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Wolfgang BRITZ
IAP Bonn, Germany

Franziska JUNKER
IAP Bonn, Germany

Lucie WEISSLEDER
IAP Bonn, Germany

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1 Model description

For the purposes of this study, the CAPRI (Common Agricultural Policy Regionalised Impact) modelling system is chosen as the instrument for quantitative analysis[1]. CAPRI is an agricultural sector model linking non linear mathematical programming models for about 250 regions covering the whole of EU25, Norway, Bulgaria and Romania with a global market model for agricultural products. In the current project, the model is applied for ex-ante analysis (currently year 2013) in comparative static mode.

In the regional models, agricultural supply of 39 crop and 19 animal activities covering all agricultural activities according to the definition of national accounts, as well as feed and further input demand are modelled by maximising market revenues plus premiums minus a non-linear cost function under a limited number of constraints: land, policy (e.g. quotas and set aside obligations) and feeding restrictions. The supply module allows for an explicit representation of the different (semi-decoupled) payment schemes of the CAP, differentiated across production activities and regions.

Price interactions between the EU25[2] countries and 20 other countries or country blocks are taken into account through the market module, a comparative static, spatial multi commodity model for about 40 primary and secondary agricultural products. The module features flexible and regular systems of supply, human consumption, feed, and processing functions, thus allowing for the calculation of welfare changes for producers, consumers, the processing industry, and the public sector. The parameters of the behavioural functions are taken from literature, but calibrated in a way that homogeneity, curvature, symmetry, and adding-up restrictions are fulfilled globally.

For this project it is important to highlight that the model covers a suite of fruits & vegs (table grapes, table olives, citrus, an aggregate of apple, pears & peaches, other fruits, potatoes, tomatoes, other vegetables, olives for oil) and that the Mediterranean region is broken down into three trade blocks: Turkey, Morocco and Rest of the Mediterranean, the latter defined as the aggregate of Israel Egypt, Algeria and Tunisia which feature their own behavioral equations.

[1] The full model documentation can be found at
http://www.agp.uni-bonn.de/agpo/rsrch/capri/capri-documentation.pdf

[2] The EU25 itself is not one single trading block in the market model. It consists of the two trading blocks EU15 and EU10.

Policy instruments for all regional aggregates in market model include bilateral tariffs (specific and ad valorem) and price wedges are based on OECD's producer and consumer support estimates. Border protection measures are aggregated from AMAD, bi-lateral agreements for the EU are added according to the EU legislation In both, future changes as defined in legislation are implemented in the Baseline.

For the EU25, a more explicit representation of intervention sales and subsidised exports under WTO commitments is realised. Intervention purchases by the EU Commission are determined in the model as the probability of the market price to undercut the administrative price multiplied with a maximum quantity which may be bought into intervention in a year. In order to determine the probabilities, EU market prices are assumed to be normally distributed, where the variance is set equal to the error variance of a linear trend line around a time series of world market prices. The simulated intervention purchases are added to the stock level of the base period. Intervention releases from stocks are defined as the product of three terms: (1) stock levels, (2) the probability that EU market prices undercut average unit value imports, and (3) the probability that EU market prices exceed the administrative price. Quantities exported with subsidies follow a sigmoid function whose parameters are determined such that the function recovers the quantities reported for the base period at base period prices and results in exports of 5% of the WTO commitments when market price reach 125% of the intervention price. Intervention stocks hence increase if EU market prices decrease, and at the same time, subsidised exports are expanded. Intervention stocks decrease if EU market prices or unit value exports of the EU increase.

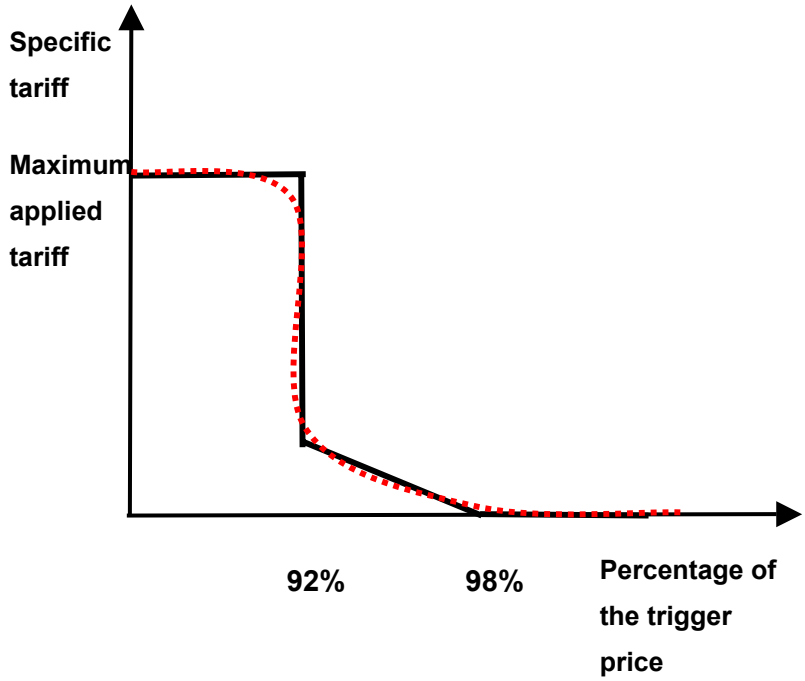
The costs of market intervention are calculated as follows: (1) average stock levels multiplied with so-called "technical costs" as reported by the EU Commission; plus (2) financial costs determined as 4% of the average stock value, the latter calculated as stock size multiplied with the mean of the market prices in the base and final period; and (3) depreciation: final stock values multiplied with the difference between EU market prices and unit value exports, and finally (4) the costs of the quantities bought into intervention multiplied with the EU administrative prices minus quantities released multiplied with the unit export value of the EU. Costs of export subsidies are the per unit export subsidy multiplied with the quantity exported with subsidies.

The supply and the market module are linked by an iterative procedure converging to market clearing prices and quantities. Technically, in each iteration, all regional supply models are solved with fixed prices coming from the market module. Resulting quantities are used afterwards to shift the supply and feed functions for EU27 and Norway in the market module

so that they provide a first order approximation to the quantity responses of the regional supply models in the current iteration. Equally, in between iterations, specific modules define EU-wide market clearing prices for young animals and adjust CAP premiums to comply with ceilings in values or quantities.

The model captures several dozen TRQs worldwide, covering all important ones for EU's agricultural markets. TRQs in the model are either allocated to specific trading partners or open to any imports. Tariffs and imports under TRQs in the model are endogenous, so that the regime switches from under filled, to binding and to over-quota imports and vice-versa along with the resulting changes in tariffs are modelled endogenously. Equally, the model captures the remaining flexible levies in cereal markets and safeguards for sugar and rice for the EU.

