COMPETITIVENESS OF EGYPT IN THE EU MARKET FOR FRUITS AND VEGETABLES

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1. INTRODUCTION

Fruits and vegetables are the main agricultural exports of Egypt accounting for 57 percent of total agricultural exports in 2008. The European Union (EU), the country's first trading partner, is the largest importer of fresh and processed fruits and vegetables in the world with a share of 57.7 percent of global imports in the same year.[1] Hence, the EU constitutes a potentially large market for Egypt as far as exports of fruits and vegetables are concerned.

However, the main concerns for Egypt are the high protection given to European fruit and vegetable producers in a sensitive sector, where production is often highly seasonalized and where perishable products are difficult to stock; the heterogeneity in the level of preferences that are applied by the EU to Egypt and other Southern Mediterranean Countries (SMCs), namely: Algeria, Israel, Jordan, Lebanon, Libya, Morocco, the Palestinian Authority, Syria and Tunisia; and the potential erosion of Egypt's preferential access to the EU fruit and vegetable market that could result from the generalization of European preferences to other suppliers in the framework of the ongoing Doha negotiations of the World Trade Organization (WTO).

The aim of this paper is to assess Egypt's competitiveness in the EU fruit and vegetable market over the period 2004-2008 in comparison to other SMCs; analyze the change of Egypt's export share in the EU market and determine its sources by using the Constant Market Share Analysis (CMSA) methodology; and suggest policies to enhance Egypt's fruit and vegetable exports to the EU.

The paper is organized as follows. In Section 2 EU fruit and vegetable import flows are analyzed and the position of the EU as a leading importer of fruits and vegetables in the world is highlighted. Export flows from Egypt to the EU are examined and Egypt's revealed comparative advantage in exporting fruits and vegetables is illustrated. In Section 3 the EU import regime and the protection for the fruit and vegetable market are investigated. Preferential access conditions to the EU fruit and vegetable market for Egypt's exports are then explored and evaluated in comparison to other SMCs. In Section 4 the Constant Market Share Analysis (CMSA) methodology is presented and the trade data utilized to assess the competitiveness of Egypt in the EU fruit and vegetable market are described. Main results of the CMSA are reported and

[1] Author's calculations based on data from the United Nations Commodity Trade Statistics Database (UN COMTRADE, http://comtrade.un.org).

discussed. Section 5 puts forth some conclusions and policy implications based on the evaluation of Egypt's preferential access to the EU fruit and vegetable market and the findings of the empirical analysis.

2. EU FRUIT AND VEGETABLE IMPORT FLOWS

With 500 million customers, the EU is endowed with one of the highest purchasing powers in the world constituting a potentially large market for Egypt as far as exports of fruits and vegetables are concerned.[2] The EU is the leading importer of fruits and vegetables in the world and Egypt has a clear comparative advantage in exporting them.

2.1. European Union: The Leading Importer of Fruits and Vegetables in the World

The EU is the world's biggest importer and exporter of food and drink.[3] The sum of its exports and imports in 2007 was EUR 138 billion (Table 1), compared with EUR 115 billion for the second largest player, the United States (European Commission 2009a).

As for fruits and vegetables, the EU is the leading importer (57.7 percent) and second largest exporter (51.3 percent) in the world. Throughout the period 2000-2008, fruits and vegetables made up a quarter of total EU imports of food and drink and the EU deficit on trade in fruits and vegetables recorded a large increase of 36 percent (European Commission 2009a).

Table 1. Extra EU Trade of Vegetables and Fruits (Value in Million Euros)

	2000	2006	2007	2008	Average annual increase 2000-2008 (%)	Share in extra EU exports/imports of food and drink 2008 (%)	Share in extra EU exports/imports 2008 (%)
Total exports of food and drink	47 720	57 959	62 015	68 319	4.6%	100.0%	5.2%
Exports of vegetables and fruits (SITC 05)	4 444	6 503	7 381	7 942	7.5%	11.6%	0.6%
Total imports of food and drink	54 823	67 922	75 576	80 203	4.9%	100.0%	5.2%
Imports of vegetables and fruits (SITC 05)	13 813	18 604	20 495	20 703	5.2%	25.8%	1.3%
Trade balance of food and drink	-7 103	-9 963	-13 561	-11 884			
Trade balance of vegetables and fruits (SITC 05)	-9 369	-12 101	-13 114	-12 761			

Source: European Commission (2009a).

[2] The EU gross domestic product per capita (PPP, $) is estimated at 33,700 in 2008; while it is 34,100 for Japan; 39,200 for Canada and 47,500 for the United States (Central Intelligence Agency 2009).

[3] Under the 4th revision of the Standard International Trade Classification (SITC), the food and drink product group is made up of Section (0) food and live animals and Section (1) beverages and tobacco.

The main EU imports of fruits and vegetables consist of fresh or dried fruits and nuts and fresh, chilled and frozen vegetables (Table 2).

Table 2. Main EU Imports of Fruits and Vegetables in 2007 (Value of Trade Balance in Million Euros)

Product	Surplus (+) / Deficit (-) in million euros in 2007
Fruits and nuts, fresh or dried, including:	**-9 586**
Bananas	-2 732
Citrus fruits	-895
Dates, figs, pineapples, avocados, guavas and mangoes	-1 105
Preparations of fruits	**-1 215**
Vegetables, fresh, chilled and frozen	**-1 435**
Vegetables, roots, tubers, prepared or preserved	**+556**

Source: European Commission (2008).

While Morocco and Israel together provided around 20 percent of total EU's imports of fresh, chilled and frozen vegetables in 2007, Morocco alone provided more than 5 percent of EU's imports of preserved vegetables (Table 3).

Table 3. Main Exporters of Fruits and Vegetables to the EU, 2007

Product	EU total imports in thousand tons	Share of main exporters of fruits and vegetables to the EU from its total imports (%)		
		Share of first EU partner (%)	Share of second EU partner (%)	Share of third EU partner (%)
Vegetables: fresh, chilled and frozen	5 316	Thailand (23.6)	Morocco (11.2)	Israel (8.7)
Vegetables: preserved	1 130	China (40.0)	Turkey (18.9)	Morocco (5.2)
Fruits: fresh	10 309	Costa Rica (16.0)	Ecuador (12.4)	Colombia (11.5)
Fruits: preserved and preparations	1 626	Thailand (16.0)	China (15.8)	Turkey (9.7)
Juices prepared from vegetables and fruits	1 779	Brazil (40.2)	China (13.5)	Switzerland (7.7)

Source: European Commission (2008).

2.2. Egypt's Exports to the EU

During 2004-2008, Egyptian merchandize exports to the EU grew at an average annual rate of 17.1 percent, but lower than the average annual growth rate of the country's exports to the world (18.9 percent) [Table 4]. Hence, Egypt could further promote its exports to the EU.

Table 4. Egypt's Trade with the World and the EU (Value in Million Euros, Growth in %)

Period	Egypt's exports to the:		
	World	EU	EU as a share of the world (%)
2004	9 789	3 910	39.94
2005	12 549	4 793	38.20
2006	16 458	7 071	43.0
2007	17 131	6 399	37.35
2008	19 595	7 351	37.51
Average annual growth (2004-2008)	18.9%	17.1%	-

Source: Compiled by the author from Eurostat (2009); Delegation of the European Union to Egypt (2009f).

The EU is the main market for the exports of Egypt and several SMCs (Table 5). While the EU absorbed more than 37 percent of Egypt's total merchandize exports in 2008, it was the main destination for the exports of Tunisia (74 percent), Morocco (57 percent) and Algeria (50 percent). Agricultural exports account for 11.5 percent of Egypt's total exports to the EU, while they represent 16.3 percent of Moroccan exports to the European market (WTO 2009a).

Table 5. The EU is the Main Destination for the Exports of Egypt and Other SMCs (2008)

	Algeria	Egypt	Israel	Jordan	Lebanon	Morocco	Syria	Tunisia
Rank of the EU in the SMC exports	1	1	2	6	3	1	2	1
SMC exports to the EU (Mn. euros)	25 831.2	7 374.1	12 093.9	273.0	326.4	7 669.4	3 288.8	8 680.8
EU share of total SMC exports (%)	50.0%	37.7%	29.3%	6.0%	12.0%	57.2%	27.9%	73.5%

Source: Compiled by the author from Eurostat (2009).

Nearly 6.7 percent of total EU 2008 imports from Egypt are agricultural products. Egypt is the 37th supplier of EU agricultural imports. The country's share in total EU agricultural imports is 0.5 percent. Morocco, Israel and Tunisia outperform Egypt as suppliers of EU agricultural imports, accounting for 1.7 percent, 0.9 percent and 0.6 percent of total EU agricultural imports, respectively (Table 6).

Table 6. EU Agricultural Imports from Egypt and Other SMCs (2008, Value in Million Euros and Share in %)

		Algeria	Egypt	Israel	Jordan	Lebanon	Morocco	Palestinian Authority	Syria	Tunisia
EU agricultural imports from the SMC	Rank	98	37	29	122	94	21	146	92	34
	Imports (million euros)	48.5	545.8	1 017.5	17	55.5	1 939.9	4.4	73	642.1
	Agricultural products as a % of total EU imports	0.20	6.7	9.1	5.6	15.5	23.1	62.2	2	6.8
	Share in total EU agricultural imports, %	0	0.5	0.9	0	0	1.7	0	0.1	0.6

Source: Compiled by the author from Eurostat (2009).

However, it is important to note that over the period 2004-2008, Egypt became the third main SMC exporter of fruits and vegetables to the European Union (exporting 481 thousand tons and 439 thousand tons, respectively in 2008), following Morocco and Israel (GREENMED 2009).

2.3. Egypt's Revealed Comparative Advantage in Exporting Fruits and Vegetables

Fresh vegetables are the leading crops in the SMCs, accounting for nearly 40 percent of total crop production, with 38.9 million tons produced on average per year over the period 2000-2006.[4] Fresh fruits represent 14 percent of total production with 13.6 million tons harvested on average each year (European Commission 2009b).

Among the SMCs, Egypt is the main producer of fresh vegetables, with 18.0 million tons produced on average each year, followed by Morocco, Algeria and Syria with 5.8, 4.7 and 3.0 million tons, respectively. Egypt is again the main producer of fresh fruits, with a yearly average of 5.6 million tons. The breakdown of fresh vegetables and fruits in the SMCs is shown in Table 7.

[4] Main crops include: cereals, rice, fresh vegetables, fresh fruits, grapes, olives and dates.

Table 7. Vegetables, Fruits, Grapes, Olives and Dates: Average Yearly Production 2000-2006 (Tons)

SMCs	Vegetables		Fruits		Grapes		Olives		Dates	
	Tons	% of total SMCs' production	Tons	% of total SMCs' production	Tons	% of total SMCs' production	Tons	% of total SMCs' production	Tons	% of total SMCs' production
Algeria	4 678 904	12.0	1 231 043	9.1	275 466	10.8	261 004	8.3	449 251	25.3
Egypt	18 036 983	46.3	5 564 996	41.0	1 217 670	47.7	327 300	10.4	1 140 924	64.2
Israel	1 946 026	5.0	1 248 361	9.2	127 641	5.0	41 500	1.3	14 685	-
Jordan	1 209 077	3.1	229 454	1.7	30 017	1.2	130 815	4.2	2 363	-
Lebanon	1 201 486	3.1	805 686	5.9	113 529	4.4	123 314	3.9	-	-
Morocco	5 841 440	15.0	2 076 946	15.3	271 333	10.6	571 749	18.2	50 713	2.9
Palestinian Authority	578 196	1.5	140 768	1.0	61 303	2.4	112 648	3.6	3 921	-
Syria	3 021 943	7.8	1 637 657	12.1	333 343	13.1	812 357	25.8	3 686	-
Tunisia	2 434 786	6.3	625 214	4.6	123 314	4.8	762 143	24.3	111 857	6.3
Total SMCs	**38 948 840**	**100.0**	**13 560 125**	**100.0**	**2 553 615**	**100.0**	**3 142 829**	**100.0**	**1 777 401**	**100.0**

Source: European Commission (2009b).

