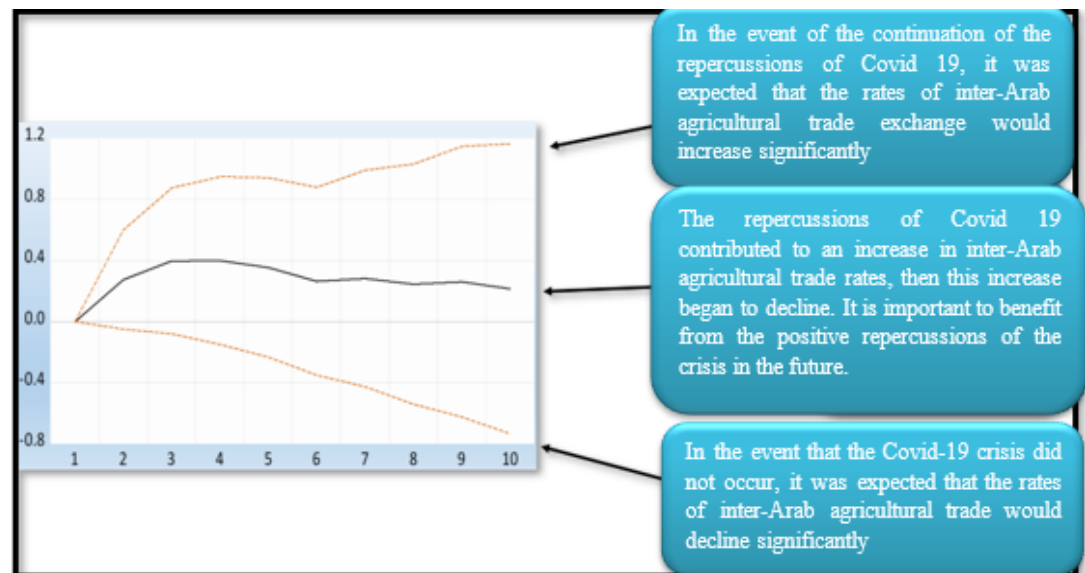


Figure 12. The expected effects of the repercussions of the Covid-19 crisis on inter-Arab agricultural trade

Source: statistical analysis using the VAR methodology for measuring the impact of shocks of variables by the EViews Program.

The expected effects of the repercussions of risks related to changing energy prices on inter-Arab agricultural trade:

Through the outputs of the statistical analysis and Figure No. (13) it is clear that the repercussions of the change in energy prices are expected to contribute to the presence of a fluctuating effect between the positive effect and the negative impact in the short and medium term (for the period 2022 until mid-2024) on the inter-Arab agricultural trade exchange as a result of the overlapping effect Among many variables, where the positive impact comes as a result of the increase in the purchasing capabilities of the Gulf countries and at the same time the productive capacities of non-Arab countries producing agricultural commodities and the increase in their transportation prices, while the negative impact comes as a result of the increase in production costs in the Sadr Arab countries for

agricultural commodities, especially since most of them are countries Energy importers such as Sudan, Egypt, Lebanon and Morocco, and it is important to stress that this fluctuating effect comes as a result of the overlapping effects of crises and other current risks (such as the Russian-Ukrainian war, high freight rates, lack of global supply chains, etc.) with the risks of changes in energy prices.

