



A Study of Egypt's Production and Foreign Trade of Fruits

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Abstract: This research paper aims to analyze domestic production, consumption, exports, and imports of major fresh fruits in Egypt. The fruit sector in Egypt is experiencing continuous growth in production, contributing to meeting domestic demand and playing a significant role in international trade. The study relied on data for key fruit crops, including fresh dates, apples, olives, grapes, mangoes, bananas, oranges, and mandarins, during the recent period of 2010 - 2022. The study indicates that in 2022, Egypt's total fruit production was about 16.24 million tons, with 10.06 million tons of fresh fruit and 4.70 million tons of citrus. Fresh fruit accounted for 78 percent of total fruit production excluding citrus and about 57 percent including citrus. Total fruit exports amounted to 2.20 million tons, with 634 thousand tons of fresh fruit and 1.87 million tons of citrus. Fresh fruit constituted 29 percent and citrus 56 percent of total fruit exports. The study found a statistically significant increase in the production of both fresh fruit and citrus, with fresh fruit production rising by 0.04 million tons annually and citrus production by 0.02 million tons per year. Additionally, there was a statistically significant increase in domestic consumption of fresh fruit, with an annual rise of 0.02 million tons. The study also highlights a statistically significant annual increase in the value of fresh grape exports by EGP 0.10 thousand and fresh grape imports by EGP 0.34 thousand. However, the annual increase in the value of fresh grape imports is three times higher than that of exports. The quantity and value of mango exports also show a statistically significant annual increase of about 0.23 million tons and EGP 0.30 thousand, respectively, indicating improved efficiency in mango exportation and increased domestic production. Finally, the study reveals that the quantity and value of exports for oranges and mandarins are also significantly increasing. Orange exports grew by 0.06 million tons annually, while mandarin exports increased by 0.24 million tons annually, indicating that mandarin exports are growing at four times the rate of orange exports. The study concludes that Egypt's production of fresh fruit, including oranges, mandarins, grapes, mangoes, olives, and dates, has achieved a trade surplus during the study period. This presents a significant opportunity for the country to enhance its exports, open new markets, and strengthen its position in the global fruit trade. By capitalizing on this surplus, Egypt can explore new international markets, diversify its export destinations, and potentially increase its market share on the global stage. Improve production strategies, marketing, quality, and meet international standards, thereby strengthening Egypt's position in the global market. [Howayda Y. Botros. **A Study of Egypt's Production and Foreign Trade of Fruits**. *Nat Sci* 2024,22(6):48-63]. ISSN 1545-0740 (print); ISSN 2375-7167 (online). <http://www.sciencepub.net/nature> 06. doi:[10.7537/marsnsj220624.06](https://doi.org/10.7537/marsnsj220624.06).

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Introduction

Fruit is one of the most significant agricultural sectors in Egypt, playing a pivotal role in the national economy through its substantial contributions to export revenues in global markets. Egypt is renowned for its diverse production of fresh fruits, including dates, apples, bananas, olives, mangoes, grapes, oranges, and mandarins, all of which are produced in quantities that meet domestic demand.

Despite the sector's significant economic importance, it faces multiple challenges related to production quality, resource management, and international competitiveness. This study aims to analyze various aspects of the production, consumption, export, and import of fresh fruit in Egypt during the recent period of 2010-2022. The goal is to provide insights that will help improve export strategies and enhance the competitiveness of

Egyptian fruit in global markets, while also optimizing the management of fresh fruit imports to ensure sustainable fulfillment of domestic market needs.

Through this analysis, the study will identify differences between fruit exports and imports and offer recommendations to achieve economic sustainability and promote the sustainable growth of the fresh fruit sector.

Research Problem:

Despite Egypt's success in exporting certain types of fresh fruit, there is an imbalance between exports and imports for most other fruit crops, leading to a trade deficit and negative effects on the local economy. Therefore, this research focuses on understanding these imbalances for major fresh fruit crops in Egypt, including dates, apples, olives, bananas, mangoes, grapes, oranges, and mandarins,

to determine the extent of balance or imbalance in the trade balance. The research seeks to answer the following questions: What is the size of the gap or surplus in the fresh fruit trade? Which fruits are imported in large quantities compared to exports? What are the reasons for the gap between exports and imports of certain fruits? Is there a balance in the trade balance for fresh fruit? How can the efficiency of fresh fruit exports from Egypt be improved? This analysis aims to provide valuable information to help policymakers develop strategies to improve the balance between exports and imports and strengthen the local economy.

Research Objectives:

The research aims to examine domestic production and consumption of major fresh fruit crops, analyze the quantity and value of exports and imports for these crops, and study domestic production and consumption of major citrus crops. It also seeks to analyze the quantity and value of citrus exports and imports and to study the quantity and value of exports and imports for the crops under investigation, fresh dates fresh apples, fresh olives, fresh grapes, fresh mangoes, fresh bananas, fresh oranges, and fresh mandarins during the recent period of 2010 - 2022. The study will assess export efficiency for these crops, the trade balance, surplus and deficit, self-sufficiency ratios, export and import prices, and profit margins. Additionally, it will evaluate the contribution of fresh fruit and citrus production to total fruit production and exports, and analyze production and export trends using linear and logarithmic models. This will provide insights for policymakers to enhance this vital sector in Egypt.

Research Methodology:

The study relied on data collected by the Central Agency for Public Mobilization and Statistics (CAPMAS) and also utilized bulletins from the Ministry of Agriculture and Land

Reclamation, the Economic Affairs Sector during the recent period of 2010–2022. Descriptive statistics and trend equations were used to clarify the general trends in the production and trade of the studied crops. Additionally, indicators such as Export Efficiency and Profit Margin were employed. The aim of these analyses is to derive results and recommendations that support the future development of the fruit production and trade sector in Egypt.

Results and Discussion:

Relative Importance of Fresh Fruit Production in Egypt

The quantities of production for both fresh fruit and citrus fruits, as well as the total fruit production in Egypt, were studied for the period (2016-2022). Table (1) indicates the following results:

The average total fruit production in Egypt, including citrus, was about 16.244 million tons, ranging from a minimum of about 15.40 million tons in 2016 to a maximum of about 17.69 million tons in 2022. The average citrus production was about 4.39 million tons, with a range from a minimum of about 4.24 million tons in 2019 to a maximum of about 4.70 million tons in 2022. Citrus contributed about 27 percent of the total fruit production in Egypt, with a maximum of about 27.2 percent in 2021 and a minimum of about 26.59 percent in 2018. The table also shows that the average production of fresh fruit was about 9.01 million tons, ranging from a minimum of about 8.342 million tons in 2016 to a maximum of about 10.056 million tons in 2022. Fresh fruit production contributed about 55 percent of the total fruit production (including citrus), with a minimum of about 53.17 percent in 2016 and a maximum of about 56.83 percent in 2022.

Meanwhile, fresh fruit production contributed about 76 percent of the total fruit production (excluding citrus), ranging from a maximum of about 77.39 percent in 2022 to a minimum of about 73.63 percent.