The EU entry price system, partially depending on trading partner and/or TRQ, is integrated in the model through a sigmoid function (dashed line in the graph) which is non-symmetric. This function represents the Entry Price System as applied by the EU in the fruit and vegetable sector in a rather realistic fashion, at the same time ensuring the numerical solution of the system. The Entry Price System sets the tariff as a difference between the cif price and the entry price also called the "trigger price". Between 92% and 98% of the trigger price the specific tariff rises linear. If the cif price falls underneath 92% the maximum specific tariff will be applied. On top of the specific tariff an ad valorem tariff is added. An unresolved issue in the model is the seasonality of the applied entry prices which can not be modeled yet.



Substitution between imports and domestic production is modelled based on the Armington assumption, using an approach where substitution between import flows is nested into the substitution of domestic production and imports using "Constant Elasticity of Substitution" functions (CES). As seen from the table below, substitution elasticities are in many cases set to rather high values. It is assumed that substitution between imports from different origins is generally stronger than substitution between imports and domestically produced goods. This is rationalized on the basis that consumers are more indifferent toward the different sources of imported goods compared to the choice between imported or domestic products. Contrary to most CGE models, no "Constant Elasticity of Transformation" function is introduced to distinguish between products sold domestically and products sold in international markets. Two well-known problems of the Armington approach also relevant for this application are the lack of empirically based substitution elasticities and the missing possibility to calibrate to zero flows.

Table 1: Substitution elasticities for the CES-nesting in the Armington approach

Product	Substitution elasticity between import flows	Substitution elasticity between imports and domestic sales
Generally	10	5
Meats, Butter	6	4 (beef for the EU15: 2)
Cheese, Fresh milk products	4	2
Japan, all products	5	2.5
Fruits and vegetables for Mediterranean countries, rice for the EU	0.8	0.5

Source: CAPRI model

2 Scenario description

2.1 Reference Scenario/ Baseline

In the reference scenario the CAP reform of 2003 is implemented as it would be in 2013. It includes the chosen implementation of decoupling and payment scheme options (single farm payments, regional uniform payments or hybrid forms) for the different EU Member States, modulation of direct payments, capping of export subsidies and EU preferential trade preferences with e.g. Morocco, Turkey, the other Mediterranean countries, Chile, the least developed countries (EBA initiative: duty and quota free access) as well as African, Caribbean and Pacific countries under the Cotonou agreements. It comprises specific and ad-valorem tariffs as currently applied by the different WTO members.

Other changes in the CAP relevant to agricultural product markets prices compared to the base year levels (average over the years 2001-2003): cuts of administrative price (cereals: -2.5%, butter: 25%, rice: -50%) and the 15% reduction for skim milk powder already foreseen in Agenda 2000. Furthermore, rye intervention is abolished, intervention purchases for butter and rice are restricted to 30000 t and 75000 t per year, respectively, and the milk quota increases by 2.3%. The latter was again already part of the Agenda 2000 package. All these changes are considered in the reference scenario for the year 2013.

2.1.1 Tariffs

The tariffs underlying the reference run are generated from the AMAD data base and thus based on almost one million different tariff lines. There are almost unlimited possibilities how to aggregate over these tariffs lines to arrive at the product (HS2 to HS3) and regional aggregation level of CAPRI, with one major issue being the fact that prohibitive tariffs may drop out of a weighting scheme that is based on realised imports. To circumvent this problem, we used an aggregation where arithmetic averages over all tariff lines related to products in CAPRI enter with a 50% weight and import weighted averages entering with the remaining 50%. Averages were calculated separately for applied and bound rates, as well as for ad valorem and specific rates. For ad valorem rates, import values were used as weights, opposed to import quantities in case of specific rates. Import weights could only be applied after tariff lines where aggregated up to HS6 as no import notifications below HS6 are available in AMAD. Bound rates and applied rates are available as yearly series, in case of applied rates up to the year 2004. Applied rates after the year 2004 were set to the minimum of the bound rate and the 2004 rate.

2.1.2 Projection to the Year 2013

The modelling system comprises a tool for projection purposes which combines trend analysis and projection results from other studies with a larger set of consistency restrictions. For EU25, Norway, Bulgaria and Romania – the regions represented by regional supply models – the restrictions cover land balances, closed market balances, feed restriction of animals, fat and protein balances for dairy processing plus the impact of policy instruments as quotas and set-aside restrictions. Bounds are introduced for specific developments, such as herd size increases for pigs and poultry to capture the effect of agri-environmental legislation. A Highest Posterior Density Estimator is used to find the most probable deviation from trends or exogenous studies satisfying these restrictions (for further information see Heckelei et al. 2005). After these projection results are available for EU27 plus Norway, a second step defines developments in all other world regions that are in line with the projections generated in the first step. These second step projections include bilateral trade flows as well market and import prices. The restrictions in second step cover all quantity balances and price transmission equations comprised in the market model.

Major developments in EU25 underlying the reference run are in-line with the latest DG-AGRI Baseline. For the rest of the world, FAO's @2030 exercise and results from FAPRI were used as a yardstick for the projection in this second step (Bruinsma 2003, FAPRI 2005). As no exogenous projections of trade flows are available to us, a rather simple procedure was applied: the yardsticks against which deviations are penalised consist of the flows from the base year forecasted with growth rates set as a simple average of the growth rates found in the exogenous projection of the exporter's production and the importer's total demand. The only deviation from these simple rules is imports under TRQs where bounds are introduced case by case, mostly reflecting ex-post fill rates. Finally, the parameters in the behavioural equations are calibrated to the results of these projection tools in the simulation year.

2.2 Bilateral Full Liberalisation

The difference of the full liberalisation in contrast to the bilateral partial liberalisation explained below relates to the product coverage and the extent of adjustment of trade barriers. A partial liberalisation is negotiated only for certain products or product groups and comprises limited changes in market access instruments. Bilateral full liberalisation includes a quota and duty free access for all products, not only fruit and vegetables, on a bilateral basis between the EU and the Mediterranean countries.

2.3 Bilateral Partial Liberalisation

The scenario of a bilateral partial liberalisation includes the improvement of the access of the Mediterranean countries into the EU and improved access into the Mediterranean countries for the EU.

2.3.1 Improved access of the Mediterranean countries onto the EU market

For all Mediterranean countries the access into the EU will be improved as followed.

Morocco will receive an expansion of the tomato quota from 205.000 tons to 500.000 tons. The citrus quota will be expanded by 70.000 tons to 500.000 tons in total. No changes are intended in the scheduled entry prices for these products.

For the Turkish importers the access will not be expanded in quantity but the entry prices for specific products will be reduced by 50 percent. This measure applies for tomatoes (new entry price will be 327 €/t), apples and peaches (new entry price: 274 €/t), citrus (177€/t) and tables grapes (273€/t). Secondly the ad valorem tariff for potatoes will be reduced by 50 percent.

