How effective is the EU's import regime for oranges?

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Abstract: *EU imports of oranges are restricted not only by ad valorem tariffs but also by the entry price system establishing a minimum import price. In addition, the EU applies a comprehensive system of trade preferences. The hypothesis of this paper is that, in contrast to its complexity, the effectiveness of the EU import system for oranges is low with respect to its goals, i.e. protecting EU producers and creating imports from preference receiving countries.*

The comparison of import prices for oranges from extra-EU countries with the EU entry price shows that the former are about 40% higher than the latter on average. Also, it is pointed out that at least 72% of extra-EU orange imports during the EU harvest season enter the EU tariff free. As a conclusion, the contribution of the import regime to the protection of EU producers is low.

Concordantly, the preferential entry price is not utilized by orange preference receiving countries. Besides, although orange quotas increased from 1991 to 2003, actual exports from Mediterranean countries and thus quota filling rates have decreased over the same period. It is shown that EU trade preferences for oranges were not decisive for the development of Mediterranean countries' orange exports to the EU. In the light of the low effectiveness of the entry price system for oranges along with high transaction costs involved, its abolishment should be considered. Yet, results cannot be generalized, even not for citrus fruit, as is demonstrated for mandarins.

1 Introduction

The EU's import system for oranges is designed to follow two contrasting goals. On the one hand it intends to protect EU orange growers by the means of an *ad valorem* tariff and a de facto minimum import price established by the EU entry price system. This allows creating an EU market price which is higher than the world market price. On the other hand, the EU aims to induce orange imports from preferred trading partners by a comprehensive system of trade preferences. Countries which are granted trade preferences have superior EU orange market access compared to countries which are not covered by trade preferences, the so-called most-favoured-nation (MFN) suppliers. Preferential market access is established by a preferential *ad valorem* tariff, which is lower than the MFN *ad valorem* tariff, and is in some cases supplemented by a preferential entry price, which is lower than the MFN entry price.

This study focuses on the effectiveness of the EU's import system for oranges. In particular, does the EU entry price indeed affect the EU import price level for oranges? Further, do the preferred trading partners actually utilize the trade preferences for oranges?

The EU import regime for oranges has been addressed in several studies before. In their analysis of the protectiveness of the reference price system, which was the predecessor of the entry price system until the implementation of the Uruguay Round results, Swinbank and Ritson (1995: 348) find that countervailing charges were applied 500 times for all fruits and vegetables in the period August 1988 to August 1994, due to the shortfall of the import price under the reference price. For oranges, countervailing charges were induced altogether only 7 times which may be interpreted as an indicator for a low protectiveness of the reference price system for oranges, or alternatively for a successful organization of the exporters concerned (ibid: 356). These results are in line with an earlier analysis of Williams (1986). Furthermore, Swinbank and Ritson (1995: 349) expected the substantial increase in the entry price for oranges compared to the former reference price would be "bound to result in increased problems in selling sweet oranges into the EU market".

Cioffi and dell'Aquila (2004) analyze the development of major orange exporters to the EU in the aftermath of the replacement of the reference price system by the entry price system in 1995. Orange exports from Morocco and Israel, the major countries exporting oranges to the EU in the time period when the entry price system applies and tariffs are high, are compared to those from South Africa and Brazil, the major suppliers to the EU when the entry price system does not apply and tariffs are low. The authors attribute the decrease of Israel's and Morocco's exports concurrently with the increase of South Africa's and Brazil's exports to the EU in the period 1995 to 2001 to changes in the EU's trade preferences as well as modifications of the EU import regime for oranges (ibid: 175, 178). Furthermore, Cioffi and dell'Aquila suggest that the replacement of Moroccan and Israeli oranges by Spanish produce may be due to the relative erosion of Morocco's and Israel's trade preferences for oranges because of the EU-accession of Spain in 1993 (ibid., 175).

In this paper we show that the EU market price for oranges is substantially higher than the entry price and hence the entry price system for this product has little effect. In addition, it becomes evident that EU trade preferences for oranges are highly complex. They are specified, negotiated and repeatedly revised for each preferred trading partners individually. However, findings suggest that the degree of their utilization is rather low.

The results of this study demonstrate that, in contrast to its complexity, the effectiveness of the EU import system for oranges is low with respect to its goals, i.e. protecting EU orange growers on the one hand and creating orange imports from the preference receiving countries on the other. In the event of the conclusion of the Doha round trade negotiations the effectiveness of the orange import regime will further diminish.

The paper is organized as follows. Section 2 describes EU orange imports and import policies for oranges, including trade preferences, in detail. Section 3 explains the methodology and presents the results of the analysis of the entry price system and the preferential orange quotas. Section 4 draws summarizing conclusions and puts results in perspective.

2 EU imports of oranges

2.1 Trade flows

The EU is the largest orange importer in the world. In 2003, EU orange imports amounted about 805,000t, equivalent to 23% of world orange imports (FAO, 2005). In addition, EU intra-trade of oranges, originating in the southern EU member countries Spain, Italy, Greece, and Portugal, accounted for about 1.6 million tons, of which 74% originate in Spain.

The non-EU countries exporting oranges to the EU can be divided into northern and southern hemisphere suppliers, characterized by distinct orange export seasons. The major northern hemisphere suppliers are the Mediterranean countries (MED[1]), which accounted for 88.4% of total EU orange imports from January to June in the period 1988-2004, and Cuba (Eurostat, various issues). In contrast, the orange export season of the primary southern hemisphere suppliers, including South Africa, Brazil, Argentina, Uruguay, Zimbabwe and Swaziland lasts from June to November (Figure 1).

The most important MED exporting oranges to the EU are Morocco and Israel. Both countries' orange exports decreased markedly between 1988 and 2004 (Figure 2). Additional MED exporting oranges to the EU are Egypt, Cyprus, Tunisia and Turkey, with Cypriot orange exports to the EU exhibiting a decrease and Egyptian orange exports a recent increase. The MED's orange exports to the EU represented 72% of EU imports from non-EU countries during the EU harvest season lasting from November 1 to May 31 in the period 1988 to 2004.

