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The overall objective of the project was to estimate and describe the impacts on European countries of agricultural trade liberalisation in the Mediterranean region. The major changes to be expected when the project was launched, and still today, are increased EU imports of fruits, vegetables and olive oil and increased EU exports of cereals, meats, and milk products to non-EU Mediterranean countries.

In 1995, the 'Barcelona process' was launched between the EU on the one hand and most of the countries with Mediterranean seaboards on the other. The objective was formulated in lofty terms: the construction of an area of 'economic and political stability' with trade liberalisation as its keystone, since a commitment was made to set up a Euro-Mediterranean free trade zone in 2010. Ten years after the signing of the Barcelona Agreement, several economists (especially those of the Femise network: see in particular Reiffers and Radwan, 2005[1]) analysed the effects of this partnership on the southern and eastern Mediterranean countries (SEM)[2] and drew attention to the fact that these effects were not substantial and certainly matched neither the hopes nor the needs of the SEM countries. They showed that this could also be harmful for the economic development of Europe and the economic and political stability of the region. In these works, one of the reasons put forward for the lack of effectiveness of the Barcelona process is the fact that the farming sector has been kept out of the liberalisation process for the last ten years[3].

One obvious reason for the slow progress of Euro-Mediterranean trade liberalisation in agriculture has been the fear of the damage to European agriculture that such liberalisation might entail. The main purpose of our research project has been to assess whether and to what extent these fears are justified. In this synthesis report, we present what has been learnt regarding this question through this research project. Accordingly, the main focus will be on exports from Mediterranean Partner countries to the EU and the presentation is laid out to answer the following questions:

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[1] Radwan, S. and J.-L. Reiffers (2005). The Euro-Mediterranean Partnership, 10 Years after Barcelona:Achievements and perspectives. Rapport de la FEMISE report, Février

[2] Of the 12 countries that participated in the first conference on Euro-Mediterranean partnership in Barcelona in 1995, two are now EU members: Cyprus and Malta. The other countries are : Turkey, Morocco, Algeria, Tunisia, Egypt, Lebanon, Libya, Syria, Israel, Gaza and West Bank, and Jordan.

[3] The re-launching of the Euro-Med process has been in progress since 2005 and agricultural liberalisation is now a subject at the negotiating table. The issues are numerous and the process a complex one.

1. **What are the exports and what is their weight in trade between the EU and the SEM countries?** The second section of this report presents a brief survey of the data relevant to answering these questions. It follows a brief description of the EU fruit and vegetable sector, assumedly the most sensitive sector for the EU.

2. **Are the tariff barriers currently encountered by these exports in access to the European market an obstacle to their growth?** Because the European protection instruments for fruits and vegetables are comprehensive and complex, much attention was devoted to describing, understanding and interpreting them. They are discussed in the third section of the report.

3. **What could be the scale of their increase where the EU market to be opened up?** In order to answer this question, we had first to envision plausible liberalisation scenarios and to specify them in some detail. Accordingly, these liberalisation scenarios are presented in the fourth section. The impacts of the opening of the EU market to exports of fruits, vegetables and olive oil from the Mediterranean countries was analysed by enquiries directed at panels of experts competent in these chains in the five main SEM countries. The results of this survey are provided in section 5.

4. **Conversely, what increase in exports from the EU to the SEM countries would be enabled by Euro-Mediterranean liberalisation? And which more global effects, beyond expanded trade, can be expected from trade liberalisation?** The CAPRI modelling system has been the main model used to reply to these two questions. The more global effects (on prices, farmers' incomes and on consumers on the one hand and on budgetary expenditure on the other) were calculated. These insights are discussed in section 6. At the global level of the EU, these impacts appear quite minor. This leads to the final question:

5. **How vulnerable are some European regions and some European producers, who could suffer losses that might be significant for them, even if these losses would appear small at the global level?** Answers to this question are given in the final section of the report.

# 1 THE EU FRUIT AND VEGETABLE SECTOR

The EU is the second largest world producer of fruit and vegetables, accounting for 9% of total tonnage in 2003-05, a long way behind China (37%). The EU has suffered a certain amount of erosion due to slow growth (6% between 1994 and 2004, compared to 124% in China and 42% in India). With around 50 million tonnes, the 5 Mediterranean countries of the EU (Spain, France, Greece, Italy and Portugal) represent 72% of the total production of fruits and vegetables of the 15 member states. The southern and eastern Mediterranean countries, with a total of 30 million tonnes, have experienced rapid growth (+34% in the past 10 years compared to +9% in the EU-15[4] and the 5 EU-Mediterranean countries).

In 2002, the European fruit and vegetable processing industry (EU-25) counted a little more than 8,000 companies with a total turnover of approx. 48 billion Euros and 264,000 employees (Eurostat, 2005). In 2001, the main actors were Germany, Italy, France and the United Kingdom, each accounting for roughly 15% of the production of the EU-25, with Spain in 5th position accounting for 10%. Greece was in 9th position (3%) and Portugal 16th (1%). Between the end of the 1990s and 2002, Spain and Italy experienced an increase in turnover of about 50%, i.e. twice that of Portugal and France.

[4] When the research began, the ten new member countries had not yet been integrated into the EU.

**Table 1: An estimation of the production value of fresh and processed fruits & vegetables in EU-25, 2004**

| | Production value (€M) | | |
|---|---|---|---|
| **Country** | Agriculture | Industry | Total |
| **EU (25)** | 51 800 | 50 100 | 101 900 |
| **Italy** | 11 080 | 7 800 | 18 880 |
| **France** | 6 510 | 7 100 | 13 610 |
| **Spain** | 12 350 | 5 400 | 17 750 |
| **Greece (estimate)** | 3 320 | 1 500 | 4 820 |
| **Portugal** | 2 020 | 500 | 2 520 |
| **EU-Mediterranean countries** | 35 280 | 22 300 | 57 580 |
| **EU-MC/EU** | 68% | 45% | 57% |

*Source: our estimate from Eurostat, 2005*

In 2004, the fresh and processed fruit and vegetable sector as a whole in EU-15 generated more than €100 billion in turnover (including 57% for the Mediterranean member states) and provided jobs for almost one million people (2 to 3 times more if we include related industries and services in the calculation).

Fruit and vegetable marketing channels have become much more concentrated in the past 30 years, the large-volume distribution sector for industrial products and, to a lesser extent, for fresh produce becoming predominant. Companies producing fresh and processed fruits and vegetables are therefore constantly encouraged to lower their costs and adapt to the desired quality, quantity and management methods (Arfini *et al*[5], 2004).

[5] ARFINI, F., GIACOMINI, C., MANCINI, M.C. Effets probables de la mise en plage par la Grande Distribution de nouvelles normes de certification sur le marché des produits agro-alimentaires. Working paper, June 2004, 14 p.

The main regulatory instrument of the supply chain in the EU is the common market organisation (CMO) of fruit and vegetables[6], the principle of which is to act on supply *ex ante* by encouraging the creation of producer groups, their modernisation and a greater effort in favour of product quality and environmental protection. The results of the CMO are disappointing: in the EU-15 in 2003, the average rate of organisation into PO (producer organisations) remained below 40%, albeit with much higher rates in northern Europe (more than 70% in the Netherlands and Belgium) than in the south (less than 10% in Greece and Portugal (Montigaud *et al*, 2002[7]). The fruit and vegetable CMO, like all other CMO in the CAP, will be reformed, leading probably to the elimination of export subsidies, a decoupling of aid in relation to volumes produced, a single payment per farm and the introduction of eco-conditionalities.

The European Union (15) is the world's leading exporter of fruits and vegetables by far ($35 billion, 44% of total exports in 2001-03). It is also the leading world importer ($40 billion, 52% of total imports), well ahead of NAFTA (19%). However, the majority of trade consists of intra-regional movements: 82% of imports and 70% of exports for the EU. Examination of table 2, giving the origin of produce from outside the EU by large geographic areas, shows that the leading supplier to Europe is “the rest of the world”, comprising a group of countries from Latin America (in particular Chile), Africa (in particular Côte d’Ivoire) and Asia (in particular Thailand).

[6] European regulation 2200/96 for fresh fruit and vegetables, 2201/96 for processed fruit and vegetables, 2002/96 for citrus. There is a strong gap within the EAGGF (€ 1.5 billion in 2003 for fresh and processed fruit and vegetables, i.e. 3.9% of the total budget) and the economic weight of the sector (17% of the total agricultural final revenue).

[7] MONTIGAUD, J.C., RIO, P., MARTINEZ, R. L’OCM fruits et légumes dans le Sud-Est de la France: une tentative de bilan. UMR Moisa. Série Etudes INRA, 2002-02, 65 p.