For the Rest of the Mediterranean countries the expansions are aggregated because they are included in the CAPRI model as one trading block. Therefore the improved access of the countries Egypt, Israel and Tunisia is assumed as followed:

- Expansion of the tomato quota by 10.000t to 20.000t (an expansion of 10.000t allocated to Israel)
- Expansion of the potato quota to 724.000t from formerly 281.000t (an expansion of 250.000 t for Egypt and of 193.000t for Israel)
- Expansion of the citrus quota from 59.000t to 120.000t (an expansion of the quota by 61.000t for Egypt)
- Expansion of the quota for other vegetables to 74.000t from before 37.000t (an expansion of 20.000t of green beans and 17.000t of onions for Egypt)
- Expansion of quota for other fruits by 7.800 t from formally 5.600 t to 13.400 t (an expansion of 4.300t of Strawberries and 1.200t of Melons in Egypt and of 2.300t of Strawberries in Israel)

2.3.2 Improved access of the EU to the Mediterranean countries

For the EU the access to the Moroccan and Rest of the Mediterranean countries' market is assumed to improve through an expansion of the existing TRQs by 50 percent.

The assumed changes in the access for EU producers onto the Turkish Market can be divided into two categories (EU COMMISSION, 2005). The first one is the expansion of already existing TRQs for beef (+4.100t), skimmed milk powder (+1.000t), butter (+700t), cheese (+1.000t), wheat (+30.000t), maize (+53.640t) and oats (+5.100t). The second category is the introduction of new quota for the following products:

- Potatoes (6.000t),
- Apples, pears and peaches (3.500t),
- Rye (20.000t), barley (46.000t), rice (28.000t),
- Soya oil (60.000t), sunflower oil (18.000t), rape seed oil (10.000t),
- Sugar (80.000t)

For soya cake the access is assumed to be quota and duty free.

2.4 Bilateral Partial Liberalisation + G-20 WTO-Proposal

In this scenario the assumptions of the partial liberalisation are combined with the WTO-Proposal also called the G-20 Proposal. The G-20 Proposal contains the following assumptions.

No sensitive products are declared because in the present situation no product group is yet defined as a sensitive product.

The bound tariffs (ad valorem and specific tariffs) will be cut according to Table 2.

Table 2: WTO G20 proposal

	Developed countries		*Developing countries*	
Thresholds	*Thresholds (in AVEs)*	*Linear Cuts*	*Thresholds (in AVEs)*	*Linear Cuts*
	0≤20	45%	0≤30	25%
	> 20≤50	55%	>30≤80	30%
	>50≤75	65%	>80≤130	35%
	>75	75%	>130	40%
High tariffs & Cap	cap:100%		cap: 150%	

Source: http://www.g-20.mre.gov.br

According to the formula used, a cut of at least 54% on average will be undertaken for the developed countries and 36% on average for the developing countries.

The specific and ad valorem in- and out-quota tariffs of TRQs will also be cut according to the applied formula. The quantity of the applied multilateral TRQs will not be expanded.

Export subsidies will be eliminated. The LDC countries are exempted from tariff cuts.

It has to be declared, that this definition of the WTO proposal is very simplified in the scenario at hand. Although these modifications have been implemented this scenario is still useful to show the proportionality between changes in a bilateral sense compared to a multilateral change in the trade policy.

3 EU25-Results

3.1 Price changes

Changes according to the defined scenarios of the producer price in the EU are shown in Table 3. For all scenarios the absolute values (€/t) are shown as well as the percentage difference between the Baseline and the respective scenario.

Table 3: Producer Prices in the EU[3]

	Baseline	Full EU-Med Liberalisation	Partial EU-Med liberalisation	Partial EU-Med + WTO G20
		absolute values (€/t) and percentage deviation to Baseline		
Cereals	105.49	109.77	105.49	103.51
		4.06%	0.00%	-1.88%
Wheat	111.16	118.1	111.15	110.17
		6.24%	-0.01%	-0.89%
Rye and meslin	97.07	99.01	97.06	93.64
		2.00%	-0.01%	-3.53%
Barley	102.36	104.08	102.36	99.69
		1.68%	0.00%	-2.61%
Oats	92.73	93.82	92.72	93.02
		1.18%	-0.01%	0.31%
Grain maize	98.04	98.58	98.04	93.41
		0.55%	0.00%	-4.72%
Other cereals	95.05	95.36	95.04	93.48
		0.33%	-0.01%	-1.65%
Oilseeds	211.28	212.34	211.27	213.99
		0.50%	0.00%	1.28%
Other arable field crops	108.84	112.08	108.81	108.52
		2.98%	-0.03%	-0.29%
Potatoes	104	104.54	103.97	103.23
		0.52%	-0.03%	-0.74%
Vegetables and Permanent crops	673.88	673.99	673.55	679.49
		0.02%	-0.05%	0.83%
Tomatoes	399.45	411.6	397.68	392.2
		3.04%	-0.44%	-1.81%
Other vegetables	554.06	554.25	554.01	556.86
		0.03%	-0.01%	0.51%
Apples pears and peaches	566.1	565.31	566.01	573.51
		-0.14%	-0.02%	1.31%
Table grapes	901.61	898.45	901.49	922.86
		-0.35%	-0.01%	2.36%
Citrus fruits	418.82	402.17	418.01	403.64
		-3.98%	-0.19%	-3.62%
Other fruits	865.47	866.38	865.42	863.02
		0.11%	-0.01%	-0.28%
Table olives	2682.55	2643.14	2682.98	2669.4
		-1.47%	0.02%	-0.49%
Table wine	1208.9	1211.23	1208.81	1241.78
		0.19%	-0.01%	2.72%

Table 3: Producer Prices in the EU (cont.)