Figure 1: Seasonal pattern of extra-EU orange imports, 2002-2004
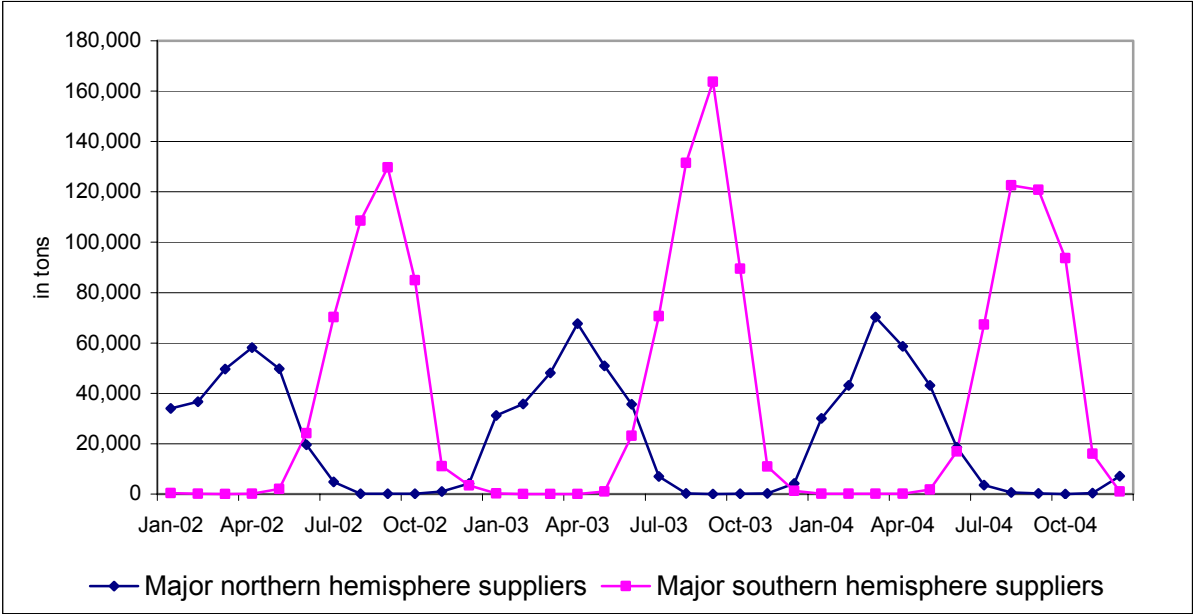
Major northern hemisphere suppliers: Morocco, Israel, Tunisia, Turkey, Cyprus, Egypt, Cuba; Major southern hemisphere suppliers: South Africa, Brazil, Argentina, Uruguay, Zimbabwe, Swaziland; Sources: Eurostat

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[1] The MED countries comprise Algeria, Cyprus, Egypt, Israel, Jordan, Lebanon, Malta, Morocco, Palestine Authority, Syria, Tunisia and Turkey, the countries covered by the Euro-Mediterranean Partnership. Cyprus and Malta became EU members in 2004.

Figure 2: EU orange imports from major northern hemisphere suppliers, 1988-2004
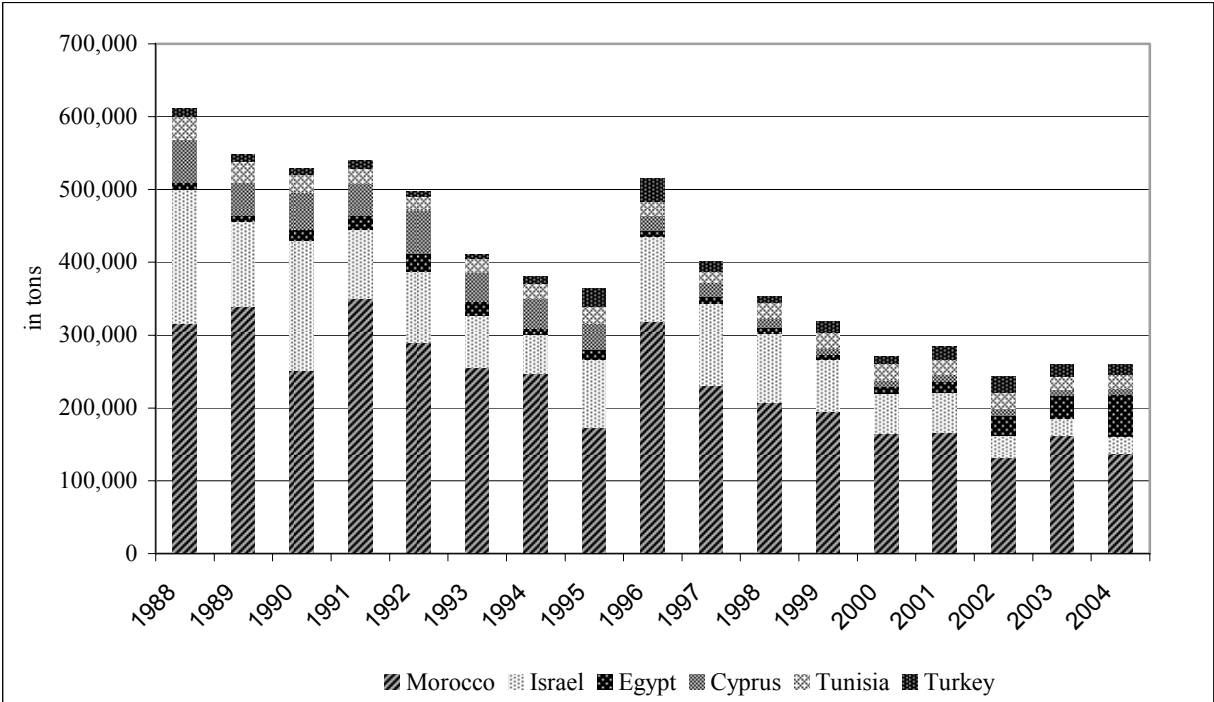
Sources: Eurostat (various issues).

