

## **AN ASSESSMENT FOR EGYPT'S ORANGES EXPORTS IN INTERNATIONAL MARKETS**

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### **ABSTRACT**

The study aims to investigate the performance and potentiality of Egypt's oranges exports in international markets throughout the last two decades. Four indicators have been employed, namely are Relative Price Ratio, Market Share Ratio, Market Penetration Index and Instability Coefficient, in addition to, a regression analysis to assess Egyptian oranges exports. The results revealed that Egypt has a significant competitive relative price among exporting competitors. Moreover, the UK, Russian Federation and Ukrainian markets were found to be the most stable markets for Egypt's oranges exports during the last decade. The stepwise regression analysis revealed that a positive and significant influence of competitor's price, production and cultivated area on Egypt's oranges exports. The study suggests the possibility of increasing Egypt's oranges exports to the Jordanian, Croatian and the Netherlands market.

**Keywords:** Oranges, Exports and Egypt

### **INTRODUCTION**

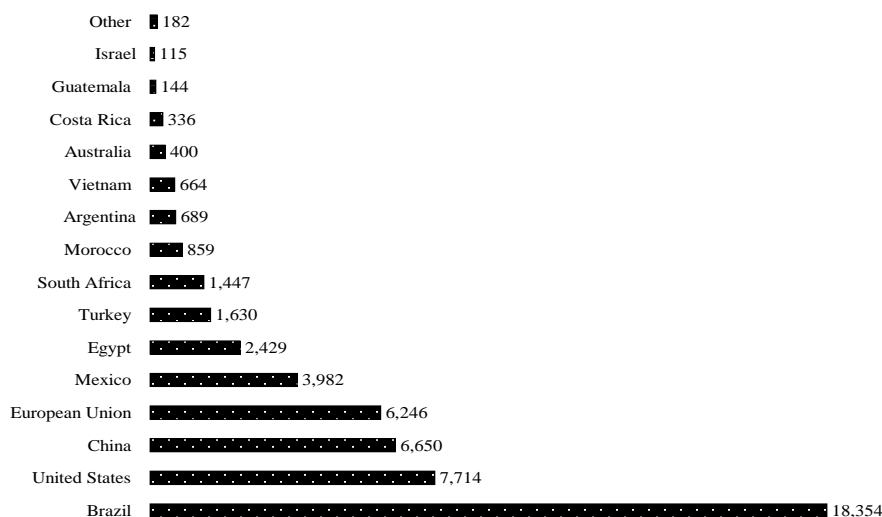
World production of citrus fruit has experienced continuous growth in the last decades of the 20<sup>th</sup> century. Global citrus production estimated at about 116 million tons in 2012/2013. Oranges constitute the bulk of citrus fruit production, accounting for about 57.4% of world citrus production, while tangerines (mandarins), lemons & limes and grapefruit account for 28.5%, 7.3% and 6.8% respectively. Yusuf and Salau (2007) argued that, the rise in citrus production is mainly due to the increase in cultivation areas and the change in consumer preferences towards more healthy and convenience food consumption and the rising incomes. However, citrus fruits are produced all around the world, in 2012, 140 countries produced citrus fruits. However, most production is concentrated in certain areas. Most citrus fruits are grown in the Northern Hemisphere, accounting for around 70% of total citrus production. Main citrus fruit producing countries are Brazil, the Mediterranean countries and USA; these countries represent more than two thirds of global citrus fruit production.

However, citrus production in Egypt is considered the most important fruit crop throughout the last decade. In which, citrus cultivated area increased from 298 thousand feddan in 1990 to 331 thousand feddan in 2000 and further to 419 thousand feddan in 2012. Consequently, its production increased from about 2.2 million ton in 1990 to about 4 million ton in 2012.

Figure 1 shows the global orange production for the average period 2008-2013. Brazil is by far the largest producer of oranges, accounting for 35.4 % of global orange production. However, the bulk of oranges produced in Brazil are processed into juice and only small quantities are exported as

fresh production due to safety and quality issues. The second largest producer of oranges is the United State of America with a global production share of 14.9 %, followed by China (12.8%), the EU-27 (12 %), Mexico (7.7 %), Egypt (4.7%), Turkey (3.1%), South Africa (2.8%), Morocco (1.7%), Argentina and Vietnam (1.3% each), Australia (0.8%), Costa Rica (0.6%), Guatemala (0.3%) and Israel (0.2%).

**FIGURE (1): QUANTITIES OF PRODUCED ORANGES BY MAIN PRODUCERS DURING THE PERIOD 2008-2013(ON AVERAGE)**



**Source: Compiled and calculated from USDA, Foreign Agricultural Service, 2014**

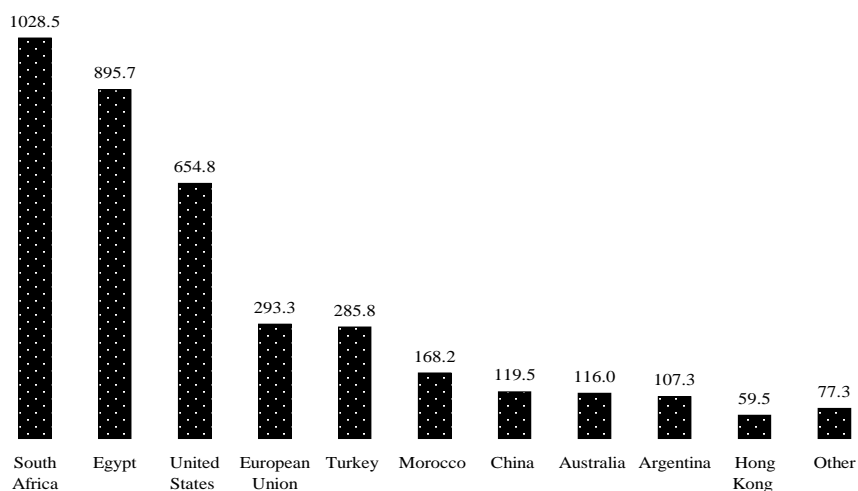
Interestingly, although South Africa is not a major global producer of oranges, it is the largest exporter of oranges in the world. Figure 2 depicts that South Africa constitutes 27% of global oranges exports. Next come, Egypt with a global share of 23.5%. Followed by, the United States (17.2%), the EU-27 and Turkey 7.6% (each on average), Morocco (4.4%), China, Australia and Argentina about 3% (each on average), and finally Hong Kong 1.6%.

Orange's production in Egypt constitutes about 70% of total citrus production. However, oranges are a winter fruit well-suited to the Egyptian climate. It accounts for over half the total fruit production in Egypt. Orange cultivation is planted in the fertile Delta area and the newly reclaimed lands. About 80 percent of Egypt's total orange production is produced by large farms (10-100 feddans) and 20 percent is produced by small farms (1-10 feddans). Navel oranges are the predominant variety, representing about 70 percent of total Egypt's orange production. Lesser amounts of local (baladi), sweet, valencia, and other varieties are also produced (Kalaitzis et al., 2007).