Table (1): Relative Importance of Fresh Fruit and Citrus Production to Total Fruit Production in Egypt (Thousand Tons) During the Period (2016-2022)

Year	Citrus Production	Fresh Fruit Production	Total Fruit * Production	Citrus % Production of Total	Fresh Fruit % Production of Total (Including Citrus)	Fresh Fruit % Production of Total (Excluding Citrus)
2016	4269	8342	15398	27.72	54.17	74.95
2017	4386	8841	16393	26.75	53.93	73.63
2018	4326	9130	16271	26.59	56.11	76.43
2019	4240	9021	15914	26.64	56.69	77.27
2020	4333	8911	15920	27.22	55.97	76.91
2021	4493	8772	16121	27.87	54.42	75.44
2022	4700	10056	17693	26.56	56.83	77.39
Average	4392	9010	16244	27	55	76

Total Fruit Production Includes Citrus Production.
Source: Compiled and calculated from data of the Central Agency for Public Mobilization (CAPMAC) and Statistics, various editions of the Production and Foreign Trade Bulletin; Ministry of Agriculture and Land Reclamation, Agricultural Statistics Bulletins, various editions.

Relative Importance of Fresh Fruit and Citrus Exports

The quantities of exports for both fresh fruit and citrus fruits, as well as the total fruit exports in Egypt, have been studied over the last six years (2016-2022) at the national level. Table (2) shows the following results:

The average total quantity of fruit exports in Egypt was about 2.07 million tons, ranging from a

minimum of about 1.73 million tons in 2016 to a maximum of about 2.33 million tons in 2021. The average quantity of citrus exports was about 1.81 million tons, with a minimum of about 1.42 million tons in 2016 and a maximum of about 2.16 million tons in 2019. Citrus contributed about 87 percent of the total fruit exports, with a maximum of about 110.30 percent in 2019 and a minimum of about 78.82 percent in 2020. The average total quantity of fresh fruit exports was about 433 thousand tons, ranging from a minimum of about 251 thousand tons in 2016 to a maximum of about 634 thousand tons in 2022. Fresh fruit exports contributed about 21 percent of the total fruit exports, with a minimum of about 14.55 percent in 2016 and a maximum of about 28.76 percent in 2022.

Table (2): Relative Importance of Fresh Fruit and Citrus Exports to Total Fruit in Egypt (Thousand Tons) ,(2016-2022)

Year	Citrus Exports***	Fresh Fruit ** Exports	Total Fruit * Exports	Citrus Exports % of Total	Fresh Fruit % Exports of Total
2016	1421	251	1725	82.36	14.55
2017	1584	288	1939	81.67	14.85
2018	1807	505	2116	85.40	23.87
2019	2158	472	1956	110.30	24.13
2020	1751	411	2222	78.82	18.50
2021	2056	468	2325	88.42	20.13
2022	1871	634	2204	84.88	28.76
"Average	1807	433	2070	87	21

*Total Fruit Exports (Including fresh fruit, citrus, nuts, dried and preserved fruit)

**Fresh Fruit Exports (Excludes citrus)

***Citrus Exports (Includes fresh oranges, mandarins, sweet lemons, and sour lemons)

Source: Compiled and calculated from data of the Ministry of Agriculture and Land Reclamation, Agricultural Foreign Trade Bulletins (Various Issues); Central Agency for Public Mobilization and Statistics (CAPMAC), Production and Foreign Trade Bulletins (Various Issues).

Domestic Production and Consumption of Major Fresh Fruit Crops

Table (3) shows that the total quantity of domestic production of fresh fruit, including fresh olives, fresh grapes, fresh mangoes, fresh bananas, guavas, figs, pomegranates, pears, plums, peaches, apricots, fresh apples, and dates, was about 10.06 million tons in 2022, compared to about 8.77 million tons in 2021, representing an increase of 14.6 percent. The self-sufficiency rate was about 103.7 percent, in 2022. The average domestic production was about 8.085 million tons, ranging from the lowest of about 6.18 million tons in 2010 to the highest of about 10.06 million tons in 2022. The average consumption of fruit was about 8.083 million tons, ranging from the lowest of about 5.96 million tons in 2011 to the highest of about 9.69 million tons in 2022. The surplus of fruit reached a peak of about 409 thousand tons in 2011 and a bottom of about 55 thousand tons in 2020. The gap between production and consumption reached a peak of about -64 thousand tons in 2017 and a bottom of about -320 thousand tons in 2015. Meanwhile, the average self-sufficiency rate for citrus fruits was 100 percent, ranging from the lowest of about 96.21 percent in 2015 to the highest of about 106 percent in 2011 during the period (2010-2022).

Table (3): Evolution Quantity of Domestic Production and Available Supply in the Year of Fruits , (2010 -2022), (Quantity : Thousands tons)

Year	Domestic Production	Available Supply	Surplus or Food gap	%self-sufficiency rate
2010	6179	6014	165	102.74
2011	6373	5964	409	106.86
2012	6920	7026	-106	98.49
2013	6893	7045	-152	97.84
2014	7531	7603	-72	99.05
2015	8132	8452	-320	96.21
2016	8342	8475	-133	98.43
2017	8841	8905	-64	99.28
2018	9130	9066	64	100.71
2019	9021	9108	-87	99.04
2020	8911	8856	55	100.62
2021	8772	8875	-103	98.84
2022	10056	9690	366	103.78
Average	8,085	8,083		100.15

Fruits Include: Olive , Grapes , Mango , Banana , Guava , Fig , Pomegranate , Pear , Plum , Peach , Apricot , Apple , Dates .

Source: Compiled and calculated from data of the Central Agency for Public Mobilization and Statistics(CAPMAS), Annual Bulletin of The Movement Production, Foreign Trade, and Available for Consumption of Agricultural Commodities for the year 2021,2022.

Export and Import Quantities of Major Fresh Fruit Crops

Table (4) indicates that the total quantity of fresh fruit exports was 634 thousand tons in 2022, compared to 468 thousand tons in 2021, representing an increase of 35.47 percent. The average export quantity of fresh fruit was 418.69 thousand tons, ranging from a minimum of 208 thousand tons in 2012 to a maximum of 691 thousand tons in 2011. The quantity of fresh fruit imports was 194 thousand tons in 2022, compared to 621 thousand tons in 2021, reflecting a decrease of 220.10 percent. The average import quantity of fresh fruit was 407.15 thousand tons, ranging from a minimum of 149 thousand tons in 2010 to a maximum of 705 thousand tons in 2013 during the period from 2010 to 2022.

The calculation of the export-to-import ratio indicates that Egypt achieved a significant trade surplus, with an average export-to-import ratio of 102.8 percent, reaching a peak of 326.8 percent in 2022 and a low of 43.6 percent in 2015.

Table (4): Evolution Quantity of Export and Import of Fruits, (2010 -2022) (Quantity : Thousands tons)

Year	Export	Import	Export to Import Ratio
2010	368	149	246.98
2011	691	228	303.07
2012	208	316	65.82
2013	555	705	78.72
2014	346	418	82.78
2015	246	564	43.62
2016	251	344	72.97
2017	288	349	82.52
2018	505	496	101.81
2019	472	554	85.20
2020	411	355	115.77
2021	468	621	75.36
2022	634	194	326.80
Average	418.69	407.15	102.83

Fruits Include: Olive, Grapes , Mango , Banana , Guava , Fig , Pomegranate , Pear , Plum , Peach , Apricot , Apple , Dates.