2.2 EU orange import policy

2.2.1 MFN policy

The EU external market regulation for oranges includes a seasonally varying *ad valorem* tariff, with the highest tariff (16%) applied from October 16 to April 30 during the EU orange harvest season (see Table 1). In addition, an entry price system is in effect from December 1 to May 31. In the event that the entry price is undercut, an additional specific tariff is levied, its size varying proportionately to the difference between the product's actual import price and the entry price. The Maximum Tariff Equivalent (MTE) is the maximum specific tariff of 71 Euro that is levied if the minimum entry price is undercut by 8% or more. This MTE is equivalent to 20.1% of the entry price.

The EU orange import system has been changed substantially in the course of the implementation of the results of the Uruguay Round. *Ad valorem* tariffs for oranges were reduced by 20% between 1995 and 2001, and the former reference price system was replaced by the entry price system as of December 1995. The MFN entry price for oranges, introduced on December 1995, was 34.3% higher than the former reference price, which was kept constant since 1975. This rise in the minimum market price was designed to compensate EU orange growers, mainly in Italy, for the abolition of the market penetration premium[2] in the course of the EU accession of Spain and Portugal. Following its introduction in 1995, the MFN entry price for oranges was reduced slightly by 4% until 2001.

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[2] Market penetration premiums, a policy instrument to subsidize orange production, were paid to orange growers on class I orange exports to other EU member countries prior to December 1995 (Swinbank and Ritson, 1995).

Table 1: EU's MFN import regime for oranges

	MFN ad valorem tariff (%)	MFN entry price (€)	Specific tariff	
			MTE (€/t)	in % of MFN entry price
01.01.-31.03.	16.0	354	≤ 71	20.1
01.04.-30.04.	10.4	354	≤ 71	20.1
01.05.-15.05.	4.8	354	≤ 71	20.1
16.05.-31.05.	3.2	354	≤ 71	20.1
01.06.-30.09.	3.2	-	-	
01.10.-15.10	3.2	-	-	
16.10.-30.11.	16.0	-	-	
01.12.-31.12.	16.0	354	≤ 71	20.1

Sources: European Commission (2005a), own calculations.

The substantial seasonal differences of the external market regulation for oranges imply that the northern hemisphere suppliers are confronted with stronger import restrictions than the southern hemisphere suppliers. Since 2001, northern hemisphere suppliers have to accord with an average *ad valorem* tariff of 10.9% during their main export season from January to June, which is significantly higher than the average *ad valorem* tariff of 4.3% southern hemisphere suppliers are confronted with throughout their export season from June to November. Southern hemisphere suppliers have to correspond with a substantial *ad valorem* tariff from October 16 to November 31 exclusively, amounting to 16% since 2001. Also, northern hemisphere suppliers have to comply with the entry price system from January to May, thus during almost their complete export season, whereas the entry price system is not at all effective during the southern hemisphere suppliers' season.

2.2.2 Trade preferences

EU trade preferences for oranges are mainly granted to the MED, who are the major northern hemisphere orange suppliers to the EU. The primary southern hemisphere suppliers as e.g. South Africa and Brazil do not enjoy preferential orange market access. The only exception under the southern hemisphere suppliers are Zimbabwe and Swaziland which are allowed a 80% reduction in *ad valorem* tariff since 2000.

The EU warrants trade preferences for oranges by three kinds of instruments. A general tariff reduction lowers the MFN ad valorem tariff by a certain percentage for any amount of orange exports. A tariff rate quota (TRQ) and a entry price quota (EPQ) are both limited quantitatively, meaning that they are applicable only up to a certain export amount as specified by the quota. Similarly to the general tariff reduction, the TRQ allows a particular percentage of MFN tariff reduction. The EPQ gives a lowered entry price in addition to a 100 percent ad valorem tariff reduction.

In general, preferential access to the EU orange market might induce a competitive advantage for the preference receiving country's exporters against non-preference receiving countries' exporters. Also, trade preferences might diminish the competitive disadvantage of the preference receiving country's exporters relative to the protected EU domestic suppliers. In particular, a preferential tariff may increase exporters' profits by raising the export price. A preferential entry price might allow utilizing a cost advantage if the produce can profitably be supplied to the EU market at a price below the MFN entry price.

The development of EU trade preferences for Morocco, Israel, Egypt and Tunisia is very similar. Those countries were first granted preferential access to the EU market under individual Cooperation Agreements in the 1970s in the form of *ad valorem* tariff reductions varying from 60% to 80% (Table 2). In 1986, the Cooperation Agreements were amended by Additional Protocols to compensate for the relative degradation of agricultural trade preferences due to the EU accession of Portugal and Spain. Under these protocols, *ad valorem* tariffs were lowered analogously to the tariff reduction for Spain and Portugal from 1989 on, but limited quantitatively by TRQs since 1991. These TRQs initially varied between 293,000t for Israel and 7,000t for Egypt. Orange exports exceeding the quantity specified by the TRQ were subject to the tariff reduction rate as established by the initial Cooperation Agreements. In the ensuing years, TRQs slightly increased, and in January 1993 the *ad valorem* tariff within the TRQ was abolished completely to coincide with the tariff cancellation for Spanish and Portuguese orange exports. EPQs were introduced for Morocco and Israel concurrently with the transformation of the reference price into the entry price system in December 1995. Thus, Morocco and Israel were not concerned by the large increase in the MFN entry price compared with the former reference price (see 2.2.1). Instead, the preferential entry price for oranges in 1995/96 was set equal to the former reference price, amounting to 74.6% of the MFN entry price (Table 3). It was successively diminished by 4% until 2001, parallel to the reduction of the MFN entry price. For Egypt, an EPQ was established in December 1996.

Spain and Portugal had to comply with the reference price until December 1993. In the second phase of EU accession transition (January 1990 to December 1993), oranges exported from Spain to the EU had to adhere with the reference price indirectly due to a compensation mechanism. In the event that the market price of Spanish oranges fell below the average EU supply price, which could not be lower than the reference price, Spanish exporters had to pay a compensation, equivalent to the difference between the reference price and the EU market price (OJ L302, 15.11.1985, Article 152).

