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Analytical Study for Dates in Arab Countries

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Abstract : The objective of this research is to study the production and consumption position and foreign trade for dates in the Arab countries during the period (2000- 2012). The results indicate:
(1) The Arab production capacity for dates represents about 73.96 percent of international production capacity for dates that reach about 6963.5 thousand tons.
(2) Increasing Arab production capacity for dates at annual rate estimated by 1.08 percent of annual average for Arab production capacity.
(3) The Increase in total Arab exports for dates represents about 61.04 percent of gross international exports for dates that estimate by 632.2 thousand tons.
(4) The results of the estimated multiple liner regression model indicate that international export quantity and Arab export price for dates are the effective variables on Arab export quantity for dates, while price rate between average Arab export price and average export price for competitive countries (Iran and Pakistan) are the effective variables on Arab export quantity in double log model.
(5)The results of efficiency indicators for Arab export of dates show the following:.
(a) There are a surplus in trade balance for Arab dates during the period (2000- 2012) ranged between $321.1- $969.3 million.
(b) Increasing the cover percentage of exports to imports value for Arab dates through the studied period that ranged between 192.1%- 417.2%.
(c) Instability coefficient for date's exports for Algeria, Egypt, Iraq, Oman, Saudi Arabian, and Tunisia estimated by 5.97%, 26.7%,21.01%, 10.6%, 12.9% and 12.04% respectively.
Key Words: Trade Balance Dates, value date exports, value dates imports, the annual rate of change.

Introduction:

Is the date palm of the most important elements of the vegetation cover in vast areas of the Arab and Islamic world, and the climate in most of those areas suitable for cultivation, and supports many of the population in the Arab region, the fruits of the palm as a major component of food, as well as on all secondary outputs Palm fronds and fiber cores are important ingredients in lifestyle prevailing[1], also held by many industries, including packaging and sweets in addition to the existing industries on the secondary products of the palm such as cages and home furniture and other industries that lead to job creation industry, is also used as a drupe powder in prescriptions and feed industry[5] . Maker, the dates have become a commodity export and import with a big future for most countries in the Arab region. The Arab world of the most appropriate geographical areas for the cultivation of palm trees in the world, where environmental requirements correspond to the palm tree with the prevailing climatic conditions, characterized by dry climates and the high degree of heat, as most Arab countries fall under the palm belt exact areas between latitudes 16 - 27 north of the equator

and in which the largesse of palm plantations and the production of dates[2]. The increased importance of productivity and economic date palms in the Arab world, where the average amount of dates production in the Arab world amounted to about 5.15 million tones, representing approximately 73.96% of the average amount of the production of dates in the world, amounting to about 6.96 million tons during the period (2000-2012), in while the average amount of exports amounted to 385.9 thousand tons, representing approximately 61.04% of the average global exported quantity, amounting to about 632.22 thousand tons, and the average amount of imports amounted to 177.2 thousand tons, representing approximately 26.32% of the average amount of global imports, amounting to about 673.27 thousand tons[4].

Research problem:

we can increase exported quantity of dates capacity by many factors, including the terms of production and quality, which is a necessary condition but it is not enough, as well as the competitiveness of those exports, which is the main determinant to increase this capacity to other factors, and despite the fact that the Arab countries one of the largest producers and exporters of dates at the international level, it has a comparative advantage in the production, except that the follower of the evolution of exports noted modest in quantity and a decrease in some cases, as well as high volatility in exports are all Arab countries, without exception, as they face stiff competition from some countries other such as Iran and Pakistan.

Aim of the research:

The research aims in general to study the production and consumer and foreign trade of dates in the Arab world situation using some export performance efficiency indicators.

Research method and data sources

Depend research mainly on agricultural statistical data published rules of a network of international information Food and Agriculture Organization (FAO), and use descriptive and quantitative statistical analysis of the data time-series variables in question during the period methods (2000-2012), such as percentages and averages, was also used Downhill style pictures of various sports, in addition to the use of some of the economic criteria that can be relied upon as indicators to measure the efficiency of the dates, the Arab world's exports performance, these criteria are summarized are as follows:

1. Trade Balance Dates = value date exports - the value of imports of dates. The more positive trade balance achieved a surplus, indicated by the efficiency of export performance, and vice versa if it is negative.

2. The coverage ratio of the value of exports to the value of imports = (exports ÷ value of imports value) × 100. If this ratio exceeds 100% indicates that the efficiency of the export performance, and vice versa.

3. Instability factor in the value of exports: The method is used percentage of average deviations to calculate the coefficient of instability and the relative rate of annual growth, according to the following images: A lack of stability coefficient = (actual exported values - estimated exported values) / (estimated exported values) (100) B- The annual rate of change = (100 × ((annual exports) / (average exports value).

Results and discussion:

First: the development of the Arab and global capacity for dates. The results of Table (1) Arab and global capacity of dates evolution during the period (2000-2012), and that energy ranged within a minimum and is about 4790 thousand tons, accounting for about 72.4% of the global production capacity of dates, amounting to about 6620 thousand tons and it during 2004.o a maximum and is about 5515 thousand tons, accounting for about 73.1% of the global production capacity of dates, amounting to about 7549 thousand tons during 2012, with an average period amounted to 5150.4 thousand tons, representing about 73.96% of the average global capacity of dates, amounting to about 6963.5 thousand tons during the research period.