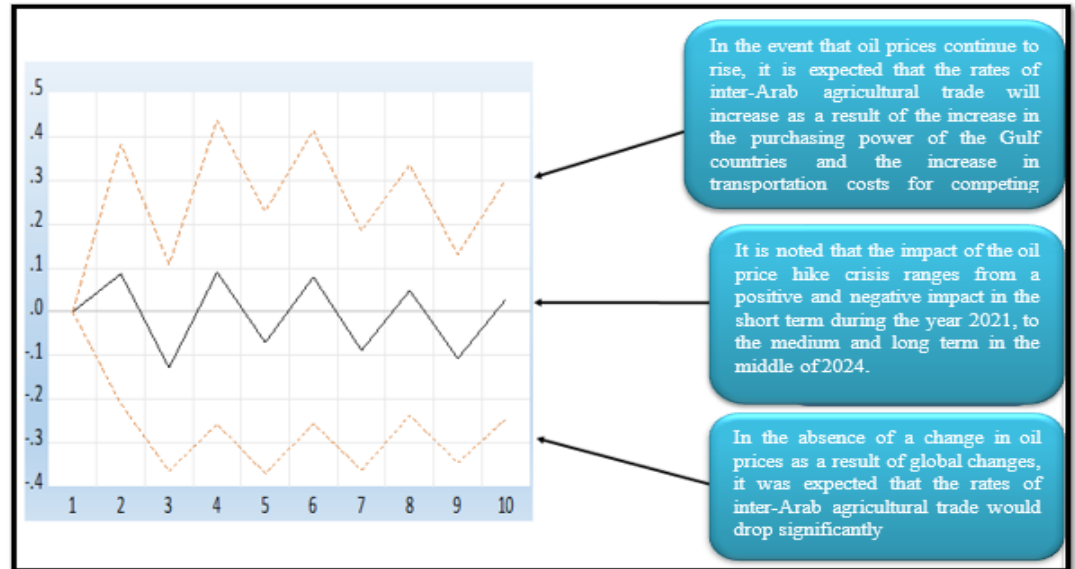


Figure 13. The expected effects of the repercussions of risks related to changing energy prices on inter-Arab agricultural

Source: statistical analysis using the VAR methodology for measuring the impact of shocks of variables by the EViews Program.

The expected effects of the repercussions of the risks related to the rise in freight rates and the difficulties of regulatory procedures on inter-Arab agricultural trade exchange:

Through the outputs of the statistical analysis and Figure 14, it is clear that the repercussions of the risks related to the rise in freight rates and the difficulties of regulatory procedures are expected to contribute to a continuous negative impact on the increase in intra-Arab agricultural trade during the short and medium term (the period 2022 to mid-2024). The data of the same figure indicate that in the event of an increase in freight rates and at the same time the failure to work on resolving the problems related to the regulatory procedures for intra-Arab trade taken by some Arab countries, this is expected to affect the rates of Arab agricultural trade exchange significantly in the medium term, by a rate that may reach To 50% in the short and medium term, but in the event of an increase in freight rates and the facilitation of regulatory procedures in Arab ports for the entry of Arab goods, it is expected that this will contribute to a significant increase in inter-Arab agricultural trade rates.

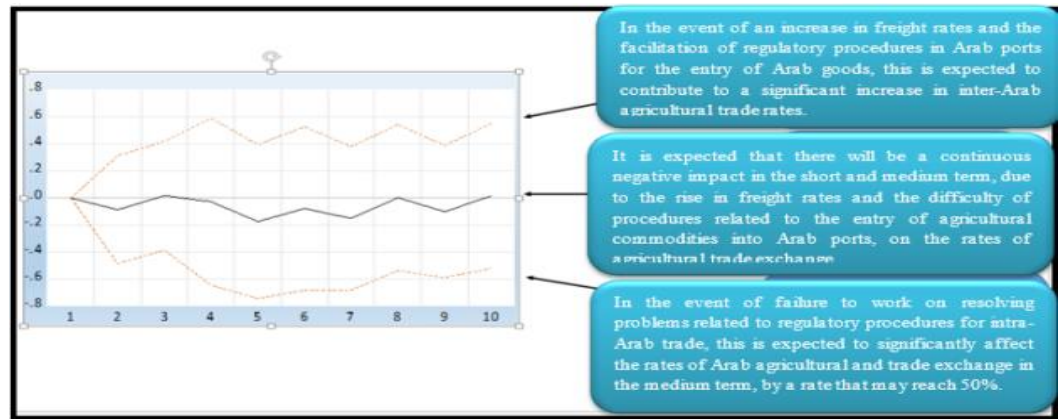


Figure 14. The expected effects of the repercussions of the risks of rising freight rates and the difficulties of regulatory procedures on inter-Arab agricultural trade exchange

Source: statistical analysis using the VAR methodology for measuring the impact of shocks of variables by the EViews Program.

