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# Multilateral trade liberalisation and Preference erosion: Effects on the agricultural sector of the EU's Mediterranean Partner Countries

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*Abstract*— This paper analyses preference erosion effects on the agricultural sector of the EU's ten Mediterranean Partner Countries (MPCs). The modelling exercise is carried out with the partial equilibrium multi-commodity multi-region world trade model AGRISIM. The effects vary between the markets and depend mainly on the initial level of trade protection. Supposing that level of preferences granted to the MPCs by the EU remains as of 2001 then the effects are particularly distinguishable for high protected markets like beef in Turkey, milk and rice in Morocco and olive oil in all MPCs. Supposing that the free trade area with the EU is accomplished, then the impacts are evident mainly on beef, milk and sugar markets, where the prices among the preferential partners are much higher than the world market ones. The farmers are faced with lower supply and prices, which in turn reduce their income and their surplus, but to the benefit of the consumers and of the tax payers resulting to an increase of the overall welfare. Preference erosion effects on typical Mediterranean commodities such as olive oil, oranges and tomatoes are smoother when the free trade area is in force.

*Keywords*— preference erosion, Mediterranean Partner Countries, AGRISIM.

## I. INTRODUCTION

Parallel to ongoing discussions on multilateral liberalisation, Preferential Trade Agreements (PTAs) have been widely spread in recent years. By July 2007 a total of 380 regional PTAs have been notified to the World Trade Organisation (WTO), with Free Trade Areas (FTAs) and partial scope PTAs accounting for 90 % and customs unions for nearly 10 % (WTO, 2007)[1]. The expansion of the PTAs can be seen as a possible reason for the standstill of the current WTO negotiations, since opening to a multilateral system results to erosion of preferences enjoyed under bilateralism.

The most significant PTAs within the Mediterranean basin are the Euro-Med Agreements, among the EU and ten east and southern Mediterranean Countries. The Agreements were

established in 1995, in the Summit of Barcelona and were the result of the so-called Mediterranean Policy of the EU, which stems from the 70's (Masala, 2000)[2]. Aim of the Euro-Med Agreements is the formation of a Free Trade Area between the Mediterranean Partner Countries (MPCs) after 2010, which should be accompanied by economic and financial cooperation. Signatory countries of the Barcelona Declaration are the EU-15, Cyprus and Malta, which are already Member States of the EU, Egypt, Israel, Jordan, Lebanon, Morocco, Tunisia, the Palestinian Authorities and Turkey, while Libya is not yet a partner country but an observer (EU Commission, 2008)[3]. The Euro-Med Agreements have not evolved as wished and this is mainly attributed to the slow progress of the negotiations concerning the agricultural sector.

The Mediterranean countries have shown a strong interest in participating in the currently discussed multilateral trading system, as most of them are already members of the WTO or have applied for membership (WTO notifications, 2008)[4]. Garcia Álvarez-Coque (2006)[5] notes that all the MPCs have moved towards implementing the Agreement on Agriculture and have committed themselves to reducing export subsidies, domestic support and import duties on agricultural products. Although they are intersected into different interest groups during the Doha negotiations, they all ask for a special treatment of their agricultural sector and they want to preserve at least up to a certain grade the preferential treatment they currently enjoy, fearing the effects of preference erosion (Garcia Álvarez-Coque, 2006)[5].

Within this framework, objective of this paper is to discuss the issue of preference erosion and to analyse empirically the impacts of multilateral liberalisation on the agricultural markets of the MPCs. For this purpose the paper is organised in six sections. After the introduction follows the second section, where the preferential regime the MPCs enjoy under the Euro-

Med Agreements is described. On the third section follows a literature review of relevant studies. On the fourth section is presented the empirical model which is used for this study, while the results are presented on the fifth part. Finally the paper closes with concluding remarks on the sixth and last section.

## II. TRADE PREFERENCES TO AGRICULTURAL COMMODITIES WITHIN THE EURO-MED AGREEMENTS

An indication of the evolution of trade preferences in the Mediterranean basin granted by the involved countries in this agreement could be given by the value of the preference margin (VPM) as indicator of the economic value of trade preferences. Grethe et al. (2006)[6] argue that the VPM of all agricultural commodities for all MPCs covered by the agreements of the mid-70s was about €130 million, whereas in 1995 the VPM was about €190 million (an increase of 48%) and after the Barcelona Agreement this reduced to about €165 million. According to the authors this negative change is attributed to the reduced EU MFN tariffs (Most Favourite Nation). They argue that once all Euro-Med Agreements have entered into force the VPM will reach €226 million.