Production of fruits in SMCs is dominated by *citrus fruits*: 3.2 million tons were produced in Egypt and 1.2 million tons in Morocco in 2006. Egypt is the largest producer of *grapes*, with a peak in production of 1.4 million tons in 2006 and a yearly average production of 1.2 million tons over 2000-2006. In SMCs, the average yearly production of *dates* over the period 2000-2006 is 1.8 million tons, most of which comes from Egypt (1.1 million tons).

Over the period 2004-2008, Egypt enjoyed a strong export performance in *fresh fruits* and *processed fruits and vegetables*, well above the average of other SMCs. On average, Egypt's exports of *fresh fruits* grew at 90.3 percent, more than triple the SMCs' average annual growth rate of 28.1 percent. As for *processed fruits and vegetables*, Egypt's exports grew at an average annual growth rate of 203.4 percent, largely exceeding the average annual growth rate of 42.4 percent for other SMCs (Table 8).

Table 8. Average Growth Rates in Exports of Fresh and Processed Fruits and Vegetables, from the World, Egypt and Other SMCs to the EU Market (2004-2008, %)

Fresh vegetables HS 07		Fresh fruits HS 08		Processed fruits and vegetables HS 20	
World average	56.7	World average	36.5	World average	42.6
SMCs average	75.2	SMCs average	28.1	SMCs average	42.4
Libya	12 591.8*	Syria	407.3	Palestinian Authority	2 092.4*
Algeria	810.2	Lebanon	219.6	Jordan	207.2
Jordan	191.6	Egypt	90.3	Egypt	203.4
Palestinian Authority	165.0	Tunisia	31.0	Tunisia	155.8
Tunisia	156.8	Algeria	20.0	Algeria	101.7
Syria	105.6	Morocco	20.0	Libya	71.6
Morocco	90.8	Jordan	13.0	Lebanon	66.3
Lebanon	90.6	Israel	10.7	Syria	63.6
Egypt	59.2	Libya	4.8	Morocco	39.7
Israel	55.0	Palestinian Authority	-68.2	Israel	27.4

Source: Author's calculations based on data from the United Nations Commodity Trade Statistics Database (UN COMTRADE, http://comtrade.un.org).

Note: *It is important to note that if EU imports of fruits and vegetables from a certain SMC (for example, Libya and the Palestinian Authority), were extremely scarce in 2004 and growth rates are percentages of 2004 values, so they can easily reach high values. Conversely, if initial values in 2004 were large, the large effects would be unlikely.

Egypt's exports of *fresh vegetables* grew at an average annual rate of 59.2 percent, lower than the SMCs' annual average growth rate of 75.2 percent.[5] Vegetable products account for almost 5 percent of EU's total imports from Egypt (Table 9). The share of Egypt in total EU imports of vegetable products is 1.1 percent, lower than the shares of Morocco (2.4 percent) and Israel (1.8 percent).

[5] Over the period 2004-2008, the EU became larger with the adhesion of new countries, a situation that has certainly influenced the trade flows of the SMCs, including Egypt, to the EU.

Table 9. EU Imports of Vegetable Products from Egypt and Other SMCs (2008, Value in Million Euros and Share in %)

		Algeria	Egypt	Israel	Jordan	Lebanon	Morocco	Palestinian Authority	Syria	Tunisia
HS- Ch.06-14 – vegetable products	Million euros	29	440	726	14	7	960	3	20	133
	Share of total EU imports from the SMC:	0.1%	5.4%	6.5%	4.7%	1.9%	11.5%	44.8%	0.6%	1.4%
	Share of SMC in total EU imports	0.1%	1.1%	1.8%	0	0	2.4%	0%	0.1%	0.3%

Source: Compiled by the author from Eurostat (2009).

At a more disaggregated product level, Figures 1a and 1b show the most dynamic Egyptian exports of fresh fruits (pears, watermelons, apricots, grapes and citrus fruits) and vegetables (tomatoes, onions and garlic, carrots and potatoes) to the EU market over the period under consideration.

Figure 1. Growth Rates for Egypt's Most Dynamic Exports of Fresh Fruits and Vegetables to the EU Market (2004-2008, %)

Figure 1a. Egyptian Exports of Fresh Fruits

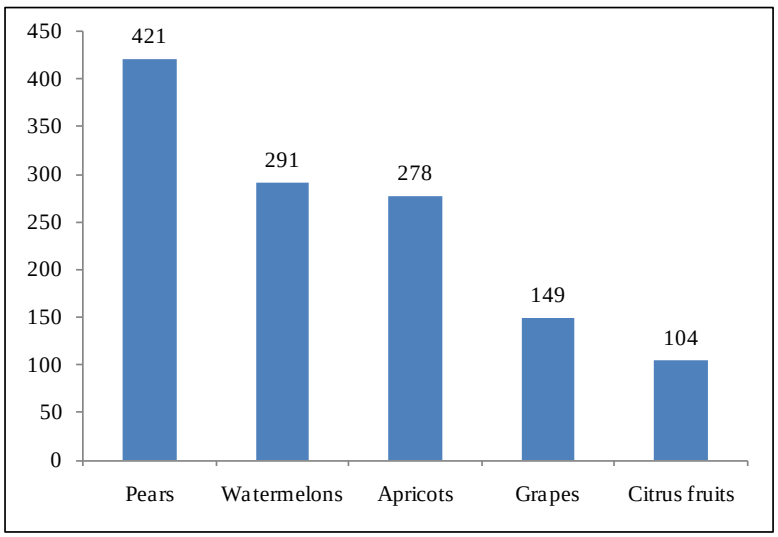
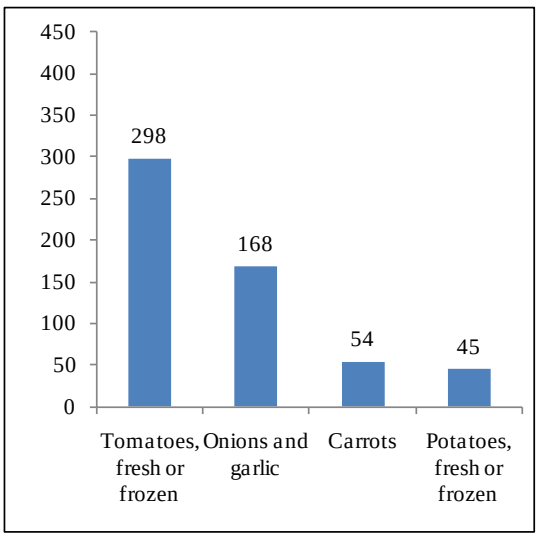


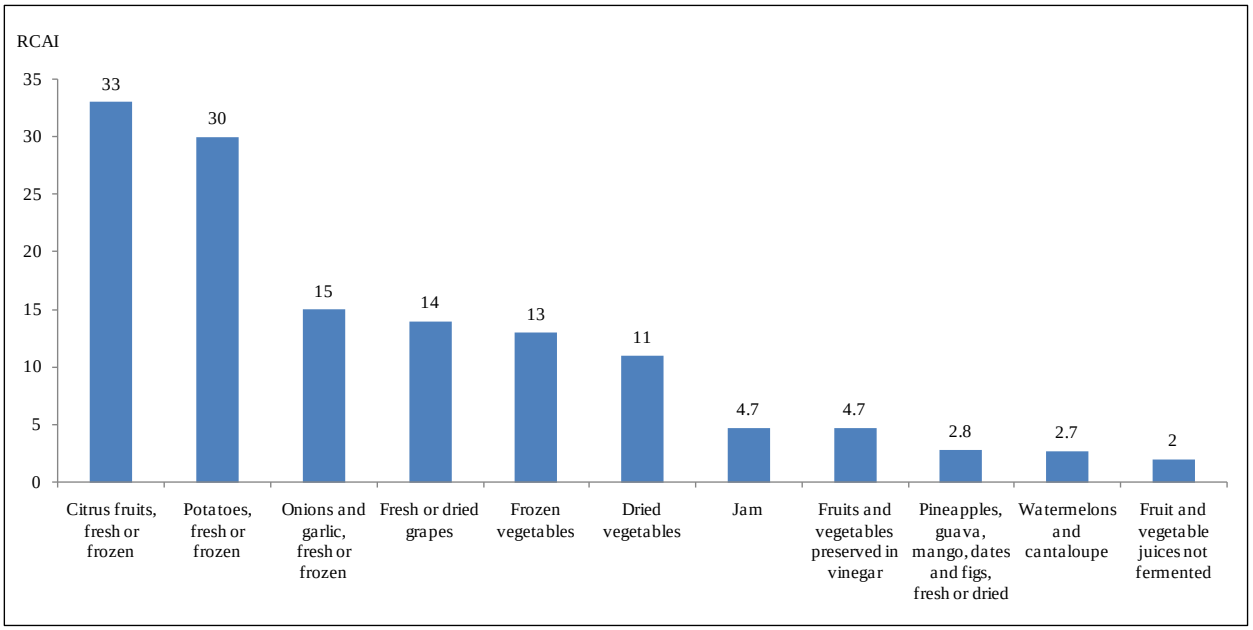
Figure 1b. Egyptian Exports of Fresh Vegetables



Source: Author's calculations based on the United Nations Commodity Trade Statistics Database (UN COMTRADE, http://comtrade.un.org).

In 2008, Egypt proved to have a clear comparative advantage in exporting several fresh and processed fruits and vegetables with respect to the rest of the world as shown in Figure (2).

Figure 2. Egypt's Revealed Comparative Advantage in Exporting Several Fresh and Processed Fruits and Vegetables



Source: Author's calculations based on United Nations Commodity Trade Statistics Database (UN COMTRADE, http://comtrade.un.org).

Note: The Revealed Comparative Advantage Index (RCAI) = Egypt exports of commodity X as a percent of total Egyptian exports divided by world exports of commodity X as a percent of total world exports. A value of RCAI greater than unity indicates that Egypt has a revealed comparative advantage in exporting commodity X (Greenaway and Milner 1993).

3. Access to the EU Fruit and Vegetable Market

The purpose of this section is to examine the EU import regime for fruits and vegetables. General provisions that apply to all imports into the EU are first discussed, followed by an investigation of EU protection for the fruit and vegetable market. Preferential access conditions to the EU fruit and vegetable market for Egypt's exports are then explored and evaluated.

3.1. EU Protection for Import Flows

The structure of the EU's common most-favored-nation (MFN) tariff remains complex (Table 10).[6] It comprises ad valorem (89.9 percent of all tariff lines) and non-ad valorem rates (10.1 percent of all tariff lines). The non-ad valorem duties are specific (6.5 percent of all tariff lines), compound (2.8 percent) and mixed or variable per entry price range (0.8 percent). Non-ad

[6] With respect to customs duties, any advantage, favor, privilege or immunity, granted by any WTO member to any product originating in or destined for any other country, are accorded in principle to the like product originating from or destined for the territories of all other WTO members, under the principle of MFN treatment. Free trade areas are exceptions to the MFN treatment.

valorem rates apply mainly to agricultural goods (WTO definition), many of which are also subject to seasonal tariffs and tariff quotas.[7]

Table 10. Structure of EU MFN Tariffs, 2008 (%)

	2008
1- Bound tariff lines (% of all tariff lines)[a]	100.0
2- Duty-free tariff lines (% of all tariff lines)	25.3
3- Non-ad valorem tariffs (% of all tariff lines)	10.1
4- Tariff quotas (% of all tariff lines)	4.8
5- Non-ad valorem tariffs with no AVEs (% of all tariff lines)	2.7
6- Simple average tariff rate	6.7
Agricultural products (WTO definition)	17.9
Non-agricultural products (WTO definition)[b]	4.1
Agriculture, hunting, forestry and fishing (ISIC 1)	9.3
Mining and quarrying (ISIC 2)	0.2
Manufacturing (ISIC 3)	6.7
7- Domestic tariff "spikes" (% of all tariff lines)[c]	5.3
8- International tariff "peaks" (% of all tariff lines)[d]	8.4
9- Overall standard deviation of applied rates	14.1
10 -"Nuisance" applied rates (% of all tariff lines)[e]	9.6

Source: WTO (2009b).