The expected effects of the repercussions of high inflation rates in the Arab world on inter-Arab agricultural trade:

Through the outputs of the statistical analysis and Figure 15, it is clear that the repercussions of risks related to high inflation rates in the Arab world (as a quantitative variable reflecting the vulnerability of Arab economies to current risks and crises) are expected to contribute to a continuous negative impact on the increase in intra-Arab agricultural trade in the short term. And the average (period 2022 until mid-2024), and in the event of a decrease in inflation rates in the Arab countries, it is expected that the rates of inter-Arab agricultural trade exchange will increase by up to 55%, and in the event that inflation rates in the Arab world rise significantly as a result of various crises and risks, it is expected that This affects the decline in Arab agricultural trade exchange rates significantly in the medium term, by up to 60%.

From the foregoing and by reviewing the general features of the repercussions of contemporary crises and risks affecting intra-Arab agricultural trade in the short and medium term, it is very important to emphasize the overlapping of the negative and positive effects of these variables and the difficulty of predicting them in the long term, as well as the intensity and breadth of their impact on Arab economies in general and on trade exchange. Arab macro and agricultural trade in particular, and from this standpoint comes the importance and necessity of working on investing the positive effects of these crises and risks and limiting their negative effects on inter-Arab agricultural trade whenever possible, with the aim of reducing economic dependence on Arab countries and reducing risks related to Arab food security where countries can Through joint Arab efforts based on transparency, clarity and common interests, adopt a set of policies and mechanisms that guarantee support for the competitive capabilities of Arab agricultural commodities and ensure more facilities for easy access to Arab agricultural exports.

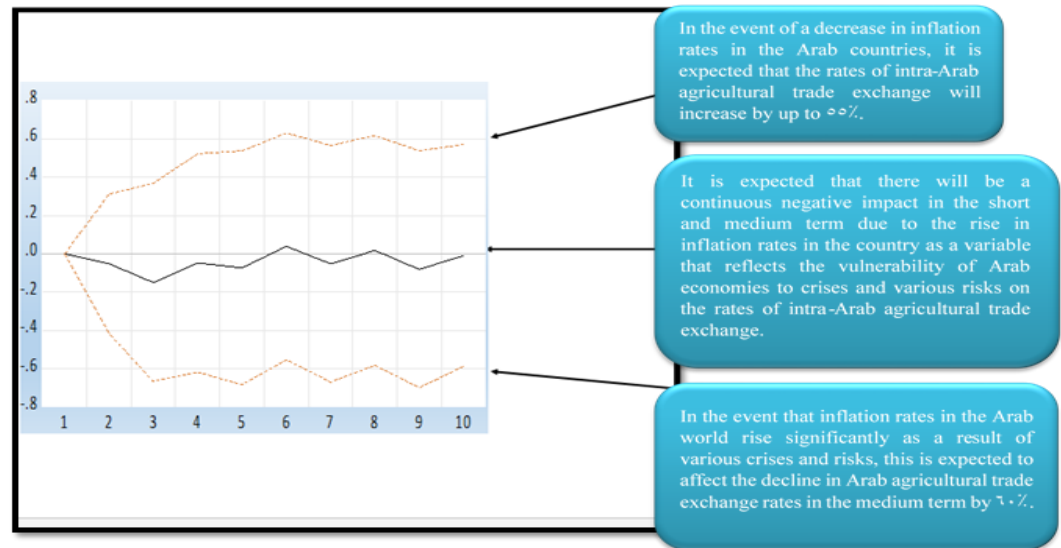


Figure 15. Repercussions of high inflation rates in the Arab world on inter-Arab agricultural trade

Source: statistical analysis using the VAR methodology for measuring the impact of shocks of variables by the EViews Program.