Source: Compiled and calculated from data of the Central Agency for Public Mobilization and Statistics(CAPMAS), Annual Bulletin of The Movement Production, Foreign Trade, and Available for Consumption of Agricultural Commodities for the year 2021,2022.

Total Domestic Production and Consumption of Major Fresh Citrus Fruits

Table (5) shows that the quantity of domestic production of fresh citrus fruits, including fresh oranges, fresh mandarins, sweet lemons, and sour lemons, was 4.7 million tons in 2022, compared to 4.5 million tons in 2021, representing an increase of 4.6 percent. The self-sufficiency rate was 165 percent in 2022. The average domestic production was 4.24 million tons, ranging from 3.52 million tons in 2010 to 4.7 million tons in 2022. The average consumption of fresh citrus fruits was 2.78 million tons, with a minimum of 2.08 million tons in 2019 and a maximum of 3.48 million tons in 2014. The average surplus of fresh citrus fruits was 1.47 million tons, peaking at 2.16 million tons in 2019 and dropping to 867 thousand tons in 2010. Meanwhile, the average self-sufficiency rate was 155 percent, ranging from a minimum of 126 percent in 2014 to a maximum of 204 percent in 2019 during the period from 2010 to 2022.

Table (5): Evolution Quantity of Domestic Production in the Year of Citrus, (2010 -2022), Thousands tons

Year	Domestic Production	Available Supply	Surplus or Food gap	% Self-sufficiency ratio
2010	3523	2656	867	133
2011	3731	2652	1079	141
2012	3980	2951	1029	135
2013	4099	2871	1228	143
2014	4395	3484	911	126
2015	4643	3346	1297	139
2016	4269	2848	1421	150
2017	4386	2802	1584	157
2018	4326	2519	1807	172
2019	4240	2083	2157	204
2020	4333	2582	1751	168
2021	4493	2437	2056	184
2022	4700	2842	1858	165
Average	4240	2,775	1,465	155

The Symbols= means (Less than half of the unit used).

Source: Compiled and calculated from data of the Central Agency for Public Mobilization and Statistics (CAPMAS), Annual Bulletins of The Movement Production, Foreign Trade, and Available for Consumption of Agricultural Commodities, Different Issues. Citrus Include: Sweet lime, Sour

Table (6) indicates that the total production of both fresh fruit and fresh citrus fruits has increased significantly. Specifically, the production of fresh fruit increased by about 0.04 tons annually, while the production of fresh citrus fruits increased by about 0.02 tons annually. However, the annual increase in fresh fruit production is about double that of fresh citrus fruits. The results from the time series equations also show a statistically significant increase in the consumption of fruit at a rate of about 0.02 tons per year. In contrast, the consumption of fresh citrus fruits decreased, but not at a statistically significant rate, indicating that the availability of fresh citrus fruits for consumption remained nearly constant throughout the study period.

Table (6): The Time Trend Equations of Domestic Production and Available Supply for Fruits, (2010 -2022), Thousands tons.

Intercept	Fruits		Citrus	
	Production	Available Supply	Production	Available Supply
	8.73 (299.20)	8.72 (229.13)	8.23 (261.78)	8.01 (106.49)
Time	0.04 (10.18)	0.04 (7.97)	0.02 (4.18)	- 0.01 (-1.36)
R²	0.90	0.85	0.61	0.14
F statistic	103.62 (0.00)	63.45 (0.00)	17.44 (0.00)	1.84 (0.20)

Numbers in parentheses are (t) values . Y= The dependent variable X= Time Variable

Total Quantity of Fresh Citrus Exports and Imports

Table (7) shows that the quantity of fresh citrus exports was about 1.87 million tons in 2022, compared to 2.06 million tons in 2021, representing a decrease of about 10 percent.. The average export quantity of fresh citrus fruits was about 1.47 million tons, ranging from a minimum of about 867 thousand tons in 2010 to a maximum of about 2.16 million tons in 2019. Regarding fresh citrus imports; the quantity was 13 thousand tons in 2022, compared to one ton in 2019, marking an increase of about 100 percent. However, the quantity of imported fresh citrus fruits in Egypt decreased during the study period. The average imports of fresh citrus fruits were about 5.13 thousand tons, with a maximum of about 16 thousand tons in 2013 and a minimum of only one ton in 2019. In the remaining years, Egypt did not import citrus fruits, indicating increased domestic production, self-sufficiency, and a surplus directed towards exports.

The statistical analysis results in Table (8) indicate that the total quantity of fresh citrus exports increased at a statistically significant rate of about 0.07 thousand tons annually. At the same time, the quantity of fresh fruit exports also increased, but at a statistically insignificant rate, meaning that fresh fruit exports were almost stable during the study period. Additionally, the results from the time series equations also show an increase in fruit imports, but at a statistically insignificant rate, while imports of fresh citrus decreased at a statistically insignificant rate. This suggests that imports of both fresh fruit and fresh citrus remained relatively constant during the study period.

Table (7): Evolution Quantity of Export and Import of Citrus (2010-2022), (Quantity: Thousands tons)

Year	Export	Import
2010	867	=
2011	1079	=
2012	1040	11
2013	1244	16
2014	911	=
2015	1297	=
2016	1421	=
2017	1584	0
2018	1807	0
2019	2158	1
2020	1751	0
2021	2056	0
2022	1871	13
Average	1468	5.125

The Symbols= means (Less than half of the unit used)

Source: Compiled and calculated from data of the Central Agency for Public Mobilization and Statistics (CAPMAS), Annual Bulletins of The Movement Production, Foreign Trade, and Available for Consumption of Agricultural Commodities, Different Issues.

Citrus Include: Sweet lime, Sour lime, Mandarin, Orange.

Table (8): The Time Trend Equations of Quantity of Import and Export for Fruits and Citrus ,(2010 - 2022),Thousands tons.

	Fruits		Citrus	
	export	Import	export	Import
	Quantity	Quantity	Quantity	Quantity
Intercept	364.69 (3.97)	334.88 (3.28)	6.74 (87.16)	3.58 (0.99)
Time	7.71 (0.67)	10.32 (0.80)	0.07 (7.41)	- 0.06 (- 0.13)
R²	0.04	0.06	0.83	0.002
F statistic	0.44 (0.52)	0.64 (0.44)	54.90 (0.00)	0.02 (0.90)

Numbers in parentheses are (t) values. Y= The dependent variable X= Time Variable.

Quantity and Value of Fresh Dates and Apples Exports and Imports

Table (9) illustrates the following:

The quantity of fresh date exports was about 31,867 tons in 2022, compared to about 13,009 tons in 2021, reflecting an increase of about 145 percent. The average quantity of fresh date exports was about 31,913 tons, ranging from a minimum of about 11,404 tons in 2017 to a maximum of about 51,451 tons in 2013.

The value of fresh date exports was about EGP 203.24 million in 2022, compared to about EGP 224.24 million in 2021, reflecting a decrease of about 10 percent. The average value of fresh date exports was about EGP 38.60 million, with a minimum of about EGP 38.02 million in 2017 and a maximum of about EGP 76.77 million in 2019.

The quantity of fresh date imports was about 4,706 tons in 2022, compared to about 13,127 tons in 2021, reflecting a decrease of about 64 percent. The average quantity of fresh date imports was about 10,137 tons, ranging from a minimum of about 3,567 tons in 2016 to a maximum of about 17,255 tons in 2015.