Between 1996 and 2004, the Cooperation Agreements were replaced by a series of Euro-Mediterranean Agreements (EMAs). TRQs were increased for Morocco and Tunisia and were abolished for Israel and Egypt. In addition, the EPQ increased significantly for Egypt. In the most recent agreements amending the EMAs between the EU and Israel as well as Morocco, TRQs were also eliminated for Moroccan oranges, and Israel's EPQ was increased slightly.

For Cyprus, a tariff reduction was granted under an Association Agreement in the 1970s. Subsequently, the reduction rate gradually increased until the tariff was fully removed in December 1997. The tariff preference was supplemented by a preferential entry price, levied within an EPQ of 48,200t and established concurrently with the EPQ for Egypt in December 1996. With Cyprus' EU accession in 2004, trade barriers were completely eliminated. For Turkey, the *ad valorem* tariff for orange exports to the EU was reduced under the Supplementary Protocol to the Association Agreement in 1981 and removed completely in 1987.

Overall, total orange quotas, including TRQ and EPQ, granted by the EU to the MED orange suppliers amounted to 593,000t in 1991, increasing to about 939,000t in 2000, and contracting to about 635,000t in 2004, when the TRQ for Morocco was eliminated.

Table 2: Development of EU preferences for primary northern hemisphere orange exporters, 1988-2004 (quotas in tons)

	Policy instrument	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Morocco	Tariff red. in/bey. quota	80%	as for Port. & Spain due to EU accession / 80%									100% / 80%						
	TRQ		0		265,000	272,950	280,900	288,850	292,825			296,800				340,000		0
	EPQ					0								300,000				
	Total quota		0		265,000	272,950	280,900	288,850	292,825			596,800			640,000			300,000
Israel	Tariff red. in/bey. quota	60%	as for Port. & Spain due to EU accession / 60%									100% / 60%						
	TRQ		0		293,000	301,790	310,580	323,705	328,100									
	EPQ					0								200,000				201,500
	Total quota		0		293,000	301,790	310,580	323,705	328,100					200,000				201,500
Egypt	Tariff red. in/bey. quota	60%	as for Port. & Spain due to EU accession / 60%									100% / 60%						
	TRQ		0		7,000	7,210	7,420	7,630	7,735					7,840				0
	EPQ					0								8,000				50,000
	Total quota		0		7,000	7,210	7,420	7,630	7,735	7,840				15,840				50,000
Tunisia	Tariff red. in/bey. quota	80%	as for Port. & Spain due to EU accession / 80%									100% / 80%						
	TRQ		0				28,000		30,940	31,360	32,301	33,242	34,183			35,124		
	EPQ									0								
	Total quota		0				28,000		30,940	31,360	32,301	33,242	34,183			35,124		
Cyprus	Tariff red. in/bey. quota	40%	stepwise increase between Dec. 87 and Dec. 97												100%			
	TRQ									0								
	EPQ													48,200				
	Total quota					0								48,200				
Turkey	Tariff red. in/bey. quota									100%								
	TRQ									0								
	EPQ									0								
	Total quota									0								
All MED suppliers	Total quota		0		593,000	609,950	626,900	648,185	659,600	836,000	893,141	894,082	895,023	939,164	939,164	939,164	939,164	634,824

a Malta, Algeria, Jordan, Lebanon, Syria and Palestine are no relevant orange exporters to the EU and are therefore not included in the table.

Source: European Union (various issues).

Table 3: Preferential entry price for oranges (in commercial ECU/€ per 100 kg)

Marketing year	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05
MFN EP	27.5 (RP[*])	36.9	36.6	36.3	36.0	35.7	35.4	35.4	35.4	35.4	35.4
Pref. EP	-	27.5	27.3	27.1	26.8	26.6	26.4	26.4	26.4	26.4	26.4
% of MFN EP	-	74.5	74.6	74.7	74.4	74.5	74.6	74.6	74.6	74.6	74.6

[*]RP = reference price; Source: European Commission (2005a).

To sum up, the EU import regime for oranges is highly complex and evolved in a multitude of separate agreements and regulations. All MED may export oranges to the EU within the respective quotas tariff free since 1993. Also, orange exports enter the EU at preferential entry prices for Morocco and Israel since December 1995, Egypt since December 1996 and Cyprus since December 1997. Thus, Morocco and Israel, the largest MED orange exporters, had at no time to adhere with the relatively high MFN entry price. Further, the MED trade preferences for oranges did not erode relatively to those of Spain and Portugal until December 1993.

3 Analysis of the effectiveness of the EU import system for oranges

3.1 Relationship between the EU import price and the entry price for oranges

To analyze whether and how the EU entry price impacts the EU import price for oranges, and thus the domestic orange market price, the standard import value (SIV) of oranges, an indicator for the import price, is compared to the entry price. The European Commission calculates the SIV daily based on the weighted average of wholesale market prices, minus a marketing and transportation margin and the custom duties, surveyed by origin of the produce in all EU countries (for further details see OJ 1994, L337/66, Regulation 3223/94).

This analysis is based on about 5,500 observations of the SIV for the orange exporting MED, including Morocco, Israel, Tunisia, Egypt, Cyprus and Turkey, with about 600 to 1,100 observations for each individual country (Figure 3). Each single dot corresponds to the SIV of oranges originating in a particular country at given date. The data set includes SIV observations from December 1, 1995, when the entry price system was first introduced, until May 31, 2005. The gaps in the data correspond to the SIVs surveyed exclusively when the entry price system is in effect, i.e. from December 1 until May 31.

Figure 3 uncovers directly that the vast majority of observations lies distinctively above the MFN entry price. Few SIV observations lie below the MFN entry price and even less are lower than the preferential entry price. In particular, the share of SIV observations that exceed the MFN entry price is highest for Israel with 99.9%, followed by Cyprus with 98.7%, Tunisia 97.2% and Morocco 93% (Table 4).

