

# How North Africa could benefit from the euromediterranean partnership: the necessity to balance the Barcelona Process

Very Preliminary

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## Introduction

In 1995, the Barcelona conference has paved the way for the creation of a free-trade zone between the European Union (EU) and its Mediterranean partners. Hence, Tunisia, Morocco, Egypt and Algeria<sup>1</sup> signed bilateral free-trade agreements (FTA) with the EU respectively in 1995, 1996, 2001 and 2002. These agreements plan the complete liberalization of the industrial exchanges<sup>2</sup>, and partial for agricultural goods. Their substitution to the unilateral trade protocols granted previously by the EU was necessary as a result of the World Trade Organization (WTO) regulations, however, their objective was also to foster development in the Sub-region through the trade integration. Thanks to a larger access to the European markets and the effects of internal liberalization, Northern African countries were to benefit from an economic boom, and catch up the European level of development in the long term.

The results of these agreements seem less significant than expected. The share of the European markets in the total Northern African exports has continued to grow on the same rhythm as in the previous decade, but the trade balance between these countries and the EU has remained unfavorable for the former. Furthermore, the impact of these agreements on the growth of output has been unnoticeable, as the growth rate has remained stable in these countries since their signature. The flow of Foreign Direct Investment (FDI) has not soared in North Africa, and the agreements have not displaced the flow of the European FDI from Eastern Europe to the benefit of the Mediterranean countries.

Hence, the effects of the free trade between these countries and the EU seem rather mitigated. They cannot be compared to the structural changes induced by asymmetrical free-trade zones created between Canada, the US and Mexico, or between the EU and the Eastern European countries for instance. These relatively disappointing results of the “*accords d’association*” for Northern Africa raise questions on how to improve these agreements. How better balance their trade impact? Are there sectors to be further liberalized that could help foster development and growth in the sub-region? In this perspective, the objective of this paper is to assess the potential improvements induced by a larger inclusion of agriculture in the Euromed partnership. After recalling the main features of these agreements, a brief analysis of their impact is described in the third part. The following part deals with the methodological issue related to the General Equilibrium Analysis in the framework of the “*Accords d’association*”. The fifth part describes and analyses the results of the simulations while the last part concludes.

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<sup>1</sup> As well as six other Mediterranean countries, Syria, Israel, the Lebanon, Turkey, Jordan and Palestinian Authority.

<sup>2</sup> This liberalization is immediate for the EU, gradual for the Northern African countries.

## 1. The content of the Euromed cooperation

Under the pressure of the WTO regulations, the European Union has embarked its partners from the developing world in the negotiations of free-trade agreements since the mid-nineties. While the unilateral preferences<sup>3</sup> were more and more clearly prohibited in the multilateral context, the developing countries concerned by these preferences had to choose between giving up their preferential access to the European markets or creating a quasi-reciprocal free trade zone with their European counterparts. The Mediterranean countries were among the first to opt for this second option. All the agreements signed by the EU display the same structure. The first component concerns the political and security cooperation, the second one deals with trade and covers the main commitments of the partners and the third component is related to economic and cultural cooperation. The cooperation components in the FTA between Northern African countries and the EU are general declarations of principles and do not include precise commitments. The trade component defines the modalities of the liberalization of trade between the partners with a mechanism of lists of products and a gradual dismantlement of trade barriers. The EU commits itself to open its borders immediately after the agreements come into force. A mutual assistance protocol on custom procedures has also been attached to these agreements but its implications remain practically limited.

Hence, commitments on tariffs and quotas constitute the central component of the FTAs between the EU and Northern African countries. The EU eliminates all tariffs and quotas on industrial exchanges as soon as the agreement is effective, while the Northern African countries do the same gradually in a maximum period of 12 years. Depending on their level of sensitivity for these countries, products are classified into four or five lists (see table 1.). The first list is generally comprised of goods that are only imported and useful for the rest of the economy (equipment goods). Tariffs dismantlement is the fastest – instantaneous sometimes<sup>4</sup> – for these goods. For other goods, a more gradual dismantlement is planned. Some highly sensitive products, concerning national security for instance, are included in a “negative” list and not concerned by tariffs elimination. The FTAs specify that these negative lists are to be regularly reviewed.

Table 1: the mechanism of lists of products in Northern Africa

	List 1	List 2	List 3	List 4	List 5
Tunisia (since 1996)	Equip. goods.	Raw material. Intermediary products.	Local production (competitive)	Local production (non- competitive)	Neg. list: crafts and cultural products

<sup>3</sup> Except if granted on a non-discriminatory basis (enabling clause of 1979).

<sup>4</sup> Tunisia anticipated the complete tariffs elimination for these goods two years before the FTA came into force.

Egypt (since 2003)	Equip. goods. Raw material.	Intermediary products.	Final goods except automotive products.	Automotive products	
Morocco (since 2000)	Equip. goods.	Intermediary products. Spare parts.	Local products.	Neg. list: national security.	

*Source: ECA (2006)*

The agricultural liberalization is of lesser importance. Indeed, the FTAs do not mention any calendar for tariff elimination on the whole agricultural sector. A few concessions have been included for specific products, the EU remaining firm on sensitive merchandises such as beef meats, milk, wheat, sugar, flowers and rice. These concessions deal more with quantitative restrictions than tariffs. Thus significant increases in quotas have been granted to the Northern African economies on products like olive oil and cut flowers. These new quotas are calculated on a floating basis or granted on a seasonal manner. The FTA initially mentioned that agriculture would be further liberalized five years after the agreement comes into force. The increase in quotas is still under negotiations in most Northern African economies.

In terms of services, the “*accords d’association*” generally adjust their objectives to the framework of the General Agreements on Trade and Services (GATS), and do not include precise commitments. They also refer to specific fields for the cooperation among partners, such as finance, energy and information. The FTAs also indicate that the liberalization of services shall be reviewed within three to five years after the agreements come into force. In this perspective, their liberalization has become a core objective of the current development of the Barcelona process.

The FTAs have been negotiated on bilateral basis, between each Northern African country and the EU. Nonetheless, the integration of the Mediterranean sub-region is one of the key objectives of the Barcelona process. Hence, the MEDA fund supports a large number of regional projects, which amount to 25% of its total expenditures. Furthermore, Tunisia, Morocco, Egypt and Jordan have signed an FTA in Agadir in 2005, fixing deadline for the complete elimination of trade barriers among themselves to 2010.

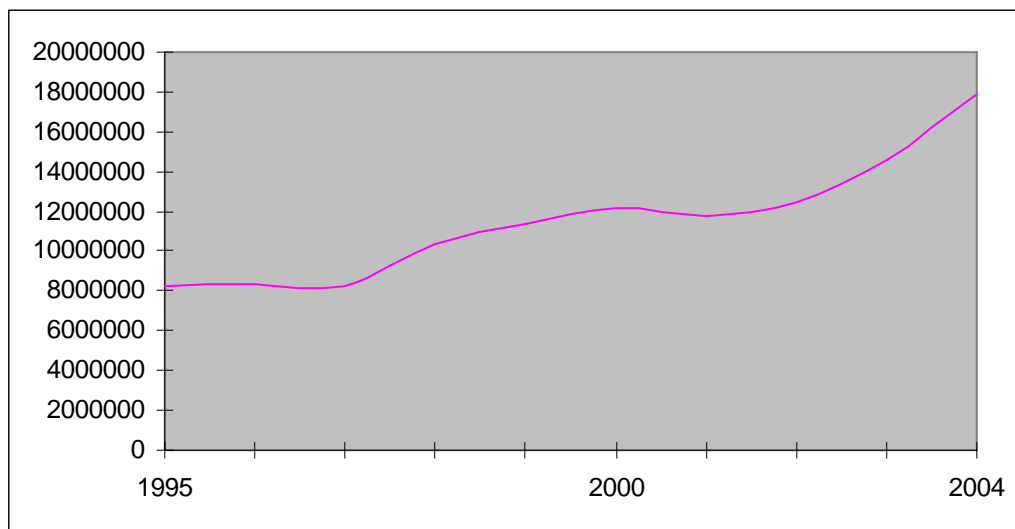
2. The mitigated results of the Euro-Mediterranean integration for Northern African economies.