Notes: Calculations include calculable ad valorem equivalents (AVEs), as available, based on 2007 data in Eurostat (as of 15 January 2009). a- GATT Article II provides that signatories may "bind" tariff duties by including them in their schedules of tariff concessions, annexed to the General Agreement on Tariffs and Trade. Once a duty is bound, it may not be raised above that bound level without compensating affected parties. b- excluding petroleum. c- domestic tariff spikes are defined as those exceeding three times the overall simple average applied rate. d- international tariff peaks are defined as those exceeding 15 percent. e- nuisance rates are those greater than zero, but less than or equal to 2 percent.

The simple average applied MFN tariff rate is estimated at 6.7 percent for 2008, with rates ranging from zero to 604.3 percent. The coefficient of variation of 2.1 depicts a wide dispersion of the rates, essentially in agriculture, mainly due to the imposition of non-ad valorem tariffs and of high tariffs of 17.9 percent, on average, on agricultural products and generally lower rates of 4.1 percent on average on non-agricultural products. All products with tariff rates above 100

[7] Agricultural goods according to the World Trade Organization Agreement on Agriculture (WTO AOA) definition refer to the Harmonized System (HS) chapters 1 to 24 (excluding fish and fish products) and a number of manufactured agricultural products (for further information see 'The Legal Texts, The Results of the Uruguay Round of Multilateral Negotiations', WTO).

percent remain agricultural (Table 11). The EU maintains tariff quotas on 4.8 percent of tariff lines, mostly agricultural products (WTO 2009b).[8]

Using International Standard Industrial Classification (ISIC), Revision 2, the simple average MFN tariff on agriculture, hunting, forestry and fishing is 9.3 percent, with rates ranging up to 139.7 percent (Table 11).

Table 11. Summary Analysis of EU MFN Tariff, 2008

Analysis	No. of lines[a]	Applied 2008 rates					
		No. of lines used	Simple avg. tariff (%)	Range tariff (%)	Std-dev (%)	CV	Share of duty free (%)
Total	9 699	9 557	6.7	0-604.3	14.1	2.1	25.3
By WTO definition[b]							
Agriculture	2 000	1 858	17.9	0-604.3	28.4	1.6	18.1
Fruits and vegetables	428	428	15.6	0-280.9	20.4	1.3	7.0
By ISIC sector[c]							
Agriculture, hunting, forestry and fishing	565	559	9.3	0-139.7	13.8	1.5	34.5

Source: WTO (2009b).

Notes: CV = coefficient of variation. a- total number of lines is listed. Tariff rates are based on a lower frequency (number of lines), since lines with no ad valorem equivalents may be excluded. b- 41 tariff lines on petroleum products are not taken into account. c- International Standard Industrial Classification (Rev. 2). Electricity, gas and water are excluded (1 tariff line).

3.2. EU Protection for the Fruit and Vegetable Market

Fruits and vegetables are politically sensitive products for the EU. They represent about 25 percent of the value of agricultural production in many EU member countries (such as Spain, Italy, Greece, Portugal, Malta and Cyprus), and are labor intensive (Petit 2009). This political sensitivity is reflected in the level of protection and the diversity and complexity of the protection instruments used [Tariff-rate quotas (TRQs), seasonal quotas and tariffs, threshold prices, sanitary and phytosanitary (SPS) measures and a host of preferential arrangements, often country by country, related to individual instruments, etc.] (Charlotte, Jacquet and Chevassus-Lozza 2008; Chevassus-Lozza et al. 2005).

[8] The agricultural tariff quotas are managed through two methods. First come-first served (at the border), and import licensing. Licenses may be issued on a pro-rata or a historical basis. For agricultural products, the period of validity of import licenses depends on the product; general periods of validity are set in the relevant regulations. The validity of licenses allocated in the context of tariff quotas also varies. Validity may only be extended in case of "force majeure". Several administrative organs can grant import licenses for agricultural products (WTO 2009b).

For fruits and vegetables, the simple average applied MFN tariff rate is estimated at 15.6 percent for 2008, with rates ranging from zero to 280.9 percent (Table 11). MFN tariffs average 10.0 percent on fruits (edible fruits and nuts, peel of citrus fruits or melons), with rates ranging up to 30.5 percent; 13.5 percent on vegetables (edible vegetables and certain roots and tubers), with rates ranging up to 168.4 percent; and 23.7 percent on preparations of vegetables, fruits, nuts or other parts of plants, with rates ranging up to 280.9 percent (Table 12).

Table 12. EU Applied MFN Tariff Averages by HS2, 2008

HS Code	Commodity description	No. of lines	No. of lines used	Average tariff (%)	Range (%)	Std-dev (%)
	Total /Average	9 699	9 557	6.7	0-604.3	14.1
07	Edible vegetables and certain roots and tubers	106	106	13.5	0-168.4	21.6
08	Edible fruits and nuts; peel of citrus fruits or melons	117	117	10.0	0-30.5	8.0
20	Preparations of vegetables, fruits, nuts or other parts of plants	296	296	23.7	0-280.9	26.6

Source: WTO (2009b).

Notes: HS2 refers to the Harmonized Commodity Description and Coding System of tariff nomenclature for the year 2002, which is an internationally standardized system of names and numbers for classifying traded products developed and maintained by the World Customs Organization.

These figures all refer to tariffs applied on an MFN basis and do not take into account lower tariffs agreed upon in the numerous preferential trade agreements concluded by the EU. In practice, the average tariffs taking into account preferential trade are much lower.

EU growers of fruits and vegetables are protected against international competition not only by means of ad valorem tariffs (in percentage) and specific duties (in €/kg), but also a de facto minimum import price, which is established by the EU Entry Price System (EPS) (Goetz and Grethe 2007a, b).

For a number of products considered *sensitive* (tomatoes, cucumbers [including for processing], artichokes, courgettes, sweet oranges, clementines, mandarins, lemons, table grapes, apples, pears, apricots, [sour] cherries, peaches and plums), the EU has implemented as of July 1, 1995, a system of special protection called the Entry Price System (EPS) in order to limit price fluctuations and to avoid the presence on the European market of goods whose prices are too low (WTO 2009b).[9]

[9] EPS was established in 1995, replacing the former EU reference price system (RPS).

In the (EPS), the level of the duties depends on the import price of the product relative to its prevailing price in the EU market.[10] The EU defines, for each product and for each seasonal period, a threshold entry price, also called "trigger price". The threshold price is, on average, equivalent to the price of the same product on the EU domestic market. In cases when the import price is higher than this threshold price, only an ad valorem duty is applied. But when the import price is lower than the trigger price, then an additional specific duty is levied. The amount of this specific duty is equal to the difference between the import price and the trigger price. If the price of the consignment imported is between 100 percent and 92 percent of the full threshold entry price, the specific duty is progressive; it changes in steps of 2 percent, each of which corresponds with a "price band" equal to 2 percent of the threshold entry price. In case the import price is lower than 92 percent of the threshold entry price (the trigger price), then a specific duty is levied and is equal to the "maximum specific duty" fixed by the EU and referred to as the "full tariff equivalent" (WTO 2009b).

Seasonal variations in tariffs are another characteristic of the EU's protection system for fruits and vegetables. Ad valorem and specific duties and entry prices vary over the year, except for tomatoes, apples, lemons, cucumbers and courgettes, on which the entry price system is applied year-round. The seasonality of the protection system is related to the EU production calendar: customs duties are higher during European production periods to protect domestic producers from import competition. Consequently, the schedule of protection measures regulates the level of imports (Charlotte, Chevassus-Lozza and Jacquet 2008, 2006).

EU imports of fruits and vegetables are subject to strict sanitary and phytosanitary (SPS) measures. Legal requirements for quality assurance systems and food control along the entire food chain—from seed and agricultural production through food processing and the distribution system up to the consumer's table—are increasing considerably, raising concerns about likely food regulatory impacts on international trade (European Commission 2009e; Korinek, Melatos and Rau 2008; Aloui and Kenny 2005).

[10] Under the current functioning of the EU entry price system, an exporter to the EU can choose between three methods for classifying a product in the customs tariff of the European Communities. First, the invoice method, if an invoice exists at the time of declaration for free circulation. Second, the deductive method, which is based on the lodging of a security and serves to postpone the presentation of an invoice at the time of sale of the imported goods. Finally, the standard import value (SIV), that is calculated by the European Commission daily based on the weighted average of wholesale market prices, surveyed by origin of the produce in different EU countries. If the SIV is higher than the entry price, no specific tariffs are charged. The last method is the most popular one for purposes of customs clearance in the case of fruits and vegetables subject to the entry price system. The importers are attached to this system because it gives them transparency and predictability (WTO 2009b).

The EU's food safety regime, which is in line with the Sanitary and Phytosanitary Agreement of the World Trade Organization (SPSA-WTO),[11] aims at ensuring a high level of health protection and is based on five principles: (i) a high level of food safety at all stages of the food chain, from primary production to the consumer (farm-to-fork approach); (ii) risk analysis as a fundamental component of food safety policy;[12] (iii) full responsibility of operators for the safety of products they import, produce, process, place on the market or distribute; (iv) traceability of products at all stages of the food chain; [13] and (v) the right of citizens to clear and accurate information from public authorities (EC Regulation, no. 178/2002, which was fully operated in January 2007).

Mandatory standards represent an additional cost of production in the form of non-trivial compliance costs to adapt the product to meet EU requirements and/or undertake conformity assessment procedures both prior to export and/or at the port of entry (Korinek, Melatos and Rau 2008).

3.3. Preferential Access to the EU Fruit and Vegetable Market for Egypt

The EU Common Customs Code provides for the possibility of granting preferential tariffs unilaterally, or on a reciprocal basis, through trade agreements (Chapter II (5)(i)). The EU has the most extensive network of preferential trade agreements of any WTO member and as a result applies the MFN to only nine countries—Australia, New Zealand, Canada, Hong Kong China,

[11] WTO agreements allow governments to act on trade matters in order to protect human, animal or plant life or health, provided they do not discriminate or use restrictions as disguised protectionism (WTO, Understanding the WTO: The Agreements (Standards and Safety), at [http://www. wto.org/English/thewto_e/ whatis_e/tif_e/agrm4_e.htm] (Johnson 2008). The SPSA-WTO is designed to protect animals and plants from diseases and pests, and to protect humans from animal- and plant-borne diseases and pests, and food-borne risks. The SPSA-WTO entered into force on January 1, 1995, as part of the establishment of the WTO, following the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) (Becker 1999).

[12] The European Food Safety Authority (EFSA) operates as the EU's independent risk assessment body. Under the EU's alert system for food and feed, EU Member States are required to notify the Commission immediately about measures (requiring rapid action) they have taken to restrict the sale of products, product withdrawals or recalls of food or feed in order to protect human and animal health. Special powers are given to the European Commission to implement emergency measures to contain serious risks to human or animal health, or to the environment in the EU (Article 53 of EC Regulation, No. 178/2002).

[13] Traceability (laid down in Article 18 of Regulation EC 178/2002) means the ability to trace and follow a food, feed, animal or substance through all stages of production, processing and distribution in the EU, from the importer to the retail level. Traceability is necessary to ensure that food or feed business, including an importer, can identify at least the business from which inputs have been supplied (i.e., the identification of the origin of feed and food) for the protection of consumers (Delegation of the European Union to Egypt 2009a). Traceability requires systems and procedures to be in place to enable operators to identify the immediate supplier and immediate customer of their products. It requires establishing a link "Supplier-Product" (which products supplied from which suppliers) and establishing a link "Customer-Product" (which products supplied to which customers).

Republic of Korea, Japan, Singapore, Chinese Taipei and the United States. These nine WTO Members accounted for 27.5 percent of the EU's total merchandize imports in 2007. Other nations enjoy preferential tariff treatment that varies according to the terms of different agreements.

Under EU preferential trade agreements (PTAs) and the Barcelona process initiated in 1995, trade relations between the EU and SMCs aim at establishing a fully fledged Euro-Mediterranean regional free trade area (FTA) by 2010, i.e., free trade in non-agricultural products, and progressive liberalization of trade in agricultural goods and services (Commission of the European Communities 2009).[14]

The EU negotiated with single SMCs a sequence of bilateral agreements, stipulating different conditions of mutual concessions on a product-by-product basis. The bilateral agreements and state of progress of negotiations between the European Union and Southern Mediterranean Countries (SMCs) differ from one country to another, as shown in Table 13.