Tables 5 and 6 (see Annex) present in detail the VPM from imports into the EU of selected agricultural commodities for the period 1998-2003. The calculations were done following Grethe and Tangermann (1998)[7] i.e. it has been assumed that both the preferential and the non-preferential commodities are sold in the destination market (which is in this case the EU) at the same price and thus the value of the preference margin is the price difference between preferential and non-preferential exports multiplied by the quantity of the commodity each partner country exported into the EU. In most of the cases the MFN duties are the applied ones and thus the VPM is zero. The MPCs gain due to the preferential treatment only for their main export products such as fruits and vegetables. The size of the VPM for a given commodity differs significantly from country to country. This is mainly because of the high variation in exported quantities and not because of any variation in the preferential duty compared to the MFN one. The difference though between the MFN and the applied

duty varies between 0.2 and 7 %. A comparison of the VPM of 2003 with that of 1999 shows clearly that the entry into force of the Barcelona Agreement has only slightly intensified the benefits for the MPCs. A potential expansion of exports into the EU of those commodities where the VPM is already positive would result to significant gains for the MPCs.

It seems therefore that the MPCs expect to profit from the Barcelona Agreement more from trade diversion effects and less from trade creation. Moving towards multilateralism is connected to preference erosion effects for the MPCs. Francois et al. (2006)[8] explain that preference erosion effects arise from the reduction or elimination of tariffs on the non-preferential supplier and show that preference erosion is certainly beneficial for the third countries and not beneficial for the preferential supplier, especially if this country is less efficient than third countries. The effects for the preferential importer are not clearly positive or negative and certainly the magnitude of the effects depends on the initial granted preferences. If this is the case, then the elimination of preferences could be beneficial for small developing countries that supply major markets of developed countries. This argument could be relevant for the MPCs, which are at the moment preferential suppliers of the EU markets.

## III. EXISTING EMPIRICAL ASSESSMENTS

A number of ex-ante empirical studies analyse the impacts of a future trade liberalisation between the EU and the non-EU Mediterranean countries. Table 1 gives an overview of the studies and their scope. Most of them are carried out with Computable General Equilibrium models (CGE) focusing only on one country, usually Turkey, Egypt, Tunisia or Morocco. A number of studies employing multi-regional, multi-commodity models use the Global Trade Analysis Project (GTAP) without modifying the model structure and the model closure or alternatively use the database of various GTAP versions. A few studies have been carried out with dynamic CGEs, while even fewer are the studies that analyse the impacts of trade liberalisation on the Mediterranean agricultural sector with partial equilibrium (PE) models.

Table 1: Overview of ex-ante empirical studies on modelling agricultural trade policy liberalisation on the Mediterranean Basin with equilibrium models

Type of model	Study	Scope of the study
<b>Computable General Equilibrium Models</b>		
static	Augier and Gasiorek (2003)[9] Brown et al. (1997)[10] Chatti (2003)[11] Harrison et al. (1997)[12] Hoekman (2001)[13] Konan and Maskus (1997 and 2000)[14] Minot et al. (2007)[15] Ravallion and Lokshin (2004)[16] Rutherford et al. (1997)[17]	Euro-Med Agreements  EU-Tunisia free trade area  EU-Tunisia free trade area EU-Turkey customs union  Egypt's trade liberalisation Egypt's trade liberalisation + fiscal policies Tunisia's and Syria's trade liberalisation Moroccan trade liberalisation  EU-Morocco free trade area
- GTAP	Alessandri (2000)[18] Dennis (2006)[19]  Diao and Yeldan (2001)[20] Elbehri and Hertel (2004)[21] Hosoe (2001)[22] Kuiper (2006)[23]	Euro-Med Agreements Euro-Med Agreements/GAFTA Euro-Med Agreements  EU-Morocco free trade area  Jordan trade liberalisation Euro-Med Agreements on Morocco and Tunisia
dynamic	Chemingui and Dessus (2001)[24] Feraboli et al. (2003)[25] Löfgren et al. (2001)[26]	EU-Tunisia trade liberalisation EU-Jordan trade liberalisation Moroccan trade liberalisation
<b>Partial Equilibrium Models</b>		
static	Britz et al. (2006)[27] Grethe (2003) [28]	Euro-Med trade liberalisation EU-Turkey customs union
spatial	M'Barek (2002)[29]	Euro-Med Agreements on Morocco and Tunisia

Source: own compilation

The scenarios analysed in the above mentioned studies are related to tariff cuts between the examined Mediterranean country(ies) and the EU. Because the opening of the EU markets to the MPCs under the Euro-Med Agreements is a step-wise procedure, almost all the studies simulate scenarios that examine various extends of tariff reduction (usually 50 and 100 %). This is the case for example of Augier and Gasiorek (2003)[9], Harrison et al. (1997)[12],

Hoekman (2001)[13], Hosoe (2001)[22], Rutherford et al. (1997)[17] and of the studies using dynamic CGE models, whereas the liberalisation can be either unilateral (from the side of the MPCs) or bilateral. Kuiper (2006)[23] followed a different schema i.e. formulated first base assumption, where the policy variables are adjusted (shocked) so as to approximate the policy framework in the year that the results refer to and then simulated a full bilateral liberalisation between the examined MPCs and the EU, providing in this way the lower and upper bounds of the forthcoming liberalisation. A similar scheme is followed by Britz et al. (2006)[27]. In most of the CGE models the liberalisation is set in manufactures and services and not in the agricultural commodities. Agricultural markets are examined thoroughly only by the PE models, while in the CGE studies they are presented aggregated usually in one sector. In some cases additional policies are simulated, as adjustments of fiscal policies (for example Konan and Maskus, 2000[14]).