The value of fresh date imports was about EGP 300.159 million in 2022, compared to about EGP 265.046 million in 2021, reflecting an increase of about 13.25 percent. The average value of fresh date imports was about EGP 135.188 million, with a minimum of about EGP 42.020 million in 2016 and a maximum of about EGP 300.159 million in 2022 during the period (2013-2022).

Table (9): Quantity and Value of Import and Export for Dates and Apple, (2013-2022), Quantity (ton), Value (EGP Thousands).

Year	Dates					Apple				
	export		import			export		import		
	Quantity	Value	Quantity	Value	Trade Balance	Quantity	Value	Quantity	Value	Trade Balance
2013	51451	460166	11538	88230	371936	20	202	578425	3039474	-3039272
2014	36444	339843	16391	69752	270091	781	5346	342051	3215003	-3209657
2015	25994	252688	17255	79498	173190	=	3440	425516	3434710	-3431270
2016	40561	414918	3567	42020	372898	149	1674	289055	3593586	-3591912
2017	11404	38023	14751	157377	-119354	1518	52695	310496	3883399	-3830704
2018	29033	559777	7525	90967	468810	=	2441	435324	4077055	-4074614
2019	40910	767694	7890	166690	601004	2770	17713	442850	6845787	-6828074
2020	38452	599791	4620	92144	507647	1118	6740	285292	5280683	-5273943
2021	13009	224238	13127	265046	-40808	2505	8473	429519	6592355	-6583882
2022	31867	203243	4706	300159	-96916	1643	9786	152862	7520225	-7510439
Average	31913	386038	10137	135188	250849.8	899	5826	381622	3039474	-4737377

= Less than half of the unit used.

Source: Compiled and calculated from data of the Central Agency for Public Mobilization and Statistics (CAPMAS), Annual Bulletin of The Movement Production, Foreign Trade, and Available for Consumption of Agricultural Commodities, Different Issues.

Table (9) shows that the quantity of fresh apple exports was about 1,643 tons in 2022, compared to 2,505 tons in 2021, reflecting an increase of about 52.47 percent. The average quantity of fresh apple exports was about 899 tons, ranging from a minimum of about 20 tons in 2013 to a maximum of about 2,770 tons in 2019. The value of fresh apple exports was about EGP 9.79 million in 2022, compared to EGP 8.5 million in 2021, showing an increase of about 15.50 percent. The average value of fresh apple exports was about EGP 5.83 million, with a minimum of about EGP 202,000 in 2013 and a maximum of about EGP 17.1 million in 2019.

The quantity of fresh apple imports was about 152,862 tons in 2022, compared to 429,519 tons in 2021, representing a decrease of about 181 percent. The average quantity of fresh apple imports was about 381,622 tons, ranging from a minimum of about 152,862 tons in 2022 to a maximum of about 578,425 tons in 2013. The value of fresh apple imports was about EGP 7.52 billion in 2022, compared to EGP 6.59 billion in 2021, reflecting an increase of about 14.07 percent. The average value of fresh apple imports was about EGP 3.04 billion, with a minimum of about EGP 3.03 billion in 2013 and a maximum of about EGP 7.52 billion in 2022 during the period (2013-2022).

The data indicates that there was a trade surplus for fresh dates during the study period, averaging about EGP 250.85 million. The surplus peaked at approximately EGP 601.00 million in 2019 and fell to around EGP 173.19 million in 2015. The trade deficit was at its lowest around EGP 40.80 million in 2021 and its highest around EGP 119.35 million in 2017. The trade deficit for fresh dates was about EGP 96.92 million in 2022, which is approximately 139% higher than the deficit in 2021. Recent years have shown a deficit in the trade balance for Egyptian dates, possibly due to the low quality of most varieties of fresh Egyptian dates, leading to missed opportunities for significant export revenue.

Regarding apples, the average trade balance deficit was about EGP 4.73 billion, with the deficit reaching approximately EGP 7.51 billion in 2022. Throughout the study period, a trade deficit in this product was consistently observed.

Table (10) shows that the quantities of fresh date exports and imports are decreasing at a statistically non-significant rate, while the value of fresh date exports is also declining. Conversely, the value of fresh date imports is increasing, though this change is also statistically non-significant. This means that the quantities and values of fresh date exports and imports are relatively stable over the study period.

Additionally, the general trend analysis reveals a statistically significant increase in the value of fresh apple imports, with an annual increase of about EGP 0.10 million. At the same time, the value of fresh apple exports is rising, but this increase is not statistically significant, indicating that the value of apple exports remains relatively stable. The general

trend analysis also shows a non-significant increase in the quantity of fresh apple exports, while the quantity of fresh apple imports has decreased at a non-significant rate, suggesting that the quantities of both fresh apple exports and imports are relatively stable during the study period.

Table (10): The Time Trend Equations of Quantity and Value of import and export for Dates and Apple ,(2013-2022).

Intercept	Dates				Apple			
	export		Import		export		Import	
	Quantity (Ton)	Value (thousands pound)	Quantity (Ton)	Value (thousands pound)	Quantity (Ton)	Value (thousands pound)	Quantity (Ton)	Value (thousands pound)
	10.563 (30.91)	12.6799 (20.47)	9.570 (25.78)	10.818 (35.63)	4.65 (4.99)	6.98 (7.77)	13.12 (58.46)	14.74 (172.70)
Time	-0.0521 (-0.95)	-0.0085 (-0.085)	-0.0879 (-1.469)	0.1496 (3.06)	0.38 (2.29)	0.28 (1.91)	- 0.07 (-1.80)	0.10 (7.63)
R²	0.10	0.001	0.21	0.60	0.43	0.31	0.30	0.88
F statistic	0.90 (0.37)	0.01 (0.93)	2.16 (0.18)	9.35 (0.02)	5.26 (0.06)	3.63 (0.09)	3.25 (0.11)	58.16 (0.00)

Numbers in parentheses are (t) values . Y= The dependent variable X= Time Variable

Export and Import Prices for Fresh Dates and Apples:

Table (11) indicates that the average export price for fresh apples was approximately EGP 7,135 per ton, ranging from a minimum of about EGP 3,382 per ton in 2021 to a maximum of about EGP 34,713 per ton in 2017. The average import price for fresh apples was about EGP 9,024 per ton, with a minimum of about EGP 5,255 per ton in 2013 and a maximum of about EGP 49,196 per ton in 2022.

Table (11) also shows that there was a profit margin for fresh date exports in 2013, 2014, 2015,

and 2018, with margins of 14.5%, 54%, 52.6%, and 37%, respectively. For fresh apple exports, the profit margins were 47.9% and 63.97% in 2013 and 2017, respectively. This suggests that the export price was higher than the import price during these periods, indicating that Egypt enjoyed export efficiency and a competitive advantage. In contrast, in other years, export efficiency was lower, posing additional challenges to the country's competitiveness in international markets, which could be attributed to rising global prices.