By studying the general time trend of the development of the Arab production capacity of dates, show these analytical models statistical comparative advantage the rest of the estimated in other images of functions

models based on the values of F, R2 estimated model, has turned out to be for the Arab production capacity has taken years of a growing trend by an annual increase of about 55.38 thousand tons, a significant statistically significant at the level of moral 1%, at an annual rate change amounted to about 1.08% of the average period of

Table 1: Evolution dates production in thousand tons for Arab countries and all the world in the during period (2000-2012).

year	Arab	world	%	year	Arab	world	%
2000	4820	6500	74.15	2007	5100	7203	70.80
2001	5060	6756	74.90	2008	5230	7067	74.01
2002	5000	6723	74.37	2009	5380	7224	74.47
2003	5160	6671	77.35	2010	5710	7655	74.59
2004	4790	6620	72.36	2011	5310	7303	72.71
2005	4820	6549	73.60	2012	5515	7549	73.06
2006	5060	6705	75.47	Average	5150.4	6963.5	73.96

Source: collected and calculated from the FAO site databases and Agriculture Organization (FAO) www.fao.org.

About 5150.4 thousand tons, and the coefficient of determination shows that about 61% of the changes occurring in the Arab production capacity due to technological factors and reflected by the time factor, while the rest of the changes due to other factors not measured in the function. Global production capacity of dates it has taken years of a growing trend by an annual increase of about 87.71 thousand tons, a significant statistically significant at the level of moral 1%, at an annual rate change amounted to about 1.26% of the average period of about 6963.5 thousand tons. , The coefficient of determination shows that about 77% of the changes occurring in the Arab production capacity due to technological factors and reflected by the time factor, while the rest of the changes due to other factors not measured in the function, Table (2).

Table (2): trend overall time Arab and global production capacity of dates during the period (2000-2012).

Annual rate of change%	**R^2**	**F**	**equation**	**Variable**
1.08	0.61	16.96	$\acute{Y}$= 4762.69 + 55.38 x (4.12)*	Arab countries production
1.26	0.77	35.84	$\acute{Y}$= 6349.46 + 87.71 x (5.99)*	All world countries productions

Annual rate of change (the amount of change ÷ average for the period) × 100.
* Significant at the level of moral 1%.

Source: collected and calculated from the data table (1).

The most world countries dates production

The results data of table (3) many of Arab countries are the most important countries in the world production of dates for the average period (2000-2012), the Arab countries, production of dates, represented in Egypt, Iran, Saudi Arabia, UAE, Iraq, Pakistan, Algeria averages production amounted to 1237.9, 996.5, 952.2, 684.2, 623.8 0.552, 538.7 thousand tons, respectively, and the relative importance of 17.8%, 14.3%, 13.7%, 9.83%, 8.96%, 7.93%, 7.74 % of the average global production of about 6963.5 thousand tons during the study period.

Table (3) the relative importance of the main producing countries of Dates by thousand tons during the period (2000-2012).

Year/	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	%	Average
Algeria	365.6	437.3	418.4	492.2	442.6	516.29	491.19	526.92	552.8	600.7	644.7	724.9	789.4	7.74	538.7
China	125.0	117.0	130.0	120.0	130.0	150.0	125.0	130.0	135.0	140.0	140.0	150.0	150.0	1.92	134.0
Egypt	1007	1113	1090	1122	1166.2	1159.7	1328.7	1313.7	1326	1270	1353	1374	1470	17.8	1237.9
Iran	869.6	875.0	879.0	885	989.63	996.77	1000	1307.9	1023	1023	1023	1017	1066	14.3	996.52
Iraq	932.0	907.0	866.0	868	448.38	404.03	432.36	430.86	476.3	507.0	567.7	619.2	650	8.96	623.75
Libya	120.0	140.0	200.0	200.0	150.0	152.16	150.0	150.0	150.0	155.4	161.0	165.9	170.0	2.28	158.81
Morocco	74.0	32.4	33.2	54.11	69.4	47.5	45.47	74.3	72.7	84.58	101.4	117.9	113.4	1.02	70.79
Oman	280.0	298.0	238.6	219.8	231.0	247.33	258.74	255.87	267.0	258.6	276.4	268.0	270.0	3.72	259.18
Pakistan	612.5	630.3	625	426.8	622.4	496.58	426.28	557.52	566.4	531.2	524.0	557.3	600.0	7.93	552.02
Saudi	734.8	817.9	829.5	884.1	941.29	970.49	977.04	982.55	986.4	991.7	1089	1123	1050	13.7	952.15
Sudan	332.3	330.0	330.0	328.0	336.0	328.2	348.0	336.0	339.3	422.0	431.0	432.1	433.5	5.22	363.57
Tunisia	105	112.6	120.8	117.0	122.0	113.0	125.0	124.0	145.0	162.0	174.0	180.0	190.0	1.98	137.72
Emirates	757.6	757.6	757.6	757.6	760	757.6	757.6	757.6	757.6	759	825.3	239.2	250	9.83	684.17
World	6500	6756	6723	6671	6619.9	6549.1	6705	7203	7067	7224	7655	7303	7549		6963.5

Source: collected and calculated from the FAO site databases and Agriculture Organization (FAO) www.fao.org.

Second: the development of the Arab consumer of dates

Growing at an annual demand of dates due to the increase in population from year to year, and rising income level and cultural and health awareness and consumer Arab citizen, due to the unavailability of data on the total consumption of dates in the Arab world, has been studying the amount of net food of dates for the most important producing Arab countries and for which data are available, namely, (United Arab Emirates, Iraq, Tunisia, Saudi Arabia, Algeria, Egypt, Yemen, Libya), where he describes the schedule results (4) the evolution of the amount of net food of dates which amounted to about 2.2%, 8.3% 0.2% 33.3% , 19.1%, 29.1%, 2.5%, 3.4%, respectively. The table shows that the most important of these states Saudi Arabia was in first place, followed by Egypt in second place, and then Algeria in the third place.

Table (4): Evolution quantity tons of dates per thousand of the most important Arab countries during the period (2000-2012).