The results focus mainly on the whole economy of the non-EU countries. The authors generally agree that liberalisation will result in welfare gains for the EU, in increase of its exports to non-EU Mediterranean countries and in higher producer prices in the MPCs. The magnitude of the effects varies based on the importance of the liberalised sectors for the EU markets (for example liberalisation in manufactures or/and services).

The existing studies give only narrow insights to the issue of preference erosion. In all studies apart from Kuiper (2006)[23] and Britz et al. (2006)[27] both the base year and the baseline scenario refer to a time period where the Euro-Med Agreements were not ratified by the MPCs. Hence preferences granted to MPCs were not captured and consequently trade liberalisation scenarios show trade creation and diversion effects that are not the result of preference erosion.

#### IV. OVERVIEW OF THE EMPIRICAL MODEL AGRISIM

The empirical analysis has been undertaken using the partial equilibrium multi commodity, multi region world trade model AGRISIM. It is a synthetic

simulation model, comparative static and deterministic in nature, with non-linear, iso-elastic demand and supply functions. Trade is modelled as net trade and the commodities are considered as homogenous. The regions are connected with each other with a market clearing mechanism, whereas the world market price that yields from this mechanism is fed into the domestic markets through the domestic prices. The net trade summed from all regions, which is given by the difference between supply and demand, is fed again to the world market clearing mechanism. Policy interventions are considered as changes in nominal protection rates, price transmission elasticities, minimum producer prices, production quotas and subsidies. Through shift coefficients in the demand and supply functions, additional variables can be simulated, like population and income growth (for more details see Pustovit, 2003)[30].

Time series data of volumes of production, commodity balances and population dating from 1975 to 2001 are derived from FAOSTAT, whereas time series from 1986 to 2001 containing information on trade policies are taken from the PSE and CSE database of the OECD. For counties and/or commodities not included in the PSE databases other sources are used. Ad-valorem applied tariffs are derived from TRAINS. From the same source are taken – when existing – specific tariffs, compound tariffs, mixed tariffs and technical tariffs that are first converted to ad-valorem equivalents and then fed into the model, whereas export subsidies from 1995 to 2001 are taken from the WTO secretariat. The elasticities are derived mainly from three sources. Initially they were taken from SWOPSIM and regarding the Central and East European Countries from the CEEC-ASIM model developed at IAMO. After the recent updates and extensions of the model additionally have been used the databases of FAPRI and the USDA. The supply elasticities (own and cross price) for oranges, apples and tomatoes for the Mediterranean Countries are taken from Grethe (2003)[28] and M'Barek (2002)[29].

For the simulations a 17-region, 15-commodities aggregation scheme has been followed. Table 5 in the Annex shows the regional aggregation and the commodity composition.

Because base year of the model is 2001 and in order to be able to talk about the preference erosion effects due to a multilateral liberalisation, a baseline scenario was necessary. In this scenario the EU agricultural policy parameters are adjusted so as to capture the effects of the recent CAP reforms. This was necessary not only because the EU is the preference granting country, but also because the EU is the main trade partner of the MPCs (Bouzerger, 2006)[31]. Thus changes in the domestic policy of the EU are reflected in the extra-EU trade with its partner countries.

In detail in the baseline scenario (BA) the reforms under Agenda 2000 for the years 2002 and 2003 are included by decreasing the direct payments for oilseeds and by increasing those for beef. Additionally the EU east enlargement, the Luxembourg Agreement and the reform of the CAP for the Mediterranean commodities of 2004 (cotton, olive oil and tobacco) are simulated. For the Luxembourg Agreement the option of full decoupling is chosen, since most of the Member States have chosen not to use the exemptions for coupled payments that were provided by the Council Regulation (EC) 1782/2003 (Official Journal of the EU, 2003)[32], while the direct subsidies for the tobacco market are fully decoupled and reduced by 50 %, for cotton they are decoupled by 65 % and for olive oil by 60 %. The reform of the sugar sector in the EU, which followed in 2006, and the reform of the tomato market (in 2007) have not been taken into account.

In the first scenario (SC1), the forthcoming FTA with the EU is supposed to be fully implemented. It is assumed that the price level within the MPCs is adjusted to the EU one, since the EU is a large country when compared to the MPCs. This is modelled by setting the Nominal Protection's Rate (NPR) of the MPCs at the level of the EU one. The assumptions of this scenario are not integrated into the base line scenario because still the liberalisation of the agricultural sector is under negotiations.