**Table 2: Foreign Suppliers of Fruits and Vegetable EU-15 Market in 2001-2003.**

| | Fruits | Vegetables | Processed | Total |
|---|---|---|---|---|
| **EU** | 62,2% | 81,6% | 70,8% | 70,5% |
| **RoW** | 21,1% | 8,5% | 11,8% | 14,6% |
| **SEMC** | 7,2% | 4,6% | 4,6% | 5,7% |
| **NAFTA** | 5,8% | 2,9% | 2,7% | 4,0% |
| **MERCOSUR** | 3,2% | 0,6% | 6,9% | 3,5% |
| **Great China** | 0,4% | 1,8% | 3,2% | 1,7% |
| **Total (Import Value, $ M.)** | 16 568 | 12 075 | 11 779 | 40 421 |
| **SEMC Share in extra-region trade** | 19% | 25% | 16% | 19% |

EU: European Union (15), NAFTA: North Atlantic Free Trade Agreement, RoW: Rest of the World, SEMC: Southern and Eastern Mediterranean Countries

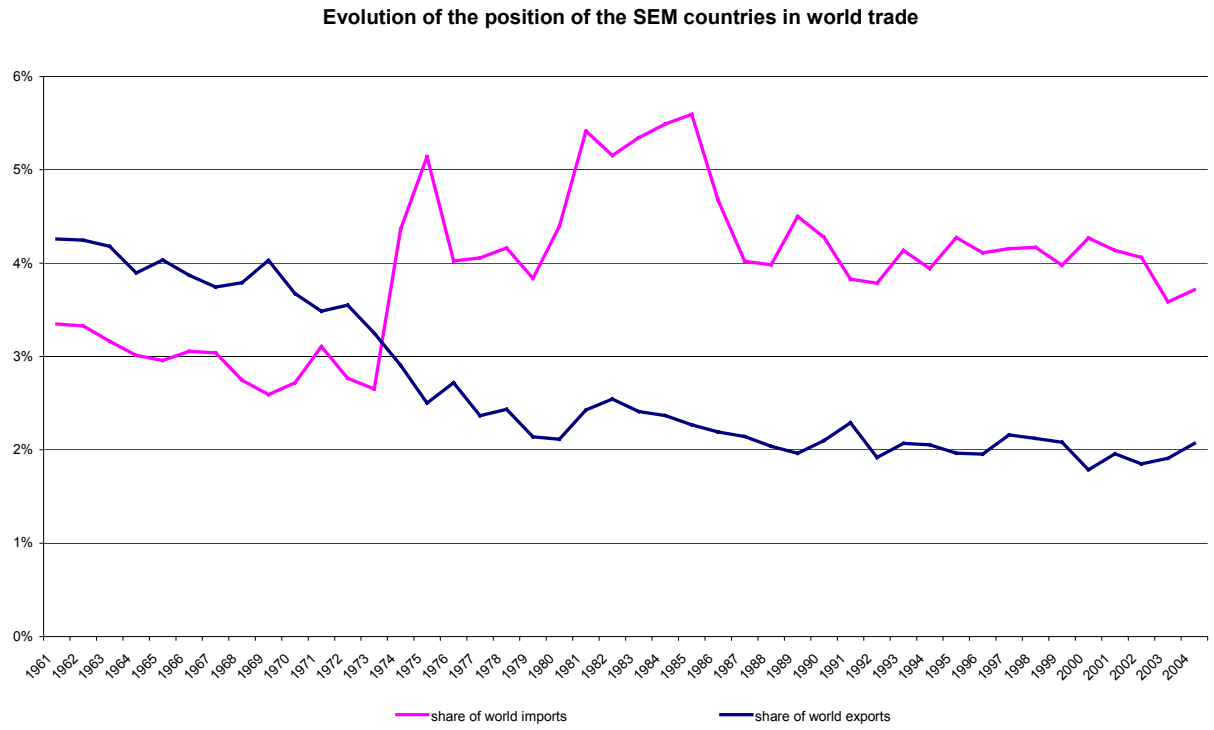
*Source: calculated from UN, Comtrade, 2005 and Emlinger, 2005*

# 2 THE SITUATION OF EURO-MED AGRICULTURAL TRADE

In the last 20 years, trade balance trends have been in opposite directions in the EU and the SEM countries. EU total agricultural and food exports and imports have increased. However, imports have increased more slowly than exports and after being a net importer the zone became a net exporter from 1986 onwards. EU-25 accounts for a stable 40% (approx.) of world agricultural and food imports and its position in world exports has displayed a steady increase from less than 25% in the 1960s to over 45% today.

Meanwhile, after being net exporters in 1960s, the SEM countries overall became net importers from 1974 onwards. Observation of these trends shows (Figure 1) a strong increase in the share of the region in world agricultural imports during the period 1974-1985 and a decrease in the weight of the zone in world exports. However, it can also be seen that the gap has tended to stabilise in the past decade. Imports by these countries now form 4% of the world total and exports have fallen to about 2%.

**Graph 1**




*Source: Comtrade*

Agricultural and agrifood products generally have a small position in total foreign trade of the SEM countries and of that of the EU. However, this is not the case for all the countries and it can be seen that trade in agricultural and food products has an important position for some. This is particularly the case for Morocco.

**Table 3: Share of the first 24 chapters in total exports (and imports) of EU-25 on the one hand and of the 9 SEM countries on the other, and the absolute value of agricultural and agrifood exports (and imports) in 2004 (in millions of dollars)**

| | Agricultural and food exports | Agricultural and food imports | Agric. in % of total exports | Agric. in % of total imports |
|---|---|---|---|---|
| Algeria | 63 | 3150 | 0.20% | 17.21% |
| Egypt | 827 | 3769 | 10.45% | 17.12% |
| Israel | 1458 | 2153 | 3.78% | 5.41% |
| Jordan | 562 | 1540 | 14.44% | 20.42% |
| Lebanon | 235 | 1147 | | 15.75% |
| Morocco | 1997 | 1687 | 20.16% | 10.64% |
| Syria | 807 | 1197 | 14.99% | 14.29% |
| Tunisia | 1097 | 915 | 11.36% | 7.68% |
| Turkey | 6024 | 2574 | 9.54% | 3.19% |
| TOTAL SEM | 12839 | 17405 | 7.45% | 8.63% |
| EU-25 | 300426 | 297000 | 8.34% | 8.74% |

*Source: Comtrade*

Trade in agricultural and food products between the two shores of the Mediterranean is small and asymmetrical. The EU is the main trade partner for the SEM countries, while for the EU the SEM countries are only a small proportion of its trade. In 2004, EU imports from the SEM countries totalled $ 6.5 bn, ad EU exports to SEM countries were of a similar order of magnitude ($5.9 bn). However, for the EU, this trade with the SEM countries formed only 2% of total trade in agricultural products when intra-European trade is included and around 10% when it is not (9.1% of exports and 9.6% of imports). In contrast, for the SEM countries the EU is the main import partner (32.6%) and above all the main export destination at over half of total (51.2% in 2004) exports of agricultural products. Furthermore, while intra-European trade is very active, that between the SEM countries is very small ($1 bn, that is to say 14.5% of their trade).

**Table 4: Share of EU-25 in export destinations and import sources in SEM agricultural trade in 2004**

| | EU share of imports | EU share of exports |
|---|---|---|
| **Algeria** | 45% | 64% |
| **Egypt** | 20% | 28% |
| **Israel** | 31% | 67% |
| **Jordan** | 12% | 1% |
| **Lebanon** | 45% | 17% |
| **Morocco** | 41% | 70% |
| **Syria** | 21% | 6% |
| **Tunisia** | 39% | 71% |
| **Turkey** | 31% | 46% |
| **Total** | **32.6%** | **52.2%** |

*Source: Comtrade*

The EU is favoured above all by the Maghreb countries as a source of their imports. The other countries further east in the Mediterranean area draw their supplies from numerous countries. However, this geographic diversification is yet more marked overall for exports. It is interesting to observe that the larger the exports from countries the larger the share of Europe as a destination for these exports. For this reason, four countries–Turkey, Morocco, Israel and Tunisia–currently account for 95% of exports to Europe from all the SEM countries.

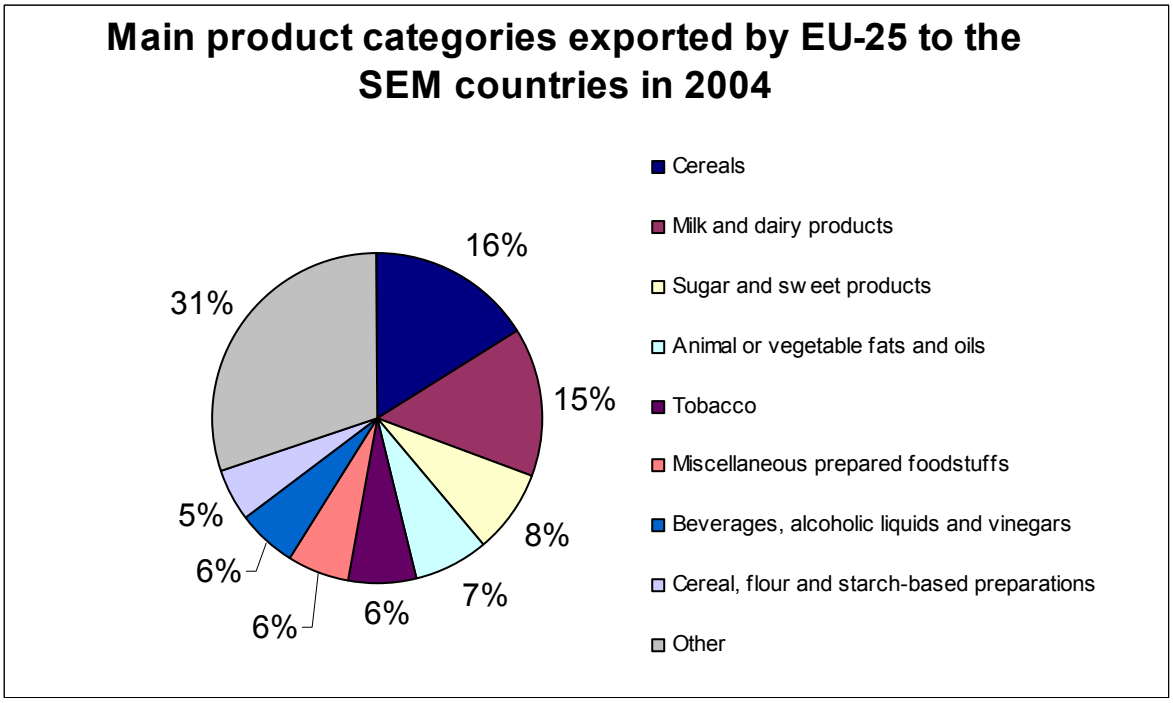
It can also be seen that not all European countries have the same involvement in trade with the SEM countries: five countries of EU-25 concentrate more than 70% of trade with the SEM zone. France is by far the leading country as regards exports to the Mediterranean (with 30% of the exports from EU-25) followed by the Netherlands and Germany. The main European importers of goods from the SEM countries are, in descending order, Italy, Germany, France and Spain. The 10 new EU member-countries are very little involved in EU-MED trade.