**a. Increased dependency and trade imbalances**

From 1995 to 2004, the Northern African exports to the European exports have enjoyed a steady growth, amounting to 118% in the decade (table 2). The exact influence of the FTAs is difficult to isolate, but it seems clear these agreements have played an important major role, as the Northern African exports have grown much more on the European markets than in any other places. Indeed, the share of the European outlets in the total exports of the sub-region has significantly risen in the last decade, from 60% in 1995 to 65% in 2004 (table 3). As expected, the dependency of these exporters on the European markets has been reinforced sharply.

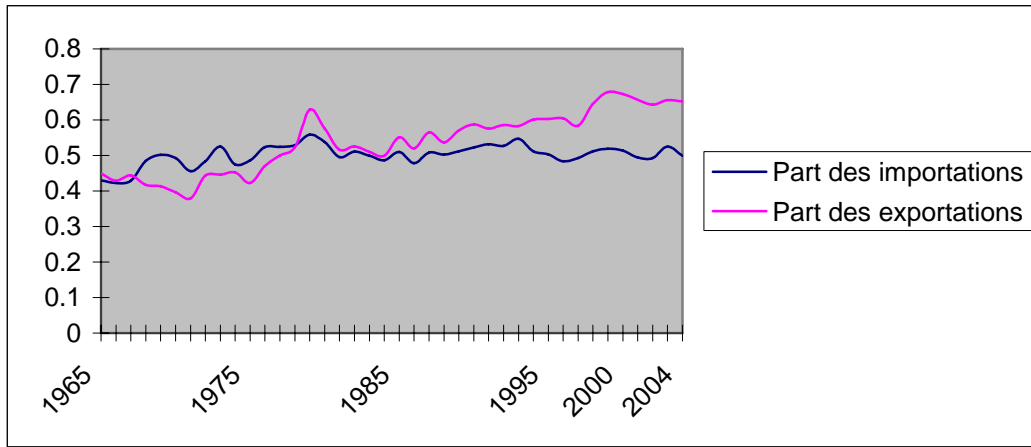
Furthermore, the FTAs have lead to the elimination of the trade imbalance between these countries and the EU. This imbalance has been significantly reduced (table 4), with a cut by 34% between 1995 and 2004, but it is still unfavorable for the three countries observed here (Egypt, Tunisia, Morocco). In 2004, this bilateral trade deficit amounts to USD 39 billion (22% of the value of the exports). The situation is all the more alarming than the Northern African economies have benefited from a temporary advantage between 1995 and 2004 due to the immediate liberalization of the access to the European markets, advantage they will gradually lose with their own liberalization.

Table 2:Northern African (Tunisia, Egypt and Morocco) exports to the European markets (in USD thousand)



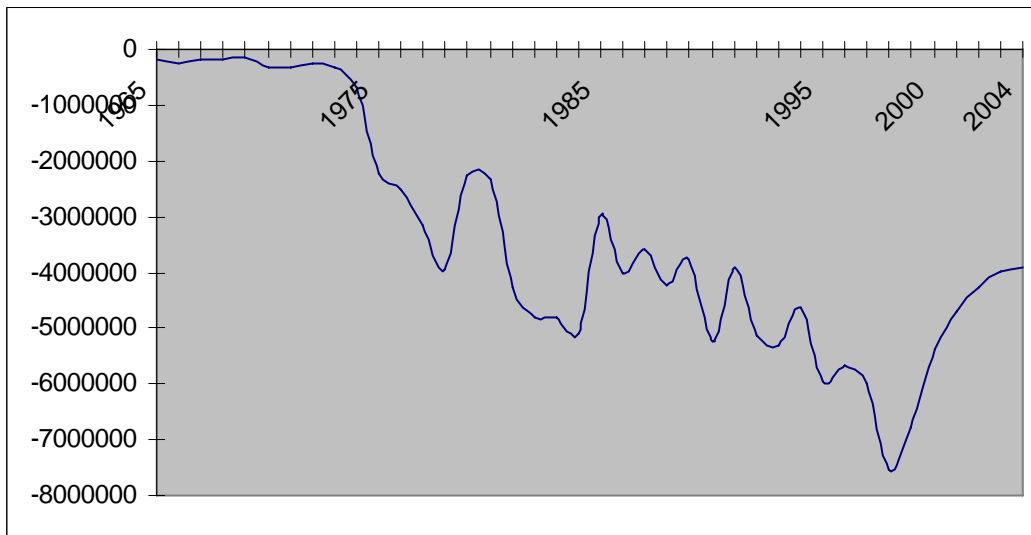
Source: UNCTAD (2005)

Table 3: Share of the European partner in the total exports/imports of the North African economies (in %)



Source: UNCTAD (2005)

Table 4: Bilateral trade deficit between Tunisia, Egypt, Morocco and the EU (USD thousand)

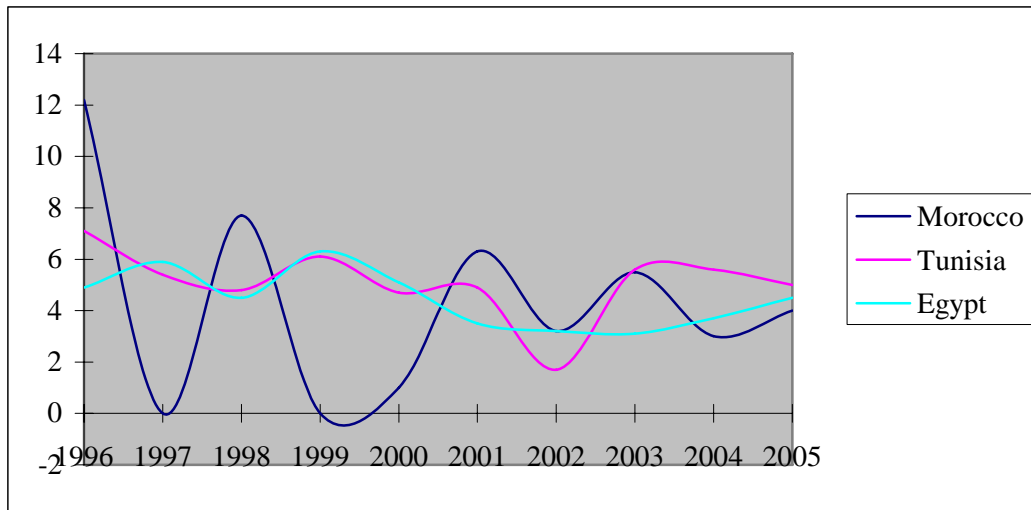


Source: UNCTAD (2005)

### b. The invisible economic boom

Despite the impact of the FTAs on trade, Tunisia, Morocco and Egypt have not benefited from an economic boom since the mid-nineties. Indeed, the output growth rates of these countries seem to have converged and stabilized around 5% (table 5).