In a second scenario (SC2) a full multilateral liberalisation has been simulated.

By comparing the results of SC2 with the baseline scenario and with SC1 the lower and upper limits of possible preference erosion effects are revealed for the MPCs, which are due to the different levels of the initial granted preferences.

## V. MODEL RESULTS

Changes due to multilateral liberalisation are particularly evident in the markets that are highly protected by the MPCs, whereas upper and lower bounds of preference erosion effects are distinguishable for those markets that are protected in the EU.

### A. Commodity balances and net trade effects

Generally a decline of the supply and small adjustments of the demand are observed.

In detail, in Morocco deviations of SC2 from BA reveal a decrease of the cereals supply by about 4 percentage points, decline of the milk production by about 14 percentage points and decrease of about 10 percentage points of the olive oil production. The highest reduction is observed on the poultry meat market and on the apples market, where the production is reduced by about 38 and 26 percentage points respectively. On the contrary, the supply of tomatoes, oranges and cotton increases by about 7, 5 and 10 percentage points respectively. The deviations of SC2 from SC1 are milder and of the same direction. Only for cereals an increase of the production by about 4 percentage points is observed.

In Turkey the results are of a small magnitude. When comparing the results of SC2 with the baseline scenario, then the highest reduction is observed for beef (about 14 percentage points). Regarding Mediterranean commodities there is a slight increase of the supply of tomatoes and of oranges by about 7 percentage points each, while the olive oil supply declines by about 5 percentage points. The upper bounds (deviation of SC2 from SC1) are higher regarding beef and milk supply (decrease of supply by about 20 percentage points in each market).

In the rest of MPCs the deviations in supply of SC2 from the Base Run are high for the tomato market, for olive oil and for milk (decrease of 39, 11 and 8 percentage points respectively). Again the deviations of SC2 from SC1 are milder apart from the beef and milk market, where the decline of the supply is as in Turkey (about -20 percentage points in each market)

The adjustments on the demand are also smooth. The highest deviations of SC2 compared to BA are

observed in the Moroccan apple market (increase of 19 percentage points), the Turkish beef market (increase of 24 percentage points) and the tomato market in the rest of MPCs (increase of demand by about 13 percentage points). For the rest of the markets the demand effects are very small and are below +/- 4 percentage points. Deviations of SC2 from SC1 are evident in the beef market. In all countries the demand of beef increases by about +20 percentage points (instead of decrease by about -4 percentage points). Contrasting are also the effects on the Moroccan apple market, where the demand remains in the level of SC1.

Figure 1 illustrates of the net trade effects on selected markets. Generally the MPCs increase slightly the imports of commodities where they are already net importers and at the same they are able to increase slightly the exports of Mediterranean commodities, as for example oranges or tomatoes.

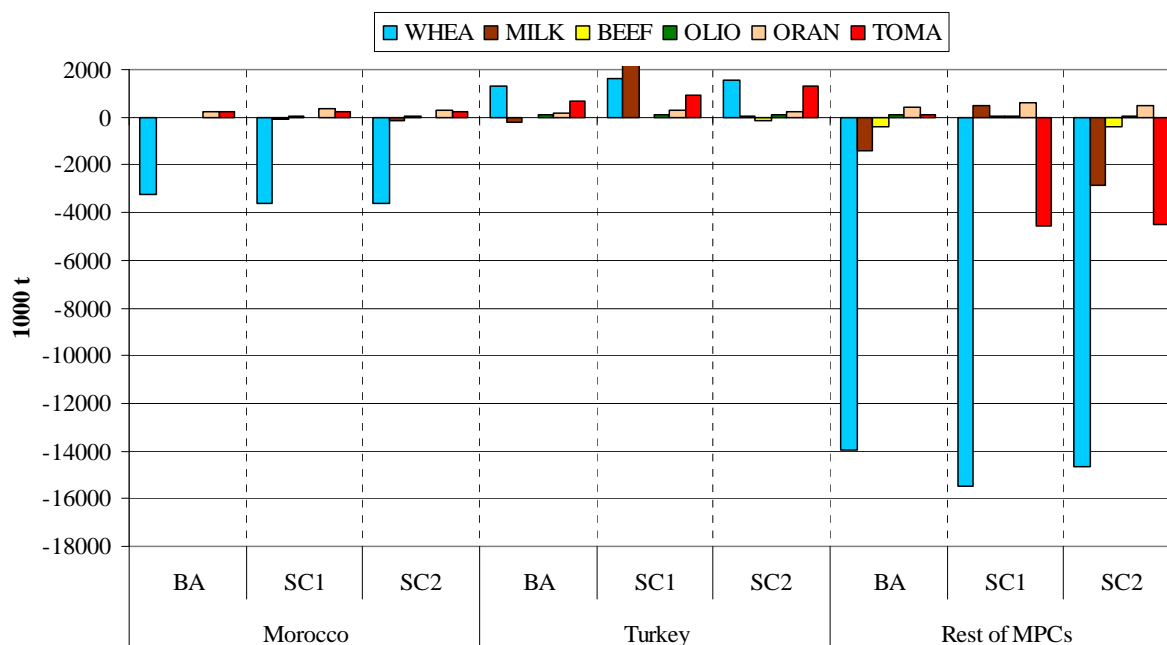
A striking exception to this general trend is this of the tomato market in the rest of MPCs. Not only is a reduction of the exports revealed but also a change of the trade status. From net exporter of about 0.14 million t the region becomes into net importer of about 4.5 mio t due to a full liberalisation (SC2).