Closer analysis of trade between the countries in the two zones reveals privileged trade movements between certain countries. This specialisation is seen above all in imports by EU

countries. Thus, France imports goods mainly from Morocco (48% of French imports from the SEM countries) while Germany does business with Turkey (79% of Germany's imports from the SEM countries). This is also true, but to a lesser extent, in exports from the EU to the SEM countries. For example, 40% of French exports to the SEM countries are shipped to Algeria.

Agricultural and agrifood trade between the EU countries and the southern and eastern Mediterranean countries markedly reflect the agricultural specialisations of the two zones. The goods shipped from the EU to the SEM countries consist first of cereals (16%), followed by dairy products (15%) and sugar (8%). However, in addition to these three categories, a great variety of other goods –especially processed products– are exported.

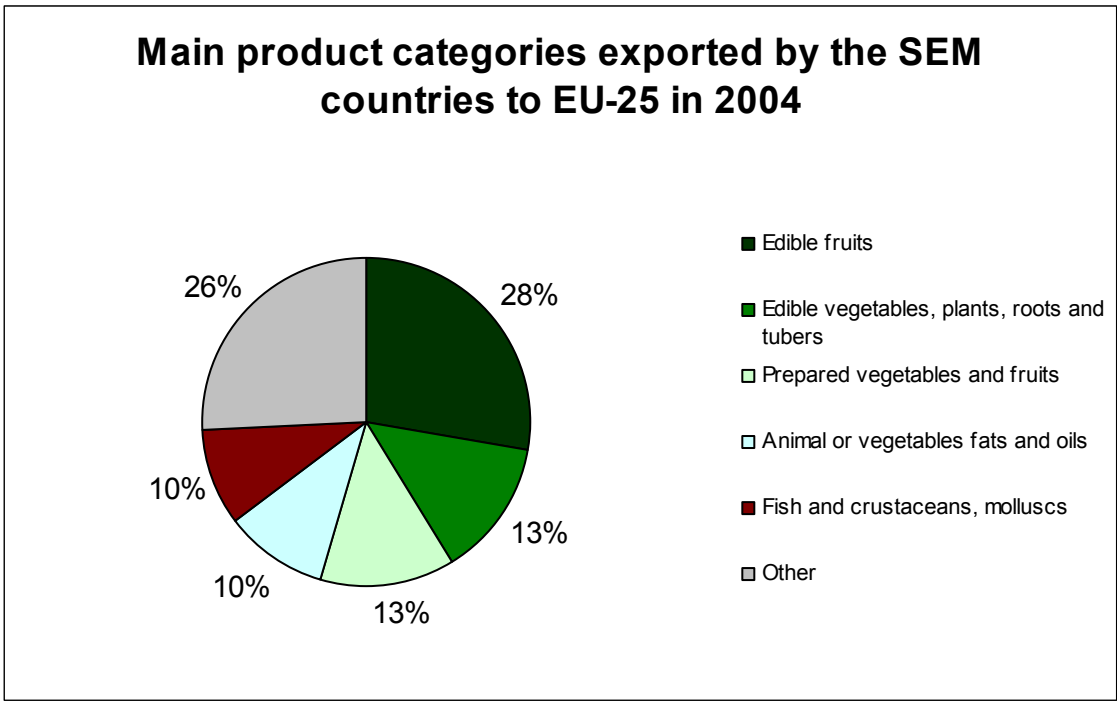
**Graph 2**




*Source: our calculations using Comtrade data*

SEM countries exports to the EU are much more specialised. Half of the goods (54%) consist of fresh or processed fruit and vegetables. To this are added fish and seafood 10%) and olive oil (also scoring 10%).

**Graph 3**




*Source: our calculations using Comtrade data*

It is also interesting to note that the exporting Mediterranean countries often display a marked specialisation. Thus olive oil forms 66% of Tunisian exports to EU-25, fish and seafood form 27% of shipments from Morocco and fruits total 42% of exports from Turkey, etc.

However, tomato is the main vegetable exported to EU-15 from the SEM countries (22.8% of vegetable exports) followed by potato (17.5%), while nuts and citrus fruits are the most commonly exported fruits (29.5% and 18.61%).

Trade between the EU and the SEM countries is thus small and asymmetrical. It can be concluded overall that a change in the trade flows between Europe and the SEM countries resulting from liberalisation would affect the SEM countries more than Europe. It can also be concluded that even if there is a degree of specialisation in the nature of trade between the two regions: fruits, vegetables and olive oil (Mediterranean products) shipped to the EU and staples shipped from the EU to the SEM countries, intra-zone heterogeneity is considerable. Some export more agricultural products than others, some are strongly turned towards the EU in trade and others much less so. The impact of an opening of the EU market would certainly not have the same impact in all the different countries in the region.

# 3 EU PROTECTION

The type and level of protection applied by the EU for fruits, vegetables, and olive oil differ significantly among countries and products. We first discuss general provisions that apply to all imports into the EU and then focus on the complex and diverse preferential arrangements for SEM countries.

## 3.1 General Provisions

The EU protection in the fruit and vegetables sector is a complex system that combined different types of instruments. Depending of the products, those are : ad-valorem tariffs, tariff rate quotas, entry price system, and windows that apply on tariffs or entry price.

The EU uses an entry price system for the more sensitive products. This system includes a severe tariff penalty if the item entry price is below a stipulated threshold. The effect is the imposing of a minimum price at which products enter the EU and compete with EU domestic products. The trigger price (minimum entry price) varies not only by product but also with the season. The minimum entry price system applies to 15 products: tomatoes, cucumbers, artichokes, courgettes, oranges, mandarins, clementines, lemons, apples, pears, grapes, apricots, cherries, peaches, plums, and orange and grape juice. While these 15 products represent a small share of the fruit and vegetable tariff lines, they represent a large share of the value (70%) of EU fruit and vegetable production. The value share is 82% for Italy, 80% for Greece, 72% for Spain, and 76% for France. These products are clearly important in certain production areas in these southern European countries. They also represent almost half of the value of European fruit and vegetable consumption and are the subject of much of the intra-EU trade in fruits and vegetables. The two largest sources of imports of these goods are the Mediterranean countries (27%) and South America (29%).

In addition to the minimum import price, these commodities also have import windows. Often there are two windows – one during which a considerable potential for competition between imports and EU production is feared and another during which the competition with domestic production is considered to be minimal. During the competitive window, the minimum import

price may be different, as it is not necessarily the same throughout the year. For some products, conditions may change several times a year, as often as monthly in some cases.

## 3.2 Preferential arrangements for SEM countries

The greater part of EU-MED trade is covered by preferential agreements signed bilaterally by the EU and each SEM country. Table 5 shows for fresh fruits and vegetables the share of tariff lines on the one hand and trade on the other that are governed by a bilateral agreement that is part of the EURO-MED process. Distinction is made for each of the two values between the lines (or volume) for which preferences are awarded without quantitative restrictions (EU-MED Pref) and those that benefit from preferences within quotas (EU-MED Pref (Q)). The remaining trade is within the framework of the GSP or MFN regimes.

**Table 5: The position of the SEM agreements in % of trade in products covered by Chapters 7 and 8 (fresh and processed fruit and vegetables)**

| | % tariff lines | | % trade | | $ |
|---|---|---|---|---|---|
| | EU-MED Pref | EU-MED Pref (Q) | EU-MED Pref | EU-MED Pref (Q) | Exports |
| **DZ** | 10% | | 99% | 0% | 13262 |
| **EG** | 7% | 2% | 27% | 42% | 162447 |
| **IL** | 2% | 7% | 21% | 45% | 342801 |
| **JO** | 7% | 1% | 76% | 2% | 6943 |
| **LB** | 58% | 5% | 33% | 3% | 714 |
| **MA** | 32% | 14% | 50% | 42% | 61 |
| **SY** | 3% | | 37% | 0% | 581381 |
| **TN** | 12% | 2% | 83% | 13% | 5805 |
| **TR** | 79% | 2% | 94% | 1% | 68733 |

*Source: Comtrade 2004*

It can be seen in Table 5 that the number of tariff lines[8] that benefit from preferences within the framework of the Euro-Med agreements varies considerably from one country to another. Morocco thus has Euro-Med preferential access conditions for its exports of fruits and vegetables to the EU for 46% of the tariff lines, Turkey for 81% while Egypt and Israel have preferential access for only 9% of the lines. It is thus seen above all that a very large proportion of trade is conducted within these preferences (over 90% for Morocco, Turkey, Tunisia and Algeria and about two-thirds for Egypt and Israel).