In 2012, total orange area in Egypt estimated at about 283 thousand feddan compared to 207 thousand feddan in 1990. However, total orange production increased by 77% in 2012 than its level in 1990. The increase in

orange production is presumably due to the increase in the number of bearing trees.

**FIGURE (2): QUANTITIES OF EXPORTED ORANGES BY MAIN PRODUCERS DURING THE AVERAGE PERIOD 2008-2013(000 TON)**



Source: Compiled and calculated from USDA, Foreign Agricultural Service, 2014

The Egyptian orange export season is relatively long, extending from December to April, and this is quite favorable for the export of navel oranges. Egypt has excellent opportunities for expanding its orange exports due to its favorable climate and strategic geographic location. Exports of Egyptian oranges face high competition from other suppliers such as Spain, Israel, and Morocco. European countries import baladi and summer varieties, mainly for juicing, while Saudi Arabia, Russia and recently Iran are importing Egyptian table oranges. Total Egyptian orange exports increased from 85.3 thousand ton during the 1990s to 235.2 thousand ton throughout the period 2000-2008 (on average) and further to 833.5 during the average period 2009-2012.

The EU-Egyptian Partnership Agreement, which was signed on June 24, 2001, offers tariff concessions for Egyptian orange exporters. In 2007/08 Egypt received a duty-free tariff-rate quota (TRQ) of 70 thousand ton for fresh or dried oranges. However, starting in the 2009-2010 season, Egypt received tariff concessions for all Egyptian orange exports to EU countries. However, European countries import baladi and summer varieties, mainly for juicing.

The paper is structured as follows. The next section briefly discusses the aim of the paper. Data collection is the subject of part three. The fourth section is devoted to give a background on oranges sector in Egypt. The paper's methodology is the main topic for section five. The sixth section discusses the estimated results. Determining the main factors affecting oranges exports is the topic of section seven. The eighth section expresses

the main obstacles facing oranges export sector. Section nine is devoted to conclusion.

#### **Aim of the Paper**

The objective of this paper is to explore the performance and potentiality of Egypt's oranges exports in the international market throughout the last decade, in terms of major importers, competitiveness and main factors affecting oranges enhancement.

#### **Data**

Data was mainly collected from Food and Agriculture Organization (FAO) statistics, Ministry of Agricultural and Land Reclamation (MALR), United States Department of Agriculture (USDA)

#### **An Overview on Egyptian Oranges Sector**

##### **Area and Production Trends**

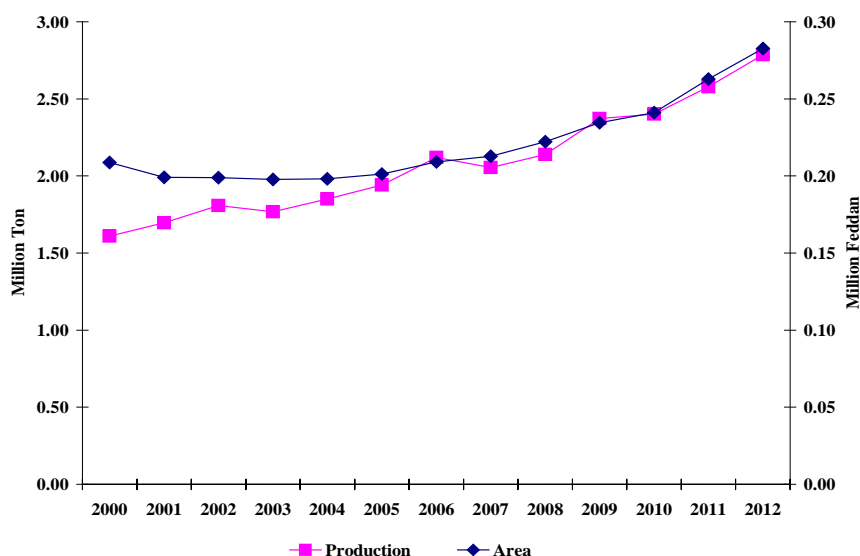
Oranges are cultivated in almost all of Egypt's governorates. However, the country's main production area is concentrated in the Nile Delta governorates of Qalyoubia, Beheira, Sharqiya, Ismailia, and Menufia. As mentioned earlier, Navel oranges are the primary variety grown in Egypt. Along with navel oranges, the other five main varieties grown in Egypt include Baladi (local), Valencia, blood, Khalily (local), and the Sukkari/sweet orange (local). Navel and Valencia are the main varieties grown for export.

Figure (3) shows that total oranges area increased from about 201 thousand feddan during the period 2000-2003 (on average) to nearly 209 thousand feddan throughout the period 2004-2008 (on average) and further to 246 thousand feddan during the average period 2009-2012. However, the annual growth rate for orange cultivated area estimated at 4.3% throughout the last decade. This increment in cultivated area mirrored the gradual increase in total oranges production. It increased from 1.7 million ton to about 2 million ton and further to 2.5 million ton during the periods 2000-2003, 2004-2008 and 2009-2012 respectively (see Figure 3). This expected increase in production is due to the increased number of bearing trees, also to the absence of strong winds that usually cause damage to fruit sets.

The paper assumes that agricultural exports  $Y_t$  may be described by a simple linear trend model where  $Y_t = \alpha + \beta T + \mu_t$ , the slope is given by  $\beta$ , T is a time trend and  $\mu_t$  is a random variable of zero mean and constant variance. Consequently, we can recover the underlying trend by regressing the variables (production and area) on the time trend (T).

Table (1) shows the regression results for oranges production and area throughout the period 2000-2012. Results from the t test results (at 1% level of significant), depicts an evidence of statistical significance in both slope and intercept coefficients for all investigated variables. Production and area are significantly confirming the gradual increase in their trend. These results were also confirmed by F test results (at 1% level of significant) see Table 1.

**FIGURE (3): ORANGES AREA AND PRODUCTION TRENDS DURING THE PERIOD 2000-2012**



Source: Compiled and calculated from FAO online statistics (see Appendix 1)

**TABLE (1): ESTIMATED COEFFICIENTS FOR ORANGES AREA AND PRODUCTION DURING THE PERIOD 2000-2012**

Coefficients		SE	T ratio	P value	F (Calculated)	
Area	$\alpha$	178371.8	8448.0	21.1	0.0000	32.30 (0.0001)
	$\beta$	6049.9	1064.3	5.68	0.0001	
	$R^2$	0.74				
Production	$\alpha$	1458125.5**	51743.1	28.18	0.0000	189.59 (0.0000)
	$\beta$	89762.6	6519.0	13.77	0.0000	
	$R^2$	0.94				