Regarding olive oil, the development of the trade balance is not in favour of the MPCs, although the deviations are quite small. The exports due to liberalisation (SC2) are decreased by about 9,000 t in Turkey and by about 66,000 t in the rest of MPCs. In Morocco the net trade status changes and due to full multilateral liberalisation and from net exporter of 2,000 t the country becomes into net importer of 8,000 t.

Further changes of the trade status are observed in Turkey, where the net trade status of the beef market changes and from net export of almost 1,000 t Turkey becomes into net importer of about 122,000 t in SC2.

Deviations between SC1 and SC2 are distinguishable only in the market of milk in Turkey and in the rest of MPCs (Figure 1).

Figure 1: Net trade effects on the MPCs <sup>1</sup>



<sup>1</sup> Positive values in the axis Y refer to net exports, while negative values to net imports  
 Source: own compilation based on AGRISIM simulations

Table 2: Net protection's rate in the MPCs markets, in %

Commodity	Morocco			Turkey			Rest of MPCs		
	Base Year	SC1	SC2	Base Year	SC1	SC2	Base Year	SC1	SC2
WHEA	29	2	0	-7	2	0	7	2	0
COAR	0	8	0	19	8	0	0	8	0
RICE	111	40	0	0	40	0	0	40	0
OILS	0	0	0	25	0	0	0	0	0
SUGA	0	75	0	27	75	0	2	75	0
MILK	115	60	0	16	60	0	26	60	0
BEEF	0	164	0	207	164	0	8	164	0
PORK	0	23	0	0	23	0	2	23	0
POUL	109	49	0	19	49	0	20	49	0
COTT	3	0	0	0	0	0	0	0	0
TOBA	18	0	0	25	0	0	4	0	0
OLIO	55	0	0	31	0	0	43	0	0
APPL	55	7	0	0	7	0	7	7	0
ORAN	0	15	0	0	15	0	7	15	0
TOMA	0	0	0	0	0	0	37	0	0

Source: own calculations with AGRISIM

Table 3: Allocative and welfare effects on the MPCs (US\$ million)

	Morocco		Turkey		Rest of MPCs	
	deviation from BA	deviation from SC1	deviation from BA	deviation from SC1	deviation from BA	deviation from SC1
<b>Producer surplus</b>	-859	-981	-387	-1719	-2625	-7620
<b>Quota owner surplus</b>	0	0	0	0	0	0
<b>Consumer surplus</b>	1028	1000	552	1554	3024	8500
<b>Budget</b>	-162	63	37	429	-329	3
<b>total</b>	7	82	202	264	69	883

Source: own calculations with AGRISIM

## B. Prices

The changes of the NPR (Table 2) are the driving force for price adjustments. The effects vary between the single markets and the countries-regions because of the different initial protection. The deviations of SC2 both from the baseline scenario and from SC1 are the same for those markets that are either completely liberalised in the EU or where the EU's protection is very low while they differ for highly protective markets within the EU such as sugar, milk and meat products. For those markets lower and upper bounds are formed, which vary from country to country depending on the initial rate of protection.

In detail, multilateral liberalisation results in Morocco in increase of the beef farm gate prices of about 16 percentage points when compared to BA and decrease of about 145 percentage points when compared to SC1. In the rest of MPCs the respective deviations are about +7 and to -135 percentage points, while in Turkey -52 and -36 percentage points, as the Turkish beef market is highly protected. For the sugar market, SC2 compared to BA leads to an increase of the farm gate prices of about +9 and +27 percentage points in Morocco and the rest of MPCs respectively and a decrease of about -11 percentage points in Turkey. SC2 compared to SC1 results in a decrease of the farm gate prices by about 66 percentage points in Morocco, about 48 in Turkey and 44 percentage points in the rest of MPCs. Liberalisation without the assumptions of SC1 (deviation from BA) results in decrease of 33, 20 and 28 percentage points of the olive oil farm gate prices in Morocco, Turkey and the rest of MPCs respectively. If the FTA with the EU is

fully into force, then no further decrease of the farm gate prices should be expected.

The changes of the producer incentive prices are of the same level as those of the farm gate prices because for the MPCs agricultural subsidies, which act as a price incentive to farmers, are not included in the model.