Table 5: Output growth (% of change)

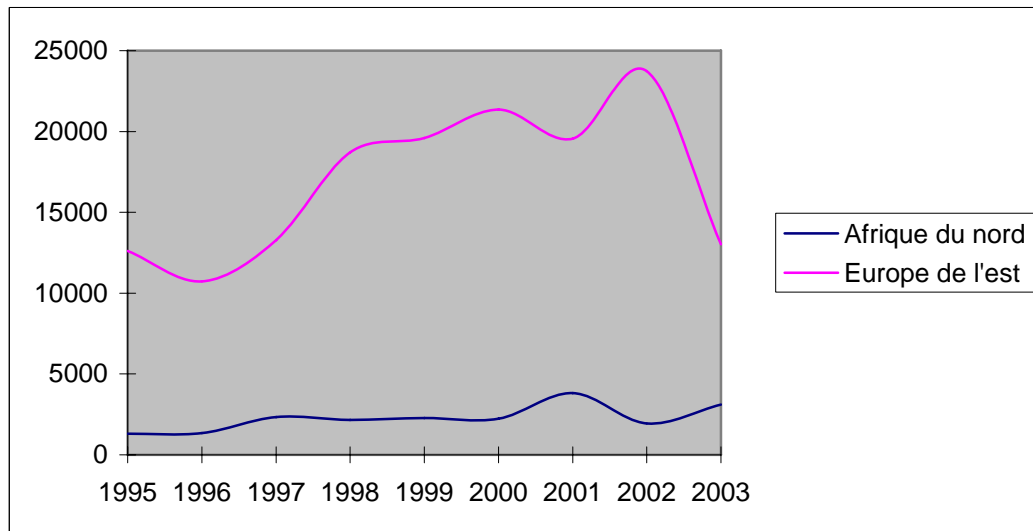


Source: IMF

### c. Stagnant FDI

In the same vein, the level of FDI has not grown significantly, especially in comparison with the level of DFI reached in Eastern Europe. In 1995, the FDI flow towards this region was roughly ten times higher than in Tunisia, Egypt and Morocco. In 2002, this ratio is even worse, reaching more than 12.

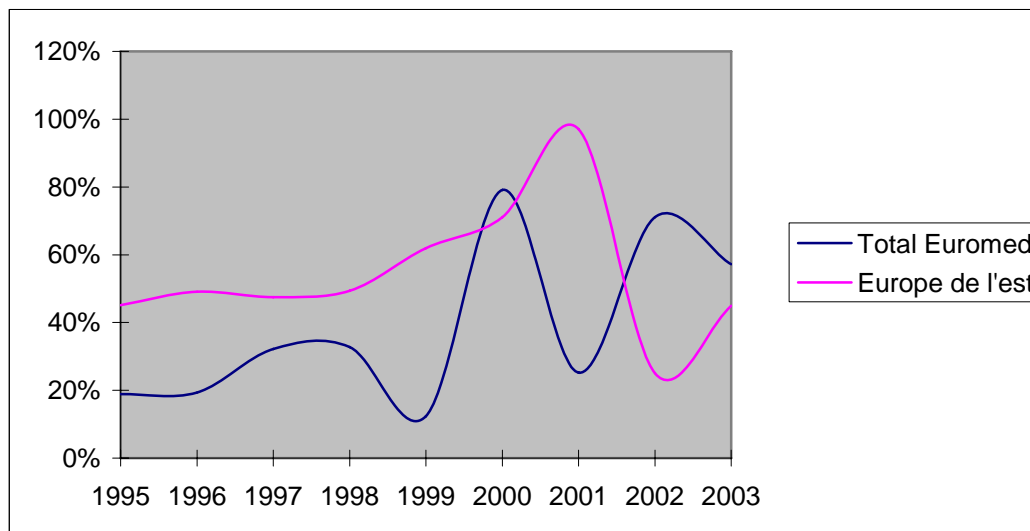
Table 6: Annual inwards flows of FDI (in million USD)



Source: UNCTAD (2004)

However, the share of the European firms in the total investments of the Euromed sub-region tends to progress, as underscored in table 7.

Table 7: Share of the European companies in total FDI (annual inwards flows)



Source: Calculations of the authors (UNCTAD and Eurostat data)



### 3. Methodologies

#### a. **The Mirage model**

This section provides a short description of the MIRAGE model. This model has been built in order to assess the impact of globalisation on the individual regions of the global economy. The model is a relatively standard neo-classical model of economic activity. It is based on the latest release of the GTAP data set, version 6.0. It is designed for analysing dynamic scenarios. The scenarios are solved as a sequence of static equilibrium, with the periods being linked by dynamic variables — population and labour growth, capital accumulation, and productivity. Policy scenarios are compared to a baseline, or business-as-usual, scenario.

The following section briefly describes the dimensions of the model and its main features<sup>5</sup>. The mapping from the GTAP regional and sector definitions to the corresponding aggregations defined for the MIRAGE model used in this study is described in Annex 3.

As far as dimensions are concerned, there are 3 essential dimensions for the MIRAGE model. The table below provides a complete description. Due to the existence of a flexible aggregation facility, the regional and sectoral definitions of the model are easy to modify. The aggregation defined in Annex 3 describes the scope of the MIRAGE model for the current study.

Table 8: Dimension of MIRAGE Model

Index	Description
I	Sectors (see Annex 3 for MIRAGE model dimensions)
r	Regions (see Annex 3 for MIRAGE model dimensions)
t	Time (currently 2001-2015)

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<sup>5</sup> The complete and detailed technical specification of MIRAGE model can be found in Bchir et al (2002) and (2005)

In what follows, we present briefly the main characteristics of the model, which concern the modeling of demand, supply, capital, markets clearing and macroeconomic closure, and dynamic. Given the importance of domestic supply in the distortions currently affecting world trade in agricultural products, a short description of how domestic supply is modeled in MIRAGE is provided directly after presenting the main blocs of the model.

**Demand.** The demand side is modeled in each region through a representative agent, whose utility function is intra-temporal, with a fixed share of the regional income allocated to savings, the rest used to purchase final consumption.<sup>6</sup> Below this first-tier Cobb-Douglas function, consumption trade-off across sectors is represented through a LES-CES function. Each sectoral sub-utility function is a nesting of CES functions, comparable to the standard nested Armington – Dixit-Stiglitz function (see e.g. Harrison et al., 1997), with two exceptions. Firstly, domestic products are assumed to benefit from a specific status for consumers, making them less substitutable to foreign products than foreign products between each other. Secondly, products originating in developing countries and in developed countries are assumed to belong to different quality ranges<sup>7</sup>.

**Supply.** Production makes use of five factors: capital, labor (skilled and unskilled), land and natural resources. The first three are generic factors; the last two are specific factors. The production function assumes perfect complementarity between value added and intermediate consumption. The sectoral composition of the intermediate consumption aggregate stems from a CES function. For each sector of origin, the nesting is the same as for final consumption, meaning that the sector bundle has the same structure for final and intermediate consumption. The structure of value added is intended to take into account the well-documented skill-capital relative complementarity. These two factors are thus bundled separately, with a lower elasticity of substitution (0.6), while a higher substitutability (elasticity 1.1) is assumed between this bundle and other factors. Constant returns to scale and perfect competition are assumed to hold in agricultural sectors.