Source: SPSS results, calculated from Appendix (1). \*\* Significant at 1%

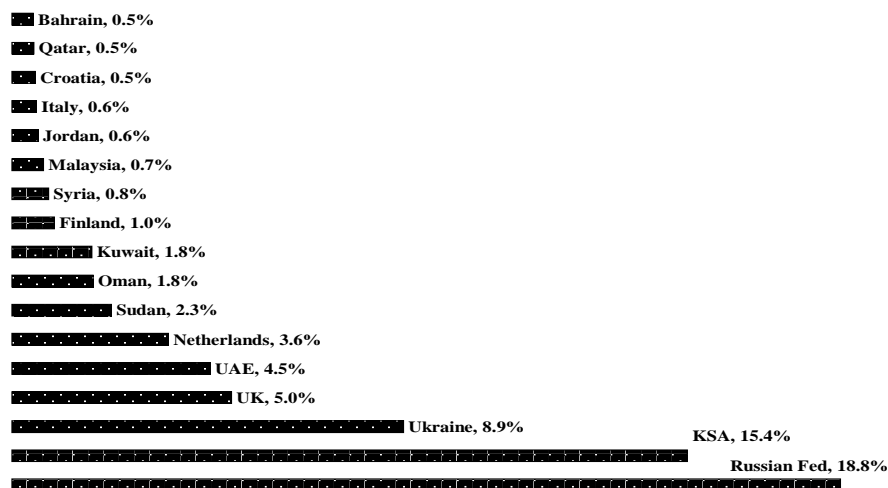
**Exports Destinations& Markets**

Relying on FAO bilateral trade data (throughout the period 2003-2012), Egyptian oranges are exported to 89 importing countries with different volumes. However, seventeen countries import between 19%-0.5% composing about 70% of oranges exports, whereas the remaining 72 counties import less than 0.5%. Thus, the paper focuses on the main seventeen importing destinations in investigating the paper's aim.

Figure (3) portrays the exporting destinations and market shares of Egyptian oranges among main importers. It reveals that, Egypt's main exporting markets (during the last decade) are as follows: first comes the Russian federation recording the highest share accounting to about 19%, followed by Kingdom of Saudi Arabia (15.5%), Ukraine (9%), The United Kingdom and The United Arab Emirates (4.8% each on average), The

Netherlands (3.6%), Sudan (2.3%), Oman and Kuwait (1.8% each), Finland (1%). Whereas, the market shares for Syria, Malaysia, Jordan, Italy, Croatia, Qatar and Bahrain only ranges 1% to 0.5% each.

**FIGURE (3): EXPORTING MARKETS (DESTINATIONS) FOR EGYPTIAN ORANGES DURING THE PERIOD 2003-2012 (ON AVERAGE)**



Source: Compiled and calculated from FAO online statistics. However, the total may not equate 100%, as the author neglected shares less than 0.5%

### **Main Competitors**

In general, the main oranges producing countries are assumed to be Egypt's competitors. Thus, South Africa, Brazil and the United States are Egypt's main export competitors in the international marketplace. Other Mediterranean countries are considered main Egypt's competitors including Turkey, Spain, Morocco, Italy and Israel. It is worth mentioning that Turkey, Spain and Morocco are Egypt's main competitors in the Russian and EU markets in which Egypt is their main supplier (Verdonk and Hamza, 2013).

### **Methodology**

In line with Abu Hatab, (2009), Hassan, et al., (2010), and Moussa (2012), a number of indicators have to be employed to achieve the study's goal. Such as the relative price rate, market share rate, market penetration index and instability coefficient. In addition, a regression analysis is to be estimated in section seven to determine the factors affecting Egypt's oranges exports. However, the following part provides a short brief about each indicator.

### **Relative Price Ratio**

Popularized and employed by Salter (1959), Gardner (1975), Bhagwati (1984), Connolly and Taylor (1984), Campbell and Shiller (1988) and Aoki (2001), the relative price ratio, expresses the ratio of exporting country price to the export price of competing countries. It can be estimated using the following formula.

$$P_{sf} = \frac{P_s}{P_f} \dots\dots\dots(1)$$

where:

$P_{sf}$  = is the relative price ratio

$P_s$  = is the orange export price of Egypt

$P_f$  = is the orange export price of a competing country

The lower the ratio, the greater the competitive advantage for Egypt. In other words, if the ratio is equal to 100% then the Egyptian and competitive prices for oranges are equal in both markets. On the other hand, a competitive advantage is achieved if the ratio is less than one. In contrast, if the ratio is greater than one, then Egypt has a competitive disadvantage.

**Market Share Ratio**

Market share ratio measures the relative importance of export quantities of a given country in the total imports of another country. The larger the value, the more the country in question dominates the exports to an importing country. Cowling and Rayner (1970), Buzzel and Wiersema (1981a, b), Szymanski et al., (1993), Anderson et al., (1994), argued that intuitively customer satisfaction and market share might be expected to go hand in hand. However, it could be estimated using the following formula

$$MS_{ef} = \frac{QE_e}{QI_f} \times 100 \dots\dots\dots(2)$$

where:

$MS_{ef}$  = is the market share of Egyptian oranges exports compared to total imports of a given importing market (f)

$QE_e$  = is the quantity of oranges exported by Egypt to the importing market (f)

$QI_f$  = is the total imports of oranges by country (f)

**Market Penetration Index**

Employed by El-Aasaar, (2001), Albejaoi and Yassin (2007), Abu Hatab, (2009) and Hassan, et al., (2010) along with other researches, the market penetration index gives an indication of the extent to which a country is able to expand its exports to a given importing market. In other words, the higher the market penetration index, the easier it is for the country in question to access the foreign market and expand its exports. It can be estimated using the following formula.

$$MPI_{et/f} = \sum \left[ \frac{QE_{et/f}}{TQI_{ft} + P_f - QE_{ft}} \right] \dots\dots\dots(3)$$

where,

$MPI_{et/f}$  = market penetration index

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$QE_{et/f}$  = is the quantity of exported oranges by Egypt to the importing market (f)

$TQI_{ft}$  = is the total quantity of imports of oranges by the country (f)

$P_f$  = is the production of oranges in country (f)

$QE_{ft}$  = is the quantity of the exported oranges by the country (f)

**Instability Coefficient**

Instability coefficient represents the year-to-year fluctuations in exports (i.e., export instability). It is the difference between the actual and estimated value of exports. It can be estimated using the following formula.

$$IC = \sum \frac{|Y_t - \hat{Y}_t|}{\hat{Y}_t} \times 100 \dots\dots\dots(4)$$

$Y_t$  = is the actual quantity or price of exports in the year (t)

$\hat{Y}_t$  = is the estimated value of the quantity or price of exports in the year (t), calculated by the linear trend method.