Table (11): Import Price and Export Price for Dates and Apple, (2013-2022), (EGP/ton)

Year	Dates			Apple		
	Export Price	Import Price	% Profit Margin	Export Price	Import Price	% Profit Margin
2013	8944	7647	14.5	10100	5255	47.97
2014	9325	4256	54.36	6845	8886	(29.82)
2015	9721	4607	52.61	-	7143	
2016	10229	11780	(15.16)	11235	12432	(10.65)
2017	3334	10669	(220.01)	34713	12507	63.97
2018	19281	12089	37.3	-	6982	
2019	18765	21127	(12.59)	6,395	15,458	(141.72)
2020	15598	19945	(27.87)	6,029	18,510	(207.02)
2021	17237	20191	(17.14)	3,382	15,348	(353.81)
2022	6378	63782	(900.03)	5,956	49,196	(725.99)
Average	11881	17609	(103)	7135	9024	(169.63)

Numbers in parentheses are Negative. Profit margin= [(export price-import price) /export price]*100

Source: Table (10).

Quantity and Value of Fresh Olive and Grape Exports and Imports

Table (12) shows that the quantity of fresh olive exports reached about 21,764 tons in 2022,

compared to 345 tons in 2021, representing an increase of about 6.21 percent. The average quantity of fresh olive exports was about 3,762 tons, with a minimum of about 92 tons in 2020 and a maximum of about 21,764 tons in 2022. The value of fresh

olive exports was about EGP 79.157 million in 2022, compared to about EGP 4.892 million in 2021, indicating an increase of about 1,518 percent. The average value of fresh olive exports was about EGP 20.51 million, with a minimum of about EGP 1.73 million in 2020 and a maximum of about EGP 79.16 million in 2022. The average quantity of fresh olive imports was about 1.9 tons, while the average value of fresh olive imports was about EGP 37,300, with a minimum of about EGP 51,000 in 2013 and a maximum of about EGP 179,000 in 2019.

Table (12) also indicates that the quantity of fresh grape exports was about 153,828 tons in 2022, compared to about 172,479 tons in 2021, representing a decrease of about 10.81 percent. The average quantity of fresh grape exports was about 206,242 tons, with a minimum of about 130,302 tons in 2017 and a maximum of about 410,364 tons in 2013. The value of fresh grape exports was about EGP 4.696 billion in 2022, compared to about EGP 4.097 billion in 2021, representing an increase of about 14.61 percent. The average value of fresh grape exports was about EGP 3.293 billion, with a minimum of about EGP 1.720 billion in 2013 and a maximum of about EGP 4.696 billion in 2022. The quantity of fresh grape imports was about 10,695 tons in 2022, compared to about 102,972 tons in 2021, representing a decrease of about 89.6 percent. The average quantity of fresh grape imports was about 17,713 tons, with a minimum of about 1,888 tons in 2017 and a maximum of about 102,972 tons

in 2021. The value of fresh grape imports was about EGP 124.625 million in 2022, compared to about EGP 2.321 billion in 2021, representing a decrease of about 94.6 percent. The average value of fresh grape imports was about EGP 318.139 million, with a minimum of about EGP 2.881 million in 2014 and a maximum of about EGP 2.321 billion in 2021.

The table also indicates that Egypt achieved a surplus in the trade balance for fresh olives during the study period, with an average surplus of about EGP 20.47 million. The surplus ranged from a low of about EGP 1.73 million in 2020 to a high of about EGP 79.16 million in 2022. This indicates that exports exceeded imports of fresh olives and that local production increased during the study period.

Similarly, the fresh grape market also experienced a trade balance surplus with an average of about EGP 2.98 billion during the study period. The surplus ranged from a low of about EGP 1.67 billion in 2014 to a high of about EGP 4.57 billion in 2022. This means that exports exceeded imports of fresh grapes during the study period, and local production increased. The surplus in the trade balance for fresh olives and fresh grapes reflects Egypt's strength in exporting these products and enhances opportunities for growth in international markets. To maximize benefits, efforts should continue to improve production, quality, and marketing.

Table (12): Quantity and Value of Import and Export for Olive and Grapes, (2013-2022), Quantity (ton) , Value (EGP Thousands)

Year	Olive					Grapes				
	export		import		Trade Balance	export		import		Trade Balance
	Quantity	Value	Quantity	Value		Quantity	Value	Quantity	Value	
2013	7163	51211	0	0	51211	410364	2509009	3414	30676	2478333
2014	1480	7817	=	51	7766	245947	1720915	5722	50319	1670596
2015	1138	8015	0	0	8015	166592	1858383	5110	28816	1829567
2016	3151	26229	17	63	26166	133962	2192517	2223	40027	2152490
2017	2124	17076	0	0	17076	130302	4220164	1888	48448	4171716
2018	226	4963	1	80	4883	351071	3936494	4853	64049	3872445
2019	213	3960	1	179	3781	156055	3986420	26975	130012	3856408
2020	17	1734	0	0	1734	141821	3720210	13276	342850	3377360
2021	345	4892	0	0	4892	172479	4097292	102972	2321563	1775729
2022	21764	79157	0	0	79157	153828	4696071	10695	124625	4571446
Average	3762	20505	1.90	37.30	20468	206242	3293748	17713	318139	2975609

= Less than half of the unit used.

Source: Compiled and calculated from data of the Central Agency for Public Mobilization and Statistics (CAPMAS), Annual Bulletin of The Movement Production, Foreign Trade, and Available for Consumption of Agricultural Commodities, Different Issues.

Table (13) indicates that the quantities of fresh olive exports and imports have been decreasing at a statistically insignificant rate, while the value of fresh olive exports is also decreasing, and the value of fresh olive imports is increasing, although this increase is statistically insignificant for both. In other words, the quantities and values of fresh olive

exports and imports have remained relatively stable throughout the study period.

The results of the overall time trend also show that the value of fresh grape exports and imports is increasing at a statistically significant rate of EGP 0.10 thousand per year for the value of fresh grape exports and EGP 0.34 thousand per year for the value of fresh grape imports. However, the annual

increase in the value of fresh grape imports is three times the annual increase in the value of fresh grape exports during the study period. The results also highlight that the quantities of fresh grape exports

are decreasing, while the quantities of fresh grape imports are increasing, although these changes are statistically insignificant for both.

Table (13): The Time Trend Equations of Quantity and Value of import and export for Olive and Grapes, (2013-2022).

Intercept	Olive				Grapes			
	export		Import		export		Import	
	Quantity (Ton)	Value (thousands pound)	Quantity (Ton)	Value (thousands pound)	Quantity (Ton)	Value (thousands pound)	Quantity (Ton)	Value (thousands pound)
	7.78 (6.42)	9.74 (11.37)	3.47 (0.91)	34.93 (0.82)	12.51 (48.27)	14.39 (93.52)	7.50 (11.30)	9.62 (14.94)
Time	-0.140 (-0.72)	-0.08 (-0.611)	-0.28 (-0.46)	0.430 (0.06)	-(0.06) (-1.55)	0.10 (4.13)	0.26 (2.48)	0.34 (3.25)
R ²	0.06	0.04	0.03	0.00	0.23	0.68	0.43	0.57
F statistic	0.51 (0.43)	.037 (0.56)	0.22 (0.65)	0.004 (0.95)	2.40 (0.16)	17.09 (0.00)	6.13 (0.04)	10.55 (0.01)

Numbers in parentheses are (t) values, Y= The dependent variable, X= Time Variable

Export and Import Prices for Fresh Olives and Grapes:

Table (14) reveals intriguing details about the pricing dynamics for fresh olives and fresh grapes. The average export price for fresh olives stood at approximately EGP 19,621 per ton. This figure ranged from a low of about EGP 2,960 per ton in 2018 to a high of about EGP 18,848 per ton in 2020. Conversely, the average import price of fresh olives was significantly higher, averaging about EGP 87,569 per ton, with prices fluctuating between EGP 3,706 per ton in 2016 and EGP 179,000 per ton in 2019.