[3] Only selected sub items are presented

	Baseline	Full EU-Med Liberalisation	Partial EU-Med liberalisation	Partial EU-Med + WTO G20
	absolute values (€/t) and percentage deviation to Baseline			
Meat	1701.4	1706.67 0.31%	1701.31 -0.01%	1539.96 -9.49%
Beef	2878.36	2885.54 0.25%	2878.17 -0.01%	2182.38 -24.18%
Pork meat	1362.63	1370.41 0.57%	1362.57 0.00%	1361.42 -0.09%
Sheep and goat meat	4367.33	4324.98 -0.97%	4367.07 -0.01%	4023 -7.88%
Poultry meat	1192.46	1197.51 0.42%	1192.41 0.00%	1175.98 -1.38%
Dairy products	1511.87	1513.48 0.11%	1511.84 0.00%	1347.75 -10.86%
Butter	3257.87	3238.05 -0.61%	3259.48 0.05%	2490.19 -23.56%
Skimmed milk powder	2746.16	2767.49 0.78%	2745.41 -0.03%	2533.18 -7.76%
Cheese	4758.85	4766.44 0.16%	4758.44 -0.01%	4182.06 -12.12%
Fresh milk products	673.82	675.46 0.24%	673.77 -0.01%	577.68 -14.27%
Cream	3440.89	3430.41 -0.30%	3441.71 0.02%	2940.12 -14.55%
Concentrated milk	2222.93	2223.46 0.02%	2222.87 0.00%	2073.18 -6.74%
Whole milk powder	2991.43	3002.27 0.36%	2991.34 0.00%	2551.25 -14.71%
Oils	1509.23	1511.46 0.15%	1509.22 0.00%	1508.97 -0.02%
Rape seed oil	1304.39	1302.00 -0.18%	1304.36 0.00%	1305.22 0.06%
Sunflower seed oil	1209.89	1221.43 0.95%	1209.86 0.00%	1218.52 0.71%
Soya oil	1038.40	1057.29 1.82%	1038.37 0.00%	1036.92 -0.14%
Olive oil	3215.71	3194.93 -0.65%	3215.85 0.00%	3207.22 -0.26%
Oil cakes	160.3	160.85 0.34%	160.28 -0.01%	178.56 11.39%
Rape seed cake	118.39	121.16 2.34%	118.37 -0.02%	130.56 10.28%
Sunflowe seed cake	99.93	99.65 -0.28%	99.91 -0.02%	110.78 10.86%
Soya cake	195.99	195.33 -0.34%	195.98 -0.01%	218.51 11.49%
Secondary products	686.83	687.1 0.04%	686.84 0.00%	566.28 -17.55%
Sugar	749.16	750.53 0.18%	749.14 0.00%	616.72 -17.68%

Source: CAPRI modelling system

A *Full EU-Med liberalisation* scenario leads to different types of producer price changes depending on the product considered. Apart from apples, pears and peaches (-0.14%), table grapes (-0.35%), citrus fruits (-3.98%), table olives (-1.47%) and sheep and goat meat (-0.97%) all other product prices either remain nearly constant or even increase relative to the reference run. The prices of wheat (6.24%), rye (2.00%), barley (1.68%), oats (1.18%) and tomatoes (3.04%) increase. Further explanations and analysis on these changes will be done in section 3.3.

At first sight it becomes apparent that the *Partial EU-Med liberalisation* hardly changes the price pattern for the EU producers. At the most the prices decrease by -0.19% for citrus fruits which means in absolute terms not more than an reduction of 0.80 €/ton. On average the reduction is only by -0.01%. The main reason for these small changes lies in the definition of the scenario. The changes, e.g. TRQs increase or entry prices decrease, is not high enough to have a significant effect on the European market and the producer prices.

In comparison to this the last scenario *Partial EU-Med liberalisation + WTO G20* shows a very different picture. More than half of the product prices decrease. High reductions can be seen for the following products:

- Rye (-3.53%)
- Barley (-2.61%)
- Grain maize (-4.72%)
- Citrus fruits (-3.62%)
- Beef (-24.18%)
- Sheep and goat meat (-7.88%)
- Dairy products (-10.86%)

Only oats (0.31%), oilseed (1.28%), other vegetables (0.51%), apples, pears and peaches (1.31%), table grapes (2.36%), tables wine (2.72%) and oil cakes (11.39%)[4] experience a rise in their producer prices. The changes compared to the bilateral full liberalisation scenario are generally larger. This is due to the fact that all trading partners of the EU receive a higher market access into the EU markets under the WTO G20 proposal.

[4] The increase in oil cake prices stems from less feed demand. Oil cakes are mainly used as feed and since this scenario leads to a reduction in almost all animal activities producing meat due to decreasing beef meat prices, oil cakes are less demanded and prices increase.

3.2 Product balances

The changes of supply, demand, imports and exports for major agricultural commodities are shown in Table 4,Table 5 and Table 6.

3.2.1 Cereal markets

Full EU-MED liberalisation. The model results indicate that a full liberalisation of agricultural trade between the EU and the Mediterranean countries would allow the EU to increase its exports by 22.6% or 11.8 Mn tons. This is basically due to a strong increase of wheat exports as well as exports of barley and maize. Production of wheat increases by 2.5 Mn tons or 0.9% and displaces production of all other cereals that decrease by between -3.3% to -0.8%. Imports of cereals increase too, but at a lower absolute value (3.4 Mn tons) and percentage rate (11.3%). Demand for all cereals is reduced in the range of -3.4% for wheat and -1.2% for maize.

Partial EU-MED liberalisation. Under this scenario, only very limited impacts on cereal markets can be observed. Changes in net production, demand, imports and exports of the cereals aggregate amount to no more than 1000 tons. In relative terms, these changes do represent a value very close to zero. Under this scenario, the EU gains only more market access by expansion of existing TRQs, which is in the cereals sector wheat, barley, oats and maize. For these products, the TRQs are in the Baseline either highly over-filled or under-filled, so in both cases the expansion of the TRQs by 50% renders no changes in trade flows. Therefore one can conclude that this scenario has hardly any impact on cereal markets.

Partial EU-MED liberalisation + WTO G20. As was explained above, the partial EU-MED liberalisation alone has hardly any impact on the EU25 cereals markets. The changes that occur compared to the Baseline are to a large extent attributed to the multilateral trade liberalisation.

Imports of cereals into the EU25 increase by 0.6% or 189.000 tons, for some cereals, such as wheat, rye and grain maize even decrease compared to the Baseline. This can be explained by the fact that reduced prices for cereals in the EU, mainly caused by reduced demand from animal production activities, make the markets less attractive for imports. In cereals markets, the EU25 can benefit from multilateral trade liberalisation and increase its exports by over 3 Mn tons or 6.4% due decreased tariffs and its higher competitiveness. Again, the increase in total cereals exports can be mainly attributed to wheat, followed by grain maize and barley. Exports of rye decrease slightly.

The net production of cereals as a whole is nearly unaffected with increases for wheat, oats and the aggregate “other cereals”, but the changes are less than 1%. Total demand decreases by nearly by 3 million or -1.3%. This can be explained by reduced feed demand as meat production decreases overcompensating increases in human consumption.