Countries/year	Emirates	Iraq	Tunisia	Saudi	Algeria	Egypt	Yemen	Libya	total
2000	**55**	**300**	**64**	**699**	**342**	**682**	**41**	**63**	**2246**
2001	**63**	**300**	**45**	**778**	**415**	**754**	**53**	**83**	**2491**
2002	**60**	**270**	**57**	**788**	**394**	**749**	**62**	**88**	**2468**
2003	**53**	**260**	**59**	**842**	**466**	**765**	**50**	**88**	**2583**
2004	**63**	**230**	**53**	**887**	**422**	**793**	**60**	**91**	**2599**
2005	**85**	**170**	**36**	**912**	**489**	**752**	**54**	**93**	**2591**
2006	**63**	**200**	**70**	**925**	**464**	**796**	**62**	**91**	**2671**
2007	**75**	**160**	**33**	**926**	**503**	**810**	**73**	**92**	**2672**
2008	**55**	**140**	**50**	**922**	**528**	**762**	**78**	**95**	**2630**
2009	**55**	**180**	**56**	**936**	**570**	**754**	**78**	**98**	**2727**
2010	**60**	**210**	**59**	**912**	**624**	**812**	**81**	**101**	**2859**
2011	**31**	**220**	**61**	**967**	**683**	**797**	**84**	**102**	**2945**
2012	**42**	**225**	**62**	**987**	**695**	**815**	**86**	**103**	**3015**
Mean	**58.46**	**220.38**	**54.23**	**883.15**	**507.31**	**772.38**	**66.31**	**91.38**	**2653.6**
%	**2.20**	**8.31**	**2.04**	**33.28**	**19.12**	**29.11**	**2.50**	**3.44**	**100**

Source: collected and calculated from the FAO site databases and Agriculture Organization (FAO) www.fao.org.

By calculating the equations of general time trend of the evolution of the amount of net food of dates for those states during the search as shown schedule (5) show that the amount of food net has taken years of a growing trend by a significant annual increase statistically amounted to about 8.9, 27.01, 3.52, 0.435 thousand tons, and an annual rate of change was estimated at 1.01%, 5.32%, 5.31%, 0.48% of the average annual amount of net food of dates in Saudi Arabia, Algeria, Yemen, Libya, respectively. As it is shown by the results of the same table that the amount of net food has taken years decreasing trend by an annual decrease significantly statistically amounted to about 1.47, 8.31, 1.25 thousand tons, and an annual rate of change was estimated at 2.51%, 3.77%, 0.16%, of the average annual amount of net food of dates in the UAE, Iraq, Egypt, respectively. While it is showing lack of moral of the State of Tunisia function.

Table (5): time trend year to the amount of net food of dates of the most important Arab countries during the period (2000-2012).

F	R^2	annual rate of change **%	T	Average	regression coefficient	fixed	Function type	statement
6.13	0.55	-2.51	2.4* -2.9*	58.460	7.49 x -0.64 x^2 (-1.47)	46.110	quadratic	Emirates
25.33	0.84	3.77-	-6.13 5.13	220.38	-44.99 x 2.62 x^2 (-8.31)	370.50	quadratic	Iraq
92.73	0.97	1.01	6.28 -4.15 3.37	883.15	97.1 x -10.5 x^2 0.40 x^3 (8.9)	607.76	cubic	Saudi Arabia
130.6	0.92	5.32	11.43	507.31	27.01	318.23	liner	Algeria
7.58	0.72	0.16-	2.82* -3.33* 2.13*	772.38	58.25 x -7.82 x^2 0.34 x^3 (-1.25)	642.6	cubic	Egypt
83.57	0.88	5.31	9.14	66.310	3.52	41.69	liner	Yemen
31.37	0.91	0.48	4.44 -3.39 3.04	91.380	14.33 x -1.78 x^2 0.075 x^3 (0.435)	55.38	cubic	Libya

Value in brackets reflect coefficient regression calculated to quadratic and Cubic function.
* Significant at 5%. ** , Annual rate of change = (the amount of change ÷ average for the period) × 100.
Source: collected and calculated from table (4).

Third: the evolution foreign Arab trade Dates and international

The Arab countries in the whole of the countries that enough domestic production to fill their needs consumer of dates, and also one of the most important exporting countries, this has Arab exports of dates sentence amounted to 385.9 thousand tons on average for the period of the study, representing approximately 61.04% of the average total quantity of exports World of dates, amounting to about 632.22 thousand tons during the same period. While inter Arab imports of dates amounted to 177.2 thousand tons on average above-mentioned period, representing approximately 26.32% of the average total volume of global imports of dates, amounting to about 673.27 thousand tons during the same period, and we will address with the following foreign trade of dates.

(A) The Arab exports of dates Trade

1. Development of Arab exported capacity of dates spreadsheet (6) shows the development of the quantity and value of exports and the Arab world of dates and imports during the period (2000-2012). It was found it ranged export quantity within a minimum and is about 190 thousand tons in 2004, accounting for about 49.83% of the amount of global exports, amounting to about 381.26 thousand tons during the same year, and maximum and amounts to about 652.9 thousand tons in 2008, representing approximately 72.02% of the amount global exports, amounting to about 906.59 thousand tons during the same year and the annual increase amounted to about 11.85 thousand tons, and an annual rate of change stood at 13.74%, and in spite of the increasing amount of Arab exports of dates but did not prove moral of that increase statistically, Table (7).

A review of the Saudi exports of dates value during the same period was found to range within a minimum and amounts to about $ 145.4 million in 2000, accounting for about 57.7% of the global value of exports, amounting to about 251.92 million dollars during the same year, and a maximum of about 503.9 million dollars in 2012 , representing approximately 48.98% of the global value of exports, amounting to about 1028.8 million dollars during the same year Table (6).