For Morocco and Israel, none of those observations lies below the applied entry price which is the preferential entry price introduced on December 1, 1995. This means that the special tariff was not at all imposed on Moroccan or Israeli oranges in this time period. For Cyprus 2 observations and Tunisia 24 observations lie below the respective entry price. The special tariff was most frequently applied to Egyptian oranges with 31 and Turkey with 90 observations, corresponding to 4.2% and 8.0% of all observations respectively.

Figure 3: SIV, MFN entry price and preferential entry price of MED's orange exports to the EU, December 1, 1995-May 31, 2005
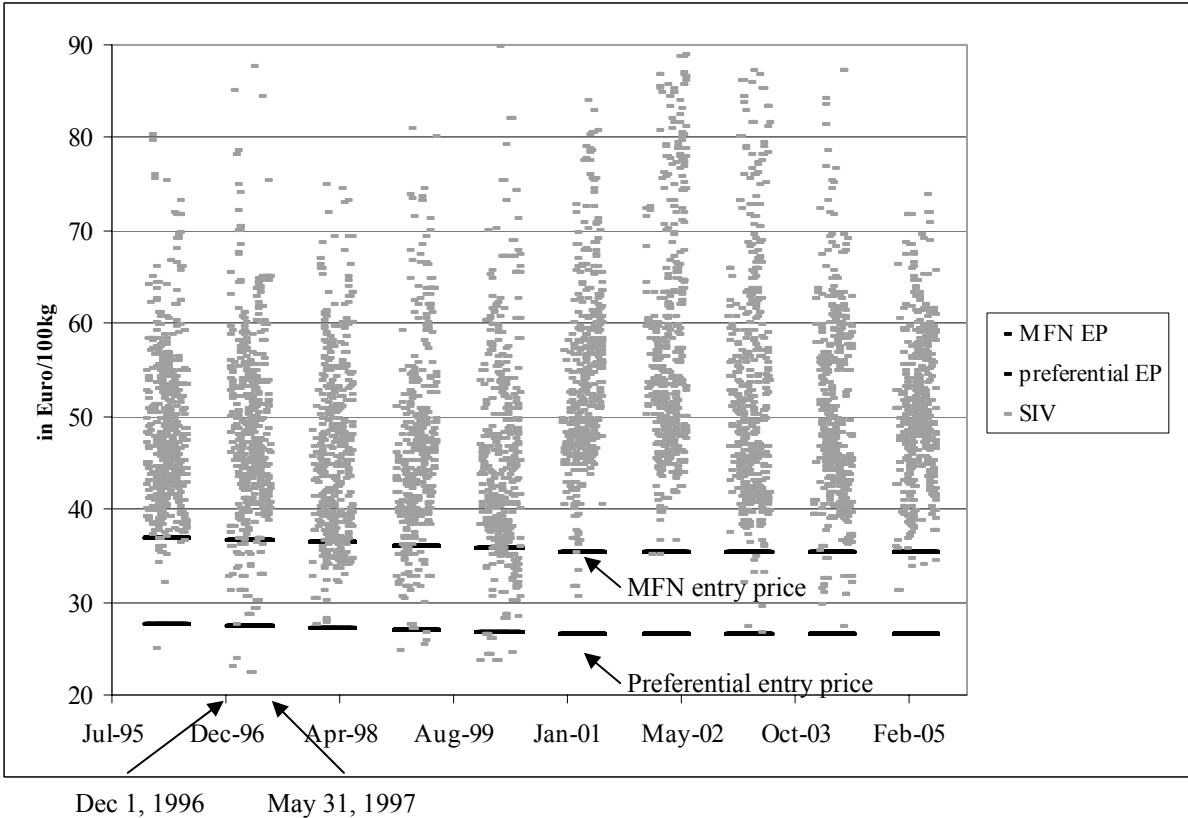
Sources: European Commission (2005a, 2005b).

The average difference between the SIV and the MFN entry price is highest for Israel with the SIV amounting to 158.1% of the MFN entry price and 212% of the preferential entry price on average, followed by Turkey, Cyprus and Tunisia. It is lowest for Egypt with 124.1% and 166.5% respectively. On average, the EU import price for oranges originating in the MEDs is 40% higher than the MFN entry price and about 90% higher than the preferential entry price. This indicates that the entry price system for oranges is largely redundant.

To check whether this result can be generalized, two other fruits are investigated. The size of the difference between the import price and the MFN entry price for oranges is exceeded by the corresponding difference for table grape exports from the MED to the EU (Figure 4). On average, the SIV for table grapes amounts 199.1% of the MFN entry price effective July 21 to November 20.

The situation for EU mandarin imports from the MED differs considerably. The SIV is below the MFN entry price (operative November 1 to the end of February) for Turkey in 60%, Egypt in 41% and Morocco in 33% of the surveyed cases for mandarins, although a preferential entry price is granted to Morocco exclusively (Figure 5). Morocco also heavily capitalizes on the EPQ granted by the EU for Moroccan tomatoes, as it is shown by Grethe and Chemnitz (2005).

Table 4: SIV in relation to MFN entry price and preferential entry price of MED's exports of oranges to the EU, December 1, 1995-May 31, 2005

	Number of observations	SIV > MFN EP (in % of observations)	SIV < applied EP*		SIV as % of MFN EP (average)	SIV as % of pref. EP (average)
			number of observations	in % of observations		
Israel	961	99.9%	0	0%	158.3%	212.4%
Tunisia	854	97.2%	24	2.8%	141.5%	185.8%
Turkey	1,132	92%	90	8.0%	144.5%	193.8%
Morocco	1,133	93%	0	0.0%	127.6%	171.1%
Egypt	746	79.1%	31	4.2%	124.1%	166.5%
Cyprus	613	98.7%	2	0.3%	144.4%	193.7%
Total	5439	93.3%	147	2.7%	140.1%	187.9%