Table 4: Product balances Cereals

EU25	Baseline				Full EU-MED Liberalisation				Partial EU-MED Liberalisation				Partial EU-MED + WTO G20			
1000 t	Net production	Demand	Imports	Exports	Net production	Demand	Imports	Exports	Net production	Demand	Imports	Exports	Net production	Demand	Imports	Exports
Cereals	261515	239307	30106	52313	263994	233375	33511	64129	261516	239308	30105	52312	261636	236253	30295	55678
absolute					2479	-5932	3405	11816	1	1	-1	-1	122	-3054	189	3365
percent					0.9%	-2.5%	11.3%	22.6%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.3%	0.6%	6.4%
Wheat	126901	102685	3396	27612	131521	99216	6949	39255	126902	102685	3396	27612	128062	101770	3316	29608
absolute					4620.18	-3469.5	3553	11642.8	0.55	0.45	-0.01	0.08	1160.28	-914.84	-79.59	1995.52
percent					3.6%	-3.4%	104.6%	42.2%	0.0%	0.0%	0.0%	0.0%	0.9%	-0.9%	-2.3%	7.2%
Rye and meslin	8069	7728	589	929	7889	7571	544	862	8069	7728	589	929	7984	7636	558	906
absolute					-179.93	-157.07	-44.86	-67.72	0.05	-0.01	-0.01	0.04	-85.15	-92.88	-30.67	-22.94
percent					-2.2%	-2.0%	-7.6%	-7.3%	0.0%	0.0%	0.0%	0.0%	-1.1%	-1.2%	-5.2%	-2.5%
Barley	53404	50598	5705	8511	52458	49444	6079	9093	53404	50599	5705	8510	53006	50135	6183	9054
absolute					-945.89	-1153.6	373.76	581.49	-0.18	0.8	-0.35	-1.34	-398.32	-463.42	478.02	543.11
percent					-1.8%	-2.3%	6.6%	6.8%	0.0%	0.0%	0.0%	0.0%	-0.7%	-0.9%	8.4%	6.4%
Oats	12956	11996	497	1457	12665	11768	442	1339	12956	11996	497	1457	13049	11824	578	1803
absolute					-291.07	-228.34	-55.29	-118.03	-0.01	0.03	-0.01	-0.07	93.48	-172.05	80.7	346.23
percent					-2.2%	-1.9%	-11.1%	-8.1%	0.0%	0.0%	0.0%	0.0%	0.7%	-1.4%	16.2%	23.8%
Grain maize	49960	54010	7850	3800	49574	53348	7688	3913	49960	54010	7850	3800	49199	52727	7743	4215
absolute					-385.91	-662.25	-162.7	113.69	0.32	-0.19	-0.49	0.03	-761.07	-1283.49	-107.16	415.28
percent					-0.8%	-1.2%	-2.1%	3.0%	0.0%	0.0%	0.0%	0.0%	-1.5%	-2.4%	-1.4%	10.9%
Other cereals	10224	12289	12068	10004	9886	12028	11809	9668	10225	12289	12068	10004	10337	12162	11916	10092
absolute					-338.23	-261.1	-259.1	-336.2	0.24	-0.04	-0.04	0.24	112.69	-127.4	-152.21	87.87
percent					-3.3%	-2.1%	-2.1%	-3.4%	0.0%	0.0%	0.0%	0.0%	1.1%	-1.0%	-1.3%	0.9%

3.2.2 Vegetables and permanent crops

The simulation results for vegetables and permanent crops are shown in Table 5.

Full EU-MED liberalisation. Under this scenario, total imports of vegetables and permanent crops increase by 18.7% or 798 580 tons. Over 60% of the increase in absolute terms can be attributed to tomatoes: Imports of tomatoes nearly double (99.1%) to 491 880 tons. Imports of table olives increase by over 45%, followed by citrus fruits which reach an import growth of nearly 20% or 294 340 tons compared to the Baseline. The additional imports of all other vegetables and permanent crops are in the range of 5% for the aggregate "other fruits and vegetables" and 0.7% for apples, pears and peaches.

EU25 exports of vegetables and permanent crops grow by 2.4%. Again, this is mainly due to tomatoes. This effect will be analysed in more detail in section 3.3.

Overall production and demand remain relatively stable under this scenario, but tomato production partly substitutes other fruits and vegetables. Demand, especially for tomatoes, decreases as average prices rise.

Partial EU-MED liberalisation. Total imports into the EU25 of vegetables and permanent crops increase by 2.7% or 115 530 tons. More than 85% of the additional imports of vegetables and permanent crops consist of tomatoes. Exports of the EU25 increase slightly by 0.2%, again it is mainly exports of tomatoes and citrus that increase due to higher competitiveness on international markets.

Overall production and demand hardly show any changes in relative terms, in absolute terms production drops by 34 900 tons and demand in the EU decreases by 16 850 tons .

Partial EU-MED liberalisation + WTO G20. As mentioned before most of the changes can be attributed to the multilateral trade liberalisation. A strong increase of imports of vegetables and permanent crops by over 45% or 2 Mn tons can be observed. Both in percentage as well as in absolute terms, the changes in the imports of tomatoes are the largest of all products in this commodity group. The EU can also increase its exports of tomatoes and citrus fruits significantly, because access to international markets is improved.

Production decreases under this scenario, mainly the aggregate "other fruits" and "other vegetables" and tomatoes are affected. Production of some commodities increases, as for example apples, pears and peaches. However, these changes remain rather small. Demand for fruits and vegetables in general decreases by -0.6% or 459 230 tons given the slight overall price increase.

Table 5: Product balances Vegetables and Permanent Crops[5]

EU25	Baseline				Full EU-MED Liberalisation				Partial EU-MED Liberalisation				Partial EU-MED + WTO G20			
1000 t	Net production	Demand	Imports	Exports	Net production	Demand	Imports	Exports	Net production	Demand	Imports	Exports	Net production	Demand	Imports	Exports
Vegetables and Permanent	118277	71369	4278	51186	118371	71058	5077	52390	118242	71353	4394	51284	118149	70910	6284	53523
absolute					93.91	-311.01	798.58	1203.49	-34.9	-16.85	115.53	97.46	-127.71	-459.38	2005.33	2336.99
percent					0.1%	-0.4%	18.7%	2.4%	0.0%	0.0%	2.7%	0.2%	-0.1%	-0.6%	46.9%	4.6%
Tomatoes	17462	11003	496	6955	17639	10515	988	8112	17432	10982	597	7047	17269	11230	2116	8155
absolute					177.16	-487.96	491.88	1157	-29.88	-20.87	100.56	91.55	-193.34	227.24	1619.88	1199.29
percent					1.0%	-4.4%	99.1%	16.6%	-0.2%	-0.2%	20.3%	1.3%	-1.1%	2.1%	326.5%	17.2%
Other vegetables	44736	25781	917	19873	44719	25756	924	19888	44734	25778	917	19873	44708	25483	900	20126
absolute					-16.93	-25.2	7.13	15.39	-1.92	-2.32	-0.16	0.22	-28.1	-298.15	-17.11	252.92
percent					0.0%	-0.1%	0.8%	0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%	-1.2%	-1.9%	1.3%
Apples pears and peaches	14270	7207	795	7859	14262	7200	801	7863	14270	7206	795	7859	14323	7058	962	8226
absolute					-8.19	-6.44	5.55	3.81	-0.37	-0.6	-0.27	-0.04	52.93	-148.16	166.29	367.38
percent					-0.1%	-0.1%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	-2.1%	20.9%	4.7%
Table grapes	2537	1692	132	978	2536	1693	136	979	2537	1692	132	978	2548	1665	143	1026
absolute					-1.4	1.21	4.43	1.81	-0.04	-0.05	-0.03	-0.01	10.12	-26.98	11.54	48.65
percent					-0.1%	0.1%	3.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.4%	-1.6%	8.8%	5.0%

[5] only selected sub items are presented.