Preferences granted by the EU to different SMCs, on a reciprocal basis, on selected agricultural products can consist in a reduction (or elimination) of the ad valorem duty, in a reduction of the trigger price, or, for the products that are not subject to the entry-price system, in a reduction or elimination of the specific duties. Furthermore, these ad valorem or specific duty concessions can either be extended to all goods imported from the partner country, or limited in volume, in the framework of tariff quotas. Trigger prices, however, can only be reduced within quota limits. In cases where a tariff quota system applies, imports out of quota can also benefit from tariff preferences, though they are not as significant as those granted within the quota. Concessions may be also restricted to a specific period (Charlotte, Chevassus-Lozza and Jacquet 2008, 2006).

As each agreement is being negotiated separately, there is considerable heterogeneity among products as well as among SMCs in terms of access conditions to the EU fruit and vegetable market. Hence, the purpose of the following sub-section is to explore the extent to which the EU fruit and vegetable market is accessible to Egyptian exporters and in comparison to other SMCs' exporters.

[14] Although Turkey also participates in the Euro-Mediterranean Partnership, it is linked to the EU through a customs union since 1995 and it is a candidate country since 1999. Hence, Turkey is not covered in this paper.

Table 13. Free Trade Agreements between the EU and Southern Mediterranean Countries

SMC	Nature of agreement	Date of entry into force	Current status
Algeria	Association Agreement	01.09.05	Euro-Mediterranean Agreement
Egypt	Association Agreement	01.06.04. The trade provisions entered into force provisionally on January 1, 2004 and the whole Association Agreement entered into force on June 1, 2004.	Euro-Mediterranean Agreement. Negotiations on further liberalization for agricultural, processed agricultural and fisheries products have been concluded in 2008.
Israel	Association Agreement	01.06.00	Euro-Mediterranean Agreement; trade provisions initially applied under Interim (1995). Negotiations on further liberalization for agricultural, processed agricultural and fisheries products have been concluded in 2008.
Jordan	Association Agreement	01.05.02	Euro-Mediterranean Agreement. Negotiations on further liberalization for agricultural, processed agricultural and fisheries products have been concluded in 2005.
Lebanon	Interim Agreement Association Agreement	01.02.03 April, 2006	Euro-Mediterranean Agreement. Agricultural negotiations have not yet started
Libya	Negotiations over the framework agreement/FTA formally launched on 12-13 November 2008, 3rd round took place on 12-13 May 2009. Libya started to discuss an ambitious FTA including trade in goods, in services/ establishment, trade rules, regulatory cooperation and dispute settlement.		
Morocco	Association Agreement	01.03.00	Euro-Mediterranean Agreement. Agricultural negotiations under way.
Palestinian Authority	Association Agreement	01.07.97	Interim Euro-Mediterranean Agreement. Agricultural negotiations have not yet started.
Syria	Co-operation Agreement	01.07.77	Euro-Mediterranean Agreement signed in October 19, 2004. It has not entered into force yet. Agricultural negotiations under way.
Tunisia	Association Agreement	01.03.98	Euro-Mediterranean Agreement. Agricultural negotiations under way.

Sources: European Commission (2009c, d).

3.3.1. Preferential EU Market Access Conditions for Egypt

The Association Agreement (AA) between Egypt and the EU provides for reciprocal liberalization of imports of raw and processed agricultural and fishery products, where mutual concessions are given in various forms, including zero tariff, reduced import duties (both within and out of quota), and increased tariff quotas.

Egyptian agricultural and processed agricultural products included in Protocol 1 and Annex II of Protocol 3 of the AA are receiving a preferential treatment when exported to the EU. For almost all products listed in Protocol 1, the AA grants a 100 percent reduction of customs duties,

in many cases up to certain tariff quota, in other cases free. Most of the tariff quota volumes are increased annually by 3 percent of the volume of the previous year. For the quantities imported in excess of the quotas, the common customs duties shall be applied in full or reduced as indicated in the Protocol. Finally, for some products the tariff quota only applies during a certain period of the year (Table 14).

Table 14. Examples of Quotas for Egyptian Agricultural Products in the EU Market (Tons)

Product	Export calendar	Duty reduction (%)	Tariff quota totally exempted from tariffs, in 2004	Duty reduction beyond quota (%)
Onions	1/02 to 15/06	100	15 000	60
Potatoes	1/10 to 31/03		130 000	
Pears	-		500	No Duty Reduction
Carrots	1/01 to 30/04		500	
Sweet potatoes	-		3 000	
Tomatoes	1/11 to 31/03	Totally exempted from tariffs		
Watermelons	1/02 to 30/04			
Grapefruit	1/02 to 14/ 07			

Sources: Delegation of the European Union to Egypt (2009b, c, d, e); the EU-Egypt Association Agreement, Chapter 2, Protocol 1 and Annex 2 of Protocol 3.

In principle, all processed agricultural products listed in Annex II to Protocol 3 of the AA are benefiting from duty-free access to the EU without any quantitative restrictions. Some Egyptian processed fruits and vegetables enjoy 100 percent customs duty reduction (for example, tomato sauces and mango chutney). However, products listed in Tables 2 and 3 of the mentioned Annex are charged for the agricultural component of the product (agricultural products actually used in the manufacture of the processed agricultural product) with a specific duty per each 100 kg. of imported product. For products listed in Table 3, customs duties are eliminated within the limit of a tariff quota (Delegation of the European Union to Egypt 2009b, c).

Egypt seeks to continually improve its exporters' access to the EU fruit and vegetable market. To achieve this objective, a new agreement has been reached on the 1st of July 2008, to further liberalize trade in agricultural, processed agricultural and fish and fishery products between Egypt and the EU.

Under the new agreement, the EU significantly improved its concessions for Egyptian agricultural exports. Tariff protection is removed for all fruits and vegetables, except for garlic

and strawberries for which quotas of 4,000 and 10,000 tons respectively have been established. For potatoes and onions for which Egypt's productive and export potential is very high, quotas that used to be respectively of 250,000 tons and 15,000 tons are now removed.

All other fruits and vegetables are exempt from customs duties, except for some fruits and vegetables whose trade is considered "delicate": these are tomato, garlic, cucumber, zucchini, artichoke, table grapes and strawberry. For these products some limitations are maintained regarding in particular the export calendar. For tomato, for instance, a reduction is established by 100 percent in customs duty for exports that enter the EU between 1 November and 30 June: in this period Egypt will have to respect only the minimum entry price. The same applies for cucumber, zucchini, artichoke and table grapes (Delegation of the European Commission to Egypt 2009b, c, d).

It is important to note that the date on which the agreement with Egypt will be signed and will come into force has not been decided yet. On the EU side, the text of this agreement was first adopted by the Commission in January 2009. It was then adopted by the European Council on 9 October 2009. On the Egyptian side, the text of the agreement has been presented to the Parliament during the parliamentary session which has started in November 2009. The entry into force of this agreement will occur on the first day of the second month following the date of approval by the Egyptian Parliament.

3.3.2. Evaluation of the Preferential EU Market Access for Egypt

Before evaluating the advantage granted by the EU to Egypt's fruit and vegetable exports, global market access conditions for Egyptian exports are assessed.

Egypt's exports access to global markets is less favorable than its SMCs comparators' and the country is ranked 67th (out of 125) on the latest Market Access Trade Tariff Restrictiveness Index [MA-TTRI] (World Bank 2010, 2008).[15] Egypt's (MA-TTRI) is 3.3 percent, higher than that for Algeria (0.6 percent), Israel (0.9 percent), Tunisia (0.9 percent), Morocco (1.8 percent), Lebanon (1.9 percent), and also higher than the averages for the Middle East and North Africa (MENA) region and lower-middle-income country group of 2.1 and 2.3 percent, respectively (Table 15).

[15] MA-TTRI calculates the equivalent uniform tariff of trading partners that would keep their level of imports constant. It is weighted by import values and import demand elasticities of trading partners (World Bank 2010, 2008).

When trade flows are taken into consideration, the weighted rest of the world tariff (including preferences) for agricultural products is 8.2 percent for Egypt, lower than that for Morocco (9.8 percent) but much higher than that of other SMCs (0.5 for Algeria; 1.7 for Jordan; 1.8 for Lebanon; 1.9 for Tunisia; 2.1 for Syria; 3.6 for Libya; 5 for Israel). As such, it is apparent that Egypt's agricultural exports have less favorable access to international markets than all other SMCs except Morocco (Table 15), reflecting heterogeneity among SMCs as well as products in terms of preferential access conditions to the world market.

Table 15. Egypt's Exports Access to Global Markets (2009)

	Algeria	Egypt	Israel	Jordan	Lebanon	Libya	Morocco	Syria	Tunisia
Market Access–Trade Tariff Restrictiveness Index (applied tariffs incl. prefs.)	0.6	3.3	0.9	4.6	1.9	..	1.8	..	0.9
ROW applied tariff (incl. prefs.)-trade weighted average (%), for:									
Agriculture	0.5	8.2	5.0	1.7	1.8	3.6	9.8	2.1	1.9
Non-agriculture	2.25	1.2	0.5	2.7	0.5	0.1	1.7	0.5	0.6

Sources: World Bank (2010, 2008).

Focusing on the EU weighted preferential margins for the agricultural exports of Egypt and each SMC in the framework of the Euro-Mediterranean Association Agreements (which compare the amount of the customs duties paid by an exporting country with the amount of the duties this country would have paid if it had not enjoyed tariff preferences), in addition to, Egypt's preference utilization rate, would allow an assessment of the value of preferential access to the EU fruit and vegetable market for Egypt and its comparator SMCs.

The weighted preferential margin for Egypt's agricultural exports is (5.6 percent), lower than Jordan (9.6 percent), Morocco (8.6 percent), Lebanon (7.9 percent) and Israel (6.1 percent). Low weighted preferential margin observed for Egypt may result from one of two factors: either the country exports products which are already subject to relatively low MFN duties within the framework of WTO multilateral agreements (i.e., the export structure effect), or the duties applied inside the preferences remain high despite the preferences.

As discussed before, the weighted rest of the world tariff (including preferences), which Egypt would have paid upon entering global agricultural markets if the country did not benefit from preferences, is high (8.2 percent). Hence, the low weighted preferential margin cannot be

explained by Egypt's *export structure effect*, but rather by the low level of preferences allocated (i.e., the high duties actually paid by Egypt when the preference is applied).

In addition, although 28.1 percent of EU agricultural imports from Egypt is duty-free, it is the lowest share among all SMCs, reflecting a less favorable access to the EU market for Egypt's agricultural exports in comparison to other SMCs (Table 16).

Table 16. Agricultural Exports of Egypt and Other SMCs to the EU and Duties Faced

SMCs	EU agricultural imports from the SMC (in million $, 2007)[a]	MFN AVG of traded tariff lines		Preferential margin	EU Duty-free imports from the SMC	
		Simple[b]	Weighted[c]	Weighted[d]	Tariff lines in %[e]	Value in %[f]
Algeria	44	15.0	7.8	4.4	31.9	52.9
Egypt	835	15.2	12.0	5.6	28.7	28.1
Israel	1 687	16.4	11.8	6.1	24.9	38.8
Jordan	24	17.8	19.7	9.6	74.6	61.0
Lebanon	52	16.6	9.0	7.9	68.2	80.9
Libya	3	11.9	13.8	0.1	50.0	76.6
Morocco	1 823	15.9	16.5	8.6	42.6	63.7
Tunisia	296	14.6	17.0	4.3	38.5	34.4

Sources: World Trade Organization and International Trade Centre UNCTAD/WTO (2009).