**RESULTS**

**For Relative Price Ratio**

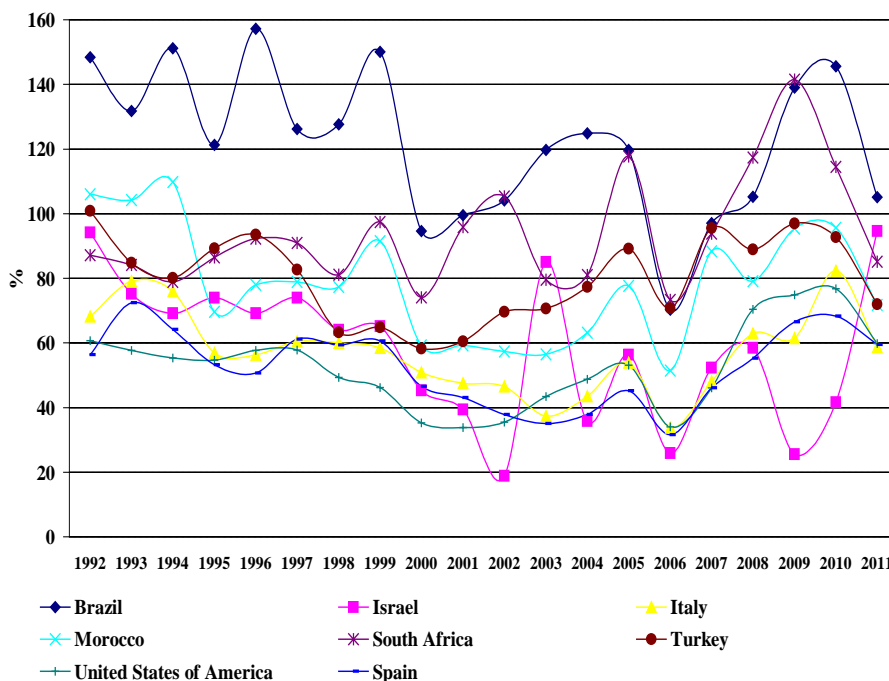
Table (2) presents a descriptive analysis for relative price ratio results. As mentioned earlier, the lower the ratio the more competitive advantage do Egypt has in oranges exporting sector. The estimated ratio averaged (during 1992-2011) about 122% for Brazil, followed by South Africa (94%), Turkey (90%), Morocco (79%), Israel and Italy about 58% each (on average) and the United States and Spain 53% on average. These results indicate that Egypt has a significant competitive price advantage among its competitors. Apart from Brazil, where the bulk of oranges are processed into juice and only small quantities are exported as fresh, these results explain being Egypt as one of the main oranges exporters globally. Moreover, Figure (4) portrays a detailed picture for relative price ratio estimated results. It depicts an obvious maintained competitive advantage all over Egypt's competitors.



**TABLE (2): A DESCRIPTIVE STATISTICS FOR ESTIMATED RELATIVE PRICE RATIO DURING THE PERIOD 1992-2011**

	Brazil	S. Africa	Morocco	Turkey	Israel	Italy	US A	Spain
Mean	121.92	93.87	78.51	80.07	58.20	57.14	52.55	52.51
SE	5.13	3.91	3.98	2.95	4.98	2.87	2.85	2.63
Median	123.06	89.04	77.81	81.39	61.25	57.73	53.91	54.18
SD	22.96	17.50	17.78	13.19	22.28	12.83	12.75	11.77
Range	86.88	68.22	58.30	42.63	75.70	48.53	42.89	40.86
Minimum	70.29	73.29	51.48	58.21	18.87	33.80	33.82	31.60
Maximum	157.17	141.50	109.79	100.84	94.57	82.33	76.71	72.47

**FIGURE (4): RELATIVE PRICE RATIO FOR EGYPTIAN ORANGES DURING THE PERIOD 1992-2011**



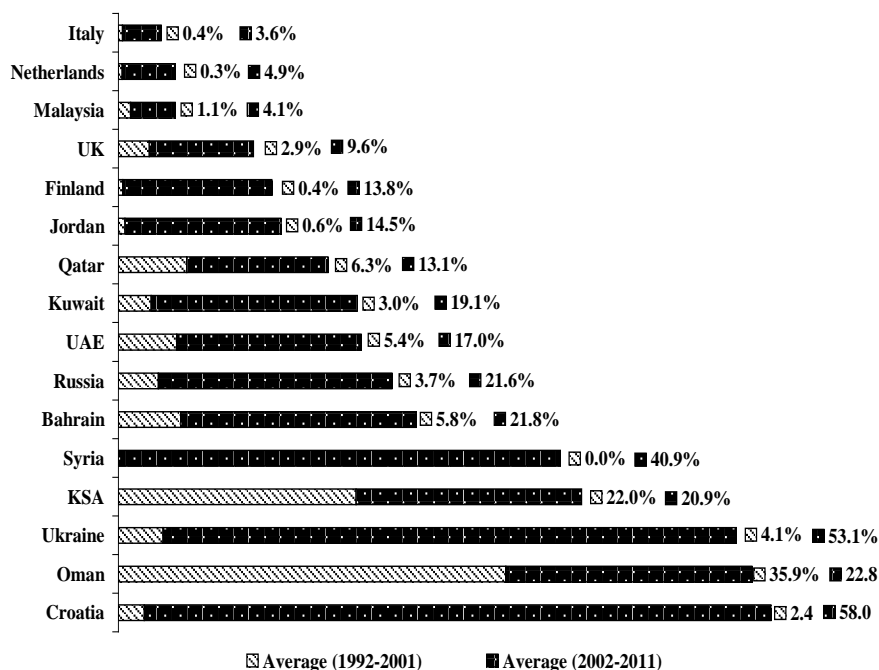
**For Market Share Ratio**

Figure (5) presents the estimated results for market share ratio during the last two decades. However, the study period has been disaggregated into two periods in order to trace the progress/fall in Egypt's dominance in oranges importing markets. The first period covers the period (1992-2001), while the second (2002-2011). The results reveal that Egyptian oranges dominate the Croatian, Omani, Ukrainian, Saudi and Syrian markets with a market share ratio estimated at 60.4%, 59%, 57%, 43% and 41% respectively during the period 1992-2011. Next come, Bahrain (28%), Russian Federation (25.3%), United Arab Emirates and Kuwait (about 22.2% each on average), Qatar (19%), Jordan and Finland (14.5% each on

average), The United Kingdom (12.6%), Malaysia and The Netherlands (5% each on average) and Italy (about 4%)

Moreover, there is a significant grow for Egypt's market share during the second period compared to the first period for the majority of importing markets. This result could be observed in Figure (5) for the case of Croatia, Ukraine, Bahrain, UAE, Kuwait, Qatar, Jordan, Finland, UK, Malaysia, The Netherlands and Italy. However, this boom is presumably due to the competitive price and quality of Egyptian oranges.

**FIGURE (5): MARKET SHARE RATIO FOR EGYPTIAN ORANGES DURING THE PERIOD 1992-2011**



For Syria, data were not available for the first period that is why the market share ratio accounted zero.