Another analysis of the liberalisation process between the EU and the SEM countries can be performed by counting the number of tariff lines (nc10) for which trade is duty-free. Thus nearly 90% of the lines concerned for Turkey and Morocco are zero-rated. The percentage is also high for the other countries except for Algeria where less than half of the tariff lines are zero-rated[9].

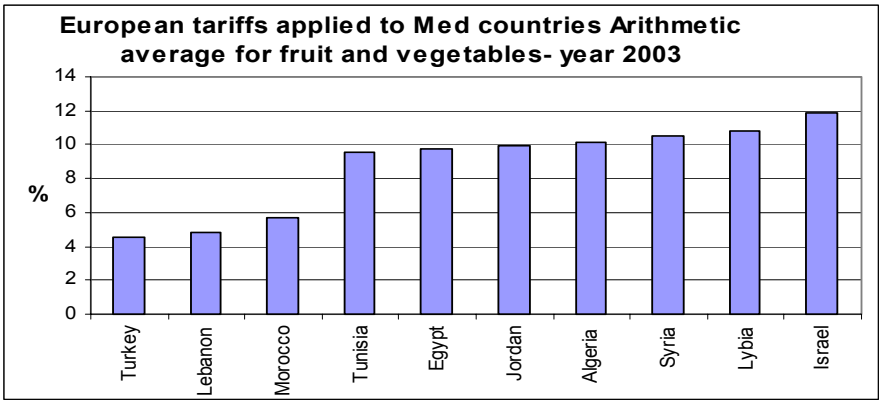
The Euro-Med agreements signed by the EU with each of its Mediterranean partners define the preferential tariffs that, as we have just seen, are sometimes awarded for a limited volume (within quotas), especially for Egypt, Israel and Morocco.

The tariff reduction and hence the preferential margin (in comparison with the MFN tariff) enjoyed by the countries varies considerably within these quotas. EU entry tariffs are high for those that export least to the EU (Egypt and Israel) and that export to other destinations. A reduction of EU customs tariffs could have a marked effect on redirecting exports from these countries and perhaps on their expansion. However, the rates are already low for Turkey and Morocco.

[8] Chapters 7 (vegetables) and 8 (fruit) contain a total of 5,446 tariff lines (NC10) for different products and in some cases for periods of the year.

[9] See Chevassus 2005, Eu-Med Agpol, Deliverable 13, for more details.

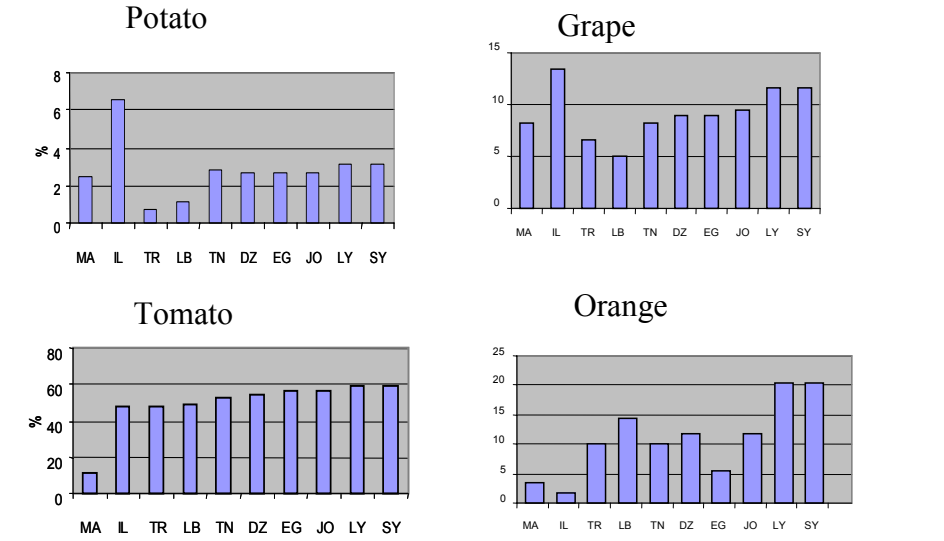
**Graph 4**




*Source: Comtrade and MEDITAR*

Although this indicator, combined with protection, gives a general idea of the heterogeneity of the present agreements between the EU and the various Mediterranean countries, detailed conclusions on the possible effect of liberalisation cannot be drawn as the level of protection varies greatly among products.

**Graph 5: Annual average (2004) of the tariff applied (the lowest, that is to say within the tariff quota if one exists)**

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The tariffs for some countries/products are those applied within the quotas. The tariff for quantities exported over and above the quotas are higher.

The position in exports from the SEM countries of the products subject to quotas and the degree to which these quotas are filled however give a good indication of what the effect of liberalisation might be. Depending on the country, the share of exports performed within the framework of the preferences subjected to restrictions in quantity is very variable. It can thus be seen in the table below that three-quarters of Morocco's exports are concerned. The situation obviously differs according to the product here again. Quotas apply to the main goods exported from Morocco, Israel and Egypt (tomato, orange and potato).

**Table 6: SEM exports to the EU of products subjected to quotas at least once during the year (Chapters 7 and 8) 2004**

| $ thousand | Total with quotas | Total fruit & veg. to EU | % |
|---|---|---|---|
| **EG** | 21423 | 68900 | 31% |
| **IL** | 92142 | 199000 | 46% |
| **JO** | 1 | 1146 | 0% |
| **LB** | 145 | 680 | 21% |
| **MA** | 244220 | 327000 | 75% |
| **TN** | 9000 | 69500 | 13% |
| **TR** | 5175 | 320000 | 2% |

*Source: Meditar*

It is also important to know the extent to which these quotas are filled in order to know the impact of the removal of these tariff quotas. Thus, tomato quotas (for all countries) are always filled and orange quotas are never full. For the latter fruit, Spain's competitiveness and production constraints within the SEM countries seem to dampen the development of exports. By contrast, increased opening of the European tomato market could lead to an increase in SEM exports to the EU. However, this also depends on the role of the entry price as a barrier to exports to the European market.

## 3.3 The entry price mechanism as a special preferential instrument for the SEM countries

The entry price mechanism is a complex component of the protection of the European market; its effect is fairly difficult to analyse. It operates in the manner of a minimum import price by means of a system of specified duties that are triggered when the import price falls beneath a certain threshold. The import price (SIV: standard import value) is recorded by product and by origin on the main EU markets to serve as the basis for calculating the amount of duty to be levied in each case. Comparison of the SIV and the entry price indicates whether or not it is a constraint. In other words, if there is a significant difference, abolishing the entry price system could result in the shipment of larger volumes from exporting countries to the EU market.

The entry price mechanism applies to all the fruits and vegetables subjected to it[10], whatever the source (with the exception of the least-developed countries that benefit from the 'Everything but Arms' initiative). A few products/countries benefit from 'negotiated' entry prices within the framework of the Euro-Med bilateral agreements. These are oranges, for which the entry price applied to produce from Morocco, Israel and Egypt is lower than that of oranges shipped from other countries, and tomatoes, courgettes, cucumbers and clementines, for which Morocco benefits from a lower price than all the other suppliers of the EU.

SIVs are currently distinctly above the entry prices for certain fruits: orange, grape, cherry and pear. Thus, part of the quotas for oranges are not filled and the import price is higher than the entry price–this applies to all the Mediterranean exporters to the EU market. In this case, it can be concluded clearly that a liberalisation of trade would have no impact on the product.

Economic analysis of the effects of this mechanism is complex when import prices are close to the entry prices, as the latter form both a barrier to access to the European market but also a guaranteed minimum price for the exporting country. This is the case of tomato, the main vegetable exported from SEM to the EU market. In this case, comparison with production costs gives further information.

As has been mentioned above, Morocco benefits from a 'negotiated' entry price for tomato, that is to say the price is lower than the MFN price. It can be seen in the graph below that the

[10] The products for which there is an entry price are tomatoes, oranges, cucumbers, artichokes, courgettes, lemons, table grapes, apples, apricots, cherries, peaches, plums, clementines and grape juice.

Moroccan tomatoes enter the European market at a price (estimated by the SIV) lower than that of the other exporting countries–a price that seems to be determined by the entry price. Production cost estimates (around €55 per 100 kg, that is to say fairly close to the import price level (€46 per 100 kg from January to April) suggest that abolishing the entry price would not necessarily result in a fall in the price of the Moroccan tomatoes sold on the European market (this reasoning could explain the little interest shown by Moroccan negotiators in requesting the lowering or abolition of the entry price; they find that this ensures payment for their production).