Notes: a) Total imports of EU. b) Simple average of MFN duties based only on tariff lines with imports. c) Trade-weighted average MFN duty. d) Trade-weighted average difference between the MFN duty and the most advantageous preferential duty. Tariff lines where either MFN or preferential duties cannot be expressed in ad valorem terms have been excluded. e) Duty-free tariff lines in percent of all traded tariff lines; included duty-free preferential treatment. Partially duty-free subheadings are taken into account on a pro rata basis if tariff line imports are not available. f) Share of duty-free trade in percent of all bilateral trade flows; includes duty-free preferential treatment. Partially duty-free subheadings are taken into account on a pro rata basis if tariff line imports are not available.

Heterogeneity among SMCs in terms of the advantages granted by the EU could be explained by the progress of negotiations between each country and the EU and by the export specialization of the country. Hence, Egypt would benefit from the increase in the current preferences as agreed upon with the EU on July 2008 and needs to speed up the process of ratifying and implementing this agreement.

Otherwise, Egypt could suffer preference erosion regarding access to the European fruit and vegetable market as a result of three main factors. *First*, the EU and Israel signed on November 4, 2009 a new agreement on further liberalization of trade in agriculture, which will enter into force on January 1, 2010 (Delegation of the European Union to Israel 2009). *Second*, agricultural trade liberalization negotiations between the EU and some SMCs, such as Morocco, are currently under way. *Finally*, on agricultural goods, the EU has offered to increase market

access and decrease domestic support and to eliminate all trade-distorting export practices by 2013, including export subsidies. More specifically, the EU accepted to reduce overall trade distorting subsidies in agriculture by up to 80 percent, to eliminate export subsidies by 2013, and to cut its final bound tariffs by between 50 percent and 70 percent (except on some sensitive products) depending on the level of the tariffs, while developing countries would cut tariffs by two thirds of the rates set for developed countries (WTO 2009b; OECD 2009; Kavallari and Schmitz 2008). So, Egypt could lose out in the event of a generalization of European preferences to other suppliers in the framework of the WTO multilateral negotiations.

Comparing the weighted preferential margins granted by both the EU and US for Egypt and the rest of SMCs highlights that the actual value of preferences as a percent of exports is 2.6 percent for Egypt, lower than that for Jordan (14.7 percent), the Palestinian Authority (7.5 percent) and Tunisia (4.4 percent) [Table 17].[16]

Table 17. Value of Weighted Preferential Margins Granted by the EU and the US to SMCs Exports (2008, %)

	Algeria	Egypt	Israel	Jordan	Lebanon	Morocco	Palestinian Authority	Syria	Tunisia
Preferences (EU+US) actual value (% of exports)	0.1	2.6	1.3	14.7	2.4	0.1	7.5	0.3	4.4

Sources: World Trade Organization and International Trade Centre UNCTAD/WTO (2009); Eurostat (2009).

The degree to which Egypt utilizes tariff quotas for its fruit and vegetable exports is another indicator of the gains resulting from the preferences granted to Egypt. Over 2004-2009, EU tariff quotas have been increasing. However, these quotas may not be totally utilized, implying a lost opportunity to increase Egyptian exports. Table 18 shows the start and end dates for the tariff quota (that is, the quota application period), the balance and the products associated to the quota. In case the last import date is beyond the quota application period and a balance remains, then the quota is not fully utilized. This is the case for several fruits and vegetables, including carrots, cucumbers and garlic.

[16] The value of preferential margins corresponds to the gains resulting from the reduction in customs duties granted by the EU and the US to a country. It is equal to the difference between the duties in euros and dollars that the country would have paid for its exports towards the EU and the US if it did not enjoy any preferences and the duties actually paid for the same volume of exports while benefiting from the tariff concessions (World Trade Organization and International Trade Centre UNCTAD/WTO 2009).

Table 18. The Use of EU Tariff Quotas for Egyptian Products during 2008-2009

Description	Quota application period	Quota volume (Kgs.)	Import amount (Kgs.)	Balance (Kgs.)	Last import date	Quota utilization rate (%)*
Fruits and nuts	01-01-2009 – 31-12-2009	3 000 000	3 000 000	0	14/9/2009	100.0
Prepared or preserved potatoes	01-01-2009 – 31-12-2009	1 800 000	42 000	1 758 000	12/3/2009	2.33
Carrots and turnips, fresh or chilled	01-01-2009 – 30-04-2009	579 638	42 598	537 040	5/5/2009	7.35
Sweet potatoes	01-01-2009 – 31-12-2009	3 477 823	396 577	3 081 246	14/9/2009	11.40
Other melons, fresh	15-10-2009 – 31-05-2010	1 403 013	0	1 403 013	-	0.00
Oranges, fresh	01-07-2009 – 30-06-2010	70 320 000	9 954 680	60 365 320	8/9/2009	14.20
Oranges, fresh	01-12-2009 – 31-05-2010	36 300 000	0	36 300 000	8/9/2009	0.00
Husked rice	01-01-2009 – 31-12-2009	57 600 000	0	57 600 000	-	0.00
Strawberries, fresh	01-10-2008 – 31-03-2009	1 705 000	1 705 000	0	28/5/2009	100.0
Strawberries, fresh	01-10-2009 – 31-03-2010	1 705 000	0	1 705 000	-	0.00
Oranges, fresh	01-07-2008 – 30-06-2009	70 320 000	70 320 000	0	1/9/2009	100.0
Oranges, fresh	01-12-2008 – 31-05-2009	36 300 000	36 300 000	0	1/9/2009	100.0
Dried vegetables	01-01 2009 – 31-12-2009	19 185 987	11 021 989	8 163 998	14/9/2009	57.45
Leguminous vegetables, fresh or chilled	01-11-2009 – 30-04-2010	20 000 000	0	20 000 000	-	0.00
Peaches, including nectarines, fresh	15-03-2009 – 31-05-2009	579 638	579 638	0	22/6/2009	100.0
Fruit juices	01- 01-2009 – 31-12-2009	1 217 238	615 963	601 275	10/9/2009	50.60
Foliage, branches	01- 01-2009 – 31-12-2009	579 638	1 680	577 958	11/9/2009	0.30
Cucumbers and gherkins, fresh or chilled	01-01-2009 – 28-02-2009	579 638	57 026	522 612	6/4/2009	9.84
Cabbage lettuce, fresh or chilled	01-11-2008 – 31-03-2009	579 637	579 637	0	20/1/2009	100.0
Jams, jellies, etc.	01-01-2009 – 31-12-2009	1 159 275	127 365	1 031 910	10/9/2009	11.00
Plums and sloes, fresh	15-04-2009 – 31-05-2009	579 638	0	579 638	-	0.00
Garlic, fresh or chilled	01-02-2009 – 15-06-2009	3 477 823	2 050 814	1 427 009	26/8/2009	58.97
Cabbage lettuce, fresh or chilled	01-11-2009 – 31-03-2010	597 027	0	597 027	-	0.00
Semi-milled or wholly milled rice	01-01-2009 – 31-12-2009	19 600 000	17 858 368	1 741 632	9/9/2009	91.11
Onions and shallots, fresh or chilled	01-01-2009 – 15-06-2009	18 722 278	18 722 278	0	22/7/2009	100.0
Cabbages, cauliflowers, etc. fresh or chilled	01-11-2009 – 15-04-2010	1 791 079	0	1 791 079	-	0.00
Pears and quinces, fresh	01-01-2009 – 31-12-2009	579 638	0	579 638	-	0.00
Frozen and provisionally preserved vegetables	01-01-2009 – 31-12-2009	3 000 000	3 000 000	0	14/4/2009	100.0
Potatoes, new	01-04-2009 – 30-06-2009	1 750 000	1 750 000	0	7/4/2009	100.0
Potatoes, prime	01-04-2009 – 31-03-2009	250 000 000	124 552 655	125 447 345	20/5/2009	49.82
Cabbages, cauliflowers, etc. fresh or chilled	01-11-2008 – 15-04-2009	1 738 911	526 264	1 212 647	9/7/2009	30.30
Other melons, fresh	15-10-2008 – 31-05-2009	1 362 148	965 501	396 647	11/9/2009	70.88
Leguminous vegetables, fresh or chilled	01-11-2008 – 30-04-2009	20 000 000	20 000 000	0	28/8/2009	100.0
Broken rice	01-01-2009 – 31-12-2009	5 000 000	3 827 720	1 172 280	14/9/2009	76.55
Rice	01-01-2008 – 31-12-2008	32 000 000	32 000 000	0	17/1/2008	100.0
Rice	01-01-2008 – 31-12-2008	5 605 000	5 605 000	0	-	100.0

Source: Delegation of the European Union to Egypt (2009e).

Note: *= Quota utilization rate is the import amount as a percent of the quota volume.

Egypt's utilization of EU and US preferences is 81.1 percent, though the value of such preferences was a very low of 2.6 percent of bilateral exports (Table 19). However, preference utilization rate of Egypt (81.1 percent) is lower than that of Jordan (97.6 percent), the Palestinian Authority (85.2 percent), Israel (82 percent) and Syria (81.3 percent), indicating that Egypt benefits less from the preferences granted by the EU and the US than the other SMCs.

Table 19. Utilization Rate of Weighted Preferential Margins Granted by the EU and the US to SMCs Exports (2008, %)

	Algeria	Egypt	Israel	Jordan	Lebanon	Morocco	Palestinian Authority	Syria	Tunisia
Preferences (EU+US) actual value (% of exports)	0.1	2.6	1.3	14.7	2.4	0.1	7.5	0.3	4.4
Preferences (EU+US) utilization rate (%)	63.5	81.1	82.0	97.6	77.1	50.7	85.2	81.3	77.2

Sources: World Trade Organization and International Trade Centre UNCTAD/WTO (2009); Eurostat (2009).

4. COMPETITIVENESS OF EGYPT IN THE EU FRUIT AND VEGETABLE MARKET

The purpose of this section is to assess Egypt's competitiveness in the EU fruit and vegetable market by using the Constant Market Share Analysis (CMSA) methodology (Leamer and Stern 1970; Fagerberg and Sollie 1987; Asciuto, Crescimanno and Galati 2007; Malorgio and Hertzberg 2007; Malorgio, Giulio and Luca Mulazzani 2009). The results for Egypt are then compared with those of the EU's main Southern Mediterranean Countries (SMCs) suppliers of fruits and vegetables, namely: Algeria, Israel, Jordan, Lebanon, Libya, Morocco, Palestinian Authority, Syria and Tunisia.

4.1. Constant Market Share Analysis (CMSA) Methodology

The CMSA is a technique that can be adopted to analyze the change of the export market share of Egypt (*k*) in the EU (*l*) market for fruits and vegetables (i.e., ΔM^{kl}) between two temporal thresholds decomposing it into three terms: The market share effect (ΔM^{kl}_{a}); the commodity composition effect (ΔM^{kl}_{b}) and the residual effect (ΔM^{kl}_{ab}). Hence, $\Delta M^{kl} = \Delta M^{kl}_{a} + \Delta M^{kl}_{b} + \Delta M^{kl}_{ab.}$

The market share effect quantifies the change (between the end and the beginning of the considered period) of market share for every commodity to measure the ability of Egypt to make each of its commodities enter the EU market. The gain of market share of every commodity is added to produce the total gain. Every commodity is however weighted by its importance in the world imports of the EU market in the initial year. The market share effect [$\Delta M^{kl}_{a} = \sum_i (\alpha^{kl}_{it} - \alpha^{kl}_{i0})\, b^{l}_{i0}$] is calculated by multiplying the change of the export market share ($\alpha^{kl}_{it} - \alpha^{kl}_{i0}$) [for each commodity *i* used to split the total trade flow from Egypt (*k*) to the EU (*l*) by the weight of each commodity (at the beginning year: b^{l}_{i0}) in the world import of the EU market (*l*)].

By considering the initial export market share of Egypt and the weight change of each commodity in the EU market, *the commodity composition effect* measures how much the total export market share should change just due to a change in the composition of imports in the EU market. The commodity composition effect [$\Delta M^{kl}_{b} = \sum_i (b^{l}_{it} - b^{l}_{i0})\, \alpha^{kl}_{i0}$] is calculated by multiplying the weight change of each commodity ($b^{l}_{it} - b^{l}_{i0}$) in world imports of the EU market (l) by the initial export market share of Egypt (α^{kl}_{i0}).