**Capital, markets clearing and macroeconomic closure.** The capital good is the same whatever the use sector, and capital is assumed to be perfectly mobile across sectors within each region. At the region-wide level, capital stock is assumed to be constant in the core simulations of this paper. Natural resources are also perfectly immobile and may not be accumulated. Both types of labor, as well as land, are assumed to be perfectly mobile across sectors. Production factors are assumed to be fully employed. All production factors are immobile internationally. As to

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<sup>6</sup> The structure of the demand function is shown in Appendix 6.

<sup>7</sup> This is motivated by the fact that, following Abd-El-Rahman (1991), several empirical works have shown that, even at the most detailed level of classification (Combined Nomenclature, 10 digits, including more than 10,000 products), unit values differences are able to reveal quality differences (see e.g. Fontagné et al., 1998; Greenaway and Torstensson, 2000).

macroeconomic closure, the current balance is assumed to be exogenous (and equal to its initial value in real terms), while real exchange rates are endogenous.

**Dynamics.** In a typical recursive dynamic framework, the time path of the model is solved as a sequence of static equilibrium in each year. In other words, the solution in any given year is not a function of forward looking variables, though it may be an explicit function of past variables, though known and therefore exogenous. While there are drawbacks in the recursive dynamic framework, particularly in the modeling of saving and investment behavior, its one key advantage is that it is much easier to set up and solve (van der Mensbrugghe, 1998). There are several backward linkages linking one period to another: population growth, productivity increases, and capital accumulation. Most of these linkages can be resolved outside of the modeling framework, or in other words, in between solution periods. One of the exceptions is the capital accumulation function. Before running any policy simulations in a dynamic framework, it is often required to define some sort of reference scenario, or as it is sometimes called, a business-as-usual scenario (BaU). The BaU scenario makes some assumptions about a broad range of dynamic variables — population and labor supply growth rates, the growth rate of factor productivity, and other exogenous variables. If all productivity variables are pre-determined, as well as the population growth rates, the growth rate of real GDP is endogenous. However, the path trend in real GDP growth may be unrealistic, or at least inconsistent with the assumed trend from other studies or prospective outlooks. One way to resolve this dilemma is to make the growth of real GDP exogenous in the reference scenario, and to allow some other variable pick up the slack. In subsequent simulations, i.e. in simulations with policy shocks, the growth rate of capital and labor productivity, are exogenous, and it is the growth of real GDP and the capital-labor ratio, which are endogenous.

## **b. Implementation of the domestic support mechanisms**

**Mechanisms of implementing domestic support.** While an agricultural version of MIRAGE was developed by Bouet et al (2004), which integrates a detailed modeling of the instruments of domestic support applied by the European and US, we turned for using a more simplest way of modeling domestic support given the non-linearity of Bouet et al's version. This non-linearity did not permit running the dynamic version of MIRAGE. The approach used here for modeling domestic support follows the one developed by Walsh et al (2004) is followed<sup>8</sup>. The results of the dispatching of PSE are presented in the following tables.

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<sup>8</sup> In the GTAP database, the direct payments reported in the GTAP model are allocated to four different categories: output subsidies, intermediate input subsidies, land-based payments and capital-based payments. The source of the agricultural support data for non-market price support protection in industrialized countries is based on the estimation of the Producer

Table 9: Results of Dispatching Domestic Support

	EU25	USA	Japan
<b>Output Subsidies</b>			
Amber	96.1	92.9	30.1
Blue	0.0	0.0	33.9
Green	3.9	7.1	36.0
<b>Intermediate subsidies</b>			
Amber	89.7	90.5	74.3
Blue	1.8	0.0	0.0
Green	8.5	9.5	25.7
<b>Land-based Payments</b>			
Amber	0.5	3.1	93.1
Blue	79.8	0.0	0.0
Green	19.7	96.9	6.9
<b>Capital-based Payments</b>			
Amber	6.5	91.6	84.6
Blue	51	0	0
Green	42.5	8.4	15.4

*Source Walsh et al (2004)*

Note: data are in percentage of distribution of domestic support among the three components for each country and each category.

To perform reduction in domestic support in the alternative scenarios, three major steps were forwarded. The first step consist of computing the new bound of domestic support level and then the level of applied support, which is defined as the minimum between the new bound level and the current applied level. This step is justified by the fact that cut formula have to be applied on the bound support. The second step consists of taking into account the differences existing between the 2001 domestic support level, which is notified to WTO, and the level of support existing in the GTAP database. In order to address this issue, we simply computed the rate of increase of applied support as notified in the WTO and then we applied the rate of cut to the support level figured in the GTAP database. Finally, the implementation of the cut is done through endogenizing domestic support and exogenizing the new level of support.

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Support Equivalent (PSE) carried out by the OECD (2002a). Walsh et al (2004) dispatch the amount allocated to each category of subsidies among the three boxes defined by the WTO.

### c. The aggregation presentation

Table 10: A compare between the three aggregations methods

	MOR			RNA			SSAHAF			TUN		
	ITC/ECA	CEPII	GTAP	ITC/ECA	CEPII	GTAP	ITC/ECA	CEPII	GTAP	ITC/ECA	CEPII	GTAP
<b>Agricultural sectors</b>												
Paddy rice	9.07	0.00	0.00	9.39	65.64	57.55	7.28	27.92	0.00	9.07	0.00	0.00
Wheat	10.69	0.00	0.00	10.77	1.76	0.99	1.98	5.04	0.01	10.77	0.00	0.00
Cereal grains nec	20.83	1.52	0.00	20.77	18.79	1.64	5.77	21.69	1.78	20.77	21.55	0.34
Vegetables. Fruit. Nuts	9.27	10.52	11.23	10.15	11.52	12.93	3.52	10.65	11.30	9.75	3.85	3.92
Other agricultural products	0.03	0.08	0.01	0.03	0.05	0.05	0.02	0.00	0.02	0.03	0.06	0.04
Plant-based fibers	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Crops nec	1.01	1.57	1.95	1.96	0.69	0.93	0.00	0.06	0.67	1.84	1.75	1.66
Animal	5.11	0.14	0.34	5.19	0.40	0.11	0.97	0.09	0.07	4.45	0.04	0.09
Fishing	0.41	0.00	0.03	3.25	2.83	6.49	0.50	3.34	3.31	0.41	0.00	0.00
<b>Agro food industries</b>												
Meat	29.95	6.76	92.25	29.73	96.13	124.39	9.41	60.08	54.01	29.27	15.24	6.93
Vegetable oils and fats	3.71	90.30	47.63	4.47	36.69	14.95	0.87	0.17	0.12	4.45	74.94	74.68
Dairy products	28.22	33.76	10.95	27.60	40.78	18.30	8.78	37.93	14.02	28.30	53.94	14.60
Processed rice	5.09	0.00	0.00	5.50	116.74	70.09	17.44	44.49	12.17	5.09	192.13	0.00
Sugar	30.32	4.32	11.67	30.68	5.40	5.98	27.50	98.13	112.90	30.60	88.04	18.64
Food products nec	9.00	1.00	1.12	9.94	8.19	6.90	2.99	2.73	1.21	9.19	1.35	1.66
Beverages and tobacco	0.04	15.54	14.92	7.67	9.10	11.33	0.01	10.01	6.57	0.04	4.58	9.20
<b>Non Agro food industries</b>												
Coal, Oil, Gas, Minerals nec	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.03
Textiles	0.07	0.00	0.14	3.09	0.00	0.13	0.09	0.63	0.42	0.07	0.00	0.19
Wearing apparel	0.00	0.00	0.08	2.86	0.00	0.22	0.01	0.67	0.45	0.00	0.00	0.09
Leather products	0.00	0.00	0.10	2.05	0.00	0.15	0.00	0.06	0.08	0.00	0.00	0.04
Paper products. Publishing	0.00	0.00	0.03	0.00	0.00	0.45	0.00	0.00	0.01	0.00	0.00	0.02
Petroleum. Coal products	0.00	0.00	0.00	0.00	0.51	0.89	0.00	0.00	0.26	0.00	0.00	0.00
Chemical. Rubber. Plastic prods	0.02	0.00	0.02	0.05	0.63	1.03	0.02	0.18	0.16	0.02	0.00	0.04
Metals	0.01	0.00	0.02	0.54	0.20	4.00	0.01	0.44	0.51	0.01	0.00	0.02
Motor vehicles and parts	0.00	0.00	0.04	1.88	0.26	0.77	0.09	4.92	4.49	0.00	0.00	0.00
Transport equipment nec	0.01	0.00	0.11	0.16	0.00	1.59	0.01	0.00	0.86	0.01	0.00	0.00
Electronic equipment	0.12	0.00	0.15	0.32	0.00	0.08	0.12	0.21	0.23	0.12	0.00	0.17
Other industrial products	0.00	0.00	0.04	0.02	0.00	0.15	0.00	0.00	0.04	0.00	0.00	0.16