*for Morocco and Israel: applied EP=pref. EP; for Turkey and Tunisia: applied EP=MFN EP; for Egypt: applied EP= MFN EP before Dec. 96 and pref. EP afterwards; for Cyprus: applied EP=MFN EP before Dec. 97; pref. EP afterwards
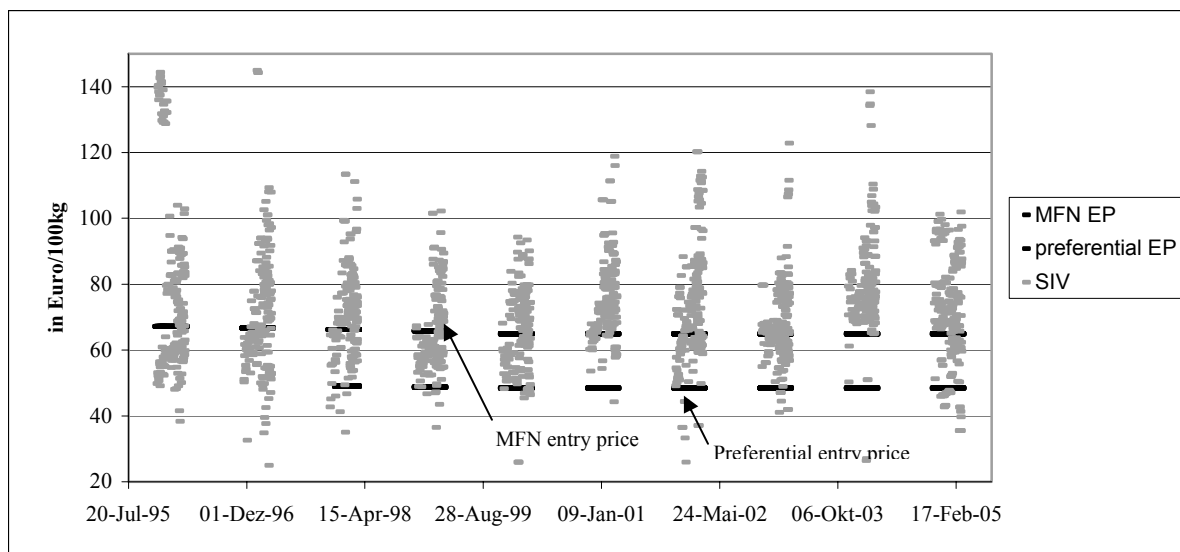
Sources: European Commission (2005a, 2005b), own calculations

Figure 4: SIV and MFN entry price of MED's exports of table grapes to the EU, December 1, 1995-May 31, 2005
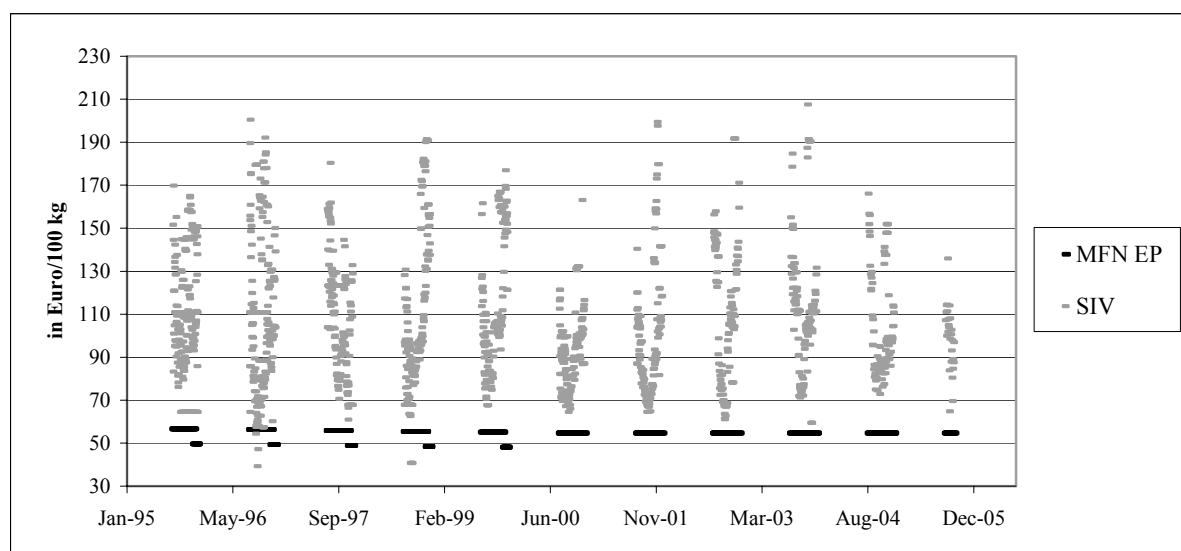
Sources: European Commission (2005a, 2005b).

Figure 5: SIV, MFN and preferential EP of MED's exports of mandarins to the EU, December 1, 1995-May 31, 2005

Sources: European Commission (2005a, 2005b).

In summary, the EU import price for oranges is substantially higher than the EU MFN entry price, amounting 40% on average. This relationship is even more pronounced for EU imports of table grapes from MED. Also, specific tariffs are almost not at all levied for Israeli, Moroccan and Cypriot oranges. The SIV was below the applied entry price most often for Turkish produce, followed by Egyptian and Tunisian produce. Further, the preferred trading partners do utilize the preferential entry price at a low degree. Israel, Morocco and Cyprus do not at all and Egypt does profit to some degree from the preferential entry price. For table grapes, the difference of the SIV of the MED's exports amounts about 100% on average. For mandarins, the MFN entry price is undercut by Turkey, Egypt and Morocco on a large scale. Morocco utilizes the preferential entry price for mandarins as well as tomatoes to a great extent.

Thus, the EU entry price system for oranges and grapes is by and large redundant for MED's exports. For mandarins and tomatoes, however, import prices are much closer to entry prices and the entry price system seems to have an import restricting effect.

3.2 Development of the quota filling rate

The utilization of the preferential quotas for oranges is investigated by comparing the development of the orange exports to the evolution of the total orange quota, comprising TRQ and EPQ.