Similarly, fresh grapes also exhibited a fascinating pricing trend. The average export price for fresh grapes was about EGP 19,029 per ton, with a minimum price of about EGP 6,114 per ton in 2013 and a maximum of about EGP 32,388 per ton in 2017. On the other hand, the average import price for fresh grapes was about EGP 14,513 per ton, with prices ranging from EGP 5,639 per ton in 2015 to EGP 25,825 per ton in 2020.

The data highlights a noteworthy trend: in 2015, the export of fresh olives achieved a remarkable profit margin of about 55 percent. This success was due to the fact that the export price surpassed the import price that year. However, in subsequent years, the efficiency of olive exports declined, affecting profitability.

In the case of fresh grapes, profit margins varied significantly across different years. Notable margins included approximately 49.45 percent in 2015, 20.77 percent in 2017, 81.55 percent in 2019, 5.09 percent in 2020, and 61.83 percent in 2022. These figures reflect periods of substantial profitability for fresh grape exports, driven by high export efficiency and competitive advantage. Conversely, in years when export efficiency was lower, higher import prices posed challenges, impacting the competitive stance in international

markets. Rising global prices may have contributed to these fluctuations, influencing the dynamics of both export and import pricing.

Quantity and Value of Fresh Mango and Banana Exports and Imports

Table (15) shows that in 2022, the quantity of fresh mango exports reached 76,220 tons, up from 39,188 tons in 2021, marking an increase of 94.5 percent. The average quantity exported over the years was 40,252 tons, with figures ranging from 9,344 tons in 2013 to 76,220 tons in 2022. The value of fresh mango exports was EGP 1.874 billion in 2022, compared to EGP 680.678 million in 2021, reflecting a significant increase of 175 percent. The average value was about EGP 569.750 million, with values ranging from EGP 96.957 million in 2013 to EGP 1.874 billion in 2022. Regarding imports, the average quantity of fresh mango imports was about 112 tons. During the study period, Egypt imported small quantities, ranging from 46 tons in 2016 to 965 tons in 2019. The average value of these imports was about EGP 1.146 million, with figures ranging from EGP 54,000 in 2015 to EGP 8.936 million in 2019.

Regarding the trade balance, Egypt consistently achieved a surplus in mango trade during the study period, with an average surplus of about EGP 569 million, ranging from EGP 97 million in 2013 to EGP 1.873 billion in 2022.

For fresh bananas, the quantity of exports in 2022 was about 3,047 tons, compared to 3,956 tons in 2021, reflecting a decrease of about 17.65 percent. The average quantity of fresh banana exports was about 18,484 tons, with quantities ranging from 3,047 tons in 2022 to 45,700 tons in 2019. The value of fresh banana exports in 2022 was about EGP 27.331 million, compared to EGP 28.014 million in 2021, indicating a slight increase of about 2.5 percent. The average value was about EGP 182.110 million, with values ranging from EGP 27.331 million in 2022 to EGP 599.153 million in 2019. For

imports, the quantity of fresh banana imports in 2022 was about 1,428 tons, compared to 12,611 tons in 2021, representing a significant decrease of about 89.7 percent. The average quantity of imports was about 15,303 tons, with figures ranging from 965 tons in 2019 to 44,011 tons in 2013. The value of banana imports was about EGP 64.914 million in 2022, compared to EGP 129.326 million in 2021, showing a decrease of about 99.23 percent. The average value of imports was about EGP 138.461 million, with values ranging from EGP 42.281

million in 2017 to EGP 418.518 million in 2015. During the Study Period (2013-2022).

In summary, fresh mangoes achieved a trade surplus due to increased domestic production and competitive pricing. In contrast, fresh bananas faced a trade deficit due to lower domestic production and high import costs. To enhance the mango trade surplus, it is crucial to open new markets and improve quality, while addressing the banana trade deficit requires boosting local production and managing imports more effectively.

Table (14): Import Price and Export Price for Olive and Grapes (2013-2022), (EGP/ton)

Year	Olive			Grapes		
	Export Price	Import Price	%Profit Margin	Export Price	Import Price	%Profit Margin
2013	7149	-	-	6114	8985	(46.96)
2014	5282	-	-	6997	8794	(25.68)
2015	7043	-	-	11155	5639	49.45
2016	8324	3706	55	16367	18006	(10.01)
2017	8040	-	-	32388	25661	20.77
2018	2960	80000	-	11213	13198	(17.70)
2019	18592	179000	-	25545	4820	81.13
2020	18848	-	-	26232	25825	1.55
2021	14180	-	-	23755	22546	5.09
2022	3637	-	-	30528	11653	61.83
Average	19621	87,569		19,029	14,513	

-- Not Available, Numbers in parentheses are Negative. **Source:** Table (13).

Table (15): Quantity and Value of Import and Export for Mango and Banana, (2013-2022), Quantity (ton) , Value (EGP Thousands) .

Year	Mango					Banana				
	export		import		Trade Balance	export		import		Trade Balance
	Quantity	Value	Quantity	Value		Quantity	Value	Quantity	Value	
2013	9344	96957	0	0	96957	19340	123918	44011	309768	-185850
2014	11767	120761	0	0	120761	15325	106127	11335	99867	6260
2015	12482	136494	2	54	136440	6866	40665	34207	418518	-377853
2016	28655	320205	46	480	319725	10752	87526	24696	123901	-36375
2017	54392	606039	0	0	606039	30300	351382	4938	42281	309101
2018	56018	440568	53	908	439660	42188	407038	7332	68482	338556
2019	45700	599153	965	8936	590217	45700	599153	965	8936	590217
2020	68757	823070	0	0	823070	7366	49946	11502	118621	-68675
2021	39188	680678	51	1077	679601	3956	28014	12611	129326	-101312
2022	76220	1873571	0	0	1873571	3047	27331	1428	64914	-37583
Average	40,252	569,750	112	1,146	568,604	18,484	182,110	15,303	138,461	43,649

Source: Compiled and calculated from data of the Central Agency for Public Mobilization and Statistics (CAPMAS), Annual Bulletin of The Movement Production, Foreign Trade, and Available for Consumption of Agricultural Commodities, Different Issues.

Table (16) shows that the quantity and value of fresh mango exports are increasing at a statistically significant rate of 0.23 annually for quantity and 0.30 annually for value. This reflects efficiency in fresh mango exports and an increase in domestic production. On the other hand, the quantity and value of fresh mango imports are increasing but at a statistically insignificant rate, indicating that import

quantities and values remain relatively stable throughout the study period. Additionally, the general time trend equations indicate a decrease in the quantity and value of fresh banana exports and imports, but at a statistically insignificant rate, meaning that the quantity and value of fresh banana exports and imports are nearly stable during the study period.