Table 5: Product balances Vegetables and Permanent Crops (cont.)

EU25	Baseline				Full EU-MED Liberalisation				Partial EU-MED Liberalisation				Partial EU-MED + WTO G20			
1000 t	Net production	Demand	Imports	Exports	Net production	Demand	Imports	Exports	Net production	Demand	Imports	Exports	Net production	Demand	Imports	Exports
Citrus fruits	10529	10785	1290	1034	10476	10968	1540	1048	10526	10792	1306	1041	10514	10667	1381	1227
absolute					-53.3	183.01	249.34	13.04	-2.49	7.14	15.67	6.04	-14.84	-117.67	90.12	192.96
percent					-0.5%	1.7%	19.3%	1.3%	0.0%	0.1%	1.2%	0.6%	-0.1%	-1.1%	7.0%	18.7%
Other fruits	9544	9497	473	519	9542	9520	497	519	9543	9497	473	519	9520	9523	577	574
absolute					-1.59	22.58	24.66	0.51	-0.09	-0.15	-0.06	0.01	-23.53	25.56	104.41	55.33
percent					0.0%	0.2%	5.2%	0.1%	0.0%	0.0%	0.0%	0.0%	-0.2%	0.3%	22.1%	10.7%
Table olives	532	537	24	19	531	546	35	20	532	537	24	19	532	539	27	20
absolute					-1.33	8.77	11.02	0.92	0.01	-0.17	-0.16	0.03	-0.85	1.09	2.73	0.79
percent					-0.2%	1.6%	45.1%	4.7%	0.0%	0.0%	-0.7%	0.2%	-0.2%	0.2%	11.2%	4.1%
Table wine	18666	4868	150	13949	18666	4861	155	13960	18666	4868	150	13948	18736	4746	178	14168
absolute					-0.51	-6.97	4.57	11.02	-0.13	0.16	-0.01	-0.32	69.91	-122.3	27.47	219.67
percent					0.0%	-0.1%	3.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.4%	-2.5%	18.3%	1.6%

Source: CAPRI Modelling System

3.2.3 Meat

Full EU-MED liberalisation. The changes on meat markets are generally small. Most of the items in the market balance, that is production, demand and exports decrease. The reduction of production can be explained by higher feed costs due to the increase of cereal prices. However, production goes back only by -0.3% to -0.5%. Imports are the only position in the market balance that increase, the additional imports consist mostly of poultry meat, pork meat and sheep and goat meat partially substituting domestic production. Demand for sheep and goat meat increases by 0.2%, whereas it is reduced by -0.1 to -0.2% for the other meat categories due to higher prices.

Partial EU-MED liberalisation. In this scenario, the impact on meat markets is almost negligible. In relative terms, no changes can be observed. In absolute terms, there are small reductions of production quantities of all meat categories due to higher feeding cost. This brings about slightly higher prices reducing demand while imports of meat remain rather stable. Exports of beef increase, exports of pork and poultry meat decrease due to higher prices in the EU and therefore higher attractiveness of domestic markets.

Partial EU-MED liberalisation + WTO G20. According to the model results, multilateral trade liberalisation has a significant impact on the European Unions meat market. Imports of meat increase by 10.3%, additional imports consist mainly of beef (265 840 tons) and pork meat (119 610 tons). Exports of meat decrease by -2.8%. This can be explained by a large decrease of beef production and the elimination of exports subsidies. Production and exports of sheep and goat meat and poultry meat decrease as well. Production of pork meat is only slightly affected, and the EU can increase its exports to foreign markets.

Table 6: Product balances meat[6]

EU25	Baseline				Full EU-MED Liberalisation				Partial EU-MED Liberalisation				Partial EU-MED + WTO G20			
1000 t	Net production	Demand	Imports	Exports	Net production	Demand	Imports	Exports	Net production	Demand	Imports	Exports	Net production	Demand	Imports	Exports
Meat	42694	42257	4489	4926	42545	42204	4509	4851	42693	42256	4489	4926	42105	42268	4951	4787
absolute					-149.31	-53.21	20.71	-75.39	-0.79	-0.69	-0.18	-0.29	-589.27	11.48	461.84	-138.89
percent					-0.3%	-0.1%	0.5%	-1.5%	0.0%	0.0%	0.0%	0.0%	-1.4%	0.0%	10.3%	-2.8%
Beef	7878	8249	1359	989	7849	8242	1355	962	7878	8248	1359	989	7453	8298	1625	780
absolute					-29.24	-6.69	-3.85	-26.4	-0.06	-0.22	-0.06	0.1	-425.53	48.98	265.84	-208.66
percent					-0.4%	-0.1%	-0.3%	-2.7%	0.0%	0.0%	0.0%	0.0%	-5.4%	0.6%	19.6%	-21.1%
Pork meat	22288	21074	953	2167	22224	21049	959	2135	22287	21074	953	2167	22266	21058	1073	2281
absolute					-63.75	-25.16	6.1	-32.51	-0.36	-0.08	-0.02	-0.3	-21.91	-15.9	119.61	113.59
percent					-0.3%	-0.1%	0.6%	-1.5%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	12.5%	5.2%
Sheep and goat meat	992	1281	307	18	987	1283	313	17	992	1281	307	18	971	1309	355	17
absolute					-5.15	2.02	6.68	-0.5	-0.01	-0.01	0	0	-21.19	28.7	48.82	-1.09
percent					-0.5%	0.2%	2.2%	-2.8%	0.0%	0.0%	0.0%	0.0%	-2.1%	2.2%	15.9%	-6.2%
Poultry meat	11536	11654	1870	1752	11485	11630	1882	1736	11536	11653	1870	1752	11415	11603	1897	1710
absolute					-51.17	-23.39	11.79	-15.99	-0.36	-0.37	-0.1	-0.1	-120.64	-50.31	27.59	-42.75
percent					-0.4%	-0.2%	0.6%	-0.9%	0.0%	0.0%	0.0%	0.0%	-1.0%	-0.4%	1.5%	-2.4%

Source: CAPRI Modelling System

[6] only selected sub items are presented

3.2.4 Other markets

The simulation results for other major agricultural products are shown in Table 7.

Full EU-MED Liberalisation. For dairy products, there are only small changes compared to the reference run. Net production decreases slightly (-0.1% or 32 760 tons), and imports increase by no more than 0.3% or 31 040 tons which can be explained by the effects on cereals markets: The area for cereals is expanded; grass land and fodder activities are reduced and feed costs increase. Demand and exports remain unchanged in percentage terms.

On oil markets there are more notable changes: Imports rise by 5.6%, caused by olive oil imports that more than double compared to the Baseline with 24 030 additional tons. The EU25 can increase its exports of olive oil moderately (2.2% or 16 550 tons) as relative price changes favour increases the EU's competitiveness on international markets. Demand and production remain stable in percentage terms.