Authors compute from GTAP6 and MacMAP.

#### **d. Presentation of the scenarios**

##### *The implementation of the Euro-med Agreements in MacMAP*

This paper was prepared by UNECA and ITC. ITC has developed two versions of MacMAP. The first one is MacMAP 2001. It measures the bilateral protection in 2001; this version is currently used by the CEPII and was implemented in the GTAP database. The second one is MacMAP 2005 that measures the bilateral protection in 2005. The ITC has improved the quality of the 2001 database by taking into account many of the bilateral trade agreements and a more efficient control of quality of the source data. For this reason the ITC team recommended the use of MacMAP 2005 rather than MacMAP 2001. Meanwhile, the GTAP database is a 2001 database, for this reason we must begin our simulations from the year 2001.

Given these two constraints we developed a method that uses both versions of MacMAP. Between 2001 and 2004 Mirage is fed by the 2001 version and after 2005 data are provided by the 2005 version. The detailed presentation of the implementation of each of the Euro-med agreements is given in the annex 1.

The evolutions of aggregated tariffs for every North African region of our aggregation are presented in tables 10, 11 and 12. Aggregated tariffs on industrial products are thus almost completely eliminated as only marginal tariffs on textiles in Tunisia, motor parts in Morocco and chemical products in the rest of Northern Africa are maintained. On agriculture, which highly protected these countries, the level of protection is roughly similar in 2020 and 2005, with slight tariff cuts on food products in Morocco and fishing, vegetable oils and food products in Tunisia.

Table 11: The evolution of Tunisian tariff applied on European exports

Sectors	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Agricultural sectors</b>																
Paddy rice																
Wheat	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
Cereal grains nec	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
Vegetables. Fruit. Nuts	113.6	113.6	113.6	113.6	113.6	113.6	113.6	113.6	113.6	113.6	113.6	113.6	113.6	113.6	113.6	113.6
Other agricultural products	55.7	55.7	55.7	55.7	55.7	55.7	55.7	55.7	55.7	55.7	55.7	55.7	55.7	55.7	55.7	55.7
Plant-based fibers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crops nec	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3
Animal	30.3	30.3	30.3	30.3	30.3	30.3	30.3	30.3	30.3	30.3	30.3	30.3	30.3	30.3	30.3	30.3
Fishing	39.9	39.7	39.9	39.6	39.3	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0
<b>Agro food industries</b>																
Meat	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7
Vegetable oils and fats	8.8	8.7	8.8	8.6	8.4	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
Dairy products	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0
Processed rice	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Food products nec	45.2	45.1	45.2	44.9	44.6	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3
Beverages and tobacco	22.9	22.9	22.9	22.8	22.8	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7
<b>Non Agro food industries</b>																
Coal, Oil, Gas, Minerals nec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Textiles	6.7	4.8	5.2	3.6	1.9	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Wearing apparel	12.7	9.9	11.3	7.5	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Leather products	11.5	9.0	10.1	6.8	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Paper products. Publishing	8.6	5.8	6.1	4.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum. Coal products	2.0	1.2	1.2	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chemical. Rubber. Plastic prods	5.1	3.1	3.1	2.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Metals	4.0	2.5	2.5	1.6	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor vehicles and parts	3.6	2.2	2.2	1.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transport equipment nec	7.3	4.6	4.7	3.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electronic equipment	0.9	0.6	0.7	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other industrial products	4.7	3.2	3.4	2.2	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Authors compute from MacMAP

Table 12: The evolution of Moroccan tariff applied on European exports

Sectors	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Agricultural sectors</b>																
Paddy rice																
Wheat	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2
Cereal grains nec	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Vegetables. Fruit. Nuts	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2
Other agricultural products	1.5	1.4	1.4	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Plant-based fibers	1.0	0.9	0.7	0.6	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crops nec	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Animal	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1
Fishing	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3
<b>Agro food industries</b>																
Meat	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8
Vegetable oils and fats	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6
Dairy products	82.3	82.2	82.1	82.1	82.0	81.9	81.9	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8
Processed rice	156.0	156.0	156.0	156.0	156.0	156.0	156.0	156.0	156.0	156.0	156.0	156.0	156.0	156.0	156.0	156.0
Sugar	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9
Food products nec	35.6	34.6	33.6	32.5	31.5	30.5	29.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5
Beverages and tobacco	23.5	20.2	16.8	13.4	10.1	6.7	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Non Agro food industries</b>																
Coal, Oil, Gas, Minerals nec	8.8	7.6	6.3	5.1	3.8	2.5	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Textiles	44.7	38.3	31.9	25.5	19.1	12.8	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wearing apparel	46.8	40.1	33.4	26.7	20.0	13.4	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Leather products	46.3	39.7	33.1	26.5	19.9	13.2	6.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Paper products. Publishing	25.1	21.5	17.9	14.3	10.7	7.2	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum. Coal products	9.5	8.1	6.8	5.4	4.1	2.7	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chemical. Rubber. Plastic prods	18.6	16.0	13.5	10.9	8.4	5.9	3.3	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Metals	21.2	18.2	15.1	12.1	9.1	6.1	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor vehicles and parts	23.7	20.9	18.1	15.3	12.5	9.7	7.0	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Transport equipment nec	2.5	2.2	2.0	1.8	1.5	1.3	1.1	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Electronic equipment	1.1	1.0	0.8	0.6	0.5	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other industrial products	8.6	7.4	6.3	5.1	3.9	2.7	1.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

Source: Authors compute from MacMAP



Table 13: The evolution of Rest of North African tariff applied on European exports