Table (16): The Time Trend Equations of Quantity and Value of Import and Export for Mango and Banana, (2013-2022).

Intercept	Mango				Banana			
	Export		Import		export		Import	
	Quantity (Ton)	Value (thousands pound)	Quantity (Ton)	Value (thousands pound)	Quantity (Ton)	Value (thousands pound)	Quantity (Ton)	Value (thousands pound)
	9.13 (33.08)	11.24 (51.64)	6.47 (0.03)	27.33 (0.01)	10.16 (16.12)	12.09 (15.36)	10.59 (15.29)	12.29 (17.71)
Time	0.23 (5.08)	0.30 (8.52)	19.13 (0.56)	203.30 (0.65)	- 0.13 -1.26	- 0.10 - (0.76)	- 0.27 - (2.44)	- 0.16 - (1.41)
R ²	0.76	0.90	0.04	0.05	0.17	0.07	0.43	0.20
F statistic	25.79 (0.00)	72.60 (0.00)	0.31 (0.59)	0.42 (0.54)	1.58 (0.24)	0.58 (0.47)	5.94 (0.04)	1.98 (0.20)

Numbers in parentheses are (t) values . Y= The dependent variable X= Time Variable

Export and Import Prices for Fresh Mangoes and Bananas

Table (17) indicates that the average export price of fresh mangoes was about EGP 12,879 per ton, ranging from a minimum of about EGP 7,865 per ton in 2018 to a maximum of about EGP 24,581 per ton in 2022. In contrast, the average import price of fresh mangoes was about EGP 16,989 per ton, with a minimum of about EGP 9,260 per ton in 2019 and a maximum of about EGP 27,000 per ton in 2015.

For fresh bananas, the average export price was about EGP 8,458 per ton, ranging from a minimum of about EGP 5,923 per ton in 2014 to a maximum of about EGP 13,111 per ton in 2019. On the other hand, the average import price of fresh bananas was about EGP 12,629 per ton, with a minimum of about EGP 5,017 per ton in 2016 and a maximum of about EGP 45,458 per ton in 2022.

Table (17) also shows that the profit margin for mango exports was 6.61 percent and 29.37 percent in 2016 and 2019, respectively. For banana exports, the profit margins were 38.37 percent, 26.17 percent, 3.19 percent, and 29.37 percent in 2016, 2017, 2018, and 2019, respectively, during the study period (2013-2022).

These results suggest that Egypt experienced higher efficiency in exporting fresh mangoes and bananas during the years with higher profit margins, indicating substantial returns from exports during those periods. Conversely, in years with lower export efficiency, this was due to higher import prices compared to export prices, presenting additional challenges to Egypt's competitiveness in foreign markets. This is likely attributed to rising global prices.

Table (17): Import Price and Export Price for Mango and Banana (2013-2022), (EGP/ton)

Year	Mango			Banana		
	Export Price	Import Price	%Profit Margin	Export Price	Import Price	%Profit Margin
2013	10,376	-	-	6,407	7,038	(9.85)
2014	10,263	-	-	6,925	8,810	(27.22)
2015	10,935	27,000	(146.91)	5,923	12,235	(106.57)
2016	11,174	10,435	6.61	8,140	5,017	38.37
2017	11,142	-	-	11,597	8,562	26.17
2018	7,865	17,132	(117.83)	9,648	9,340	3.19
2019	13,111	9,260	29.37	13,111	9,260	29.37
2020	11,971	-	-	6,781	10,313	(52.09)
2021	17,370	21,118	(21.58)	7,081	10,255	(44.82)
2022	24,581	-	-	8,970	45,458	(406.78)
Average	12,879	16,989	(50.07)	8,458	12,629	(55.02)

-- Not Available.

Source: Table (16).

Quantities and Values of Exports and Imports for Fresh Oranges and Mandarins

Table (18) shows that the quantity of fresh orange exports was about 1.579 million tons in 2022, compared to 1.686 million tons in 2021, reflecting a decrease of about 6.76 percent. The average quantity

of fresh orange exports was 1.420 million tons, ranging from a minimum of about 877,289 tons in 2014 to a maximum of about 1.953 million tons in 2019. The value of fresh orange exports was EGP 12.335 billion in 2022, compared to EGP 10.197 billion in 2021, representing an increase of about

20.97 percent. The average value of fresh orange exports was about EGP 8.433 billion, with a minimum of about EGP 3.351 billion in 2014 and a maximum of about EGP 13.438 billion in 2019.

The average quantity of fresh orange imports was 245 tons, with a minimum of about 28 tons in 2015 and a maximum of about 973 tons in 2019. The increase in export quantities compared to imports can be attributed to higher local production that meets domestic demand. The average value of fresh orange imports was EGP 1.141 million, ranging from a minimum of about EGP 144,000 in 2015 to a maximum of about EGP 4.646 million in 2019 during the period (2013-2022).

The table indicates a trade surplus in fresh oranges during the study period, with an average surplus of about EGP 8.432 billion. The lowest surplus was about EGP 3.351 billion in 2014, while the highest was about EGP 12.334 billion in 2022.

This reflects that exports of fresh oranges exceeded imports, supported by increased local production throughout the study period.

Similarly, a trade surplus was achieved for fresh mandarins, with an average trade surplus of about EGP 827.713 million. The lowest surplus was about EGP 83.459 million in 2014, and the highest was about EGP 2.009 billion in 2022. This indicates that exports of fresh mandarins exceeded imports, with increased local production during the study period.

The surplus in the trade balance for both fresh oranges and mandarins represents a significant opportunity for the country to enhance its exports and explore new markets. By improving marketing strategies, meeting international standards, and expanding infrastructure, the country can maximize these opportunities and strengthen its position in global markets.

Table (18): Quantity and Value of Import and Export for Oranges and Mandarin, During the period, (2013-2022), Quantity (ton), Value (EGP Thousands)

Year	Oranges					Mandarin				
	export		import		Trade Balance	export		import		Trade Balance
	Quantity	Value	Quantity	Value		Quantity	Value	Quantity	Value	
2013	1118663	3989771	197	2633	3987138	49395	206444	74	736	205708
2014	877289	3351244	127	504	3350740	17680	83459	0	0	83459
2015	1238216	3685920	28	144	3685776	40078	178472	0	1	178471
2016	1338801	5051219	42	310	5050909	50647	308329	0	0	308329
2017	1362883	9741675	300	351	9741324	158491	791033	100	190	790843
2018	1603965	11837446	136	813	11836633	133650	1096559	57	344	1096215
2019	1952665	13438726	973	4646	13434080	95345	798370	=	720	797650
2020	1443884	10702872	402	2808	10700064	187448	1496538	51	303	1496235
2021	1686009	10196569	200	1462	10195107	229713	1311601	17	111	1311490
2022	1579170	12334604	47	441	12334163	195761	2008798	5	70	2008728
Average	1,420,155	8,433,005	245	1411	8431593.4	115,821	827,960	34	248	827713

= Less than half of the unit used.

Source: Compiled and calculated from data of the Central Agency for Public Mobilization and Statistics (CAPMAS), Annual Bulletin of The Movement Production, Foreign Trade, and Available for Consumption of Agricultural Commodities, Different Issues.