Calculates the overall time trend for the value of Saudi exports of dates equation it took years a growing trend by an annual increase of about 30.46 million US dollars, a significant statistically significant at the level of moral 1%, at an annual rate change amounted to about 11.14% of the average period of about 273.4 million dollars was found. The coefficient of determination shows that about 87% of the changes in the value of Arab exports due to technological factors and reflected by the time factor, while the rest of the changes due to other factors not measured in the function, Table (7).

Table (6): all the world and Arab Evolution of the quantity and value of imports and exports of dates during the period (2000-2012).

foreign world trade of dates				foreign Arab trade of dates				Years
exports quantity	export value	imports quantity	imports value	exports quantity	export value	imports quantity	imports value	
542.07	251.92	503.29	265.94	328.1	145.4	95.20	38.5	2000
546.90	252.66	574.79	270.75	331.4	153.2	104.4	42.2	2001
585.47	275.52	552.69	274.20	366.6	162.4	126.9	44.8	2002
583.33	322.67	550.93	309.87	356.0	167.3	117.3	40.1	2003
381.26	303.97	650.87	368.77	190.0	154.0	132.7	57.7	2004
787.68	437.01	789.49	425.68	548.8	227.7	290.3	81.3	2005
468.62	434.94	700.26	492.65	196.6	183.2	139.0	92.7	2006
687.06	588.91	870.64	593.53	419.6	313.9	346.9	145.5	2007
906.59	686.10	850.93	663.06	652.9	394.6	371.0	205.4	2008
598.76	571.34	675.24	635.18	359.6	300.5	142.1	136.7	2009
660.13	775.60	605.89	724.95	369.5	397.1	161.1	173.9	2010
710.39	902.20	677.79	796.50	422.4	450.5	111.5	148.1	2011
760.65	1028.8	749.69	868.05	475.3	503.9	165.2	182.8	2012
632.22	525.51	673.27	514.55	385.9	273.4	177.2	106.9	Average

The amount of exports and imports in thousand tons. The value of exports and imports of million dollars.
Source: collected and calculated from the FAO site databases and Agriculture Organization (FAO) www.fao.org.

Table (7): time trend year to the exports of dates quantity and value for Arabic countries during the period (2000-2012).

change annual rate of %	R^2	F	equation	Variable
13.74	**0.11**	**2.1**	**Ý= 302.94 + 11.85 x (1.2)****	Exports Quantity of all Arab countries
11.14	**0.86**	**69**	**Ý= 60.16 + 30.46 x (8.31)***	**The exports value**

Annual rate of change = (the amount of change ÷ average for the period) × 100.
* Significant at the level 1%. ** Not significant statistically.
Source: collected and calculated from the data table (6).

2. The relative importance of Arab countries in the all Arab countries exports dates trade

The relative importance of Arab countries differ in terms of their contribution to date exports, has all of the United Arab Emirates, Iraq, Tunisia, Saudi Arabia topped the list of exporting dates of Arab States, export capacity and represent each of them approximately 24.59%, 13.98%, 9.21%, 7.36% respectively of the Average total global export capacity of dates, amounting to about 632.2 thousand tons on average for the period (2000-2012). While it diminished after that the relative importance of other Arab countries in terms of its contribution to the foreign trade exports. It should be noted that despite the fact that Egypt occupies the first place in terms of the production of dates, but their contribution to the export trade does not exceed 1.5% of the average of the world's total export capacity of the dates during the same period, may be due to the fact that most of the quantities produced are not varieties dry is soft (excellent) required for export.The Iran and Pakistan of the most competitive states of the Arab countries exporting dates, where the average quantity exported each amounted to about 112.3, 92.3 thousand tons, respectively, represent approximately 17.8%, 14.6% of the average total global export capacity of dates, amounting to about 632.2 thousand tons on average aforesaid period , Table (8).

Table (8): the evolution of the amount of date exports thousand tons for important Arab countries and competitors during the period (2000-2012).

Total	Rest	Amman	Egypt	Algeria	Saudi Arabia	Tunisia	Iraq	Pakistan	Iran	Emirates	statement
542.07	29.57	9.9	2.70	10.8	28.2	22.4	30.00	78.70	107.8	222	2000
546.90	31.10	13	1.20	7.90	31.9	47.0	4.000	69.40	119.4	222	2001
585.47	30.77	5.0	4.50	11.0	33.9	41.9	8.000	77.50	113.5	259.4	2002
583.33	41.83	4.7	1.80	10.2	34.9	37.1	5.000	71.10	120.1	256.6	2003
381.26	34.36	4.8	2.90	8.10	47.5	40.4	23.50	65.40	94.6	59.70	2004
787.68	41.48	4.1	4.10	10.9	51.1	50.2	147.0	84.10	117.1	277.6	2005
468.62	42.22	4.1	5.10	12.3	44.1	42.8	42.40	89.30	143.4	42.90	2006
687.06	44.06	9.4	4.70	13.4	48.8	68.9	37.10	104.1	123.3	233.3	2007
906.59	50.99	7.0	9.00	10.1	50.9	69.5	264.6	93.10	113.5	237.9	2008
598.76	65.46	7.3	14.7	12.0	1.60	77.3	183.7	111.7	68.8	56.20	2009
660.13	66.83	6.8	19.6	10.4	73.4	84.3	120.1	121.7	106.8	50.20	2010
710.39	71.59	7.2	23.8	28.1	77.8	86.9	138.4	113.4	112.0	51.20	2011
760.65	88.75	7.9	25.4	31.3	81.2	88.2	145.3	120.5	119.8	52.30	2012
632.22	49.15	7.02	9.19	13.58	46.56	58.22	88.39	92.31	112.32	155.48	المتوسط
100	7.77	1.11	1.45	2.15	7.36	9.21	13.98	14.6	17.77	24.59	%

Source: collected and calculated from the FAO site databases and Agriculture Organization (FAO) www.fao.org.