Sectors	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Agricultural sectors</b>																
Paddy rice	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Wheat	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Cereal grains nec	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Vegetables. Fruit. Nuts	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5
Other agricultural products	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Plant-based fibers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crops nec	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Animal	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
Fishing	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3
<b>Agro food industries</b>																
Meat	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Vegetable oils and fats	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Dairy products	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
Processed rice	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Sugar	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
Food products nec	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5
Beverages and tobacco	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
<b>Non Agro food industries</b>																
Coal, Oil, Gas, Minerals nec	2.3	1.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Textiles	38.3	38.3	38.1	37.8	35.7	33.6	27.9	22.1	16.4	10.9	5.5	0.0	0.0	0.0	0.0	0.0
Wearing apparel	38.4	38.4	38.0	37.5	35.2	33.0	27.2	21.4	15.7	10.5	5.2	0.0	0.0	0.0	0.0	0.0
Leather products	31.4	31.4	28.5	24.2	19.7	15.3	10.5	5.8	1.1	0.7	0.4	0.0	0.0	0.0	0.0	0.0
Paper products. Publishing	11.0	10.4	9.5	8.9	8.1	7.3	5.8	4.3	2.8	1.9	0.9	0.0	0.0	0.0	0.0	0.0
Petroleum. Coal products	4.9	3.6	2.1	1.8	1.5	1.2	0.8	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Chemical. Rubber. Plastic prods	7.5	7.4	6.6	5.8	4.9	3.9	3.0	2.0	1.0	0.8	0.7	0.6	0.6	0.6	0.6	0.6
Metals	14.7	14.4	13.3	12.2	10.8	9.3	7.2	5.1	3.0	2.0	1.0	0.0	0.0	0.0	0.0	0.0
Motor vehicles and parts	33.2	33.1	32.5	31.7	31.0	27.5	23.9	20.4	16.8	14.0	11.2	8.4	5.6	2.8	0.0	0.0
Transport equipment nec	5.4	4.8	3.8	3.2	2.5	1.9	1.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electronic equipment	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other industrial products	5.3	4.4	3.5	3.2	2.9	2.6	2.0	1.5	0.9	0.6	0.3	0.0	0.0	0.0	0.0	0.0

Source: Authors compute from MacMAP

### *Scenarios for re-equilibrating Barcelona*

In order to re-equilibrate the Barcelona process, we suggest in this paper a reduction of the European protection on agricultural sectors. This re-equilibrating process will affect the three pillars of the European protection. We simulate:

- The elimination of the exports subsidies in 2013.
- A 50% reduction of the European domestic support
- A Reduction of the market access pillar

These scenarios are largely inspired from the Honk Kong ministerial declaration. For this reasons they are realistic and acceptable for an European point of view.

## Presentation and discussion of the results

In the second section of this paper we presented the observed impacts of the Barcelona agreements. Meanwhile, none of the Barcelona contracting party have completely implemented its engagements. Tunisia, the most advanced country in this process will complete the implementation in 2008 and Egypt began the implementation on 2005 and completely implements its engagements in 2019. For this reasons we will start with a forecast of the impacts of this agreements before assessing the proposed scenarios for the Barcelona re-equilibration.

- 4-1 The effects of the Barcelona Agreements

For North African countries, the Barcelona Agreements are a simple unilateral tariffs dismantlement Vis-à-vis to the European Union. Thus, the first implication of this agreement is a dramatic increase of European exports to all the North African regions. Table 14 shows that Tunisian imports from Europe increases by 13%, Moroccan imports increase by more than 72% and the imports of RNA increase by more than 24%.

Table 14 Variation o North African imports from Europe

	<b>Imports from Europe</b>			
	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
<b>MOR</b>	0.15	44.66	72.17	75.21
<b>RNA</b>	0.01	4.34	19.53	24.47
<b>TUN</b>	0.44	12.43	12.93	13.34

Source: Authors compute from MIRAGE and MacMAP

At the exports level, Table 15 shows that every North African regions will increase its volumes of exports to all non North African regions. The increase will be more important to Europe as the North-African countries benefciate from preferential access compared to the developing countries competitors.

Table 15 Variation o North African exports

Importer	MOR				RNA				TUN			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
<b>TUN</b>	-0.14	-6.24	-2.44	-3.62	0.27	-6.70	-4.10	-3.72	0.00	0.00	0.00	0.00
<b>MOR</b>	0.00	0.00	0.00	0.00	0.06	-13.64	-16.45	-15.72	0.01	-22.55	-30.82	-30.57
<b>RNA</b>	-0.05	121.48	112.07	105.92	-0.01	30.28	22.66	21.12	-0.17	-3.10	-13.59	-15.42
<b>EU25</b>	0.20	24.54	44.66	46.24	0.00	2.62	5.09	6.02	0.70	11.24	13.04	13.42
<b>USA</b>	0.06	8.57	13.64	13.92	0.00	2.28	5.07	5.71	-0.14	2.73	3.11	3.24
<b>Japan</b>	-0.02	5.29	7.67	7.89	0.00	2.31	5.20	5.83	-0.04	3.22	3.71	3.81
<b>ROWDEV</b>	0.06	9.20	13.56	13.52	0.00	2.49	5.34	6.17	0.01	4.12	4.98	5.29
<b>SSAHAF</b>	-0.02	15.66	25.82	26.44	-0.01	4.10	8.30	8.97	-0.10	6.63	7.20	7.21
<b>China</b>	0.07	10.31	14.64	14.25	-0.01	2.50	5.51	6.31	-0.11	4.56	5.09	5.30
<b>ROWDNG</b>	-0.06	10.55	15.29	15.12	-0.01	2.87	5.39	6.23	-0.06	6.03	6.48	6.50

Source: Authors compute from MIRAGE and MacMAP

The Free trade area imposes to North African countries a significant resource reallocation. Table 16 shows that every North African economy will undergo a significant variation of sectoral added value. Broadly speaking, North African regions will accurate their specialization labor-intensive sectors. Two major forces will drive this specialization. The first is the European products competition in their domestic market. This first force will explain the decrease of capital-intensive sectors added value in all the North African regions (Paper products. Publishing, Petroleum. Coal products, Chemical. Rubber. Plastic prods, Metals and Motor vehicles and parts). The second driven force is the between North African competition. Indeed and as can be seen in table 16, in the majority of the cases, an increase in the added value in North African countries is accompanied by a decrease of the same sectors in the two others regions. This specialisation is realised uniquely in labour intensive sectors (Agricultural and Agro food industries and textile and wearing)