The case is very different for Turkey and the other Mediterranean exporters of tomato to the EU. Indeed, they cannot export at a price below the MFN entry price (around €80 Euros per 100 kg from January to June). Our estimates show that the Turkish tomato production price is lower than this. Here, the abolition or reduction of the entry price could result in an increase in Turkey's tomato exports, as these now go to other destinations (the Balkans and Saudi Arabia) as they compete on the EU market with tomatoes exported from Morocco and tomatoes produced by the EU. A similar reasoning could probably be made for Israel and Egypt. In addition, one must bear in mind the difficulty formed today by non-tariff barriers (especially sanitary standards) and the quality standards imposed by European importers should not be neglected either, especially as regards Turkey because of the characteristics of production.

# 4 LIBERALISATION SCENARIOS

Specific assumptions regarding trade liberalisation measures had to be made in order to generate quantitative and qualitative estimates of the production, income, budget, and social impacts of EU-MED trade liberalisation. This led us to develop liberalisation scenarios. As the word 'scenario' indicates, several plausible futures had to be explored. In addition, in order to assess more broadly the stakes involved in current and future negotiations, be they at the world, multilateral, regional or bilateral levels, liberalisation measures which may be somewhat more radical than what seems most likely were considered and their potential impact was estimated.

The main challenge was to define scenarios that are both meaningful and usable. Given the complexity of existing and likely future border protection measures, the liberalisation

scenarios considered must be detailed enough to be meaningful. But, in order to be usable, the scenarios must be simple enough. As indicated above, models were used to provide quantitative estimates of the consequences of the assumed changes in the parameters characterising border protection. In many instances however, these model parameters are only rough approximations of the complex protection measures described in the previous section of this report. On the other hand, the scenarios to be used by expert panels had to be based on clear and understandable assumptions and be as contrasted as possible. This means that the scenarios to be discussed with expert panels were not as precisely specified for the quantitative parameters (e.g. tariff duty) as those introduced in the models. On the other hand, they were more realistic in terms of border protection measures and incorporated the seasonal nature of these measures (windows) that the models used in this study could not handle.

These considerations led us to formulate two regional trade liberalisation scenarios: a total liberalisation scenario, which is probably not politically feasible in the foreseeable future but which may provide a useful benchmark, and a partial liberalisation scenario. The latter was specified to be both country and product-specific. Indeed, the long history of trade relationships and negotiations between the EEC, and then the EU, with other Mediterranean countries and the diversity and complexity of product-specific border measures imposed such a level of detail. In addition, the experts to be consulted and who used the scenarios were familiar with the existing border measures, which are country- and product-specific.

Table 7 gives the list of products which have been selected for study in the five countries where expert consultations were held using a Delphi approach. This selection is based on the following criteria:

1) the relative importance of a given product in the total exports of a country to the EU,

2) the potential competition with domestic production in the EU.

Several products were not used in these criteria however: those products benefiting from a TRQ but for which the volume of exports is less than the allowed quota (e.g. Moroccan oranges for which exports are only 72% of the TRQ or potatoes (40%)) or products which benefit from a preferential access to the European market but for which exports are small (e.g. table grapes from Morocco).

**Table 7– List of products selected and EU share in Mediterranean country exports (2004-1000$)**

| Country | CN | Product | EU share |
|---|---|---|---|
| **Egypt** | CN8: 07022000 | Tomatoes | 37% |
| | CN8: 07019050 | Potatoes | 73% |
| | CN8: 07031019 | Onions | 74% |
| | CN8: 07082000 | Beans | 85% |
| | CN6: 080510 | Oranges | 25% |
| | CN8: 08101000 | Strawberries | 37% |
| | CN10:0806101099 | Table grapes | 87% |
| | CN8:08071900 | Melons | |
| **Morocco** | CN10:0805201005 | Fresh clementines | 44% |
| | CN8: 07020000 | Tomatoes | 87% |
| | CN8: 07082000 | Beans | 99% |
| | CN8: 07099070 | Courgettes | N.A. (*) |
| | CN8: 08101000 | Strawberries | 95% |
| | CN8:08071900 | Melon | |
| **Israel** | CN8: 070200 | Tomatoes | 84% |
| | CN8:07096010 | Sweet peppers | |
| | CN8: 07019050 | Potatoes | 92% |
| | CN8:08101000 | Strawberries | 98% |
| | CN10: 0806101099) | Table grapes | 98% |
| **Tunisia** | CN8: 15091010 | Olive oil | 90% |
| **Turkey** | CN10: 0805201005 | Clementines | 19% |
| | CN8: 07020000 | Tomatoes | 17% |
| | CN10: 0806101099 | Table grapes | 37% |
| | CN10: 0805501090 + 0805501090 | Lemons | 68% |
| | CN8: 07031011 + 07031019 | Onions | 14% |
| | CN8: 07019050 +07019090 | Potatoes | 36% |
| | CN10:0807190010+0807190010+0807190091 | Melons | |
| | CN8: 08092095 | Cherries | 96% |
| | CN10: 0707000599 | Cucumbers | 46% |
| | CN6: 080810 | Apples | 3% |

*Source: Comtrade - * Data not available*

Assumptions were made on how each product in each country could evolve under a partial liberalisation scenario, bearing in mind the Commission's attitude to Euro/Med liberalisation,

as expressed in the 'road-map'[11]. EU protection, as described in Section III, can take the form of import windows, quotas, minimum import prices, and tariffs and generally involves some combination of these instruments. Some degree of arbitrariness is necessarily involved in the formulation of these liberalisation assumptions. However, in order to achieve a degree of consistency, the following principles were used[12]:

- When the major instrument is a quota, we checked to see if actual country exports are greater than or less than twice the quota. If actual exports are more than twice the quota, the partial liberalisation assumption for that country and commodity is an expansion of the quota to 1.5 times the current level of exports. When actual exports are less than twice the quota, the liberalisation assumption is to double the quota.
- If it appears that the binding export constraint is the length of the import window, we added one month to each side of the import window for the partial liberalisation scenario for that country and product.
- If it appeared that the most important barrier is the minimum import price, we lowered the minimum import price by 25 percent for that product and country.
- If the major export impediment appeared to be a tariff or a tariff in certain periods, we either eliminated the tariff or reduced it by 50 percent, whichever seemed more reasonable for that product and country.

[11] "Within the framework of the strengthening the Barcelona process, the Euro-Mediterranean foreign ministers have asked the Commission to draw up, at senior level, a roadmap for the process of liberalising agricultural trade. In this connection, one of the conclusions of the foreign ministers at The Hague (November 2004), following the Dublin Declaration (May 2004) and the conclusions of the Venice conference of agriculture ministers (November 2003), was that: "*the strategy for accelerating the liberalisation of trade in agriculture has begun to be addressed through a meeting at senior expert level, with a view to Ministers agreeing later on measures for reciprocal agricultural trade liberalisation within a package – containing a specific roadmap – including trade in processed agricultural products and non-trade aspects (rural development, quality policy, etc.)*". The roadmap process was endorsed by the conference held in Barcelona in November 2005.

[12] These rules have been applied in a specific manner according to the country. See the country reports at the site www.eu-medagpol.fr. Specific hypotheses have been made for the prospects of olive oil exports from Tunisia in order to allow for the quota and also for the inward processing system. See deliverables D4 and D13.

The scenarios used in the simulation models (CAPRI and TASM) were designed in the same spirit. In the partial liberalisation scenario, access to the European fruit and vegetable market was modelled by an increase in the quotas (using rules similar to those described above) and/or a reduction in the entry price for Turkey. A 50% increase in existing quotas was simulated for market access to the MED countries. In addition, because the impact of regional trade liberalisation could be influenced by further multilateral trade liberalisation, particularly because of the possible erosion of regional trade preferences which a successful outcome of the Doha Round could entail, we combined the regional trade liberalisation scenarios above with a plausible outcome of the Doha Round. The specific parameters of this multilateral liberalisation scenario were chosen on the basis of the proposal to WTO of the G20, as it was known at the time of introducing specific parameters in the modelling exercise.

# 5 POTENTIAL EXPANSION OF MEDITERRANEAN EXPORTS OF FRUITS, VEGETABLES AND OLIVE OIL INTO THE EU: Results of an expert appraisal

The starting point for this work was the characterisation of the fruit, vegetable, and olive oil sectors in the Mediterranean countries. Based in part on this, we selected the most important fruit and vegetable products for each major exporting country. We prepared questionnaires appropriate for the precise method used in each country and assembled expert panels and asked them to provide their assessment of the future production and export potential of major fruits, vegetables, and olive oil under alternative liberalisation scenarios.

Production and export potential in general was estimated for a medium term horizon of ten years or less. This analysis was focused on the five countries that account for about 95 percent of the EU imports from Mediterranean countries of fruits, vegetables, processed fruits and vegetables and oils: Turkey, Morocco, Tunisia, Israel, and Egypt. For olive oil, the only countries with significant exports to the EU are Tunisia and Turkey. Our olive oil analysis focused on Tunisia. For Egypt, Morocco, Turkey, and Israel, the expert panels covered both fruits and vegetables.

The Delphi and interview approaches yielded more information than originally planned. The researchers in most of the countries decided to conduct SWOT (Strengths, Weaknesses, Opportunities, and Threats) analyses in addition to the estimation of export potential. These

analyses, again based on expert opinion, provided a rich assessment of the major constraints and opportunities in the key fruit, vegetable, and olive oil sectors in each country. In a sense, this information provides a description of the policy or technical barriers that must be overcome before the export potential can be realised in each country.