3. The most important factors affecting the exported quantities of dates

There are great importance factors of a significant effect on the quantities exported from Arab dates are in the amount of Arab production, the Arab export price, the world export price, the export price of competing countries (Iran and Pakistan), the amount of global exports of dates, so table (9) show that the evolution of these variables during the period (2000-2012).

Table 9: Factors affecting the Arab exported quantities of dates during the period (2000-2012).

Global exports quantity	Arab exports quantity	price of Pakistan	price of Iran	global export price	Arab export price	Arabian production	statement
542.07	**328.1**	**377.23**	**239.75**	**464.74**	**443.16**	**4820**	**2000**
546.90	**331.4**	**334.78**	**238.48**	**461.99**	**462.28**	**5060**	**2001**
585.47	**366.6**	**366.04**	**243.06**	**470.60**	**442.99**	**5000**	**2002**
583.33	**356.0**	**357.43**	**288.78**	**553.15**	**469.94**	**5160**	**2003**
381.26	**190.0**	**343.62**	**385.1**	**797.28**	**810.53**	**4790**	**2004**
787.68	**548.8**	**352.28**	**584.91**	**554.81**	**414.91**	**4820**	**2005**
468.62	**196.6**	**360.59**	**639.09**	**928.13**	**931.84**	**5060**	**2006**
687.06	**419.6**	**367.64**	**738.26**	**857.14**	**748.09**	**5100**	**2007**
906.59	**652.9**	**349.08**	**896.77**	**756.79**	**604.38**	**5230**	**2008**
598.76	**359.6**	**382.42**	**811.32**	**954.21**	**835.65**	**5380**	**2009**
660.13	**369.5**	**400.08**	**1254.7**	**1174.9**	**1074.7**	**5710**	**2010**
710.39	**422.4**	**565.09**	**1430.8**	**1270.0**	**1066.5**	**5310**	**2011**
760.65	**475.3**	**662.05**	**1545.2**	**1352.5**	**1060.2**	**5515**	**2012**

Source: collected and calculated from the FAO site databases and Agriculture Organization (FAO) www.fao.org.

Therefor we estimated two models of the most important factors that are believed to affect the exported quantities of Arab dates as follows:

A- first prototype:-

It is a function to export dates, the Arab states in the image of sin, and the most important variables used in the model are as follows:

- The amount of the production of dates in the Arab world in thousand tons (X1).
- Export Arab Dates dollars / ton price (X2).
- Global export of dates in dollars / ton price (X3).

- State export price competition Iran dollars / ton (X4).
- Export price of Pakistan State competition in dollars / ton (X5).
- The amount of global exports of dates in thousand tons (X6).
- The amount of Saudi exports of dates in thousand tons (Ý).

The Table (10) the results of estimating multiple linear regression way model (Stepwise), which can be seen from it that the amount of global exports of dates (X6), and the export price, the Arab Dates (X2) are the most influential factor on the amount of Arab exports of dates.

Table (10): The most important factors affecting the exported quantities of dates during the period (2000-2012), according to the linear model.

R^2	F	equation	Variable
0.99	**24.92**	**$\acute{Y}$= -107.74 + 0.882 x_6 – 0.089 x_2 (26.65) (-4.99)**	exports Arab quantity

Source: collected and calculated from the FAO site databases and Agriculture Organization (FAO) www.fao.org.

B- The second model

It was also estimate the amount of Saudi exports of dates in his image model dual logarithmic, which included the following factors:

- The amount of the production of dates in the Arab world in the previous year in thousand tons (X1).
- Price ratio between the average export price of Arabian dates and the average export price competition which states Iran and Pakistan (X2).

- The amount of Saudi exports of dates in thousand tons (Ý).

As can be seen from the table (11), the value of the modulus of elasticity of the factor price ratio between the average export Arabian dates, price and average export price competition states which Iran and Pakistan have reached -1.23, which means that the increase in the price ratio between the average export Arabian dates and the average export price of competing countries price by 1% would lead to a decline in the amount of Saudi exports of dates by 1.23%, while showing a significant amount of non-production of dates in the Arab world factor.

Table (11): The most important factors affecting the exported quantities of Arab dates during the period (2000-2012), according to the model double logarithmic.

R^2	F	equation	Variable
0.87	**34.1**	**$\acute{Y}$= 6.308 - 0.307 x_1 – 1.226 x_2 *(-0.427) (-8.086)**	exports Arab quantity

* Not significant.
Source: collected and calculated from the FAO site databases and Agriculture Organization (FAO) www.fao.org.

(B) imports of dates of Arab trade

1- Evolution of Arab imports of dates

Table (5) shows that the quantity and the value of the Arab countries and all the world imports of dates during the period (2000-2012). It was found it ranged quantity of imports within a minimum which is about 95.2 thousand tons during year 2000, accounting for about 18.9% of the amount of global imports, which is about 503.3 thousand tons during the same year, and the maximum about 371 thousand tons in 2008, accounting for about 43.6% of the amount global imports about 850.93 thousand tons during the same year. And by an annual increase of about 6.57 thousand tons, and an annual rate of change stood at 3.71. A review of the value of Arab imports of dates during the same period was found the range within a minimum about $ 38.5 million in 2000, representing approximately 14.48% of the value of world imports which is 265.94

million dollars during the same year, and a maximum is 205.4 million dollars in 2008, representing approximately 23.66% of the value of world imports 868.05 million dollars during the same year at Table (5).