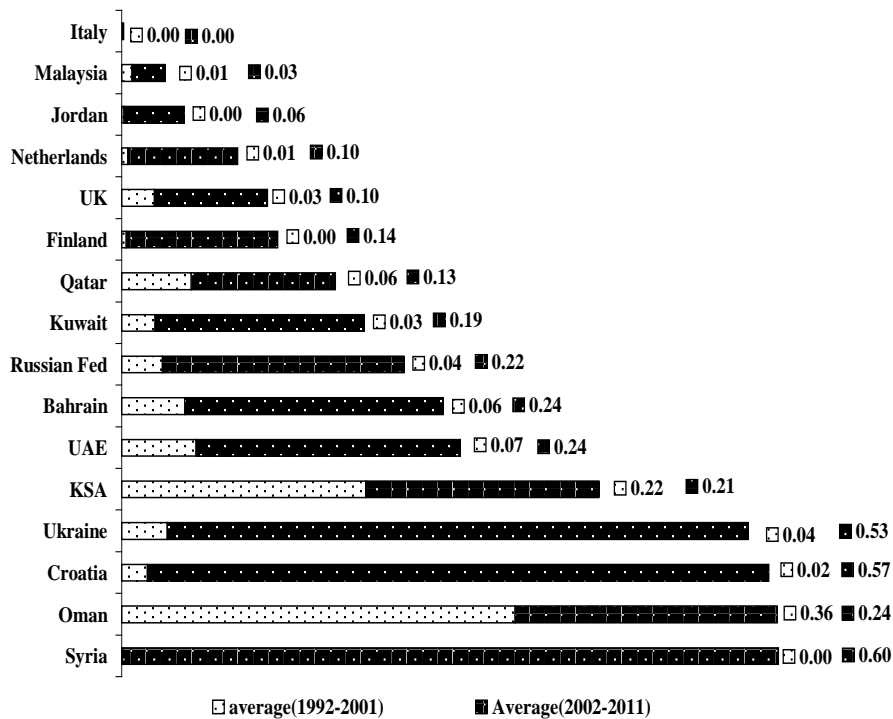
**Market Penetration Index**

Figure (6) shows the average market penetration index of Egyptian oranges for its major importing markets throughout the period (1992-2011). Low index value reflects high level of competition and difficulties being faced by Egyptian oranges while trying to penetrate that market. The estimated results during the study period (1992-2011) reveal that the market penetration index reached the highest in Syria, Oman and Croatia accounting for about 58% (each on average) followed by Ukraine (44%). Next come Saudi Arabia, United Arab Emirates and Bahrain (29% each on average). Followed by Russian Federation, Kuwait and Qatar (23% each on average). Then Finland, The United Kingdom and The Netherlands (13% each on average). Finally come Jordan (6%), Malaysia (4%) and Italy (0.2%).

Except for the Omani and Saudi markets, the value of this index has increased significantly for all the oranges-importing markets over the two study periods, 1992-2001 and 2002-2011.

From bridging the estimated results presented in Figures (5) and (6), it could be suggested that the Jordanian market ranked the eleventh in terms of Egyptian oranges market share, whereas it ranked the fourteenth using the market penetration index. Simultaneously, the Croatian market ranked the first in terms of the market share of Egyptian oranges, while it ranked the third using the market penetration index. In addition, the Netherlands market ranked the fifteenth in terms of the market share of Egyptian oranges, while it ranked the thirteenth in market penetration index. These three findings reflect the possibility of increasing Egyptian oranges exports to the Jordanian, Croatian and the Netherlands markets. In contrast, the Syrian, UAE and Finland markets ranked the fifth, eighth and twelfth respectively in terms of the market share of Egyptian oranges, while they ranked first, sixth and eleventh using the market penetration index. Accordingly, these findings indicate the difficulty in increasing the Egyptian Oranges exports into Syrian, UAE and Finland markets.

**FIGURE (6): MARKET PENETRATION INDEX FOR EGYPTIAN ORANGES DURING THE PERIOD 1992-2011**

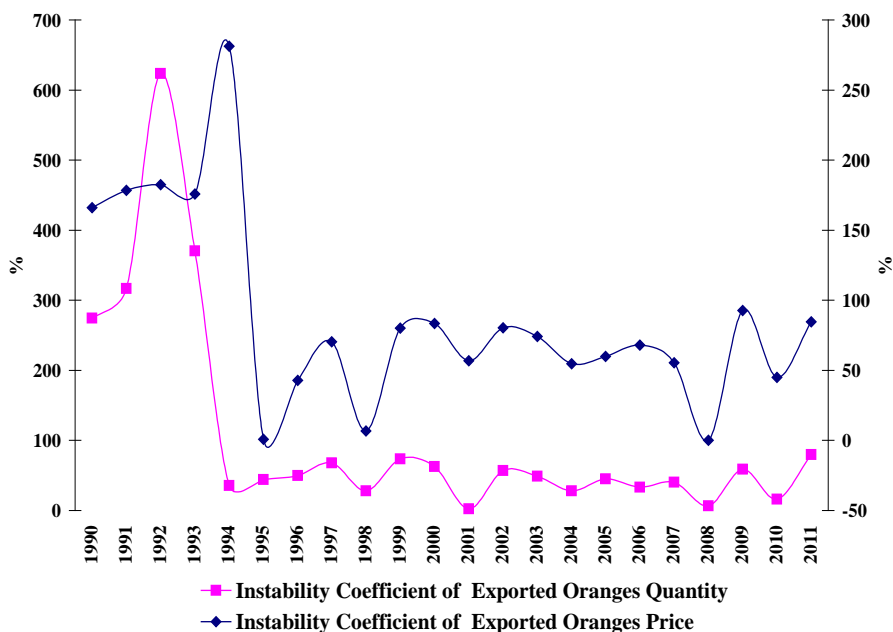


**Instability Coefficient**

Figure (7) shows the trends for estimated instability coefficient for exported quantities and prices of Egyptian oranges during 1992-2011. In

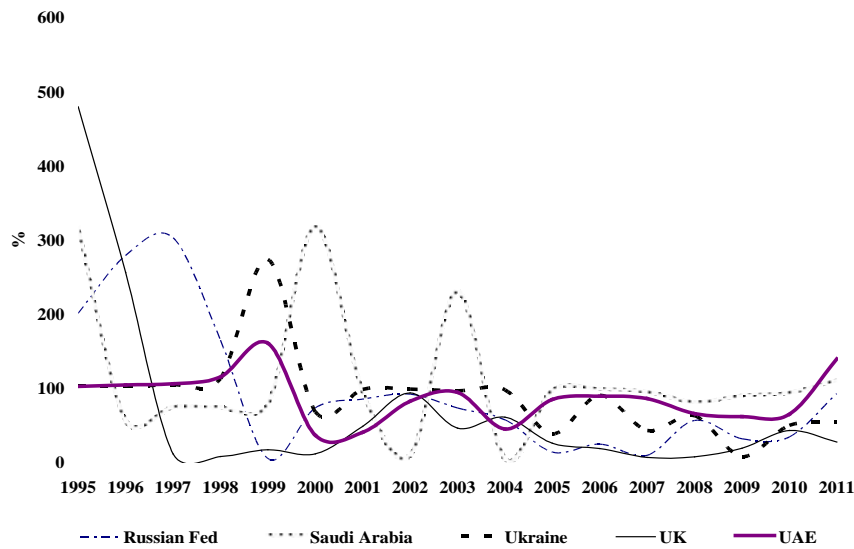
general, it depicts that Egyptian oranges quantities are characterized by instability, as they fluctuated between a minimum of 2.5 in 2001 and a maximum of 624 in 1992, with an average of 107 during the period (1992-2011). Since 1994, the trend of Egyptian oranges exports has become more stable. For fluctuation in export price, the results indicated a relatively more stable case compared quantities instability, as reached a maximum of 281 and a minimum 0.15, with an average estimated at 88 during the period 1992-2011. However, average instability in exported quantities fell from 277.6 during the period 1990-1995 to about 46 and further to 39 throughout the periods 1996-2005 and 2006-2011 respectively. Similarly, a same picture could be seen for instability prices, as it fell from 164 to 61 and 57 during the earlier mentioned periods respectively.