Table 16 Variation of sectoral added value

	MOR				RNA				TUN			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
<b>Agricultural sectors</b>												
Paddy rice	0	-1.2	-2.7	-2.6	0	6.7	10.9	13.3	-0.1	-0.6	-0.7	-0.7
Wheat	0	-0.1	-1.1	-1	0	1.7	1.9	1.8	-0.3	-0.1	-0.1	-0.1
Cereal grains nec	0	-0.1	-0.9	-0.9	0	1.3	1.4	1.4	-0.1	-0.6	-0.8	-0.9
Vegetables. Fruit. Nuts	0	0	-0.6	-0.6	0	-1	-1.1	-1.1	-0.1	-1	-1.2	-1.2
Other agricultural products	0.3	8.2	18.1	19.5	0	-0.4	-0.8	-1.2	-0.1	-1.8	-1.7	-1.5
Plant-based fibers	0	-0.5	-1.3	-1.2	0	0.9	1.6	2	-0.1	-0.1	-0.1	0
Crops nec	0	0.3	-0.3	0.1	0	-13.4	-16.6	-17.7	-0.3	-3	-3.7	-4
Animal	0	-0.6	-1.6	-1.7	0	-2.6	-2.4	-2.3	-0.1	-1	-1.1	-1
Fishing	0	0.2	-0.1	-0.1	0	0.4	0.2	0	-0.1	0.2	-0.2	-0.3
<b>Agro food industries</b>												
Meat	0	8.6	11.3	11.8	0	-11.2	-9.9	-9	-0.1	-1.1	-1	-0.9
Vegetable oils and fats	0	3.5	4.3	4.6	0	-29.2	-31.5	-31.6	-0.2	-9.6	-10.5	-10.9
Dairy products	0	4.1	5.1	5.4	0	-18.6	-18	-17.7	0	-6.4	-5.9	-5.6
Processed rice	0.2	4.3	8.7	9.9	0	4.7	7.3	7.9	0	3.5	3.6	3.5
Sugar	0	0.2	-0.3	-0.3	0	-0.7	-0.7	-0.8	0	-0.8	-1	-1
Food products nec	0	1.7	1.4	1.4	0	10	9.9	9.7	0	9.2	8.6	8.4
Beverages and tobacco	0.2	6.8	14.6	15.7	0	-1.5	-1.7	-1.8	-0.1	-1.2	-1.5	-1.5
<b>Non Agro food industries</b>												
Coal, Oil, Gas, Minerals nec	0	-0.1	-1.6	-1.9	0	0.3	1.3	2	-0.4	-0.4	-0.5	-0.4
Textiles	0.6	18.1	47.3	46.8	0	3.3	-1.3	-4.4	0.9	4.8	6.1	6.3
Wearing apparel	1	31.9	73	79.4	0	0.4	-0.3	-0.9	2.7	16.2	19.8	20.4
Leather products	-0.6	-11.5	-19.4	-19.5	0	-0.3	-1.6	-1.4	0.7	7.7	11.2	11.9
Paper products. Publishing	-0.4	-12.6	-19.1	-19.3	0	-6.9	-9.5	-10.2	-0.7	-8	-10.2	-10.4
Petroleum. Coal products	0	-2.3	-4.2	-4.3	0	-1.6	-1.8	-1.7	-1.8	-2.5	-3	-3
Chemical. Rubber. Plastic prods	-0.1	-5.2	-8	-8.1	0	-4.5	-5.9	-6	0.1	-1	-2	-2.2
Metals	-0.4	-9.1	-15.3	-15.7	0	1.7	-2	-3.1	-0.5	-1.4	-4.3	-5.1
Motor vehicles and parts	-0.3	-7.5	-12.7	-13	0	13.6	4.3	-5.5	-0.3	1.3	-1	-2.8
Transport equipment nec	0.1	11.9	15.6	15.3	0	10.8	16.7	21	-0.9	-0.2	0.2	0.3
Electronic equipment	0.4	11.1	16.8	17.2	0	-2.7	-0.6	0.3	-0.4	1.1	1.8	2.2
Other industrial products	0.1	2	3	3.1	0	-2.9	-3.4	-3.2	0.1	1.9	1.9	1.7

Source: Authors compute from MIRAGE and MacMAP

To sum up, the Barcelona Agreements will leads to an increase of the level of trade between the two Mediterranean rivers with a stronger specialization of the North African countries in labor-intensive products.

The reallocation effects, could leads to an increase of the **volume** of productions but not in the **value** and thus not in the equivalent variation of welfare. As can be seen in

table 17, Morocco will see its GDP in volume increasing by 1.49% but register welfare loose of 0.44%. The two others regions will undergo a GDP loose and a welfare loose.

The free trade agreements will also implicates a decrease of all the factors prices wages, rate of returns of capital and natural resources. Only the rate of returns of land in Morocco will increase as the agricultural production in this country will increase.

Table 17: A global view of the implications of the Barcelona Agreements on North Africans economies

	MOR				RNA				TUN			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
<b>Macroeconomic variables</b>												
GDP (volume)	0.02	1.39	1.68	1.49	0.00	-0.45	-0.77	-0.88	0.12	0.14	0.05	-0.08
Welfare	0.01	0.13	-0.36	-0.44	0.00	-0.22	-0.43	-0.54	0.02	-0.89	-1.05	-1.11
<b>Factors Prices</b>												
Unskilled real wages	0.02	0.23	-0.10	-0.16	0.00	-0.42	-0.85	-1.02	0.04	-1.17	-1.33	-1.38
Skilled real wages	0.00	-0.53	-1.86	-1.99	0.00	-0.27	-0.79	-1.08	0.03	-2.12	-2.40	-2.46
Real return to capital	0.08	-0.15	-0.47	-0.50	0.03	0.00	-0.01	-0.05	0.11	-0.50	-0.28	-0.31
Real return to land	0.02	0.31	-0.07	0.11	0.00	-0.49	-0.33	-0.34	0.00	-2.01	-1.87	-1.72
Real return to natural resources	0.03	-2.01	-4.46	-4.22	0.00	0.15	1.04	1.58	-0.19	-4.04	-3.79	-3.41

Source: Authors compute from MIRAGE and MacMAP

Note: Results presented in this table are variation according to the baseline scenario

- 4-2 Re-equilibrating Barcelona three proposed ways

In this second part of simulations we carry out three propositions of European concession in order to try to re-equilibrate the Barcelona process. The first simulation is to the elimination of the subsidies applied by Europe on its exports to North African countries (Exports subsidies scenario), the second one is the elimination of the bounded European domestic support by 50% (Domestic support scenario) and the third one is a decrease of the level of tariffs applied by the European Union on North African agricultural exports. The tariff reduction formula chosen in this scenario is the same proposed by Europe in the Hong Kong ministerial summit but will be applied on the applied tariffs and not in the bound tariff and uniquely vis-a-vis to the North African countries. This separation of the tree pillars in each scenario is undertaken in order to weight their differentiated impacts in this agreements.

Table 18 gives an overall description of the impacts of each one of these three scenarios and allows a compare with the impacts of the Barcelona process (Barcelona scenario). Broadly speaking, none of this European concession could re-equilibrate the negative impacts of the Barcelona process. The two first scenarios even worsen

the situation with a highest welfare loose. The only scenario that improves the situation is the market access scenario. Indeed in this scenario

Table 18: A global view of the implications of the Barcelona Agreements on North Africans economies in 2020

	MOR				RNA				TUN			
	Barcelona	Exports subsidies	Domestic support	Market access pillar	Barcelona	Exports subsidies	Domestic support	Market access pillar	Barcelona	Exports subsidies	Domestic support	Market access pillar
<b>Macroeconomic variables</b>												
GDP (volume)	1.49	1.01	1.40	1.95	-0.88	-0.98	-0.89	-0.86	-0.08	-0.46	-0.10	0.16
Welfare	-0.44	-0.74	-0.46	-0.21	-0.54	-0.66	-0.54	-0.53	-1.11	-1.32	-1.17	-0.97
Real effective exchange rate	-2.69	-2.53	-2.63	-2.35	-1.77	-1.60	-1.74	-1.75	-1.06	-0.96	-1.04	-0.89
<b>Trade related variables</b>												
Exports (volume)	31.48	30.80	31.45	32.48	5.79	5.31	5.79	5.84	8.06	7.91	8.07	8.36
Imports (volume)	28.21	27.60	28.18	29.10	5.56	5.09	5.55	5.60	7.24	7.11	7.25	7.51
Industrial exports (volume)	52.45	51.57	52.28	53.44	6.06	5.59	6.00	6.10	10.85	10.78	10.88	11.22
Industrial imports (volume)	36.22	35.81	36.30	36.88	8.88	8.26	8.94	8.92	9.14	8.89	9.15	9.28
Agricultural exports (volume)	2.21	1.31	4.12	13.36	6.63	5.80	9.86	7.95	-0.35	-2.33	0.82	8.95
Agricultural imports (volume)	-2.31	-6.13	-3.66	0.72	3.03	1.77	2.13	3.15	-1.60	-1.01	-1.63	-0.45
<b>Factors prices</b>												
Skilled real wages	-1.99	-2.56	-2.10	-1.87	-1.08	-1.25	-1.11	-1.08	-2.46	-2.77	-2.56	-2.36
Unskilled real wages	-0.16	-0.38	-0.15	0.19	-1.02	-1.03	-1.00	-1.01	-1.38	-1.51	-1.40	-1.09
Real return to capital	-0.50	-0.76	-0.54	-0.52	-0.05	-0.24	-0.08	-0.06	-0.31	-0.54	-0.38	-0.34
Real return to land	0.11	0.24	0.27	0.87	-0.34	-0.23	-0.25	-0.31	-1.72	-1.43	-1.57	-0.86
Real return to natural resources	-4.22	-5.03	-4.08	-4.84	1.58	1.03	1.51	1.55	-3.41	-3.79	-3.47	-3.45