Figure 6 depicts orange exports to the EU and the total orange quota for each orange exporting MED except Turkey, which is not warranted an orange quota by the EU, for the period starting 1991, when TRQs for oranges were first introduced, until 2004.

It becomes evident that for Israel, Cyprus and Tunisia, the total quota far exceeds the orange exports during the whole time period. For Morocco, the orange quota exceeds orange exports since 1993. For Egypt, the orange exports excel the quota from 1991 to 1996 and again recently since 2002. For the MED as a whole, orange exports decreased since 1991, although the quota increased concurrently.

Figure 6: Development of MED's exports to the EU and preferential quota for oranges
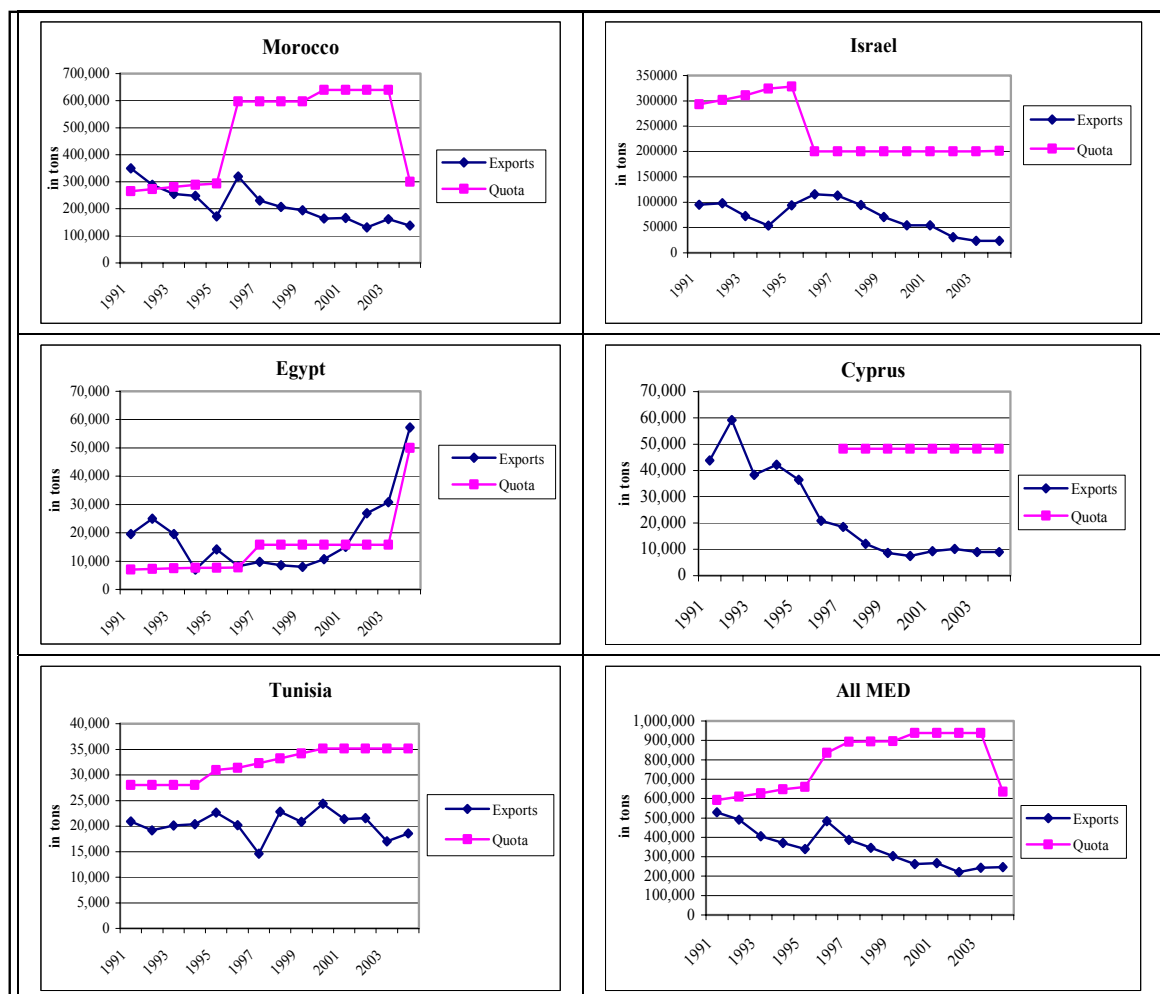

Table 5: Orange quota filling rates (orange exports in % of quota)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Morocco	132	106	91	86	59	54	39	35	33	26	26	21	25	46
Israel	32	33	23	17	28	58	57	47	35	27	27	15	12	12
Cyprus	-	-	-	-	-	-	38	25	18	16	19	21	19	19
Egypt	279	347	264	92	184	105	61	54	50	68	95	170	195	114
Tunisia	75	69	72	73	73	64	45	69	61	69	61	61	48	53
Average	130	139	113	67	86	70	48	46	39	41	46	58	60	49

Sources: Eurostat (various issues), European Union (various issues), own calculations.

The corresponding quota filling rates, equal to the orange exports in percentage of the total orange quota, are given in Table 5. Morocco's and Egypt's orange exports actually exceed their quotas in some years during the 1990s, but fall below afterwards. Morocco's filling rate has been under 50% since 1997. The removal of the TRQ in 2004 caused an increase of the filling rate in that year. Egypt exceeds its quota in 2002 to 2004 due to the rise of Egyptian

orange exports to the EU in this period. Tunisia's quota filling rate varies between 48% and 75%. The rate for Cyprus is always below 50%. Israel exhibits the lowest filling rates, declining from 32% in 1991 to 12% in 2004. The unweighted average filling rate fell from over 100% in 1991 to 39% in 1999, but rose again to over 50% in 2002.

Overall, while TRQs and EPQs for oranges originating in the MEDs were increasing following their introduction, the MED countries' orange exports to the EU were decreasing. Therefore, the quota filling rate has fallen for most MED countries and the unweighted average quota filling rate has been 60% or less for all years since 1997.