**FIGURE (7): QUANTITY AND PRICE INSTABILITY COEFFICIENTS FOR EGYPTIAN EXPORTED ORANGES DURING THE PERIOD 1992-2011**

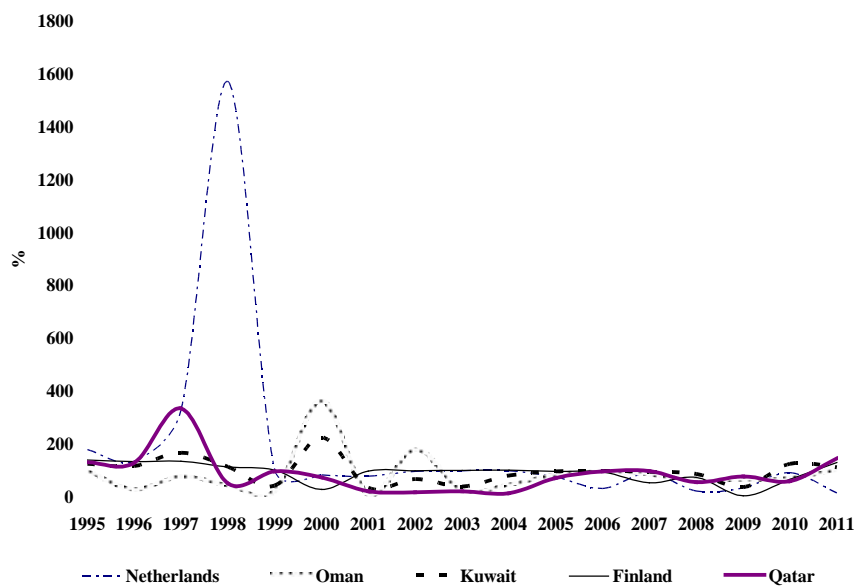


However, Figures 7 and 7A shows quantities instability in importing markets. It depicts that, since the late 1990s, instability coefficient fell and smoothed for all imported destinations. For example, it fell during the 2000s than its original estimates throughout the 1990s by about 81% for The Netherlands, 73% (on average) for The United Kingdom and Russian federation, 50% for Ukraine, 33% (on average) for Qatar and Oman, 24% (on average) for Finland, Kuwait and Saudi Arabia and the least for United Arab Emirates accounting to only 13%.

**FIGURE (7A): INSTABILITY COEFFICIENTS FOR VOLUMES OF EGYPTIAN EXPORTED ORANGES DURING THE PERIOD 1992-2011**



**FIGURE (7B): INSTABILITY COEFFICIENTS FOR VOLUMES OF EGYPTIAN EXPORTED ORANGES DURING THE PERIOD 1992-2011**



**Factors Affecting Egyptian Oranges Exports**

This part of the study aims to analyze and determine the main factors influence Egypt's oranges exports via modeling and estimating a simple regression model. However, it is hypothesized that the following factors might influence the Egyptian oranges exports.

**El-Kholei, A.**

1. ( $X_1$ ) = Percentage of Egyptian oranges self-sufficiency, as it is expected that achieving higher levels of self-sufficiency would enhance oranges exports.
2. ( $X_2$ ) = Percentage of world oranges self-sufficiency as it is expected that achieving higher levels of self-sufficiency would enhance oranges exports.
3. ( $X_3$ ) = Average world per-capita consumption of oranges (kg/person), as it is expected that achieving higher levels of per-capita consumption of oranges would escalate the demand of oranges and thus enhance oranges exports.
4. ( $X_4$ ) = Egyptian export price (thousand USD/ton), as it is expected that higher Egyptian export prices of oranges would encourage oranges exporters to export more and thus enhance oranges exports.
5. ( $X_5$ ) = Competitor export price (thousand USD/ton), as it is expected that higher competitors export prices of oranges would encourage oranges exporters to export more quantities due to Egyptian price privilege and thus enhance oranges exports.
6. ( $X_6$ ) = Quantity of Egyptian oranges production (ton), as it is expected that more produced quantities would enhance oranges exports.
7. ( $X_7$ ) = Cultivated area of Egyptian oranges (thousand feddan), as it is expected that more cultivated areas would enhance oranges exports.

Before carrying on with estimating the regression model, a correlation matrix was estimated for above suggested explanatory variables in order to provide an overall picture for highly correlated variables that might affect oranges export quantities. Table (3) presents the estimated correlation results. Then the paper employed a stepwise regression analysis for estimating the suggested regression model (using SPSS software). The model's  $R^2$  result revealed that the suggested model explains 84% of the changes in Egyptian oranges exports. In addition, the estimated  $F$  value (51.15) that is significant at the 1% indicates an overall applicability of the estimated model.

Linear regression results shown in Table (4) indicate a significant positive relationship between competitor export price and the quantity of Egyptian oranges exports. In other words, an increase in competitor export price by 1% might lead to an increase in the quantity of Egyptian oranges exports by about 80,000 ton. This is presumably being Egypt in a more competitive price privilege; in addition, it would encourage more exporters for more oranges exportation. Moreover, the results have also depicted a positive and significant effect for cultivated area and production on Egyptian oranges exports. This increase may be referred to the adoption of modern production techniques and use of new varieties to reach the high quality specifications required in the international markets.

**TABLE (3): CORRELATION MATRIX FOR SUGGESTED FACTORS MIGHT INFLUENCE EGYPTIAN ORANGE EXPORTS DURING THE PERIOD 1992-2011**

	% of Egyp. Self-Suff $X_1$	% of World Self-Suff $X_2$	Average World / Capita Consumption $X_3$	Egyptian Export Price $X_4$	Competitor Export Price $X_5$	Quantity of Egyptian Oranges Production $X_6$	Cultivated Area of Egyptian orange $X_7$
$X_1$	1						
$X_2$	0.405 (0.062)	1					
$X_3$	-0.465 <sup>*</sup> (0.029)	-0.141 (0.530)	1				
$X_4$	-0.529 <sup>*</sup> (0.011)	-0.446 <sup>*</sup> (0.038)	0.350 (0.110)	1			
$X_5$	-0.489 <sup>*</sup> (0.021)	-0.468 <sup>*</sup> (0.028)	0.679 <sup>**</sup> (0.001)	0.834 <sup>**</sup> (0.000)	1		
$X_6$	-0.613 <sup>**</sup> (0.002)	-0.641 <sup>**</sup> (0.001)	0.729 <sup>**</sup> (0.000)	0.701 <sup>**</sup> (0.000)	0.873 <sup>**</sup> (0.000)	1	
$X_7$	-0.615 <sup>**</sup> (0.002)	-0.442 <sup>*</sup> (0.039)	0.249 (0.264)	0.686 <sup>**</sup> (0.000)	0.564 <sup>*</sup> (0.006)	0.601 <sup>**</sup> (0.003)	1