Calculates the overall time trend for the value of Arab imports of dates equation it took years a growing trend by an annual increase of about 14.07 million US dollars, a significant statistically significant at the level of moral 1%, at an annual rate change amounted to about 13.16% of the average period which is 106.9 million dollars was found. The coefficient of determination shows that about 81% of the changes occurring in the Value Arab imports due to technological factors and reflected by the time factor, while the rest of the changes due to other factors not measured in the function, table (12).

Table (12): time schedule general trend direction to the quantity and value of Arab imports of dates during the period (2000-2012).

annual rate of change%	R^2	F	equation	Variable
3.71	**0.37**	**2.88**	**$\acute{Y}$= -6.78 + 61.73 x - 3.94 x^2 (2.33)* (-2.14)***	Arab imports quantity
13.16	**0.81**	**46.9**	**$\acute{Y}$= 8.396 + 14.07 x (6.85)***	Arab imports value

Annual rate of change = (the amount of change ÷ average for the period) × 100.
* Significant at the level of moral 1%.
Source: collected and calculated data from a Table (5).

2. The relative importance of the Arab countries in the Arab imports dates trade. The relative importance of Arab countries differ in terms of their contribution to the trade of Arab imports of dates, has all of the United Arab Emirates, Morocco, and Yemen were the top of imported dates of Arab States, the import of energy and represent each of whom about 10.62%, 5.03%, 3.58% respectively of the total average global imports of dates, amounting to about 673.3 thousand tons on average for the period (2000-2012). While it diminished after that the relative importance of other Arab countries in terms of its contribution to the foreign trade of imports in.

The India, France, Pakistan, Bangladesh, Malaysia is one of the most competitive states of the Arab countries imported dates, where the average amount imported for each of them amounted to about 233.3, 24.9, 22.99, 14.5, 14.6 thousand tons, respectively, representing approximately 34.65%, 3.7%, 3.4% , 2.2%, 2.2% of the average total energy of the global import of dates, amounting to about 673.3 thousand tons, an average of the above-mentioned period, the table (13).

Table (13): the most important Arab states and competition in imports of dates during the period (2000-2012).

world	Malaysia	Bangladesh	Pakistan	France	India	Egypt	Yemen	Morocco	Emirates	statement
503.3	**11.2**	**17.5**	**29.5**	**23.5**	**192.6**	**0.12**	**12.6**	**5.4**	**44**	**2000**
574.8	**12.2**	**19.3**	**37.8**	**20.9**	**244.4**	**0.88**	**22.9**	**11.5**	**50**	**2001**
552.7	**14.1**	**17.6**	**38.1**	**23.8**	**171.5**	**0.32**	**31.0**	**35**	**36.5**	**2002**
550.9	**13.7**	**26.1**	**18.3**	**22.8**	**193.8**	**0.77**	**17.4**	**25.5**	**50.8**	**2003**
650.9	**13.1**	**19.0**	**51.1**	**24.1**	**247.9**	**0.29**	**33.2**	**30.4**	**26.9**	**2004**
789.5	**14.5**	**25.2**	**14.9**	**25.6**	**240.4**	**0.80**	**25.9**	**37.5**	**190.5**	**2005**
700.3	**14.5**	**20.4**	**37.8**	**25.7**	**286.3**	**0.97**	**13.2**	**33.0**	**33.3**	**2006**
870.6	**15.3**	**18.5**	**19.8**	**27.4**	**253.3**	**0.93**	**21.3**	**50.5**	**228.3**	**2007**
850.9	**14.1**	**20.9**	**10.2**	**24.9**	**230.9**	**1.62**	**25.2**	**41.1**	**227.7**	**2008**
675.2	**15.8**	**1.50**	**9.9**	**24.1**	**298.4**	**1.97**	**23.9**	**50.5**	**4.5**	**2009**
605.9	**18.0**	**1.50**	**2.3**	**28.2**	**193.5**	**1.97**	**23.9**	**51.4**	**25.4**	**2010**
677.8	**16.2**	**0.62**	**13.2**	**25.9**	**256.3**	**5.33**	**30.4**	**33.1**	**4.9**	**2011**
649.7	**17.4**	**0.89**	**16.0**	**26.5**	**223.5**	**3.2**	**32.1**	**35.2**	**6.8**	**2012**
673.3	**14.62**	**14.54**	**22.99**	**24.88**	**233.29**	**1.47**	**24.08**	**33.85**	**71.51**	**Average**
100	**2.17**	**2.16**	**3.41**	**3.695**	**34.65**	**0.22**	**3.580**	**5.03**	**10.62**	**%**

Source: collected and calculated from the FAO site databases and Agriculture Organization (FAO) www.fao.org.

Fourth:- Some of the efficiency performance indicators of Arab exports of dates to increase the exporting efficiency , quantity and competitive exporting countries for the same product is not limited to reduced export prices, or the stability of production, but there are other factors critical affect the export process, namely the performance of the efficiency of the process (1), and is the competitiveness governor factor in trade relations between the countries, which maximizes the role based on the marketing of agricultural products through an integrated system surrounding the vocabulary of the competitive process in terms of ability to interpret current and future changes in the markets at home and abroad, or to determine the exact potential competitors (6).

1. Arab trade balance of dates

To find out how efficient the export performance of the trade balance is used. If this balance is positive, he will have achieved a surplus, indicated by the efficiency of export performance, and vice versa if it is negative. And studying the results table (14) is clear that the balance of trade recorded a surplus during all years of the study period (2000-2012), this amounted to surplus by the year 2012 valued at about $ 321.1 million, and was below the 2004 value of about $ 96.3 million dollar reflects that Exports efficiency of Arab exports of dates during the study period.