4 Discussion of results and implications

The analysis of the EU import price for oranges reveals that the import price of oranges originating in the MED is about 40% higher than the MFN entry price on average. The import price is highest for Israeli produce with the SIV for oranges amounting 158% of the MFN entry price. In addition, the investigation on the EU trade preferences for oranges showed that about 70% of EU orange imports during the EU orange harvest season originate in the MED which are covered by a preferential tariff and enter the EU tariff-free since 1993. This suggests that the contribution of the external market regulation to the protection of EU orange growers is low. In particular, the entry price system for oranges is of little effectiveness.

Concordantly, Morocco, Israel and Cyprus do not utilize the preferential entry price for oranges. This suggests that these countries do not have a comparative cost advantage vis-à-vis their competitors in the EU market, i.e. Spanish orange exporters. Indeed, EU importers report that prices of Moroccan and Israeli orange imports are significantly higher than the import price of Spanish oranges. Egypt is the only MED profiting from the preferential entry price to some degree.

Also, the analysis uncovered that the total orange quota far exceeds exports of Israel, Cyprus and Tunisia at any time and Morocco since 1992. Egypt is the only MED for which orange exports excel the total quota during a significant time period. Overall, although orange quotas increased from 1991 to 2004 for the MED as a whole, actual exports declined concurrently and thus quota filling rates have decreased. This indicates that the quantitative limitations of tariff and entry price reductions within TRQs and EPQs are largely redundant. Thus, EU trade preferences for oranges are not decisive for the development of the MED's orange exports to the EU

Additionally, it became evident that the improvement of market access for Spain and Portugal due to their EU accession occurred almost parallel to the enhancement of preferences for the MED until 1993. This supports the conclusion that the development of trade preferences for the MED compared to market access conditions for Spain and Portugal was not decisive for the development of the MED's orange exports to the EU up to 1993.

Our results indicate that the erosion of orange trade preferences of Israel and Morocco relative to those of Spain and Portugal in the aftermath of 1993 did not cause the decline of orange exports from those countries. Both countries' orange exports enter the EU tariff free since 1993. Also, the preferential entry price is not utilized by the orange exporters of Israel and Morocco. Even, the average import price of oranges originating in Israel and Morocco is about 58% and 28% higher than the MFN entry price, respectively. Hence, any erosion of trade preferences compared to Spain which is suggested by Cioffi and dell'Aquila (2004: 175), could not originate from EU trade policies. Also, we cannot find evidence for the

assumption of Cioffi and dell'Aquila (2004: 178) that the large increase in the MFN entry price relative to the former reference price may have contributed to the decline of Moroccan and Israeli orange exports to the EU. Instead, we show that a preferential entry price for oranges originating in Israel and Morocco, which was equal to the former reference price, was introduced concurrently with the implementation of the entry price system in December 1995. Thus, Morocco and Israel had at no time to adhere with the MFN entry price for oranges.

Hence, factors beyond EU trade policy would appear to have caused the decline of the MED's orange exports to the EU. For example, market distance and product variety are of particular importance for the decline of Israeli orange exports to Germany. German importers appreciate the high flexibility with orange imports from Spain. Due to Spain's proximity to the market, Spanish produce is packed directly in nets in Spain and then transported by truck to retailers' distribution centres in Germany within 2 days. In contrast, Israeli produce is first packed in cardboard boxes in Israel, which are transported by ship within 4 days to Marseille (France). The produce is then carried by truck to packing stations in Germany where it is repacked in nets before it is brought to supermarkets. Of course, the resulting transportation costs are lower for Spanish produce. Besides, Shamouti is the orange variety which still dominates Israeli orange production. In Spain, new orange varieties were introduced, e.g. the Navel varieties. German consumers prefer Navel over Shamouti oranges, but Israeli orange producers did not manage to adapt to this change in consumer preferences in time.

It remains to determine the influence of EU internal market regulations and structural policy on the large increase in EU orange market share of Spanish produce. EU orange production is protected internally by e.g. processing aid and withdrawal compensation. Also, operational programs of producer organizations for improvement of product quality and market promotion activities are financially supported. Restructuring aids are granted to modernize marketing structure and to grub up old orange groves. Additional funds are provided by the EU's Cohesion Fund e.g for enhancement of transport infrastructure.

Finally, all this implies that the liberalization of orange trade between the EU and the MED countries, which could be realized in the course of the ongoing Barcelona Process, would induce few, if any, trade effects. Theoretically, the entry price system would prevent especially low qualities from entering the EU market. For oranges, however, we don't find evidence from interviews with trading companies for potential low quality orange market segments below the entry price level. Existing marketing standards for citrus fruits specifying minimum requirements regarding e.g. fruit size, external appearance, uniformity etc. would prevent inexpensive, low quality produce from entering the EU market, even if the EU entry price system were removed.

Yet, as the results for mandarins demonstrate, these results cannot be generalized, not even for citrus fruit imported from the MED countries. It is highly probable that the removal of the entry price for mandarins would result in a decrease of the average EU import price level. Table grapes, however, provide a second example for which the SIV of imports from the MED is far above the EU entry price, and thus the entry price system is of little effect.

The conclusion that large parts of the EU external trade regime for oranges are redundant will potentially be amplified by the current round of trade negotiations in the WTO. Negotiations on market access will probably result in significant tariff reduction rates which would also apply to the specific tariffs which are part of the EU's entry price system. In implementing the results of the Uruguay Round, the EU reduced entry prices by the same monetary amount as

specific tariffs – an approach which could be repeated and would thus further diminish the relevance of the EU entry price system.[3]

In the light of the low effectiveness of the EU import regime for oranges along with high transaction costs involved in its administration and further development, the unlimited and free access of the MEDs to the EU orange market could be considered as an alternative. This may be extended to grapes and possibly to other fruits and vegetables. In addition, the abolition of the entry price system for some products would reduce the incidence of a clear non tariff barrier to market access which has survived the Uruguay Round process of tariffication, but which is in clear conflict at least with its spirit.

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[3] See Grethe (2005: 28-29) for a preliminary assessment of the potential Doha outcome on the entry price level for fruit and vegetables.