Fourth: Policies and mechanisms for promoting and developing intra-Arab agricultural trade

It is important that public policy-making processes for the promotion and development of intra-Arab agricultural trade be subject to many rules and foundations that must be taken into account, especially in light of the developments facing the intra-Arab trade environment.

And since the variables associated with Arab agricultural trade have a dynamic nature in terms of their direct and indirect effects, it is necessary that the policies and mechanisms for the promotion and development of these exports have a set of standards that contribute effectively to the effectiveness and ability of these policies and mechanisms to implement the desired goals. The most important of these criteria are as follows:

Flexibility: so that these policies and mechanisms are flexible enough to respond to local, regional and global changes and developments that affect inter-Arab agricultural trade exchange.

Adequacy and comprehensiveness: so that these policies and mechanisms are inclusive of all variables affecting them in the production, marketing and organizational aspects, whether directly or indirectly related to production or foreign trade operations.

Agreeing with the time dimension: so that these policies and mechanisms take into account the time dimension of production processes for export, and include in the first time stages technical support and enhancing production capabilities to obtain an export product of the required quality, providing appropriate financing and creating an appropriate investment environment, while they include in the following time stages Raise the competitive capabilities of exporters and increase the ability of exported agricultural products to enter the imported Arab markets.

Efficiency and effectiveness: so that these policies and mechanisms are realistic, easy to implement, effective and effective, and not just plans, programs and solutions that are not commensurate with reality and difficult to implement.

Appropriate in terms of impact periods: so that these policies and mechanisms are based mainly on short and medium-term plans and programmes.

Innovation: so that these policies and mechanisms are based on the use of non-traditional and innovative means commensurate with the nature of the current situation of modern

and emerging crises and risks related to inter-Arab agricultural trade and with the rapid technological development associated with the Arab and global trade environment.

It is worth noting that the concept of promoting Arab agricultural trade includes policies and mechanisms that ensure that Arab agricultural trade becomes strong and permanent based on interests, which protects it from risks. The concept of developing Arab agricultural trade is based on policies and mechanisms that guarantee three axes represented in the following:

⊗ The first axis: increasing the quantities of agricultural commodities exchanged between the Arab countries by promoting them to a larger number of importers in the Arab markets, improving the quality of exported commodities, and increasing commodity diversity.

⊗ The second axis: geographical diversification in terms of increasing the number of Arab countries contributing to intra-Arab agricultural trade, especially the markets of the Countries of Morocco.

⊗ The third axis: Overcoming the negative repercussions of recent and emerging crises and risks that affect inter-Arab agricultural trade exchange.

Within the framework of what was previously presented and through the results obtained, a set of policies and mechanisms can be proposed to promote and develop intra-Arab agricultural trade, as illustrated in Table 12.

Table 12. Proposed policies and mechanisms to promote and develop intra-Arab agricultural trade.