The adjustments of the border prices are of lower magnitude than those of the farm gate prices. The effects are of the same magnitude when looking the deviations of SC2 both from BA and from SC1. Overall the border prices increase being the highest for livestock commodities and mainly beef meat and for sugar.

In detail, in Turkey the beef meat border prices are increased by about 46 percentage points, while in the rest of MPCs the sugar border prices increase by about 30 percentage points. For Mediterranean commodities, the increase of the MPCs' border prices are lower and are of about 4 to 8 percentage points. A decrease of about 2 percentage points is observed only on the wheat and coarse grains markets.

By contrast to this general trend, the wheat and coarse grains border prices decrease by about 2 percentage points each.

The changes of the farmers' income are analogous to the changes of the farm gate prices and the supply. General conclusions on the development of the income are difficult to be made because the effects on the single markets vary between the MPCs.

Of interest for the producers of the MPCs are certainly the developments on the markets of olive oil, oranges and tomatoes, where they are mostly specialised. When compared to BA, the income of tomato and orange farmers due to liberalisation increases by about 8 and 15 percentage points in

Morocco and in Turkey respectively. In the rest of MPCs the income of the orange farmers increases by 4 percentage points and this of tomato farmers to decrease by merely 55 percentage points. The olive oil farmers will suffer a decrease of their income by about 40, 25 and 35 percentage points in Morocco, Turkey and the rest of MPCs respectively.

When compared to SC1, the effects of liberalisation are much lower. They seem to be effective only for the orange producers who will see a decrease of their income by about 10 percentage points respectively.

For the rest of the commodities, high income deviations of SC2 from BA are observed in Morocco regarding the income of milk producers (reduction of about 58 percentage points) and of poultry meat producers (reduction of about 68 percentage points) and in Turkey regarding the income of beef producers (-59 percentage points).

On the other side, the deviations of SC2 from SC1 will affect the most the beef producers in Morocco and in the rest of MPCs (decrease of about 200 and 180 percentage points respectively), of sugar farmers throughout the MPCs (-50, -53 and -74 percentage points in rest of MPCs, Turkey and Morocco respectively) and of milk producers again throughout the MPCs (about decrease of the income -30, -65 and -67 percentage points in Morocco, rest of MPCs and Turkey respectively).

### *C. Budgetary, Allocative and Welfare effects*

The budget effects are attributed to changes of the customs duties which result from changes in the net traded quantities and the prices as already discussed. The changes of the agricultural subsidies (direct, input and general) are close to zero.

Opening of the trade, results in decrease of the revenue from the import tariffs but also to lower expenditure for export subsidies. This is the reason why the overall change of budget is negative in Morocco and positive in Turkey when compared to the BA. In the rest of MPCs the deviations of the budget effects from the baseline scenario are attributed to changes of the customs duties for tomatoes which are in turn due to changes of the net trade status.

The allocation of the resources is favour of the consumers, as shown in detail in Table 3. When the preferential scheme between the EU and the MPCs is

partial (deviations of liberalisation scenario from BA), then the consumer surplus increases by about US\$1, US\$0.5 and US\$3 billion in Morocco, in Turkey and in the rest of MPCs respectively. On the other side the producers are worse off and the producer surplus decreases by about US\$0.8, US\$0.3 and US\$2.6 billion in the three regions respectively.

The effects are more profound when the preferences between the EU and the MPCs are the deepest (deviation of SC2 from SC1) and this because the EU still maintains high protection for particular markets as the NPR reveals.

The positive welfare effects imply that preference erosion effects are beneficial for the MPCs and can be explained by the fact that the MPCs are low cost suppliers to the EU and by the fact that they are net importers of cereals, sugar and livestock commodities.

## VI. CONCLUDING REMARKS

Preference erosion effects are already an updated concern for many developing countries that enjoy preferences granted by developed countries within the ongoing discussions on multilateralism. In this paper preference erosion effects that arise for the EU's preferred Mediterranean Partner Countries have been examined with the help of the partial equilibrium model AGRISIM with a numerical modelling of complete multilateral liberalisation. Lower and upper bounds of preference erosion effects have been revealed by comparing the simulation results low and deep level of preferences respectively.

The results indicate that with low integration, liberalisation leads to losses for the producers in terms of reduced farm gate prices and level of supply which are particularly distinguishable for highly protective markets. The preference erosion effects that will follow when the preferences between the EU and the MPCs are deep (i.e. when a free trade area exists between the EU and the MPCs) are of lower magnitude and there the reduction of the supply and of the farm gate prices is mostly on livestock commodities and sugar. Driving force for the changes is the high NPR within the EU and thus the high price level in the union between the EU and the MPCs.

The overall welfare effects are positive revealing that the producers could be compensated by a better

allocation's policy. It can be thus concluded that preference erosion effects are positive since multilateral liberalisation of the agricultural sector does not affect negatively the MPCs. On the contrary liberalisation is the policy that the MPCs should look for.