The residual effect explains the difference between the actual change of the export market and the sum of the two previous effects. It provides a measurement of Egypt's capacity to adjust the commodity composition of its exports (its export structure) to the changes intervened in the structure of the EU market, increasing Egypt's share in commodities with faster growing EU demand. If the residual effect is equal to zero it means that Egypt has modified its export structure at exactly the same rate as the average of all the other competing exporting SMCs. The residual effect [$\Delta M^{kl}_{ab} = \sum_i (\alpha^{kl}_{it} - \alpha^{kl}_{i0})(b^{l}_{it} - b^{l}_{i0})$] is calculated by multiplying the change of the export share ($\alpha^{kl}_{it} - \alpha^{kl}_{i0}$) by the change of the weight of each commodity ($b^{l}_{it} - b^{l}_{i0}$).

4.2. Trade Data Utilized

Data utilized come from the United Nations Commodity Trade Statistics Database (UN COMTRADE, http://comtrade.un.org). The data include EU imports of fresh and processed fruits and vegetables from Egypt and the other nine comparator SMCs, as reported in the Harmonized Commodity Description and Coding System (known as the Harmonized System "HS"), chapters 07, 08 and 20. To allow for the heterogeneity of the fruit and vegetable sector, the analysis is performed at the disaggregated product level of 4 digit codes.

Since the trade provisions of the Association Agreement between Egypt and the EU entered into force on January 1, 2004, the period analyzed in this paper covers the years 2004 up to 2008, the most recent year for which data are available at the time of writing this paper.

Changes in trade values and shares between the beginning and the end of the period are calculated for the average biennium 2004-2005 and 2007-2008.

4.3. Results of CMSA Analysis of Egypt's Fruit and Vegetable Exports to the EU

The CMSA indicates that over the period 2004-2008, Egypt has increased its share in the EU market for fresh vegetables (+0.46%), fresh fruits (+1.43%) and processed fruits and vegetables

(+0.33%).[17] Egypt proves to be more successful in fresh fruits than in fresh vegetables or in processed fruits and vegetables (Table 20).

Table 20. Decomposition of CMSA: EU Imports of Fresh and Processed Fruits and Vegetables from Egypt (Percentage Variations over 2004-2008; %)*

Description	HS-code	Market share effect	Commodity composition effect	Residual effect	Total effect
Fresh vegetables	07	- 0.86	+ 1.46	- 0.14	+ 0.46
Fresh fruits	08	+ 2.73	- 0.88	- 0.42	+ 1.43
Processed fruits and vegetables	20	+ 0.37	- 0.02	- 0.02	+ 0.33
All fresh and processed fruits and vegetables	07 + 08+ 20	+ 2.24	+ 0.56	- 0.58	+ 2.22

Source: Based on the author's calculations in Table A.1, Appendix 1.

*Note:** Average 2004-2005 is the initial period and average 2007-2008 is the terminal period.

Egypt's accomplishment in the EU market *for fresh vegetables* (+0.46%) is the result of an advantageous development in EU demand (+1.46). This positive commodity composition effect reflects a strong EU import demand for fresh vegetables. However, the negative market share effect (-0.86%) gives evidence of a drop in Egypt's competitiveness in these commodities in the EU market and the difficulty to withstand the competition of other exporting SMCs. Likewise, the negative residual effect (-0.14%) indicates Egypt's weak capacity to adjust the commodity composition of its exports to changes in the structure of the EU market demand.

For fresh fruits, Egypt's strong performance (+1.43%) stems from the country's high competitiveness in the EU market (+2.73%), that is to say from Egypt's actual ability to gain market shares. However, Egypt did not catch up with EU's demand evolution as reflected by the negative composition effect (-0.88%) and the country's limited capacity for compatibility between its exports of fresh fruits with European imports as the negative residual effect (-0.42%) reveals.

For processed fruits and vegetables, Egypt's performance in the EU market (+ 0.33%) is attributed to increased competitiveness in these products as shown by the positive market share effect (+0.37%). A decline in the composition effect (-0.02%) reflects a diversion in European consumers' demand away from Egyptian exports of processed fruits and vegetables, and the

[17] CMSA detailed calculations for Egypt are in Table A.1, Appendix 1. As for the other nine SMCs, detailed CMSA calculations are available upon request to the author.

negative residual effect (-0.02%) is evidence of a weak capacity to adjust Egypt's export structure to the changes in the structure of the EU market demand.

Disadvantageous developments in EU demand for several Egyptian exports of fresh and processed fruits and vegetables could be attributed to the heterogeneity of growth rates among products in the imports of the EU coming from different SMCs which may negatively affect Egypt according to the initial composition of its exports, and/or the difficulty to comply with the EU safety standards and requirements.

A comparison between Egypt and other SMCs reveals that Morocco outperforms Egypt in the EU market for fresh vegetables (Table 21). Morocco's strong performance (+5.66%) is attributed to an increase in the rate of growth in EU demand for Moroccan exports (+3.41%), the country's increased competitiveness (+1.95%) and its capability to adjust its export supply to the EU market demand (+0.30%).

Table 21. Decomposition of CMSA: EU Imports of Fresh Vegetables from Egypt and Other SMCs (Percentage Variations over 2004-2008, %)*

SMC:	Fresh vegetables HS-07			
	Market share effect	**Commodity composition effect**	**Residual effect**	**Total effect**
Morocco	+ 1.95	+ 3.41	+ 0.30	+ 5.66
Egypt	- 0.86	+ 1.46	- 0.14	+ 0.46
Tunisia	+ 0.25	+ 0.08	+ 0.04	+ 0.37
Israel	- 1.68	+ 2.25	- 0.26	+ 0.31
Jordan	+ 0.18	+ 0.04	+ 0.03	+ 0.25
Syria	+ 0.06	+ 0.05	+ 0.01	+ 0.12
Lebanon	0.00	+ 0.01	0.00	+ 0.01

Source: Author's calculations.

Note: * Average 2004-2005 is the initial period and average 2007-2008 is the terminal period.

For both fresh fruits and processed fruits and vegetables, Egypt stands out among other SMCs because its exports to the EU underwent the highest increase, (+1.43%) and (+ 0.33%), respectively. Egypt's better performance is mainly attributed to the country's higher competitiveness in the EU market as reflected by the market share effect for fresh fruits (+2.73%) and processed fruits and vegetables (+0.37%), relative to the other analyzed SMCs (Table 22). However, the decline in the rate of growth in EU demand for Egyptian exports of fresh fruits and processed fruits and vegetables as suggested by the negative composition effects and the weak

capability of Egypt to adjust its export structure to the changes in the structure of the EU market demand have been critical in limiting a gain that could have been higher for Egypt.

Table 22. Decomposition of CMSA: EU Imports of Fresh Fruits and Processed Fruits and Vegetables from Egypt and Other SMCs (Percentage Variations over 2004-2008, %)*

SMC:	Fresh fruits HS-08				SMC:	Processed fruits and vegetables HS-20			
	Market share effect	Commodity composition effect	Residual effect	Total effect		Market share effect	Commodity composition effect	Residual effect	Total effect
Egypt	+ 2.73	- 0.88	- 0.42	+ 1.43	Egypt	+ 0.37	- 0.02	- 0.02	+ 0.33
Syria	+ 0.30	- 0.02	- 0.05	+ 0.23	Tunisia	+ 0.13	- 0.01	- 0.01	+ 0.11
Lebanon	+ 0.07	- 0.01	- 0.01	+ 0.05	Lebanon	+ 0.05	- 0.02	0.00	+ 0.03
Jordan	- 0.01	- 0.02	0.00	- 0.03	Syria	+ 0.01	- 0.01	0.00	0.00
Tunisia	+ 0.10	- 0.68	- 0.02	- 0.60	Jordan	0.00	0.00	0.00	0.00
Morocco	- 1.10	- 2.70	+ 0.17	- 3.63	Morocco	- 0.09	- 0.29	+ 0.01	- 0.37
Israel	- 1.94	- 2.24	+ 0.30	- 3.88	Israel	- 0.48	- 0.28	+ 0.03	- 0.73

Source: Author's calculations.

Note: * Average 2004-2005 is the initial period and average 2007-2008 is the terminal period.

At a more disaggregated product level, Egypt's best performing exports to the EU market are onions and garlic (+ 0.60%) within the category of *fresh vegetables*, fresh or dried grapes (+ 0.92%) within the category of *fresh fruits* and prepared or preserved (not frozen) vegetables (+ 0.20%) within the category of *processed fruits and vegetables* (Table 23). Egypt's good performance reflects greater competitiveness in the EU market summarized by the positive market share effects for these three products (+0.28%, +0.64% and +0.20%, respectively). For onions and garlic, as well as, fresh or dried grapes, Egypt benefited from the increased EU imports of these products as indicated by the positive commodity composition effects (+0.21% and +0.21%, respectively) and succeeded in gaining quotas in commodities with faster growing EU demand, as proved by its positive residual effects for these products (+0.11% and +0.07%, respectively). However, for prepared or preserved (not frozen) vegetables, the insignificant commodity composition effect reflects no changes in the relative weight of these products in European imports and a zero residual effect means that Egypt has modified its export structure at the same rate as the average of all other competing, exporting SMCs.

Table 23. Decomposition of CMSA: Egypt's Best Performing Exports to the EU Market for Fruits and Vegetables (Percentage Variations over 2004-2008, %)*

Description	HS-code	Market share effect	Commodity composition effect	Residual effect	Total effect
Fresh vegetables	07	- 0.86	+ 1.46	-0.14	+ 0.46
Onions, shallots, garlic, leeks and other alliaceous vegetables	0703	+ 0.28	+ 0.21	+ 0.11	+ 0.60
Fresh fruits	08	+ 2.73	- 0.88	- 0.42	+ 1.43
Grapes, fresh or dried	0806	+ 0.64	+ 0.21	+ 0.07	+ 0.92
Processed fruits and vegetables	20	+ 0.37	- 0.02	- 0.02	+ 0.33
Other vegetables prepared or preserved (not frozen)	2005	+ 0.20	0.00	0.00	+ 0.20

Source: Author's calculations.

Note: * Average 2004-2005 is the initial period and average 2007-2008 is the terminal period.

Egypt's main SMCs competitors in the EU market *for onions and garlic* are Algeria, the Palestinian Authority and Morocco; *for fresh or dried grapes,* competitors are Lebanon, Tunisia and Libya, while *for prepared or preserved (not frozen) vegetables* they are Tunisia, Jordan and Palestine (author's calculations).

Over the period 2004-2008, Egypt's weakest export performance was in fresh or chilled potatoes (-0.32%) within the category of *fresh vegetables*, in fresh or dried citrus fruits (-0.21%) within the category of *fresh fruits* and in processed fruits, nuts and other edible parts of plants (-0.01%) within the category of *processed fruits and vegetables* (Table 24).

Table 24. Decomposition of CMSA: EU Imports of Fresh Vegetables from Egypt and Other SMCs (Percentage Variations over 2004-2008, %)*

Potatoes, fresh or chilled HS-0701				
	Market share effect	**Commodity composition effect**	**Residual effect**	**Total effect**
Tunisia	+ 0.06	- 0.02	-0.01	+ 0.03
Egypt	+0.25	-0.53	- 0.04	- 0.32
Citrus fruits, fresh or dried HS-0805				
	Market share effect	Commodity composition effect	Residual effect	Total effect
Lebanon	+0.02	0.00	0.00	+0.02
Egypt	+0.50	-0.60	- 0.11	-0.21
Fruits, nuts and other edible parts of plants HS-2008				
	Market share effect	Commodity composition effect	Residual effect	Total effect
Lebanon	+ 0.05	-0.02	-0.01	+ 0.02
Egypt	0.00	-0.01	0.00	-0.01

Source: Author's calculations.
Note: * Average 2004-2005 is the initial period and average 2007-2008 is the terminal period.