## 5.1 Similarities and differences among country approaches

Something approaching the pure Delphi method was used in Israel and Tunisia. In Israel, the method used two rounds of questions to obtain good estimates of expected increases in exports under the chosen liberalisation scenarios. In Tunisia, two rounds were also used, but a SWOT analysis was also conducted in addition to the estimations of export potential. The results of this analysis provide a good description of the major issues faced by the olive oil sector in Tunisia.

Expert interviews were used in Morocco. Four general topics were covered for each of the selected product groups:

- SWOT analysis
- Factors determining market access
- Obstacles that must be overcome
- Future prospects

Israel had a panel of 29 experts (upon 35 questionnaires sent). Tunisia had a panel of 19 experts

In Egypt and Turkey a somewhat modified Delphi approach was used that was slightly different in each country. Turkey had a panel of 23 experts from the public (11 experts) and private (12 experts) sectors. Egypt had a panel of 18 experts, half public and half private. In both cases, major constraints for export increases were identified.

There were eight participants in the interviews in Morocco (a relatively low number).

## 5.2 Summary of Results

This section summarizes the results from the expert opinion analysis in the five countries. Table 8 presents the expert opinion results for each country and the sum by product. In some cases, a product was selected for only one country, while in other cases, it may have been selected for multiple countries. The last two columns in Table 8 give the percentage increases due to partial and total liberalisation. Table 9 gives the total tonnage and percentage increases in exports for the five Mediterranean countries by product. The columns labelled 'Partial' and 'Total' give the difference between current and projected future exports for each product in the corresponding liberalisation scenarios. The last two columns give the same data in percentage terms.

**Table 8 - Current and Possible Future Mediterranean Exports of Fruits, Vegetables, and Olive Oil (metric tonnes and %)**

| Country | Product | Current | Partial | Total | % incr P | % incr T |
|---|---|---|---|---|---|---|
| **Turkey** | Apples | 392 | 654 | 1827 | 67% | 366% |
| **Turkey** | Cherries | 35709 | 57822 | 71506 | 62% | 100% |
| **Morocco** | Clementines | 95220 | 310000 | 310000 | 226% | 226% |
| **Turkey** | Clementines | 1078 | 2020 | 2655 | 87% | 146% |
| **total** | | 96298 | 312020 | 312655 | 224% | 225% |
| **Morocco** | Courgettes | 31764 | 60000 | 80000 | 89% | 152% |
| **Turkey** | Cucumbers | 4274 | 6868 | 8878 | 61% | 108% |
| **Egypt** | Grapes | 17157 | 32594 | 34314 | 90% | 100% |
| **Israel** | Grapes | 7568 | 10931 | 19250 | 44% | 154% |
| **Turkey** | Grapes | 47795 | 64940 | 84326 | 36% | 76% |
| **total** | | 72520 | 108465 | 137890 | 50% | 90% |
| **Egypt** | Beans | 28098 | 45000 | 56000 | 60% | 99% |
| **Morocco** | Beans | 84728 | 200000 | 200000 | 136% | 136% |
| **total** | | 112826 | 245000 | 256000 | 117% | 127% |

| Country | Product | Current | Partial | Total | % incr P | % incr T |
|---|---|---|---|---|---|---|
| **Turkey** | Lemons | 46312 | 67462 | 88610 | 46% | 91% |
| **Egypt** | Melons | 1192 | 2000 | 3000 | 68% | 152% |
| **Morocco** | Melons | 28260 | 28260 | 28260 | 0% | 0% |
| **Turkey** | Melons | 3282 | 9557 | 12411 | 191% | 278% |
| **total** | | 32734 | 39817 | 43671 | 22% | 33% |
| **Egypt** | Onions | 20234 | 42500 | 42500 | 110% | 110% |
| **Turkey** | Onions | 7868 | 13771 | 20995 | 75% | 167% |
| **total** | | 28102 | 56271 | 63495 | 100% | 126% |
| **Egypt** | Oranges | 66055 | 100000 | 120000 | 51% | 82% |
| **Egypt** | Potatoes | 206202 | 450000 | 540000 | 118% | 162% |
| **Israel** | Potatoes | 224156 | 260500 | 302500 | 16% | 35% |
| **Turkey** | Potatoes | 21829 | 30909 | 31894 | 42% | 46% |
| **total** | | 452187 | 741409 | 874394 | 64% | 93% |
| **Egypt** | Strawberries | 3887 | 5500 | 5500 | 41% | 41% |
| **Israel** | Strawberries | 3001 | 3353 | 4143 | 12% | 38% |
| **Morocco** | Strawberries | 24334 | 36501 | 36501 | 50% | 50% |
| **total** | | 31222 | 45354 | 46144 | 45% | 48% |
| **Israel** | Sweet peppers | 40929 | 66789 | 85316 | 63% | 108% |
| **Egypt** | Tomatoes | 909 | 2000 | 3000 | 120% | 230% |
| **Israel** | Tomatoes | 15333 | 21647 | 26000 | 41% | 70% |
| **Morocco** | Tomatoes | 191168 | 400000 | 450000 | 109% | 135% |
| **Turkey** | Tomatoes | 23967 | 51143 | 84111 | 113% | 251% |
| **total** | | 231377 | 474790 | 563111 | 105% | 143% |
| **Tunisia** | Bulk olive oil | 79 | 211 | 191 | 167% | 142% |
| **Tunisia** | Packaged olive oil | 4 | 13 | 15 | 225% | 275% |

**Table 9 - Possible Increases in Exports for the Five Mediterranean Countries Under Partial and Total Liberalisation (metric tonnes and %)**

| Product | Partial (tons) | Total (tons) | Partial% | Total% |
|---|---|---|---|---|
| **Apples** | 262 | 1435 | 67% | 366% |
| **Cherries** | 22113 | 35797 | 62% | 100% |
| **Clementines** | 215722 | 216357 | 224% | 225% |
| **Courgettes** | 28236 | 48236 | 89% | 152% |
| **Cucumbers** | 2594 | 4604 | 61% | 108% |
| **Grapes** | 35945 | 65370 | 50% | 90% |
| **Beans** | 132174 | 143174 | 117% | 127% |
| **Lemons** | 21150 | 42298 | 46% | 91% |
| **Melons** | 7083 | 10937 | 22% | 33% |
| **Onions** | 28169 | 35393 | 100% | 126% |
| **Oranges** | 33945 | 53945 | 51% | 82% |
| **Potatoes** | 289222 | 422207 | 64% | 93% |
| **Strawberries** | 14132 | 14922 | 45% | 48% |
| **Sweet peppers** | 25860 | 44387 | 63% | 108% |
| **Tomatoes** | 243413 | 331734 | 105% | 143% |
| **Bulk olive oil** | 132 | 112 | 167% | 142% |
| **Packaged olive oil** | 9 | 11 | 225% | 275% |

Finally, Table 12 (see Annex) presents several interesting sets of data: Mediterranean exports to the world, Mediterranean exports to the EU, EU imports from the world, EU production, EU imports as a percentage of EU production, and EU imports from Mediterranean countries as a percent of EU production. These data suggest that some products will not pose any major problem under either partial or total liberalisation. For example, apples, grapes, onions, cucumbers, tomatoes, lemon, and potato imports from the Mediterranean countries represent 0.0, 0.4, 0.9, 1.1, 1.6, 2.5 and 2.8 percent of EU production respectively.

From the expert opinion results in Table 9, we see that grape, onion, cucumber, lemon and potato exports could double under total liberalisation but the current level of Mediterranean exports of these products represents such a small fraction of EU production that even doubling should not cause significant adverse impacts on EU producers. For tomatoes, exports could increase by one and half time, which could make Mediterranean imports about 2.5% of EU production. For apples, Mediterranean exports are forecast to possibly multiply by 366%, all from Turkey. However, the current level of exports rounds down to 0% of EU production so even that large increase should not pose any significant problem.

For other products, Mediterranean exports do represent a significant portion of EU production and further analysis is warranted. For oranges, strawberries, cherries, and green beans the increase in imports could represent from 4 to 15% of EU production.

For tomatoes, exports could increase by one and half time, which could make Mediterranean imports about 5% of EU fresh tomatoes production.

For olive oil, significant increases (112-132 thousand tonnes or 142-167%) in bulk olive oil would be possible according to the Tunisian experts. There is a much smaller absolute increase in refined value-added olive oil – from 9 to 11 tonnes, an increase of 225-275% on a small base.

It is interesting to note that in the case of Tunisia, partial liberalisation would lead to a greater increase in exports than full liberalisation. Indeed, with total liberalisation, the abolition of its present preferential quota would mean that Tunisia would lose its preferences to the benefit of other exporters to the European market (notably Turkey and Syria). In the partial liberalisation scenario, the increase in exports would result mainly from the increase of the quota (from 53,000 to 86,000 tonnes according to the hypothesis) and also from the increase in the exports performed under 'inward processing' arrangements in which European imports of raw olive oil destined for re-export are currently exonerated from customs duties; these exports would continue to form more than half of the olive oil exported to the EU from Tunisia (mainly to Italy and Spain).