suggested policies	Implementation mechanisms Proposed policies
<p>Facilitating land and sea transport procedures for the cross-border exports of agricultural commodities from Arab countries, which contributes to their easy access to imported Arab markets in a short period of time and at competitive transport prices compared to non-Arab countries.</p>	<ul style="list-style-type: none"> • Work to increase the shipping lines that cover the target countries for Arab agricultural exports and establish information systems in order to increase the levels of linking all Arab ports to each other. • Increasing intra-Arab investment in transport and trade-related infrastructure and expanding the establishment of logistical zones for the exporting Arab countries in the markets of the importing Arab countries to ensure the presence of goods present, through partnerships between the government sectors in the Arab countries and the private sector as an ideal source of financing and efficient operation • Supporting cooperation in the areas of joint Arab investment in the fields of shipbuilding and repair industry in the Arab countries, especially between Egypt, the UAE and Saudi Arabia • Paying attention to Arab ports and developing them in line with the needs of global trade and supplying them with all means of modern and advanced marine services, starting from berths and ending with informatics and equipment for handling goods and taking into account safety factors. <p>Applying the digital revolution in the field of land transport to provide information and complete efforts to establish a comprehensive Arab electronic platform for road, rail, maritime and multimodal transport.</p> <ul style="list-style-type: none"> • Researching the extent to which the Arab countries can activate the customs agreement on the international transport of goods (TIR), which may be less expensive compared to the Arab transit system by about 30%, and overcoming the obstacles facing its application and the decrease in the number of books issued by Arab countries regarding the (TIR) agreement as a result of the crises Contemporary risks by encouraging exporters to use this system and reducing its high costs and facing the difficulties of applying the border crossings in the Arab countries by applying the provisions of this agreement, especially with regard to the periodic examination of agricultural commodities through the border crossings. <p>*Raising the efficiency of border administrations to facilitate transit movement and reduce waiting time through specialized training programs aimed at exchanging experiences between human competencies working in Arab customs ports.</p>
<p>Technical support for agricultural production in the Arab countries that export agricultural exports</p>	<ul style="list-style-type: none"> • Organizing training courses aimed at policies and mechanisms to enhance Arab agricultural trade based on common interests. • Develop technical and training programs and projects targeting the agricultural sector in the Arab countries that export agricultural commodities and provide support in order to face the challenges it faces.

Improving the quality levels of Arab agricultural exports to Arab markets	<ul style="list-style-type: none"> • Improving the quality system for Arab agricultural exports through specialized technical programs in this regard that work to increase the efficiency of monitoring the quality of Arab exported commodities. • Exchange of experiences between Arab countries with the aim of raising the efficiency of the human element, transferring and localizing modern technologies related to quality control of Arab agricultural commodities in general and agricultural and food exports in particular.
Overcoming the obstacles faced by Arab agricultural exports related to regulatory aspects at border crossings	<ul style="list-style-type: none"> • Ending the problems of facilitating Arab trade • Completion of differences in some points such as agricultural commodities not agreed upon in the certificates of origin • Finding an appropriate mechanism for mutual dependence among Arab countries on quality certificates and analysis of pesticides issued by the competent Arab authorities • Finding an appropriate mechanism to reduce the time needed to complete the procedures for the exit of shipments of agricultural commodities from the ports of export and import
More market studies for the development of Arab agricultural trade exchange rates through the specialized authorities	<ul style="list-style-type: none"> • So that these studies take into account the successive changes in the Arab markets, consumer tastes, and other developments, and work to identify and target promising markets and levels of demand for agricultural commodities in them.
Securing Arab imports of strategic agricultural and food commodities to reduce risks and crises related to Arab food security	<p>* Solidarity among the Arab countries in importing grains and other strategic agricultural commodities and oils as a single bloc when importing, which increases the strength of the impact of the demand side on the international price of imports, through issuing tenders for demand for imported grains and oils at simultaneous times, which affects the global price of grains and oils as a result Moving as a single bloc when imports are demanded, especially with the Arab countries negotiating as an importer with the exporting countries as one entity, which increases the strength of their negotiating position in determining import prices in a way that achieves the lowest possible import costs.</p> <ul style="list-style-type: none"> • The establishment by the Arab countries of a bloc to invest in agricultural countries outside the Arab world and to invest collectively in order to grow strategic crops such as grains, oil crops and other strategic agricultural commodities that ensure the reduction of risks facing Arab food security (since the formation of the investment bloc ensures the strength of the negotiating position and reduces Agricultural investment risks and works to provide strategic agricultural and food commodities). • Providing financial and moral support to the Arab countries that are still suffering from political crises (Yemen, Libya and Syria) through food aid to improve their food security conditions.

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