Values in parenthesis are P values, \* significant at 5%, \*\* significant at 1%

**TABLE (4): STEPWISE LINEAR REGRESSION RESULTS FOR EGYPTIAN ORANGE EXPORTS DURING THE PERIOD 1992-2011**

Variable	Coefficients	Standard Error	t Stat	P-value
Intercept	-1666495.59	307758.34	-5.41	3.17E-05
( $X_6$ ) Competitor Export Price	80193.88	31258.04	2.565544	0.020768
( $X_8$ ) Quantity of Egyptian oranges prod	592.45 <sup>**</sup>	90.62	6.54	2.92E-06
( $X_9$ ) Cultivated area of Egyptian oranges	3925.91 <sup>**</sup>	1757.24	2.23	0.037688
F – Test	51.15 <sup>**</sup> P value (2.25E-08)			
R <sup>2</sup>	0.84			
DW	2.12			

Source: SPSS results, \* significant at 5%, \*\* significant at 1%

### Obstacles Facing Egyptian Orange Export Sector

Tariffs are not the main constraint for Egyptian orange exports but transportation costs, competitors' closer to export markets, and seasonality are the major challenges. Turkey's competitive advantage in the Russian market is its geographic closer, which means lower transportation costs and shipping time. South Africa's competitive advantage is a different production season (July-September) for its Valencia oranges compared to Egyptian Valencia oranges harvested beginning in December. This sometimes gives advantages for South African exporters to saturate some markets before Egypt commences its own harvest.

In addition, Hassan et al, (2010) noted a number of problems in the same line that could be summarized as follows: (1) Lack of sorting stations. (2) Unavailability of oranges seedlings new varieties that are demanded internationally. (3) Oranges exports mainly rely on individual exporters' efforts due to the absence of clear policies and updated international market information (such as, foreign markets supply, demand, prices, best exportation times, required quality, degree of maturity, size, color of fruits).

## **CONCLUSION**

The performance of Egyptian oranges exports has been assessed in the international market during the period 1992-2011. The Egyptian oranges are exported to 89 importing countries with different volumes. The Results revealed that Egyptian oranges exports increased from 85.3 thousand ton during the 1990s to 235.2 thousand ton throughout the period 2000-2008 (on average) and further to 833.5 during the average period 2009-2012.

Exports of Egyptian oranges face high competition from other suppliers such as Spain, Israel, and Morocco. European countries import baladi and summer varieties, mainly for juicing, while Saudi Arabia, Russia and recently Iran are importing Egyptian table oranges. Distribution of Egyptian oranges exports among main importers results revealed that the Russian federation recording the highest share accounting to about 19%, followed by Kingdom of Saudi Arabia (15.5%), Ukraine (9%), The United Kingdom and The United Arab Emirates (4.8% each on average), The Netherlands (3.6%), Sudan (2.3%), Oman and Kuwait (1.8% each), Finland (1%). Whereas, the market shares for Syria, Malaysia, Jordan, Italy, Croatia, Qatar and Bahrain only ranges 1% to 0.5% each.

Market share results during the period 1992-2011 reveal that Egyptian oranges dominate the Croatian, Omani, Ukrainian, Saudi and Syrian markets with a market share ratio estimated at 60.4%, 59%, 57%, 43% and 41% respectively. Next come, Bahrain (28%), Russian Federation (25.3%), United Arab Emirates and Kuwait (about 22.2% each on average), Qatar (19%), Jordan and Finland (14.5% each on average), The United Kingdom (12.6%), Malaysia and The Netherlands (5% each on average) and Italy (about 4%). Market penetration index findings indicate the possibility of increasing Egyptian oranges exports to the Jordanian, Croatian and the Netherlands. Whereas, there is a difficulty in increasing the Egyptian Oranges exports into Syrian, UAE and Finland markets.

Instability coefficient for exported quantities and prices of Egyptian oranges during 1992-2011, indicates that the Egyptian oranges quantities are characterized by instability. The results of linear regression analysis have indicated a significant positive relationship between Egyptian oranges exports (as a dependent variable) and competitor export price, cultivated area and production (as independent variables)



## REFERENCES

- Abu Hatab, A., (2009). "Performance of Egyptian Cotton Exports in International Market". *Agricultural Economics Research Review*, Vol. 22, pp (225-235)
- Albejaoui, M., and Yassin, H., (2007). "The Competitiveness of Egyptian Orange Exports in Major Foreign Markets". *The Moshtohor Scientific Journal*, Faculty of Agriculture Benha University Vol.5
- Anderson, W. E., Fornell, C., and Lehmann, R. D., (1994). "Customer Satisfaction, Market Share and Profitability: Findings from Sweden." *Journal of Marketing*, Vol.58, No.3. pp (53-66)
- Aoki, K., (2001). "Optimal monetary policy responses to relative-price changes". *Journal of Monetary Economics* Vol.48. pp (55–80)
- Bhagwati N. J., (1984.) "Why are Services Cheaper in the Poor Countries? " *The Economic Journal*. Vol. 94, No. 374, pp. 279-286
- Buzzel, D. R., and Wiersema, F., (1981 a). "Modeling Changes in market Share: A Cross-Sectional Analysis". *Strategic Management Journal*. Vol.2 pp (27-42)
- Buzzel, D. R., and Wiersema, F., (1981 b). "Successful Share –Building strategies". *Harvard Business Review*, Vol.59 pp (135-144)
- Campbell, Y. J., and Shiller, J. R., (1988). "The Dividend Price Ratio and Expectations of Future Dividends and Discount Factors." *The Review of Financial Studies*. Vol. 1, No.3. pp (195-228)
- Connolly B. M., and Taylor, D., (1984). "The Exact Timing of the Collapse of an Exchange Rate Regime and Its Impact on the Relative Price of Traded Goods". *Journal of Money, Credit and Banking* Vol. 16, No. 2, pp. 194-207
- Cowling, K., and Rayner, A. J., (1970). "Price, Quality, and Market Share" *Journal of Political Economy*. Vol. 78, No. 6, pp. 1292-1309
- El – Aasaar, M. K., (2001). "The competitiveness of Egyptian Exports to the Most Important Non-Traditional Agricultural Commodities". Faculty of Economics and Political Science, Center for Study of Developing Countries, Cairo University, Egypt, pp: 22
- Gardner, L. B., (1975). "The Farm-Retail Price Spread in a Competitive Food Industry". *Am. J. Agr. Econ.* Vol. 57 (3), pp (399-409).
- Hassan, A. A., Mohamed, A. A., Elgebaly, R. M., and Hassan, B. H., (2010). "Economic Analysis of the Current Situation for the Production, Export and the Competitiveness of Egyptian Oranges in Global Markets". *Australian Journal of Basic and Applied Sciences*, Vol..4(12), pp (5797-5804)
- Kalaitzis, P., van Dijk, G., Baourakis, G., (2007). "Euro-Mediterranean supply chain developments and trends in trade structures, in the fresh fruit and vegetable sector". *The Mediterranean Conference of Agro-Food Social Scientists*. 103<sup>rd</sup> EAAE Seminar 'Adding Value to the Agro-Food Supply Chain in the Future Euromediterranean Space'. Barcelona, Spain, April 23<sup>rd</sup> - 25<sup>th</sup>