In this point it needs to be noted that with a different commodity composition, if the model would include more commodities where the MPCs are net suppliers to the EU, then the results might have been different and the welfare effects might have been negative for the MPCs. In this modelling exercise though the commodity composition is not a limitation because the model includes the most important traded commodities between the EU and the MPCs and thus the welfare results are rather unbiased.

Openness to trade is alone not a sufficient condition to provide gains from trade. Other factors could play an important role as well, that have not been considered in this paper, as for example geographical variables or institutional quality. Certainly it would be interesting to examine whether institutional reforms are needed in the MPCs so as to support an efficient market structure and a well functioning allocation of resources among the producers and the consumers within each country.

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## Annex

Table 4: Regional aggregation and commodity composition of the AGRISIM database

Regions		Products	
GRE	Greece	APPL	Apples
ITA	Italy	ORAN	Oranges
ESP	Spain	TOMA	Tomatoes
E12	Rest of EU-15	OLIO	Olive Oil
MOR	Morocco	COTT	Cotton Lint
TUR	Turkey	TOBA	Tobacco
MPC	Rest of MPC	WHEA	Wheat
CEC	New Member States of the EU (Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia)	COAR	Coarse grains (barley, maize, triticale, oats, rye, sorghum, other cereals)
BUR	Bulgaria and Romania	RICE	Rice
RUA	Russia and Ukraine	SUGA	Sugar
ANZ	Australia and New Zealand	OILS	Oilseeds
MEX	Mexico	MILK	Milk
USA	United States	BEEF	Beef and Veal
BRA	Brazil	PORK	Pig meat
CHI	China	POUL	Poultry meat
ROE	Canada, Iceland, Japan, Norway, South Korea, Switzerland		
ROW	Rest of World		

Source: own compilation

Table 5: Value of Preference Margins resulting from the Euro-Mediterranean Association Agreements in US\$ '000 (1999)<sup>1</sup>

Commodity (HS 1996)	\ Country	Morocco	Turkey	rest of Mediterranean Partner Countries	of which							
					Algeria	Egypt	Israel	Jordan	Lebanon	Libya	Syria	Tunisia
0201	Meat of bovine animals	n.a. <sup>2</sup>	0.00	0.00	n.a	n.a	0.00	n.a	n.a	n.a	n.a	n.a
0203	Meat of swine	n.a	n.a	0.00	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
0207	Meat of the poultry	8.03	0.00	522.16	n.a	n.a	522.16	n.a	n.a	n.a	0.00	n.a
0401	Milk and cream, not concentrated	0.00	0.00	0.00	n.a	n.a	0.00	n.a	n.a	n.a	n.a	n.a
0402	Milk and cream, concentrated	n.a	0.00	0.00	0.00	n.a	0.00	n.a	0.00	0.00	n.a	0.00
0702	Tomatoes	0.00	0.00	0.00	n.a	0.00	0.00	0.00	n.a	0.00	0.00	0.00
080510	Oranges	33168.58	0.00	16250.72	n.a	1135.16	10017.52	n.a	0.00	n.a	0.00	5098.04
080810	Apples	380.96	0.00	1.69	0.11	0.27	0.00	n.a	n.a	n.a	0.92	0.38
1001	Wheat and meslin	n.a	0.00	0.00	n.a	0.00	0.00	n.a	n.a	n.a	n.a	n.a
1003	Barley	n.a	n.a	0.00	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
1005	Maize (corn)	0.00	0.00	0.00	n.a	0.00	0.00	n.a	n.a	n.a	n.a	0.00
1006	Rice	n.a	0.00	0.00	n.a	0.00	0.00	0.00	0.00	0.00	n.a	n.a
1007	Grain sorghum	n.a	n.a	0.00	n.a	0.00	n.a	n.a	n.a	n.a	n.a	0.00
1008	Other cereals	0.00	0.00	0.00	n.a	n.a	n.a	n.a	n.a	n.a	n.a	0.00
1201	Soya beans	n.a	0.00	0.00	n.a	0.00	0.00	n.a	n.a	n.a	n.a	n.a
1204	Linseed	n.a	0.00	0.00	n.a	0.00	n.a	n.a	n.a	n.a	n.a	n.a
1206	Sunflower seeds	0.00	0.00	0.00	n.a	0.00	0.00	n.a	n.a	n.a	n.a	n.a
1207	Other oil seeds	0.00	0.00	0.00	n.a	0.00	0.00	0.00	0.00	n.a	0.00	n.a
1507	Soya-bean oil	65.85	n.a	0.93	n.a	n.a	n.a	n.a	0.93	n.a	n.a	n.a
1509	Olive oil	0.00	0.00	0.00	n.a	0.00	0.00	n.a	0.00	n.a	0.00	0.00
1512	Sunflower-seed, safflower or cotton-seed oil	n.a	0.00	0.00	n.a	n.a	0.00	n.a	n.a	n.a	n.a	n.a
2401	Unmanufactured tobacco	0.00	0.00	0.00	0.00	n.a	n.a	n.a	0.00	n.a	0.00	0.00
5201	Cotton not carded or combed	0.00	0.00	0.00	n.a	0.00	0.00	n.a	n.a	n.a	0.00	0.00
170111	Cane sugar	n.a	n.a	0.00	n.a	n.a	0.00	n.a	n.a	n.a	n.a	n.a
	Sum	33623.42	0.00	16775.50	0.11	1135.43	10539.68	0.00	0.93	0.00	0.92	5098.42