Table (18) shows that the quantity of fresh mandarin exports was about 195,761 tons in 2022, compared to 229,713 tons in 2021, reflecting a decrease of about 17.34 percent. The average quantity of fresh mandarin exports was 115,821 tons, ranging from a minimum of about 17,680 tons in 2014 to a maximum of about 229,713 tons in 2021. The value of fresh mandarin exports was EGP 2.009 billion in 2022, compared to EGP 1.312 billion in 2021, representing an increase of about 53.16 percent. The average value of fresh mandarin exports was about EGP 827.960 million, with a minimum of about EGP 83.45 million in 2014 and a maximum of about EGP 2.009 billion in 2022.

The average quantity of fresh mandarin imports was 34 tons, with a minimum of 5 tons in 2022 and a maximum of about 74 tons in 2013. The average value of fresh mandarin imports was EGP 248,000, ranging from a minimum of about EGP

1,000 in 2015 to a maximum of about EGP 720,000 in 2019 during the period (2013-2022).

Table (19) indicates that the quantity and value of exports for both fresh oranges and mandarins increased significantly during the study period. The quantity of fresh orange exports increased by 0.06 tons annually, while the quantity of fresh mandarin exports increased by 0.24 tons annually. This means that the annual increase in mandarin exports was four times that of orange exports during the study period. Additionally, the general trend analysis shows a significant increase in the value of both fresh orange and mandarin exports, with the annual increase in the value of mandarin exports being twice that of orange exports during the study period.

The results also show an increase in the quantity and value of fresh orange imports, although this increase is not statistically significant, indicating that the quantities and values of imports remained relatively stable during the study period.

Conversely, the trend equations show a decrease in both the quantity and value of fresh mandarin imports, though this decrease is not statistically significant, meaning that the quantities and values of

mandarin imports remained relatively constant during the study period.

Table (19): The Time Trend Equations of Quantity and Value of Import and Export for Oranges and Mandarin, (2013-2022).

Intercept	Oranges				Mandarin			
	export		Import		export		Import	
	Quantity (Ton)	Value (thousands pound)	Quantity (Ton)	Value (thousands pound)	Quantity (Ton)	Value (thousands pound)	Quantity (Ton)	Value (thousands pound)
	13.82 (135.73)	14.94 (75.05)	123.20 (0.62)	952.26 (1.96)	10.07 (32.02)	11.43 (37.40)	40.067 (1.51)	293.9 (1.45)
Time	0.06 (3.60)	0.16 (4.99)	22.18 (0.69)	83.44 (0.49)	0.24 (4.76)	0.32 (6.59)	- 1.757 (- 0.41)	- 8.442 (- 0.26)
R ²	0.62	0.76	0.06	0.03	0.74	0.84	0.02	0.01
F statistic	12.94 (0.01)	24.88 (0.00)	0.48 (0.51)	0.24 (0.64)	22.64 (0.00)	43.42 (0.00)	0.17 (0.69)	0.07 (0.80)

Numbers in parentheses are (t) values. Y= The dependent variable X= Time Variable

Export and Import Prices for Fresh Oranges and Mandarins

Table (20) indicates that the average export price for fresh oranges was about EGP 5,682 per ton, ranging from a minimum of about EGP 2,977 per ton in 2015 to a maximum of about EGP 7,811 per ton in 2022. The average import price for fresh oranges was about EGP 7,167 per ton, with a minimum of about EGP 3,969 per ton in 2014 and a maximum of about EGP 13,365 per ton in 2013.

The table also shows that export efficiency was above one during the period from 2018 to 2020, with values of 1.23, 1.44, and 1.06, respectively. This means that the export price was higher than the import price during these years. The country achieved profit margins from fresh orange exports of about 19 percent, 30.6 percent, and 5.77 percent for the same period, respectively, indicating the competitive advantage of fresh oranges in export markets and that the country earned significant

returns from exporting fresh oranges during this time. In contrast, export efficiency was lower in other years, posing additional challenges for the country's competitiveness in international markets, which could be attributed to rising global prices.

The data for fresh oranges reflects periods of high efficiency and profitability in export activities, particularly in the years 2018, 2019, and 2020, when export prices were significantly higher than import prices. This performance demonstrates strong competitive advantages in the fresh orange export sector during these years. Additionally, global prices for both fresh oranges and mandarins showed significant variability, affecting overall market dynamics and potentially influencing profit margins and export strategies. This variability highlights the importance of monitoring global price trends to maintain a competitive advantage in the export market.

Table (20): Import Price and Export Price for Oranges and Mandarin (2013-2022), (EGP/ton)

Year	Oranges			Mandarin		
	Export Price	Import Price	%Profit Margin	Export Price	Import Price	%Profit Margin
2013	3567	13365	(274.68)	4179	9946	(138.00)
2014	3820	3969	(3.90)	4721	-	-
2015	2977	5143	(72.76)	4453	-	-
2016	3773	7381	(95.63)	6088	-	-
2017	7148	7381	(3.26)	4991	1900	61.93
2018	7380	5978	19.00	8205	6035	26.45
2019	6882	4775	30.62	8373	-	-
2020	7413	6985	5.77	7984	5941	25.59
2021	6048	7310	(20.87)	5710	6529	(14.34)
2022	7811	9383	(20.13)	10261	14000	(36.44)
Average	5682	7167	(43.58)	6497	7392	(12.47)

-- Not Available. **Source:** Table (19).

Table (20) shows that the average export price of fresh mandarins was EGP 6,497 per ton, ranging

from EGP 4,179 per ton in 2013 to EGP 10,261 per ton in 2022. In comparison, the average import price

of fresh mandarins was EGP 7,392 per ton, with a minimum of EGP 1,900 per ton in 2017 and a maximum of EGP 14,000 per ton in 2022.

The profit margins for fresh mandarin exports were 61.93 percent in 2017, 26.45 percent in 2018, and 25.59 percent in 2020, indicating that export prices were higher than import prices during these years. This suggests that Egypt had export efficiency and a comparative advantage, achieving significant returns from fresh mandarin exports. However, export efficiency was lower in other years, which posed additional challenges for the country's competitiveness in international markets. This decline may be attributed to a rise in global prices.

Recommendations:

The study shows that the fruit sector has experienced significant growth in recent years, particularly in export markets for grapes, mangoes, oranges, and mandarins. To improve the competitiveness of this sector and enhance its sustainable growth, it is recommended to focus efforts on boosting the crops that have demonstrated good performance. This requires intensifying international marketing campaigns to enhance brand recognition and increase global demand for Egyptian fresh fruits. Additionally, providing financial and logistical support to exporters is essential to enable them to expand into global markets.

Furthermore, attention should be given to improving crops that need development, such as dates, olives, apples, and bananas. It is advisable to adopt modern irrigation and fertilization techniques to enhance production quality and efficiency. Updating storage facilities to reduce waste and maintain product quality is also necessary.

Investment in agricultural research is also crucial to improve farming and storage methods, thereby enhancing product quality and competitiveness. Expanding market access through innovative marketing strategies is important, and strict quality standards must be applied to ensure products meet international specifications and consumer expectations.

Finally, it is essential to evaluate and adjust strategies based on market trends and consumer preferences to ensure success and sustainable growth in the international market. This process requires ongoing monitoring and adaptation to changes to achieve the desired goals and strengthen the sector's position on the global stage.

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