2. The percentage of Arab exports coverage imports of dates

Used to cover the value of exports to the value of imports to determine the efficiency ratio over the export performance, if this ratio exceeds 100% indicates that the efficiency of the export performance, and vice versa. The results in table explained (14) high rate of coverage of Arab exports to the value of Saudi imports of dates value during all years of the study period (2000-2012), has coverage maximum of 2003 increased by 417.2%, reaching the lowest in 2008 increased by 192.1%, reflecting high efficiency Saudi exports of dates the performance during the study period.

Table (14): The evolution of the trade balance and the coverage ratio of the value of Arab exports Arab imports of dates in the Arab world per million dollars during the period, the value of (2000-2012).

coverage ratio	trade balance	imports value	exports value	**year**	coverage ratio**	trade balance*	imports value	exports value	year
215.74	**168.4**	**145.5**	**313.9**	**2007**	**377.66**	**106.9**	**38.5**	**145.4**	**2000**
192.11	**189.2**	**205.4**	**394.6**	**2008**	**363.06**	**111**	**42.2**	**153.2**	**2001**
219.82	**163.8**	**136.7**	**300.5**	**2009**	**362.50**	**117.6**	**44.8**	**162.4**	**2002**
228.35	**223.2**	**173.9**	**397.1**	**2010**	**417.21**	**127.61**	**40.1**	**167.3**	**2003**
304.19	**302.4**	**148.1**	**450.5**	**2011**	**266.21**	**96.3**	**57.7**	**154.0**	**2004**
275.66	**321.1**	**182.8**	**503.9**	**2012**	**280.77**	**146.3**	**81.3**	**227.7**	**2005**
255.75	**166.5**	**106.9**	**273.4**	**Mean**	**197.63**	**90.5**	**92.7**	**183.2**	**2006**

* Trade balance for dates = the value of dates exports - the value of dates imports.

** Coverage ratio = (exports value / imports value) × 100.

Source: collected and calculated from the FAO site databases and Agriculture Organization (FAO) www.fao.org.

3. Instability coefficient

The results of the equations of general time trend of the evolution of the exported value dates of the most important Arab Exporting Countries at the period (2000- 2012), namely Algeria, Egypt, Iraq, Oman, Saudi Arabia, and Tunisia in table (15) an increase in those rates amounted to about 0.88, 2.4, 4.7, 0.51, 5.35, $ 15.5 million dollars arrangement. While the results of the analysis showed no significant changes in exports to the United Arab Emirates, values, was demonstrated this analytical models statistical comparative advantage the rest of the estimated in other images of functions models based on the values of F, R2 model Almekdr.vi while the results of the annual change relative rates showed the value date exports these countries also an increase in those rates stood at 5.97%, respectively, 26.7%, 21.01%, 10.6%, 12.9%, 12.04% each, and despite the rise in date exports growth rates in the previous Arab countries mentioned except the United Arab Emirates, but that does not mean the success of the export countries Dates policies, as the value of instability of exports of dates for those countries coefficient of about 0.04%, -69%, -49% , -49%, 6.9%, 1.56%, respectively. This means that the volume of exports has fluctuate significantly, reflecting the lack of success of its export of dates, and can arrange these countries in terms of the efficiency of policy and export according to the degree of stability, with Algeria comes in first place, followed by Tunisia, Saudi Arabia, Oman, Iraq, while Egypt is in last place, a Table (16).

Table (15): time trend for the development of exported value dates by million dollars for the most important Arab countries during the period (2000-2012).

R^2	F	% annual rate of change	T**	average	coefficient	fixed	type of - function	The statement
0.45	**8.91**	**5.97**	**2.99**	**14.748**	**0.881**	**12.05**	linear	Algeria
0.96	**133.7**	**26.73**	**4.11-7.65**	**8.9845**	**X 2.96-0.383 X^2 *(2.402)**	**5.583**	quadratic	Egypt
0.71	**26.69**	**21.01**	**5.17**	**22.464**	**4.720**	**10.58-**	linear	Iraq
0.84	**25.88**	**10.57**	**3.13-4.54**	**4.8616**	**1.25- X 0.126 X^2 *(0.514)**	**5.67**	quadratic	Oman
0.56	**13.72**	**12.88**	**3.71**	**41.492**	**5.345**	**4.077**	linear	Saudi Arabia
0.94	**160.1**	**12.04**	**12.7**	**128.40**	**15.46**	**20.16**	linear	Tunisia

* Value in brackets reflect the calculated function quadratic regression coefficient.
** % annual rate of change = (100 × ((annual exports) / (average exports value).
*** T moral value when the moral level of 1%.
Source: collected and calculated from the FAO site databases and Agriculture Organization (FAO) www.fao.org.

Table (16): Evolution of instability to the values of date exports to most Arab countries during the period coefficient (2000-2012)

* Instability coefficient = (100 × ((exports actual values- exports estimated values) / (exports estimated values).