The impact on oilseeds markets is less pronounced: Net production decreases by -1.3% and, because the production of cereals is expanded. Demand decreases slightly by -0.2%, imports increase moderately by 0.6% or 189 410 tons, exports by 11 260 tons or 1.2%.

Imports of the aggregate "other arable field crops" increase significantly by 23.7% or 121 260 tons, of which nearly 80 000 consist of additional potato imports and over 43 000 tons of pulses. Production of potatoes decreases by -0.2% or 101 470 tons despite higher prices in the new equilibrium due to substitution effects with other crops, demand decreases slightly due to higher prices in the new equilibrium accompanied by better export opportunities (9.3% or 26 750 tons).

Partial EU-MED Liberalisation. Under this scenario, hardly any relevant changes occur to the markets of dairy products, oils, oilseeds and other arable field crops. Only imports of potatoes increase by 4.1% (19 460 tons) respectively. These additional imports combined with reduced potato exports (-2.4%) are offset in the market balance by a slight decrease of production and increased feed use of potatoes.

Partial EU-MED + WTO G20. In case of a multilateral agreement, there are considerable impacts on dairy markets: Imports increase by nearly 40% (4.06 Mn tons), exports by 21.2% (0.7 Mn tons) and production decreases by -5.5% (3.2 Mn tons). Demand increases due to lower prices for dairy products. Imports of oils increase generally by 1.4%, olive oils significantly stronger by over 20%. At the same time, the EU can increase its exports of oils

and especially olive oils by 4.8% and 2.9% respectively, because of its relative competitiveness is enhanced.

Oilseeds imports and demand decrease by -1.4% (436 860 tons) and -0.3% (124 930 tons), production and exports increase by 1.6% (325 950 tons) and 1.4% (14 030 tons) respectively. This can be explained by higher prices and a substitution of imports by domestic production. From a multilateral trade liberalisation, an increase in imports of pulses (5.3% or 102 210 tons) and net production (2.3% or 93 710 tons) can be expected, demand decreases slightly.

Imports of potatoes increase less than under the Partial liberalisation scenario by only 3.4%. Exports increase strongly by 20.2%, demand and net production decline slightly. These effects can be explained with the lower prices for potatoes in the EU25 and the fact that the demand for potatoes as feed is reduced due to significantly less animal production (Table 6) in the EU25.

Table 7: Product balances other markets[7]

EU25	Baseline				Full EU-MED Liberalisation				Partial EU-MED Liberalisation				Partial EU-MED + WTO G20			
1000 t	Net production	Demand	Imports	Exports	Net production	Demand	Imports	Exports	Net production	Demand	Imports	Exports	Net production	Demand	Imports	Exports
Oilseeds	20929	49293	29342	978	20653	49195	29531	989	20929	49295	29343	978	21255	49168	28905	992
absolute					-275.88	-97.72	189.41	11.26	0.32	1.9	1.54	-0.03	325.95	-124.93	-436.86	14.03
percent					-1.3%	-0.2%	0.6%	1.2%	0.0%	0.0%	0.0%	0.0%	1.6%	-0.3%	-1.5%	1.4%
Other arable field crops	57563	55921	513	2155	57687	55862	634	2459	57551	55936	532	2148	57530	55746	531	2315
absolute					123.77	-59.38	121.26	304.41	-11.73	14.54	19.45	-6.81	-32.87	-174.97	18.32	160.43
percent					0.2%	-0.1%	23.7%	14.1%	0.0%	0.0%	3.8%	-0.3%	-0.1%	-0.3%	3.6%	7.4%
Pulses	4094	2271	43	1866	4319	2262	86	2144	4094	2271	43	1866	4188	2265	45	1968
absolute					225.24	-9.16	43.27	277.67	-0.08	-0.1	-0.01	0.02	93.71	-6.19	2.31	102.21
percent					5.5%	-0.4%	100.2%	14.9%	0.0%	0.0%	0.0%	0.0%	2.3%	-0.3%	5.3%	5.5%
Potatoes	53469	53649	469	289	53367	53599	547	315	53457	53664	489	282	53342	53481	485	347
absolute					-101.47	-50.21	77.99	26.75	-11.65	14.65	19.46	-6.83	-126.58	-168.77	16.01	58.21
percent					-0.2%	-0.1%	16.6%	9.3%	0.0%	0.0%	4.1%	-2.4%	-0.2%	-0.3%	3.4%	20.2%
Dairy products	57933	64802	10190	3321	57900	64800	10221	3321	57932	64801	10190	3321	54719	64944	14250	4026
absolute					-32.76	-2.07	31.04	0.34	-0.5	-1.07	0.11	0.69	-3213.58	141.75	4060.22	704.88
percent					-0.1%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	-5.5%	0.2%	39.8%	21.2%
Oils	13882	11822	423	2483	13884	11792	446	2538	13882	11822	423	2483	13894	11721	428	2601
absolute					1.11	-30.49	23.61	55.22	-0.01	-0.06	0	0.05	11.63	-100.99	5.85	118.47
percent					0.0%	-0.3%	5.6%	2.2%	0.0%	0.0%	0.0%	0.0%	0.1%	-0.9%	1.4%	4.8%
Olive oil	1919	1445	22	495	1917	1451	46	512	1919	1445	22	495	1921	1438	27	510
absolute					-2	5.47	24.03	16.55	0.01	-0.07	0.02	0.09	2.5	-7.38	4.59	14.46
percent					-0.1%	0.4%	108.0%	3.3%	0.0%	0.0%	0.1%	0.0%	0.1%	-0.5%	20.6%	2.9%

Source: CAPRI Modelling System

[7] only selected sub items are presented

3.3 Trade flows

First the imports into the EU will be analysed and main differences between the analysed scenarios are highlighted before the focus will be shifted towards changes of EU exports.

For a better clarification of the impact on trade in the general context of the third scenario *Partial EU-Med liberalisation combined with the WTO G20 proposal*, an additional column "Rest of World" is included. It gives a picture on how the trade patterns of imports and exports change in the rest of the world compared to Turkey, Morocco and the Mediterranean Countries.

3.3.1 Import flows into the EU

The results of the simulations (Table 8) show that significant changes occur in the import flows for Turkey, Morocco and the Mediterranean Countries for several product groups compared to the reference run (= Baseline). The main groups are "cereals", "other arable field crops", "vegetables and permanent crops", "meat" and "oils". The product group "vegetables and permanent crops" will be analysed in more detail later on as this is the import product group where most of the changes are expected because of the scenario definitions. All of the other product groups that have not been enumerated explicitly do not experience significant differences in percentage terms in their import flows from the Mediterranean Countries, Turkey and Morocco between the scenarios.

Full EU-Med liberalisation. For cereals the imports from Turkey and the Mediterranean Countries will increase both by more than 100%. This occurs because the general competitiveness of the Mediterranean countries increases disproportionately due to the preferential market access compared to the rest of the EU's trading partners. From the Mediterranean Countries the imports increase by 6 000 tons. For Turkey there is an increase of nearly 3 Mn tons. Main changes for Turkey relate to wheat and barley.