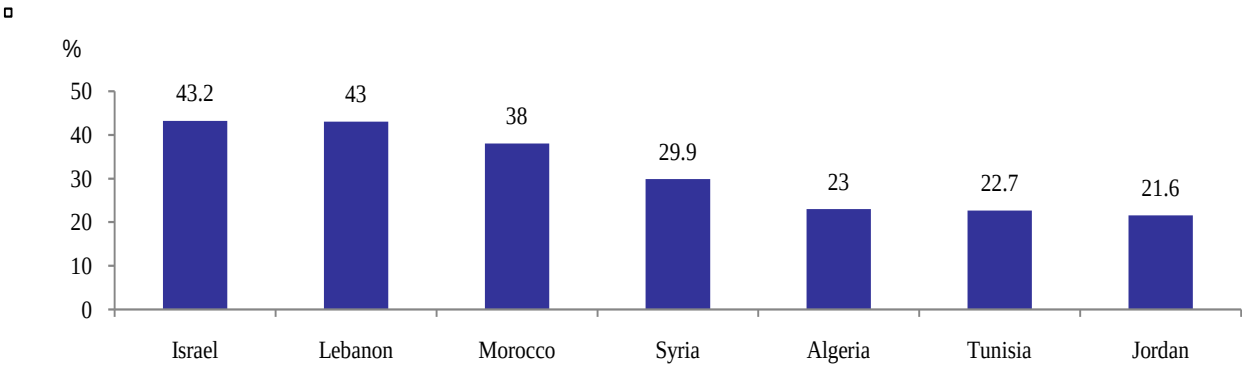
A comparison between Egypt and other SMCs reveals that Tunisia is the best export performer in the EU market for fresh or chilled potatoes among the SMCs (+0.03%). Although Egypt's competitiveness in the EU market for fresh or chilled potatoes increased at a higher rate (+0.25%) than that of Tunisia (+0.06%), Egypt's export performance is weaker as EU demand for Egyptian exports decreased at a faster rate (-0.53%) than that for Tunisian exports (-0.02%).

Lebanon is the best SMC exporter of fresh or dried citrus fruits to the EU market (+0.02%), as a result of its increased competitiveness suggested by its positive market share effect (+0.02%). Although the increase in competitiveness was much higher for Egypt (+0.50%) than for Lebanon (+0.02%), Egypt's weaker performance is attributed to disadvantageous development in EU demand for Egyptian exports (-0.60%), in addition to Egypt's weak capability to adjust its supply to the EU market for citrus fruits (-0.11%).

Lebanon is again the best SMC exporter of processed fruits, nuts and other edible parts of plants to the EU market. While Lebanon increased its competitiveness (+0.05%), Egypt lost it as suggested by the absence of any market share effect.

To sum up, Egypt was able to increase its export share in the EU fruit and vegetable market over the period 2004-2008. To maintain this achievement, Egypt needs to continuously enhance its competitiveness to withstand the strong competition from several SMCs, whose fruit and vegetable export structures are quite similar to Egypt's, as suggested by the calculated export similarity index (Figure 3). Also, Egypt needs to better respond to changes in European consumers' demand and enhance its capability to adjust its supply to the EU market demand.

Figure 3. Export Similarity Index Between Egypt and Several SMCs for Fresh and Processed Fruits and Vegetables in 2008



Source: Author's calculations based on the UN Comtrade Database. Latest available data for the SMCs are for 2007.

Note: Export Similarity Index (ESI) $_{a,b}$ = sum [min (X_{ia}, X_{ib}) * 100]. Where, X_{ia} and X_{ib} are the export shares of commodity i (a fruits or vegetables, whether fresh or processed), in country a's (e.g., Egypt) and country b's (e.g., a SMC) total exports of fresh and processed fruits and vegetables. The value of (ESI) ranges between zero and 100 percent, with zero indicating complete dissimilarity and 100 percent representing identical export composition. This measure is subject to aggregation bias (as the data are more finely disaggregated, the index will tend to fall) and hence embodies certain arbitrariness due to product choice (World Bank, Data and Statistics, Trade Indicators and Indices, http://web.worldbank.org, last visited on 12/31/2009; Kreinin and Plummer 2007).

Increasing Egypt's exports of fruits and vegetables to the EU is hindered by several factors including: appreciation of the Egyptian pound exchange rate and inefficient maritime transport and related logistics services.

Generally, as the Egyptian pound exchange rate appreciates, Egyptian exports may become less competitive or relatively more costly. Over the period 2005-2008, the Egyptian pound has appreciated by 6.9 percent in real, trade weighted terms, while the Moroccan dirham and the Tunisian dinar have depreciated by 0.1 percent and by 2.5 percent in real terms, respectively, making Egyptian exporters less competitive abroad relative to their Moroccan and Tunisian competitors (Johnson 2008).

Export flows from Egypt to the EU suffer from inefficient maritime transport and related logistics services, which are inappropriate for perishable commodities as fruits and vegetables (Malorgio and Mulazzani 2009; Ghoneim and Helmy 2007; Helmy 2002). Egypt lags behind the regional and lower-middle-income country averages on nearly all aspects of the Logistics Performance Index (LPI). Egypt was 97th out of 150 ranked countries and 6th in the MENA region on the 2006 LPI, reflecting a less conducive climate for trade. Its weakest logistics indicator was the quality of transport and information technology (IT) infrastructures, with severe

constraints posed by its underdeveloped seaports and airports and by poor telecommunications services (Table 25).

Table 25. Trade Facilitation in Egypt and Other SMCs, 2007

	Algeria	Egypt	Israel	Jordan	Lebanon	Libya	Morocco	Syria	Tunisia
Logistics Performance Index (LPI, 1 to 5 best)	2.1	2.4	3.2	2.9	2.4	..	2.4	2.1	2.8
Efficiency of customs and other border procedures	1.6	2.1	2.7	2.6	2.2	..	2.2	2.2	2.8
Quality of transport and IT infrastructures	1.8	2.0	3.0	2.6	2.1	..	2.3	1.9	2.8
International transportation costs	2.0	2.3	3.3	3.1	2.5	..	2.8	2.0	2.9
Logistics competence	1.9	2.4	3.2	3.0	2.4	..	2.1	1.8	2.4
Tractability of shipments	2.3	2.6	3.5	2.8	2.3	..	2.0	2.0	2.8
Domestic transportation costs	3.2	2.8	2.2	2.9	3.4	..	2.4	2.9	3.2
Timeliness of shipment	2.8	2.8	3.6	3.2	2.7	..	2.9	2.7	2.8
Trading across borders (rank out of 181)	118	24	9	74	83	..	64	111	38
No. of documents required for exports	8	6	5	7	5	..	7	8	5
No. of days process required for exports	17	20	19	14	…	12	12	22	16
Cost to export ($ per container)	1 248	737	665	730	872	..	700	1 190	733
Liner shipping connectivity index (0-100 best)	7.9	45.4	21.4	16.5	30.0	6.6	9.0	14.2	7.2

Source: World Bank (2010, 2008).

5. CONCLUSION AND POLICY IMPLICATIONS

Egypt has a revealed comparative advantage in exporting fruits and vegetables and could use the EU trade concessions more efficiently to further promote its exports to the EU, the leading importer of fruits and vegetables in the world.

SMCs, including Egypt, enjoy preferential access to the EU fruit and vegetable market, which is highly protected against international competition by means of diverse and complex protection instruments. However, bilateral preferential trade agreements between the EU and each SMC stipulate different conditions of mutual concessions on a product-by-product basis, resulting in considerable heterogeneity among products as well as among SMCs in terms of preferential access conditions to the EU fruit and vegetable market. This heterogeneity could be

explained by the progress of negotiations between each SMC and the EU and by the export specialization of the country.

Despite Egypt's preferential access to the EU's highly protected fruit and vegetable market, several indicators suggest that the country still has less favorable access to the EU market than its SMCs comparators'. Egypt's Market Access Trade Tariff Restrictiveness Index (MA-TTRI) is higher than the averages for the MENA region and lower-middle-income country group; the country's weighted rest of the world tariff (including preferences) for agricultural products is much higher than for the majority of SMCs, and the weighted preferential margin for Egypt's agricultural exports to the EU is lower than for the exports of several SMCs (for example, Jordan, Morocco, Lebanon and Israel). Tariff reductions granted by the EU are small in relation to Egypt's exports and the duties actually paid by Egypt when the preference is applied remain relatively high.

The new agreement that has been reached on the 1st of July 2008 to further liberalize trade in agricultural, processed agricultural and fish and fishery products between Egypt and the EU would improve Egyptian exporters' preferential access conditions to the EU fruit and vegetable market. However, Egypt needs to speed up the process of ratifying and implementing this new agreement with the EU, particularly that Israel and the EU have signed a new agreement for further liberalization of agricultural trade on November 4, 2009 that will enter into force on January 1, 2010 and agricultural trade liberalization negotiations between the EU and some SMCs, such as Morocco, are currently under way.

Egypt may not fully utilize its EU tariff quotas, implying forgone export opportunities. The degree to which Egypt utilizes tariff quotas for its exports of fruits and vegetables is lower than that for several SMCs (for example, Jordan, the Palestinian Authority, Israel and Syria), indicating that Egypt benefits less from trade preferences than its SMCs comparators. Improving farmers' productivity and lowering production costs would enable Egypt to fully utilize its tariff quotas and increase fruit and vegetable exports. Government-funded programs would help farmers improve their productivity by obtaining specific varieties, adopting better farming practices, providing research and agricultural extension services, promoting exports and providing market information. Compensation for further processing, export subsidies, and several types of financial aid and risk protection would effectively lower production costs and allow Egyptian fruit and vegetable producers to become more competitive on the EU market.

Despite Egypt's less favorable access to the EU fruit and vegetable market and lower preference utilization rate than its SMCs comparators', the implementation of the Association Agreement between Egypt and the EU has increased Egypt's exports of fruits and vegetables to the EU. Over the period 2004-2008, Egypt had a strong export performance in *fresh fruits* and *processed fruits and vegetables,* with average annual export growth rates well above the average of other SMCs. However, for *fresh vegetables,* Egypt's exports to the EU grew at an average annual rate that is lower than that of other SMCs, with Morocco and Israel outperforming Egypt as suppliers to the EU market. Egypt's most dynamic fruit and vegetable exports to the EU market were pears, watermelons, apricots, grapes, citrus fruits, tomatoes, onions and garlic, carrots and potatoes.

Notwithstanding the value of Egypt's preferential access to the EU fruit and vegetable market, the country's preferential treatment may not be sustainable in the long run in case European agricultural preferences to other suppliers are generalized in the framework of the ongoing Doha negotiations of the WTO. Hence, enhancing the competitiveness of Egypt in the EU fruit and vegetable market is needed to sustain and further promote the country's exports.

Competitiveness of Egypt in the EU fruit and vegetable market relative to other SMCs over the period 2004-2008 was assessed by using the Constant Market Share Analysis (CMSA) methodology. Results of the CMSA indicate that over the period under consideration, Egypt has increased its share in the EU market for fresh vegetables, fresh fruits and processed fruits and vegetables relative to several SMCs. However, Egypt proved to be more successful in exporting fresh fruits than gaining market share in fresh vegetables or in processed fruits and vegetables.

For both fresh fruits and processed fruits and vegetables, Egypt stood out among other SMCs because its exports to the EU underwent the highest increase. Egypt's better performance is mainly attributed to the country's higher competitiveness in exporting these products relative to the other SMCs. However, the decline in the rate of growth in EU demand for Egyptian exports of fresh fruits and processed fruits and vegetables and the weak capability of Egypt to adjust its export structure to the changes in the structure of the EU market have been critical to limit a gain that could still be higher for Egypt.

Despite strong EU demand *for fresh vegetables* and Egypt's revealed comparative advantage in producing and exporting these products, Egypt was hindered by a drop in its competitiveness relative to other SMCs and the weak capability to adjust its supply to the EU

market for fresh vegetables. Morocco outperformed Egypt in the EU market for fresh vegetables as a result of an increase in the rate of growth in EU demand for Moroccan exports, the country's increased competitiveness and its capability to adjust its supply to the EU market demand.

At a more disaggregated product level, Egypt's best performing exports to the EU market were onions and garlic, fresh or dried grapes and prepared or preserved (not frozen) vegetables. Egypt's good performance reflects greater competitiveness in the EU market for these three commodities relative to other SMCs. Egypt has succeeded in gaining quotas in commodities with faster growing EU demand.