<sup>1</sup> for the period 1998-2003 import duties (into the EU) where reported only for 1999 and 2003, whereas for Libya only for 1999;

<sup>2</sup> n.a= non-available import duty for this commodity

Source: own calculations based on reported import duties derived from TRAINS and bilateral trade flows derived from COMTRADE

Table 6: Value of Preference Margins resulting from the Euro-Mediterranean Association Agreements in US\$ '000 (2003)<sup>1</sup>

Commodity \ Country (HS 1996)		Morocco	Turkey	rest of Mediterranean Partner Countries	of which							
					Algeria	Egypt	Israel	Jordan	Lebanon	Libya	Syria	Tunisia
0201	Meat of bovine animals	n.a <sup>2</sup>	n.a	0.00	0.00	n.a	0.00	n.a	n.a	n.a	0.00	n.a
0203	Meat of swine	0.00	n.a	0.00	n.a	n.a	0.00	n.a	0.00	n.a	n.a	n.a
0207	Meat of the poultry	n.a	111.79	0.00	n.a	n.a	0.00	n.a	n.a	n.a	n.a	n.a
0401	Milk and cream, not concentrated	n.a	0.00	0.00	0.00	n.a	n.a	n.a	n.a	n.a	n.a	n.a
0402	Milk and cream, concentrated	n.a	0.00	0.00	0.00	n.a	0.00	n.a	n.a	n.a	n.a	n.a
0702	Tomatoes	58370.40	19387.20	2447.66	1.36	444.09	0.00	316.72	3.11	n.a	0.00	1682.38
080510	Oranges	48831.55	5780.60	30046.55	n.a	4725.44	18548.43	n.a	36.15	n.a	n.a	6736.53
080810	Apples	-0.03	343.39	-0.03	n.a	-0.02	0.00	n.a	n.a	n.a	-0.02	n.a
1001	Wheat and meslin	n.a	133.26	0.87	n.a	n.a	0.00	n.a	0.87	n.a	0.00	n.a
1003	Barley	n.a	0.00	0.00	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
1005	Maize (corn)	0.00	0.00	0.00	n.a	n.a	0.00	n.a	n.a	n.a	n.a	n.a
1006	Rice	n.a	687.73	0.00	n.a	0.00	n.a	n.a	n.a	n.a	0.00	0.00
1007	Grain sorghum	n.a	n.a	0.00	n.a	0.00	n.a	n.a	n.a	n.a	n.a	n.a
1008	Other cereals	n.a	n.a	0.00	n.a	0.00	n.a	n.a	0.00	n.a	0.00	n.a
1201	Soya beans	n.a	n.a	0.00	n.a	n.a	0.00	n.a	n.a	n.a	n.a	n.a
1204	Linseed	0.00	0.00	0.00	n.a	0.00	n.a	n.a	n.a	n.a	n.a	n.a
1206	Sunflower seeds	n.a	0.00	0.00	n.a	0.00	0.00	n.a	n.a	n.a	0.00	n.a
1207	Other oil seeds	0.00	0.00	0.00	n.a	0.00	0.00	0.00	0.00	n.a	0.00	n.a
1507	Soya-bean oil	28.51	2.34	0.00	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
1509	Olive oil	0.00	0.00	0.00	n.a	0.00	0.00	n.a	0.00	n.a	0.00	0.00
1512	Sunflower-seed, safflower or cotton-seed oil	33.98	3.29	8.29	n.a	8.29	n.a	n.a	n.a	n.a	n.a	n.a
2401	Unmanufactured tobacco	n.a	0.00	0.00	n.a	0.00	n.a	n.a	0.00	n.a	0.00	0.00
5201	Cotton not carded or combed	0.00	0.00	0.00	n.a	0.00	0.00	n.a	n.a	n.a	0.00	0.00
170111	Cane sugar	n.a	0.00	0.00	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
	Sum	107264.41	26449.60	32503.34	1.36	5177.80	18548.43	316.72	40.13	0.00	-0.02	8418.91

<sup>1</sup> for the period 1998-2003 import duties (into the EU) where reported only for 1999 and 2003, whereas for Libya only for 1999;

<sup>2</sup> n.a= non-available import duty for this commodity

Source: own calculations based on reported import duties derived from TRAINS and bilateral trade flows derived from COMTRADE