**El-Kholej, A.**

- Moussa, M. H., (2012). "Determinants of External Demand for Egyptian Exports of Oranges in the World Market.".Journal of Applied Sciences Research, Vol. 8(12, pp ( 5730-5735)
- Salter, W. E. G., (1959) "Internal and External Balance: The Role of Price and Expenditure Effects". Economic Record. Volume 35, Issue 71, pp (226–238).
- Szymanski, M. D., Bharadwaj G. S., and Varadarajan, P. R., (1993). "An Analysis of the Market Share-Profitability Relationship". Journal of Marketing, Vol.57, No.3. pp (1-18)
- Verdonk, R and Hamza, M., (2013). "Citrus Annual Report 2013/2014", USDA. Available on line at: [http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Citrus%20Annual\\_Cairo\\_Egypt\\_12-12-2013.pdf](http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Citrus%20Annual_Cairo_Egypt_12-12-2013.pdf)
- Yusuf, A. S., and Salau, A. S., (2007). "Forecasting Mango and Citrus Production in Nigeria: A Trend analysis". MPRA Paper No. 2691. Available on line at: <http://mpra.ub.uni-muenchen.de/2691>. Accessed on 10/06/2014.

## Appendixes

### APPENDIX 1: ORANGES AREA AND PRODUCTION IN EGYPT DURING THE PERIOD 2000-2012

Year	Area in Ha	Production in ton
2000	87704	1610520
2001	83607	1696290
2002	83576	1808579
2003	83052	1767710
2004	83214	1850025
2005	84520	1940420
2006	87830	2120050
2007	89340	2054626
2008	93339	2138425
2009	98519	2372257
2010	101263	2401015
2011	110421	2577720
2012	118731	2786397

Source: FAO online statistics ( one hectare equals 2.381 feddan)

## تقييم صادرات البرتقال المصري فى الأسواق العالمية

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اتسم إنتاج الموالح منذ نهاية القرن العشرين بالنمو السريع حتى بلغ الناتج العالمى مئة عام ٢٠١٢/٢٠١٣ حوالى ١١٦ مليون طن ويعتبر البرتقال هو أهم أصناف هذه المجموعة إذ يمثل انتاجه حوالى ٥٧,٤% من اجمالى إنتاج الموالح كما أن أهم الدول المنتجة للموالح هى البرازيل ودول البحر المتوسط والولايات المتحدة الأمريكية حيث يمثل إنتاجهم أكثر من ثلثى الإنتاج العالمى من الموالح

وتعتبر الموالح من أهم محاصيل الفاكهة فى مصر إذ تبلغ المساحة المزروعة عام ٢٠٠٠ حوالى ٤١٩ ألف فدان ويمثل إنتاج البرتقال ٧٠% من اجمالى إنتاج الموالح فى وهو من الفواكة الشتوية ويزرع فى الدلتا والأراضى الجديدة ويزرع فى المزارع الكبيرة التى يتراوح مساحتها بين ١-١٠ فدان ويعتبر البرتقال أبوصرة من أهم أنواع البرتقال المصرى حيث يمثل انتاجه ٧٠% من اجمالى إنتاج البرتقال كما تنتج كميات قليلة من نوع البرتقال المحلى الذى يطلق عليه بلدى ونوع آخر من البرتقال الحلو وعدة أنواع أخرى من البرتقال. ويعتبر موسم صادرات البرتقال المصرى طويل نسبيا إذ يمتد من ديسمبر حتى ابريل كما أن مصر تتسم بإمكانية زيادة صادراتها من البرتقال ويرجع ذلك إلى كل من الطقس المناسب والموقع الجغرافى الاستراتيجى ، وبالرغم من أن الصادرات المصرية للبرتقال المصرى تواجه منافسة شديدة من كل من اسبانيا وإسرائيل والمغرب إلا أن الدول الأوروبية تستورد البرتقال البلدى والأصناف الصيفية لعمل العصير بينما السعودية وروسيا وإيران يستوردوا برتقال المائدة ، لذلك قد ازدادت الصادرات المصرية من البرتقال من ٨٥,٣ لآلف طن خلال التسعينات إلى ٢٣٥,٢ ألف طن خلال الفترة ٢٠٠٩-٢٠١٢. وحوالبا مصر تصدر البرتقال إلى ٩٨ دولة بكميات مختلفة فخلال الفترة ٢٠٠٣-٢٠١٢ كانت ٧٠% من صادرات مصر من البرتقال موجهة إلى ١٧ دولة تأتى فى مقدمتهم روسيا بحوالى ١٩% تليها السعودية بحوالى ١٥,٥% ثم أوكرانيا بحوالى ٩% وكل من أمريكا والإمارات العربية بحوالى ٤,٨% لكل منهم .

ولتحقيق أهداف الدراسة تم قياس المتغيرات التى تؤثر على صادرات مصر من البرتقال وهى (١) السعر النسبى أى النسبة بين سعر الدولة المصدرة إلى اسعار الدول المنافسة لهذه الدولة كل على حدة (٢) النصيب السوقى وهذا المقياس يقيس نسبة الكمية المصدرة من الدولة الى اجمالى واردات الدولة المستوردة (٣)الرقم القياسى للنفادىة للسوق وهى تعطى مؤشر على مدى قدرة الدولة المصدرة على نفاذ صادراتها الى سوق الدولة المستوردة (٤) معامل عدم الاستقرار أو التذبذب وهو يمثل تقلبات الصادرات من سنة إلى أخرى أو النسبة المؤية بين قيمة الصادرات المقدره والحقيقية . وخلصت الدراسة إلى أن الصادرات المصرية الى أن صادرات البرتقال المصرية تحتمل ميزة تنافسية سعرية بالنسبة لمنافسيها بالعالم. كما ان كل من سوق المملكة المتحدة، روسيا و أوكرانيا يعد أكثر الأسواق التى تتسم بالثبات تجاه واردات البرتقال المصرى خلال العقد الأخير. فى حين بينت نتائج نموذج الإنحدار أن هناك علاقة موجبة ذو دلالة إحصائية (عند مستوى معنوية ١%) لكل من المساحة وحجم الإنتاج و الأسعار التصديرية للمنافسين و ذلك لحجم الصادرات المصرية من البرتقال. كما تناول البحث التعرض لبعض العوائق التى تقف أمام الصادرات المصرية من البرتقال.

الكلمات الدالة: البرتقال، الصادرات و مصر