Egypt's weakest export performance was in fresh or chilled potatoes, fresh or dried citrus fruits and processed fruit, nuts and other edible parts of plants. This relatively weak performance mainly reflects a diversion in European consumers' demand away from Egyptian exports towards Tunisian exports of fresh or chilled potatoes and Lebanese exports of fresh or dried citrus fruits. Egypt seems to have lost its competitiveness in processed fruits, nuts and other edible parts of plants, while Lebanon has enhanced its competitiveness in these products.

The findings of the empirical analysis, besides the evaluation of Egypt's preferential access to the EU fruit and vegetable market, suggest that Egypt needs to continuously enhance its competitiveness to maintain its accomplishments in the EU market and withstand the strong competition from several SMCs, whose fruit and vegetable export structures are quite similar to Egypt's. Also, Egypt needs to better respond to changes in European consumers' demand and enhance its capability to adjust its supply to the EU market demand.

The margins of improving Egypt's competitiveness in the EU fruit and vegetable market are still high. A more flexible Egyptian pound exchange rate could make Egyptian exports more competitive and relatively less expensive than SMCs' exports and commodities produced domestically in the EU.

If Egypt manages to reduce the costs of transport and related logistics services by establishing highly efficient ports and a competitive shipping services industry, the cost-competitiveness of its fruit and vegetable supply would improve. By enhancing the efficiency of transport and related logistics services, Egypt could become an important SMC player in the logistical organization and in distributing fresh and processed fruits and vegetables to the EU market.

Further development of technologies for the preservation and processing of fruits and vegetables would add a higher economic value to Egyptian exports and the country's location would allow processed goods to easily reach the EU market.

Egypt needs to consider increasing its exports of fruits and vegetables whose demand is growing rapidly in the EU market. One particular category of special products that is receiving a lot of attention in the EU market is organic produce and it is widely accepted that the market share of organic fruits and vegetables has increased. Given the environmentally friendly character of the organic production systems, besides the need for motivating farmers to specialize in organic certified products, the government could make a special contribution to the organic sector and share some of the costs incurred due to compliance with the strict organic standards.

Fruits and vegetables represent a great export potential for Egypt. In order to make the most of this potential, it is, however, necessary to improve and adjust the quality of the products in order that they may live up to the requirements of the EU export market. Greater compliance with the EU food safety regime and the SPSA-WTO in the processing, preservation, packaging, labeling, exportation, distribution and advertising of fruits and vegetables will increase the quality and safety of food, thus protecting consumers and increasing access to the EU food value chain.[18] Technical and financial assistance provided by the EU to Egypt would help improve the country's capabilities to comply with the quality, health and environmental standards required by European consumers.

In addition, Egypt needs to develop marketing processes through joining the international food chains and large scale retail trade.[19] It is important to note that Thailand, for example, is currently a leading global exporter of canned peaches, pears and fruits mixtures, despite its insignificant domestic production of fresh peaches and pears. Fruit canneries in Thailand rely

[18] Egyptian exporters of fruits and vegetables are not legally required to fulfill the traceability requirement. However, requests from EU business operators to their Egyptian trading partners are part of the food business's contractual arrangements and not of requirements established by the EU regulation.

[19] Large scale retail trade is a type in which either single type of goods or a variety of goods is made available to a large number of consumers in a big shop under a single roof or may be made available at the convenience of customers.

largely on imported fruits from the United States which are repackaged into plastic jars and cups in Thailand, and then re-exported back to the United States in the form of retail-ready products.[20]

[20] Thailand's competitive advantages in producing canned fruits are based primarily on relatively inexpensive labor and technological investments provided by US-based Dole Food Company which accounts for the majority of Thailand's peach and pear canning industry through its subsidiary Dole Thailand Ltd. US-based Dole Food Company implements global business strategies to source complementary fruits and vegetable products globally to meet year-round demand. Such strategies reduce processing costs and build an international customer network and brand recognition (Johnson 2008).

APPENDIX 1

Table A.1. Decomposition of CMSA: Egypt (Percentage Variations over 2004-2008, %)*

Egypt		Columns									
Commodity description	HS-code	1	2	3	4	5	6	7	8	9	10
		α^{kl}_{it}	α^{kl}_{i0}	$\alpha^{kl}_{it} - \alpha^{kl}_{i0}$	b^{l}_{i0}	$\sum_i (\alpha^{kl}_{it} - \alpha^{kl}_{i0})\, b^{l}_{i0}$	b^{l}_{it}	$b^{l}_{it} - b^{l}_{i0}$	$\sum_{kl}{}_i (b^{l}_{it} - b^{l}_{i0})\, \alpha^{kl}_{i0}$	$\sum_i (\alpha^{kl}_{it} - \alpha^{kl}_{i0})(b^{l}_{it} - b^{l}_{i0})$	5+8+9
		Figures in percentages (%)									
Edible vegetables and certain roots and tubers	07	18.1331	19.9596	-1.8265	47.1276	-0.8608	54.4223	7.2947	1.4560	-0.1332	0.4620
Potatoes, fresh or chilled	0701	38.7888	36.2853	2.5035	10.0837	0.2524	8.6301	-1.4536	-0.5274	-0.0364	-0.3114
Tomatoes, fresh or chilled	0702	1.1151	0.6375	0.4776	10.3672	0.0495	12.0187	1.6515	0.0105	0.0079	0.0679
Onions, shallots, garlic, leeks and other alliaceous vegetables	0703	67.1209	44.3023	22.8186	1.2201	0.2784	1.6982	0.4781	0.2118	0.1091	0.5993
Cabbages, cauliflowers, kohlrabi, kale and similar edible brassicas	0704	7.9545	0.2107	7.7438	0.0523	0.0040	0.1984	0.1461	0.0003	0.0113	0.0157
Lettuce (Lactuca sativa) and chicory (Cichorium spp.)	0705	34.5288	31.1058	3.4231	0.1614	0.0055	0.3454	0.1840	0.0572	0.0063	0.0691
Carrots, turnips and similar edible roots	0706	0.3781	1.3668	-0.9886	0.1762	-0.0017	0.3957	0.2195	0.0030	-0.0022	-0.0009
Cucumbers and gherkins, fresh or chilled	0707	7.4810	10.4536	-2.9725	0.2244	-0.0067	0.2685	0.0440	0.0046	-0.0013	-0.0034
Leguminous vegetables, shelled or unshelled, fresh or chilled	0708	23.1107	25.6161	-2.5054	8.5728	-0.2148	7.5913	-0.9816	-0.2514	0.0246	-0.4416
Other vegetables, fresh or chilled	0709	3.7291	6.2140	-2.4849	11.4683	-0.2850	18.3667	6.8984	0.4287	-0.1714	-0.0277
Vegetables (uncooked), frozen	0710	64.1279	37.7446	26.3833	1.1134	0.2937	0.9007	-0.2127	-0.0803	-0.0561	0.1574
Vegetables provisionally preserved	0711	34.4692	8.0900	26.3793	0.7483	0.1974	1.0682	0.3199	0.0259	0.0844	0.3077
Dried vegetables, whole, cut, sliced, broken or in powder	0712	72.8930	74.7696	-1.8766	1.5770	-0.0296	1.7806	0.2036	0.1522	-0.0038	0.1188
Dried leguminous vegetables, shelled	0713	78.5135	67.1578	11.3557	0.6105	0.0693	0.4302	-0.1803	-0.1211	-0.0205	-0.0722
Manioc, arrowroot, sweet potatoes and similar roots	0714	9.5320	11.4947	-1.9627	0.7456	-0.0146	0.7295	-0.0161	-0.0018	0.0003	-0.0162
Edible fruits and nuts; peel of citrus fruits or melons	08	19.5155	13.1301	6.3854	42.7157	2.7276	36.0491	-6.6666	-0.8753	-0.4257	1.4266
Coconuts, Brazil nuts and cashew nuts, fresh or dried	0801	8.1551	4.2824	3.8727	0.0040	0.0002	0.0056	0.0016	0.0001	0.0001	0.0003
Other nuts, fresh or dried	0802	2.3269	0.4628	1.8641	0.8178	0.0152	0.6741	-0.1437	-0.0007	-0.0027	0.0119
Bananas, including plantains	0803	0.1836	88.8841	-88.7005	0.0025	-0.0023	0.0062	0.0037	0.0032	-0.0032	-0.0022
Dates, figs, pineapples, avocados and mangosteens, fresh or dried	0804	0.5375	0.4612	0.0763	9.4559	0.0072	8.1147	-1.3412	-0.0062	-0.0010	0.0000
Citrus fruits, fresh or dried	0805	18.9937	15.8134	3.1803	15.6584	0.4980	12.0906	-3.5678	-0.5642	-0.1135	-0.1797
Grapes, fresh or dried	0806	73.7480	55.0241	18.7239	3.4092	0.6383	3.7824	0.3732	0.2053	0.0699	0.9135
Melons (including watermelons) and papaws (papayas), fresh	0807	9.6652	4.3102	5.3550	3.5431	0.1897	2.9886	-0.5545	-0.0239	-0.0297	0.1361
Apples, pears and quinces, fresh	0808	0.0061	0.0000	0.0061	0.0094	0.0000	0.0296	0.0202	0.0000	0.0000	0.0000
Apricots, cherries, peaches (including nectarines), plums and sloes, fresh	0809	15.3144	10.4428	4.8716	1.0568	0.0515	0.8435	-0.2132	-0.0223	-0.0104	0.0188
Other fruits, fresh	0810	27.0782	14.4214	12.6568	6.1311	0.7760	4.2060	-1.9251	-0.2776	-0.2437	0.2547
Fruits and nuts	0811	10.5574	2.4666	8.0908	2.2932	0.1855	3.0509	0.7576	0.0187	0.0613	0.2655
Fruits and nuts, provisionally preserved	0812	1.8308	0.7087	1.1222	0.1931	0.0022	0.1639	-0.0292	-0.0002	-0.0003	0.0016
Fruits, dried	0813	1.4395	1.1097	0.3298	0.0876	0.0003	0.0655	-0.0221	-0.0002	-0.0001	0.0000
Peel of citrus fruits or melons (including watermelons)	0814	23.8124	1.8463	21.9661	0.0292	0.0064	0.0275	-0.0017	0.0000	-0.0004	0.0060
Preparations of vegetables, fruits or nuts	20	6.9010	3.2375	3.6635	10.1567	0.3721	9.5286	-0.6281	-0.0203	-0.0230	0.3287
Vegetables, fruits or nuts	2001	1.7476	1.8326	-0.0850	0.4154	-0.0004	0.3151	-0.1003	-0.0018	0.0001	-0.0021
Tomatoes prepared or preserved	2002	18.6061	0.4968	18.1093	0.2743	0.0497	0.4027	0.1284	0.0006	0.0233	0.0736
Mushrooms and truffles, prepared or preserved	2003	0.0000	0.0000	0.0000	0.0232	0.0000	0.0166	-0.0066	0.0000	0.0000	0.0000
Other vegetables prepared or preserved	2004	41.0667	6.8682	34.1985	0.0471	0.0161	0.1027	0.0556	0.0038	0.0190	0.0389
Other vegetables prepared or preserved	2005	9.7724	5.3788	4.3936	4.2538	0.1869	4.2503	-0.0035	-0.0002	-0.0002	0.1866
Vegetables, fruits, nuts, fruit-peel	2006	5.7202	0.9627	4.7574	0.0029	0.0001	0.0056	0.0027	0.0000	0.0001	0.0003
Jams, fruits jellies, marmalades, fruits or nut pastes	2007	40.1070	10.5737	29.5333	0.0188	0.0056	0.0496	0.0307	0.0032	0.0091	0.0179
Fruits, nuts and other edible parts of plants	2008	1.5759	1.7157	-0.1397	1.6045	-0.0022	1.2727	-0.3318	-0.0057	0.0005	-0.0075
Fruit juices (including grape must) and vegetable juices	2009	2.5488	1.6871	0.8617	3.4506	0.0297	3.1134	-0.3372	-0.0057	-0.0029	0.0211

Source: Author's calculations. *Note:* *= Average 2004-2005 is the initial period and average 2007-2008 is the terminal period.

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