Tunisia			Saudi Arabia			Oman			Iraq			Egypt			Algeria,			year
Estimated values	actual values	coefficient *	Estimated values	actual values	coefficient *	Estimated values	actual values	coefficient *	Estimated values	actual values	coefficient *	Estimated values	actual values	coefficient *	Estimated values	actual values	coefficient *	
35.62	**38.59**	**8.338**	**9.422**	**18.32**	**94.44**	**6.184**	**4.604**	**-25.55**	**-5.86**	**6.00**	**-202.4**	**7.99**	**1.767**	**-77.87**	**12.93**	**14.75**	**14.05**	**2000**
51.08	**73.41**	**43.72**	**14.77**	**18.69**	**26.59**	**6.698**	**5.042**	**-24.72**	**-1.14**	**1.40**	**-222.8**	**10.4**	**0.60**	**-94.22**	**13.81**	**10.44**	**-24.41**	**2001**
66.54	**68.92**	**3.578**	**20.11**	**24.25**	**20.56**	**7.212**	**2.324**	**-67.78**	**3.58**	**2.00**	**-44.13**	**12.8**	**2.115**	**-83.46**	**14.69**	**16.34**	**11.21**	**2002**
82.00	**73.92**	**-9.850**	**25.46**	**24.59**	**-3.43**	**7.726**	**2.374**	**-69.27**	**8.30**	**0.993**	**-88.04**	**15.2**	**0.633**	**-95.83**	**15.57**	**16.45**	**5.599**	**2003**
97.46	**84.38**	**-13.40**	**30.8**	**31.74**	**3.042**	**8.24**	**2.18**	**-73.54**	**13.02**	**4.392**	**-66.27**	**17.6**	**1.37**	**-92.21**	**16.46**	**14.56**	**-11.50**	**2004**
112.9	**100.8**	**-10.80**	**36.15**	**32.46**	**-10.2**	**8.754**	**1.181**	**-86.51**	**17.74**	**20.26**	**14.194**	**20.0**	**2.463**	**-87.68**	**17.34**	**18.49**	**6.674**	**2005**
128.4	**91.56**	**-28.70**	**41.49**	**36.18**	**-12.8**	**9.268**	**1.557**	**-83.2**	**22.46**	**9.136**	**-59.32**	**22.4**	**3.153**	**-85.92**	**18.22**	**20.04**	**10.02**	**2006**
143.8	**164.8**	**14.54**	**46.84**	**40.53**	**-13.5**	**9.782**	**5.687**	**-41.86**	**27.18**	**9.532**	**-64.93**	**24.8**	**3.014**	**-87.85**	**19.10**	**23.08**	**20.87**	**2007**
159.3	**170.4**	**6.962**	**52.18**	**56.51**	**8.302**	**10.3**	**6.516**	**-36.71**	**31.90**	**59.48**	**86.47**	**27.2**	**7.301**	**-73.16**	**19.98**	**20.01**	**0.170**	**2008**
174.8	**176.3**	**0.870**	**57.53**	**1.650**	**-97.10**	**10.81**	**5.874**	**-45.66**	**36.62**	**46.89**	**28.034**	**29.6**	**17.54**	**-40.77**	**20.86**	**12.00**	**-42.47**	**2009**
190.2	**200.1**	**5.189**	**62.87**	**78.13**	**24.26**	**11.32**	**6.96**	**-38.54**	**41.34**	**35.91**	**-13.13**	**32.0**	**18.53**	**-42.11**	**21.74**	**16.93**	**-22.13**	**2010**
205.7	**211.5**	**2.805**	**68.22**	**86.29**	**26.50**	**11.84**	**9.013**	**-23.86**	**46.06**	**46.85**	**1.7173**	**34.4**	**28.21**	**-18.01**	**22.62**	**25.37**	**12.17**	**2011**
221.1	**214.6**	**-2.950**	**73.56**	**90.06**	**22.43**	**12.35**	**9.889**	**-19.94**	**50.78**	**49.19**	**-3.137**	**36.8**	**30.11**	**-18.2**	**23.50**	**28.26**	**20.26**	**2012**
128.0	**128.0**	**1.560**	**41.5**	**41.5**	**6.900**	**9.268**	**4.862**	**-49.00**	**22.5**	**22.5**	**-49.00**	**22.4**	**8.98**	**-69.0**	**18.20**	**18.00**	**0.040**	**Mean**

Source: collected and calculated from the FAO site databases and Agriculture Organization (FAO) www.fao.org

From Table (16) The results of estimating multiple linear regression model variables that the amount of global exports of dates, and the export price, the Arab Dates are the most influential factor on the amount of Saudi exports of dates. While the results of the model estimation in double logarithmic image showed that the price ratio between the average export price of Arabian dates and the average export price of competing nations, a variable Iran and Pakistan is the most influential factor on the amount of Saudi exports of dates. The results showed the efficiency of Saudi exports of dates and a surplus in the trade balance of the Arab Dates performance indicators through all the years ranging from 969.3- 321.1 million Dolar.kma show high coverage ratio of Arab exports to the value of Saudi imports of dates value during all years of the study period ranged from 192.1% - 417.2%. The estimated value of the instability of exports of dates to countries Algeria, Egypt, Iraq, Oman, Saudi Arabia, Tunisia and the coefficient of about 5.97%, 26.7%, 21.01%, 10.6%, 12.9%, 12.04%, respectively.

References:

1. Ashraf Mohamed Aboul Ela (Doctor), Mona Ahmed Salim (Doctor), economic analysis of dates in the Arab world, Egyptian Journal of Agricultural Economics, Volume XII, the second issue, in June 2002.
2. FAO site databases and Agriculture Organization (FAO) www.fao.org .
3. Hani Said Abdul Rahman (Doctor), empowered production and export crop Egyptian strawberries with reference to the role of the new land, Monoufia Journal of Agricultural Research, Faculty of Agriculture, University of Menoufiya, Vol. 33, No. 2, April 2008.
4. Nadia Abdullah elghareeb Ahmed (Doctor), the economies of the production and marketing of dates in New Valley Governorate, the Egyptian Society of Agricultural Economics, atheist Twenty Conference of Agricultural Economists, Egyptian food security in light of the risks of global markets, 30 to 31 October 2013
5. Ramadan Abdullah Taha Hubert, the economics of production and marketing dates center Siwa Matrouh Governorate, Master Thesis, Department of Agricultural Economics, Faculty of Agriculture, University of Menoufiya 0.2015.
6. The Arab Organization for Agricultural Development, the study of the development of the production, manufacturing and marketing of dates and benefit from the palm residues in the Arab world, in December 2003.

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