# 6 IMPACTS ON EU EXPORTS TO THE SEM AND GLOBAL IMPACTS (CAPRI model results)

The CAPRI[13] (Common Agricultural Policy Regionalised Impact) modelling system has been chosen as the instrument for analysing the impact of EU-MED liberalisation, on EU exports to the SEM countries and for giving an order of magnitude of more global impacts beyond trade (prices, production, consumption and welfare.) In this work the Mediterranean region has been divided into three trade blocks: Turkey, Morocco and Rest of the Mediterranean, the latter defined as the aggregate of Israel Egypt, Algeria and Tunisia. For each block specific behavioural equations were used.

[13] A detailed description of the model and assumptions are presented in Deliverable D24. Besides the full model, documentation can be found at http://www.agp.uni-bonn.de/agpo/rsrch/capri/capri-documentation.pdf

## 6.1 Results on EU-MED trade[14]

**Table 10 - Summary of Results- Total EU-25 Imports and Exports for selected commodities**

| EU -25 total | Baseline | | Full EU-MED Liberalisation | | Partial EU-MED Liberalisation | | Partial EU-MED Liberalisation + WTO G20 | |
|---|---|---|---|---|---|---|---|---|
| 1000 t | IMPORTS | EXPORTS | IMPORTS | EXPORTS | IMPORTS | EXPORTS | IMPORTS | EXPORTS |
| **Cereals** | 30106 | 52313 | 33511 | 64129 | 30105 | 52312 | 30295 | 55678 |
| absolute | | | 3405 | 11816 | -1 | -1 | 189 | 3365 |
| percent | | | 11.30% | 22.60% | 0.00% | 0.00% | 0.60% | 6.40% |
| **Meat** | 4489 | 4926 | 4509 | 4851 | 4489 | 4926 | 4951 | 4787 |
| absolute | | | 20.71 | -75.39 | -0.18 | -0.29 | 461.84 | -138.89 |
| percent | | | 0.50% | -1.50% | 0.00% | 0.00% | 10.30% | -2.80% |
| **Dairy Products** | 10190 | 3321 | 10221 | 3321 | 10190 | 3321 | 14250 | 4206 |
| absolute | | | 31.04 | 0.34 | 0.11 | 0.69 | 4060.22 | 704.88 |
| percent | | | 0.3% | 0.0% | 0.0% | 0.0% | 39.8% | 21.2% |
| **Vegetables and Perm. Crops** | 4278 | 51186 | 5077 | 52390 | 4394 | 51284 | 6284 | 53233 |
| absolute | | | 799 | 1203 | 115 | 97 | 2005 | 2337 |
| percent | | | 18.70% | 2.40% | 2.70% | 0.20% | 46.90% | 4.60% |

***Partial EU-MED liberalisation scenario***

Overall, the results of the simulations show that very few changes would occur in case of partial liberalisation of Euro-Med trade. Total imports of fruits and vegetables by the EU

[14] Only the results obtained with CAPRI are shown here. Another quantitative analysis was performed for Turkey using an agricultural sector model for Turkey (deliverable D22). The results of this work are not quoted at length here as our focus in this synthesis is on impacts on the European Union.

would increase but only slightly–by 2.5%. This would consist mainly of an increase in goods from Morocco.

***Full EU-MED liberalisation***

In this scenario, a significant change would be observed for cereals, with an increase in both exports (+22%) and imports (+11%). The increase in EU exports would be substantial (+11 million tonnes). With regard to the increase in EU imports (+3 million tonnes) however, the CAPRI model shows an increase in cereals imports from Turkey; this should be treated with caution. In contrast, the results of the TASM model (cf. deliverable D22) show an increase in cereal imports from the EU in the case of full EU-Turkey liberalisation. This is accounted for by the reduction of the currently very high customs duty on cereals (especially on wheat imported into Turkey). Some of the hypotheses concerning this point in the CAPRI model are probably erroneous. According to TASM, net Turkish cereals imports from the EU would increase from 0 in the 2015 reference situation to 6 million tonnes with EU-Turkey customs union.

In the full liberalisation scenario, there is also a considerably larger increase in fruit and vegetable imports than in partial liberalisation (+19%, i.e. approximately 800,000 tonnes). However, the increase in EU exports in parallel with that of imports is greater in absolute terms (1,200,000 tonnes). Shipments are above all to the 'other' Mediterranean countries (Algeria, Egypt, Israel and Tunisia). Imports by this group of countries would thus increase from 143,000 tonnes in the reference year to 639,000 tonnes after total liberalisation. These figures might be over-estimated and we know that the difficulty of modelling the fruit and vegetable sector means that the results of the CAPRI model should be viewed with caution.

However, this result does not seem to contradict–at least with regards to the trend–other work conducted within the framework of the project ( cf. J.L. Montigaud et al. Deliverable 11, Report 2). Exports of processed tomato to Algeria from the EU recently increased considerably after a lowering of customs duty. Today, demand is continuing to increase as a result of population growth. The European processing industry, especially in Italy and Spain, is very competitive because of the strong capital intensiveness of production and industry leaders are confident that they could benefit from the liberalisation of Euro-Med trade.

***Partial Liberalisation + G20***

This liberalisation scenario, which was initially aimed at studying the way in which multilateral liberalisation could affect the impacts of EU-MED liberalisation, actually captures mainly the impacts of the multilateral liberalisation that would result from an agreement at the WTO, as it has been seen that partial EU-MED liberalisation would have very little impact. This scenario would have considerable negative impacts on the EU trade balance in three sectors: fruit and vegetables, dairy products and meat.

An increase in EU imports of fruits and vegetables would draw on the rest of the world, with exports from the Mediterranean countries to the EU increasing only a little because of the erosion of trade preferences which the Mediterranean countries currently benefit from leading to fears for those countries which enjoy the most preferences (notably Morocco).

## 6.2 Welfare and Budget Effects in the EU

The welfare impacts are summarised in Table 11. It is clear from these estimates that the overall welfare impacts of an Euro-Med liberalisation are quite small. While there are some local and regional impacts, the aggregate effects are very low.

**Table 11 - Welfare impacts and Budget effects –CAPRI results**

| **Region: EU-25**<br>**Million €** | **Baseline** | **Full EU-MED Liberalisation** | **Partial EU-MED Liberalisation** | **Partial EU-MED + WTO G20** |
|---|---|---|---|---|
| Consumer surplus | 9003856 | 9003361 | 9003894 | 9024378 |
| absolute difference | | -495 | 38 | 20521 |
| Agricultural income | 186815 | 188522 | 186750 | 171704 |
| absolute difference | | 1707 | -65 | -15110 |
| Tariff revenues | 9664 | 9574 | 9643 | 4853 |
| absolute difference | | -90 | -21 | -4811 |
| FEOGA budget outlays first pillar | 42432 | 42390 | 42431 | 43174 |
| absolute difference | | -43 | -1 | 742 |

The only scenario in which a significant impact is observed is that of Partial EU-MED +WTOG20, and this is because of WTO liberalisation. The consumer surplus would increase and that of producers would decrease as a result of the decrease in the price of most products, the most marked being in those of animal products (-24% for beef, -11% for dairy products) Multilateral trade liberalisation has a strong effect on EU tariff revenue. This decreases by €4.8 bn, corresponding to a fall of nearly 50%. The outlays for the CAP increase by €741.8 m Euro or 1.75% in this scenario because the savings from the abolished export subsidies do not compensate for the increase of other items such as the cost of intervention purchases of cereals, meat and dairy products.

All these results converge to suggest that the impact of liberalising European imports of fruits and vegetables from SEM countries would be small

# 7 VULNERABILITY OF EUROPEAN PRODUCERS

Even if the impact of such a EuroMed liberalisation would be small, undoubtedly however, some producers in some regions may be significantly affected. For instance, as discussed above, tomato imports could increase significantly and European tomato producers could suffer losses.. But is it possible to go beyond specific products and present a general assessment?

As already indicated, the European fruit and vegetables sector displays considerable diversity, depending on the supply sub-chains, the countries and the regions. The interactivity of the different factors, which determine how the supply chains work, creates multiple configurations specific to the regions. One may thus expect that the effects of trade liberalisation would be felt differently from one region to another, depending on such factors as the importance of the fruit and vegetable activity in the regional economy, the level of economic development, the structure and dynamics of the firms which form the productive fabric, the efficiency of the public or professional institutions and the natural endowments of the regions (climate, soil quality, water resources, etc.). The aim of this final section is to report on our attempt to assess the levels of vulnerability of the regions specialising in the production of fruits and vegetables in Spain, France, Greece, Italy and Portugal.

Accepting that vulnerability can be defined as 'the degree of loss to each element should a hazard of a given severity occur' (UNDP, 1991[15]), it follows that vulnerability can be seen as the outcome of three related factors: risks, the resulting shocks and resilience, i.e. the ability to cope with those shocks. The risk/shock combination affects the well-being of populations whereas resilience concerns all the strategies used to avoid the impact of shocks. Recent developments in management sciences[16] provide an approach to further specification of the resilience of a specific value chain. They stipulate that in an environment of increasing competitive intensity, the strategic advantages (and, conversely, the risks) of organisations depend on three sets of factors: resources, competencies and capabilities. Resources consist of specific assets such as natural goods, technology and equipment and, finally, human resources. Competencies are direct results of the knowledge and know-how of the staff of businesses. Capabilities stem from the ability to organise and combine the resources and competencies that businesses can mobilise (Wernerfelt, 1984[17]).