Source: Authors compute from MIRAGE and MacMAP

#### 4. Conclusion

The Barcelona Association Agreements are an ongoing process. The observed effects and the forecasted ones indicates that they will attains their objectives of improving the economic situations of the African regions. The aim of this paper is to propose alternative ways in order to re-equilibrates these agreements.

The agricultural liberalization seems to be the natural way of such objective. We simulate a reduction of the three pillars of the European agricultural protections and demonstrate that no neither the exports subsidies pillar nor the domestic support pillar could contribute to the improvement of the North African propositions.

According to our simulations the only way of re-equilibrating Barcelona is the market access pillar. Indeed if the European countries decreases the tariff protection vis-à-vis to North African countries the North African countries could benefit from this preferential access opportunity in order to limit, and not inverse, the negative effects induced by the Barcelona Agreements.

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## Annex 1 The implementation of the Euro-med Agreements in MacMAP

### The implementation of the EU Tunisia agreement.

The UE- Tunisia agreement had entered into force in mars 1998. It has defined six lists of products, at the HS6 digit level, with a particular of dismantlement calendar for each one of these lists.

The tariffs contained in the two version of MacMAP have taken into account the dismantlement realized between 1998 and 2001 for the 2001 version and between 1998 and 2005 for the 2005 version. For this reason we

For the HS6 lines contained in annex 3 of the agreement:

Year	From the 2001 MacMAP version	From the 2005 MacMAP version
2001	TarifMM01	
2002	0.4/0.55* $TarifMM01$	
2002	0.25/0.55* $TarifMM01$	
2003	0	
2004	0	
2005		0
2006		0
2007		0
2008		0
2009		0
2010		0

For the HS6 lines contained in annex 4 of the agreement:

Year	From the 2001 MacMAP version	From the 2005 MacMAP version
2001	TarifMM01	
2002	0.6/0.68* $TarifMM01$	
2003	0.52/0.68* $TarifMM01$	
2004	0.44/0.68* $TarifMM01$	
2005		TarifMM05
2006		0.28/0.36* $TarifMM05$
2007		0.20/0.36* $TarifMM05$
2008		0.12/0.36* $TarifMM05$
2009		0.04/0.36* $TarifMM05$
2010		0

For the HS6 lines contained in annex 5 of the agreement:

Year	From the 2001 MacMAP version	From the 2005 MacMAP version
------	---------------------------------	---------------------------------

2001	TarifMM01	
2002	0.88*TarifMM01	
2003	0.77*TarifMM01	
2004	0.66*TarifMM01	
2005		TarifMM05
2006		0.44/0.55*TarifMM05
2007		0.33/0.36*TarifMM05
2008		0.22/0.36*TarifMM05
2009		0.11/0.36*TarifMM05
2010		0

For the HS6 lines contained in annex 6 of the agreement: No dismantlement

### Implementation of the UE – Morocco agreement

The EU-Morocco agreement had entered into force in mars 2000. It has defined six lists of products, at the HS6 digit level, with a particular of dismantlement calendar for each one of these lists.

For the products contained in the annex 1 and 2 we suppose that there is no dismantlement.

For the HS6 lines contained in annex 3 of the agreement:

Year	From the 2001 MacMAP version	From the 2005 MacMAP version
2001	TarifMM01	
2002	0.5/0.75*TarifMM01	
2003	0.25/0.75*TarifMM01	
2004	0	
2005		0
2006		0
2007		0
2008		0
2009		0
2010		0
2011		0
2012		0

For the HS6 lines contained in annex 4 of the agreement:

Year	From the 2001 MacMAP version	From the 2005 MacMAP version
2001	TarifMM01	
2002	TarifMM01	
2003	0.9* TarifMM01	
2004	0.8* TarifMM01	
2005		TarifMM05
2006		0.6/0.7*TarifMM05
2007		0.5/0.7*TarifMM05
2008		0.4/0.7*TarifMM05
2009		0.3/0.7*TarifMM05
2010		0.2/0.7*TarifMM05
2011		0.1/0.7*TarifMM05
2012		0

For the products contained in the annex 4 and 5 we suppose that there is no dismantlement.

### Implementation of the UE – Egypt agreement

The EU-Morocco agreement had entered into force in July 2004. It has defined five lists of products, at the HS6 digit level, with a particular of dismantlement calendar for each one of these lists.

For the HS6 lines contained in annex 1: No dismantlement

For the HS6 lines contained in annex 2

<b>Year</b>	<b>From the 2001 MacMAP version</b>	<b>From the 2005 MacMAP version</b>
2001	TarifMM01	
2002	TarifMM01	
2003	TarifMM01	
2004	0.85*TarifMM01	
2005		TarifMM05
2006		0.25/0.5*TarifMM05
2007		0
2008		0
2009		0
2010		0
2011		0

For the HS6 lines contained in annex 3

<b>Year</b>	<b>From the 2001 MacMAP version</b>	<b>From the 2005 MacMAP version</b>
2001	TarifMM01	
2002	TarifMM01	
2003	TarifMM01	
2004	TarifMM01	
2005		TarifMM05
2006		TarifMM05
2007		0.9*TarifMM05
2008		0.75*TarifMM05
2009		0.60*TarifMM05
2010		0.45*TarifMM05
2011		0.30*TarifMM05
2012		0.15*TarifMM05
2013		0
2014		0
2015		0

For the HS6 lines contained in annex 4

<b>Year</b>	<b>From the 2001 MacMAP version</b>	<b>From the 2005 MacMAP version</b>
2001	TarifMM01	
2002	TarifMM01	
2003	TarifMM01	
2004	TarifMM01	
2005		TarifMM05

2006	TarifMM05
2007	TarifMM05
2008	TarifMM05
2009	0.95*TarifMM05
2010	0.90*TarifMM05
2011	0.75*TarifMM05
2012	0.60*TarifMM05
2013	0.45*TarifMM05
2014	0.30*TarifMM05
2015	0.15*TarifMM05
2016	0

For the HS6 lines contained in annex 5

<b>Year</b>	<b>From the 2001 MacMAP version</b>	<b>From the 2005 MacMAP version</b>
2001	TarifMM01	
2002	TarifMM01	
2003	TarifMM01	
2004	TarifMM01	
2005		TarifMM05
2006		TarifMM05
2007		TarifMM05
2008		TarifMM05
2009		TarifMM05
2010		0.90*TarifMM05
2011		0.80*TarifMM05
2012		0.70*TarifMM05
2013		0.60*TarifMM05
2014		0.50*TarifMM05
2015		0.40*TarifMM05
2016		0.30*TarifMM05
2017		0.20*TarifMM05
2018		0.10*TarifMM05
2019		0