On these theoretical bases, we have developed a composite regional vulnerability index (RVI) computed on scores given to regional variables reflecting four broad subsets among the determinants of an industry resilience:

- the structure and performance of the regional fruit and vegetable producers for which most information come from farm account data (FADN);
- the structure and performance of the regional fruit and vegetable processing companies, whose accounting results, when available[18], are a key source of information;

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[15] UNDP, Evaluation de la vulnérabilité et des risques. Programme de Formation à la gestion des catastrophes. 1991, 70p.

[16] These developments, referred to as the Resource-Based View (RBV) theory, are briefly described in Deliverable D 12.

[17] WERNERFELT, B. A resource-based view of the firm. In Strategic Management Journal, 5, 1984: 171-180

[18] The statistical knowledge base is less complete and less fine for processed F & V than for fresh F & V. Furthermore, FADN sampling in the case of fresh F & V raises several problems of representativeness in the small production regions. We do not possess a representative, homogeneous sampling for industry and trade. In addition, the AMADEUS database is not always very reliable with regard to the assigning of enterprises in the nomenclature or in the transcription of accounts. Even when the nomenclature is correct and the accounts are right, the meaningfulness of the ratios calculated is biased by the fact that an enterprise has several activities (in the fruit and vegetables industry and elsewhere). In particular, the performances of enterprises are markedly

- the density and quality of the marketing operators at the wholesale level;
- the conditions of the economic environment and the regional institutional situation.

The estimations are computed at the NUTS 2 regional level because necessary data would not be available at lower geographic levels.

It must be well understood that the RVI is a relative, rather than absolute, measurement of competitiveness/vulnerability. Different weights have been given to each of the four subsets of factors in the value chain. What is striking is that the rankings among European regions in terms of vulnerability to outside competition do not vary much when different weights are given to the various subsets. In all cases, the most vulnerable regions are the poorest (Makedonia, Thessalia, Calabria, Norte-Douro). The ten regions that could be considered as highly vulnerable are located mainly in Greece, Portugal and South of Italy.

By contrast the less vulnerable regions are rich and populated regions producing fruits and vegetables in large quantities. They are located in France, Northern Italy and Spain.. These results are consistent with general field observations and the common view among experts on the effect of the economic environment on the performance of the fruit and vegetable sectors.

Generally speaking, these calculations of vulnerability at the regional scale (NUTS 2) indicate strong interregional disparities, with a third of the EU Mediterranean regions currently displaying undeniable signs of economic fragility. In addition these results substantiate the hypothesis that the high-income regions will be better able to withstand the shock of competition than the poorest regions. Indeed, the former can invest in adapting their enterprises to a new trade situation and/or redeploy on a nearby market with high purchasing power, or again switch to other activities.

To summarize, a classification of regions in three categories has been proposed[19]:

- The 'very vulnerable' category consists of the following regions in decreasing order of vulnerability: Makedonia, Thessalia, Calabria, Castilla-la-Mancha, Norte-Douro,

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different in primary, secondary and tertiary processing (or cooked vacuum-packed produce, as fresh-cut produce is in the fresh fruit and vegetables category).

[19] - low vulnerability regions (SRVI < 3 and per capita GDP > average, i.e. €19,045)
- vulnerable regions (SRVI > 2.15 and per capita GDP < €19,045)
- very vulnerable regions (SRVI < 2.15 and per capita GDP < €19,045).
-

Aragon, Alentejo-Agarve, Sterea Ellas, Sicilia and Centro-Ribatejo, that is to say mainly regions in Greece, southern Portugal and southern Italy (10 regions).

- The 'vulnerable' regions are Liguria, Toscana, Sicilia, Midi-Pyrénées, Campania, Andalucia, Ipiros-Peloponissos, Murcia, Valencia and Puglia (10 regions in central Italy, southern Spain and the south of France).
- Finally, 10 'low vulnerability' regions are counted: Veneto, Emilia-Romagna, Piemonte, Cataluña, Provence-Alpes-Côte d'Azur, Pays de la Loire, Trentino, Languedoc-Roussillon, Bretagne and Rhône-Alpes. These are thus regions in northern Italy, regions in Mediterranean and western France and a region in northern Spain.

Admittedly, this analysis of the vulnerability to trade liberalisation of European regions producing fruits and vegetables is very incomplete. The indicator which has been computed provides only information on the relative ranks among large European regions. To guide action, more detailed information at a much lower geographic level and on product-by-product base would be needed. Yet, the approach leads to one significant, and apparently robust, conclusion:

Given the great regional disparities underlined by the analysis, it is likely that the negative consequences of a Euro-Med liberalisation would not be broadly distributed but rather concentrated in a few regions and, within those, on a limited number of primary producers and downstream firms in the relevant value chains. This should facilitate the identification of appropriate compensation measures for the losers of the trade liberalisation.

# CONCLUSIONS

Robust conclusions regarding the potential damages to European agriculture, which could result from trade liberalisation with Mediterranean countries can be drawn from our analyses:

- The overall or aggregate impacts of EU partial or full trade liberalisation with the Mediterranean countries in fruits, vegetables, and olive oil are expected to be small.
- Even though the overall impacts of trade liberalisation are expected to be small, there are certain EU regions and producers of specific products for which these impacts could be significant. However, on the aggregate these losses would not be very large, which should make fairly easy the design and implementation of compensation measures for the losers of the process.
- Trade among the Mediterranean countries and the EU is not constrained only by quotas and tariffs but also by other factors such as distance, production costs, and other factors.
- EU protection varies markedly among the different fruit and vegetable products, and the degree of preferential access differs among Mediterranean countries.
- Trade liberalisation, as is often the case, would result in winners and losers within and among the Mediterranean countries and the EU. The impacts on Mediterranean countries could be larger than the impacts on the EU because consumers would gain significantly from cheaper food prices, particularly prices of cereals and cereal-based food products, producers of cereals in these countries would lose and many of these producers are poor. In addition, part of the negative impacts on Mediterranean countries could originate from preference erosion regarding access to the European fruit and vegetable market. Such preference erosion could result from a multilateral agreement in WTO.
- The impacts of trade liberalisation with the EU differ among the Mediterranean partner countries because there is considerable heterogeneity among SEM countries in terms of access conditions (tariff and non-tariff constraints) to EU markets.

In addition, two important lessons regarding methodologies deserve to be emphasised here:

It is absolutely critical to have a blend of analytical tools for this kind of analysis. Micro-based value chain analysis is a good complement to sectoral analysis and general equilibrium modelling tools needed to capture substitution in production and consumption.

One of the hallmarks of our methodological approach was the collection and use of expert opinions (based upon the Delphi method) to gain information on Mediterranean country supply response in the event of future trade liberalisation. This expert opinion analysis turned out to be critical.

# ANNEX

**Table 12 - EU and Mediterranean Trade and Production (2004)**

| Products | Med Exp to World | | Med Exp to EU | | External imp of EU | | EU Prod. | Imp/ Prod | Med Imp/ Prod |
|---|---|---|---|---|---|---|---|---|---|
| | 1000 $ | Tonnes | 1000 $ | Tonnes | 1000 $ | Tonnes | tonnes | | |
| Tomatoes | 460000 | 1030000 | 223000 | 267000 | 260000 | 310000 | 17210606 | 1.80% | 1.60% |
| Potatoes | 367000 | 1730000 | 300000 | 1360000 | 350000 | 1480000 | 48479576 | 3.10% | 2.80% |
| Melons | 70900 | 142000 | 56100 | 77500 | 290000 | 460000 | | | |
| Strawberries | 57300 | 46600 | 53900 | 42200 | 90000 | 73000 | 811967 | 9.00% | 5.20% |
| Onions | 52200 | 437000 | 11500 | 40200 | 174000 | 510000 | 4445859 | 11.50% | 0.90% |
| Oranges | 297000 | 688000 | 128000 | 251000 | 410000 | 1110000 | 5818967 | 19.10% | 4.30% |
| Grapes | 160000 | 241000 | 100000 | 111000 | 660000 | 630000 | 27210106 | 2.30% | 0.40% |
| Beans | 110000 | 133000 | 101000 | 120000 | 202000 | 166000 | 844359 | 19.70% | 14.20% |
| Fresh clementines | 286000 | 437000 | 106000 | 131000 | 220000 | 330000 | | | |
| Courgettes | 484000 | 296000 | 326000 | 191000 | 420000 | 270000 | | | |
| Sweet peppers | 105000 | 154000 | 78200 | 98100 | 130000 | 140000 | | | |
| Apples | 21400 | 49300 | 391.941 | 503.512 | 750000 | 1270000 | 8622571 | 14.70% | 0.00% |
| Cherries | 187000 | 66300 | 180000 | 58700 | 274000 | 134900 | 436644 | 30.90% | 13.40% |
| Cucumbers | 48300 | 105000 | 13300 | 18400 | 30000 | 40000 | 1747709 | 2.30% | 1.10% |
| Lemons | 109000 | 249000 | 20100 | 35200 | 196000 | 440000 | 1409722 | 31.20% | 2.50% |
| Olive oil, virgin | 712086 | 273990 | 577132 | 222136 | 580211 | 223163 | | | |
| Olive oil, fractions, refined, not chemically modified | 85588 | 33256 | 63828 | 24826 | 64348 | 25263 | | | |

*Source: Comext and FAO*

*Note: Data include fresh and processed products*