The change in imports of the product group "other arable field crops" from Morocco is negative (-9.43%) wherefore the imports from Turkey and the Mediterranean Countries strongly increase by 116.77% and 278.31%. All of these increases appear mainly for potato imports.

"Meat" as a product group experiences significant changes for Turkey and the Mediterranean Countries. For Turkey the import of sheep and goat meat as well as poultry meat increases, for the Mediterranean Countries only of poultry meat. Through a *Bilateral Full liberalisation* between the EU and theses countries their competitive advantage increases significantly

compared to other importers so that the amount of meat imports from Turkey increases from 2 820 tons to 13 170 tons (367.02%) and from the Mediterranean Countries from 3 080 tons to 23 590 tons (665.91%). According to the model Morocco has no imports of meat into the EU25 in the Baseline. Consequently, the use of the Armington approach implies no changes to this in any scenario.

A different picture appears for the import of oils (mainly olive oil). They increase strongly from Turkey (786.80%) and decrease from the Mediterranean Countries (-22.09%). Increased export opportunities for Turkey are accompanied by net production increases and reductions in human consumption. The producer price for olive oil decreases in the EU which leads to a reduction of the net production and a rise in total demand (Table 7). The explanation for the decrease of the other Mediterranean Countries' import into the EU is a reduction of these countries relatively to Turkey.

Partial EU-Med liberalisation. The import pattern of the three trading blocks does not change much for cereals. Reasons for this can be found in the definitions of the scenario where only the access for fruit and vegetables into the EU25 is improved.

The imports of the product group "other arable field crops" decrease from Morocco (-6.15%) and the Mediterranean Countries (-2.82%) and only increase on average for Turkey (34.54%). The increase can mainly be found for potatoes (34.68%).

No significant changes appear for the product groups "meat" and "oils" within this scenario. Reason for this is the definition of the scenario where no preferences are conceded in this product group.

Partial EU-Med liberalisation combined with the WTO proposal. The imports of cereals into the EU25 from Morocco, Turkey and the Mediterranean countries do not change much. Through the combination of the *Partial liberalisation with the WTO G20 proposal* the other trading partners of the EU receive also improved market access which means that the comparative advantage of the Mediterranean countries decreases relative to the bilateral liberalisation scenario.

The imports of "other arable field crops" from Morocco decrease (-12.54%) but from the Mediterranean Countries there is an increase compared to the Baseline of 23.10%. Imports from Turkey even further increase by 42.21% compared to the Baseline.

For the product group “meat” significant changes appear for Turkey and the Mediterranean Countries in the scenario. The import of sheep and goat meat and poultry meat from Turkey increases, from the Mediterranean Countries only poultry meat.

The import of oils (mainly olive oil) from Turkey increases strongly (254.84%) and decreases from the Mediterranean Countries (-42.42%). Reason for the strong rise of the Turkish import is equal to the one already set out in the *Bilateral Full liberalisation*. The explanation for the decrease of the Mediterranean Countries’ import is the same as in the *Full liberalisation*.

Table 8: Import flows in to the EU25[8]

Year: 2013	Baseline			Full EU-Med Liberalisation Percentage deviation to Baseline			Partial EU-Med Liberalisation Percentage deviation to Baseline			Partial EU-Med + WTO G20 Percentage deviation to Baseline			
1000t	Turkey	Morocco	Med. countries	Turkey	Morocco	Med. countries	Turkey	Morocco	Med. countries	Turkey	Morocco	Med. countries	Rest of World
Cereals	1787.82	8.32	6.07	4756.42	10.88	12.28	1788.1	8.4	6.08	1805.9	8.06	6.11	12863.37
				166.05%	30.77%	102.31%	0.01%	0.96%	0.16%	1.01%	-3.12%	0.66%	288.36%
Oilseeds	0.16	0	1.17	0.28	0	3.61	0.16	0	1.17	0.2	0	1.18	28077.91
				75.00%	0.00%	208.55%	0.00%	0.00%	0.00%	25.00%	0.00%	0.85%	-2.21%
Other arable field crops	97.78	94.25	3.55	211.96	85.36	13.43	131.55	88.45	3.45	139.05	82.43	4.37	84.1
				116.77%	-9.43%	278.31%	34.54%	-6.15%	-2.82%	42.21%	-12.54%	23.10%	100.34%
Potatoes	97.37	94.16	2.81	210.33	85.05	7.36	131.14	88.37	2.71	138.60	82.28	3.48	42.76
				116.01%	-9.68%	161.92%	34.68%	-6.15%	-3.56%	42.34%	-12.62%	23.84%	129.13%
Vegetables and Permanent crops	237.75	731	143.05	384.37	1170.21	639.2	231.04	881.68	147.74	238.53	804.06	191.22	3580.24
				61.67%	60.08%	346.84%	-2.82%	20.61%	3.28%	0.33%	9.99%	33.67%	897.26%
Meat	2.82	0	3.08	13.17	0	23.59	2.82	0	3.09	4.72	0	7.09	1431.48
				367.02%	0.00%	665.91%	0.00%	0.00%	0.32%	67.38%	0.00%	130.19%	664.95%
Sheep and goat meat	1.53	0	0	8.82	0	0	1.53	0	0	2.51	0	0	336.56
				476.47%	0.00%	0.00%	0.00%	0.00%	0.00%	64.05%	0.00%	0.00%	179.30%
Poultry meat	1.29	0	3.08	4.35	0	23.59	1.29	0	3.09	2.21	0	7.09	160.71%
				237.21%	0.00%	665.91%	0.00%	0.00%	0.32%	71.32%	0.00%	130.19%	1234.64%
Other Animal products	0	0	2.85	0	0	9.32	0	0	2.85	0	0	3.74	33.13
				0.00%	0.00%	227.02%	0.00%	0.00%	0.00%	0.00%	0.00%	31.23%	65.41%
Dairy products	2.11	0	0	6.03	0	0	2.29	0	0	2.73	0	0	12029.9
				185.78%	0.00%	0.00%	8.53%	0.00%	0.00%	29.38%	0.00%	0.00%	489.46%
Oils	3.41	0	6.79	30.24	0	5.29	3.41	0	6.81	12.1	0	3.91	125.22
				786.80%	0.00%	-22.09%	0.00%	0.00%	0.29%	254.84%	0.00%	-42.42%	25.87%
Oil cakes	0.46	0	0.15	0.44	0	0.15	0.46	0	0.15	0.71	0	0.21	23751.95
				-4.35%	0.00%	0.00%	0.00%	0.00%	0.00%	54.35%	0.00%	40.00%	379.90%

[8] only selected sub items are presented

Table 9 shows a more detailed picture of the aggregated group "Vegetables and Permanent crops". In this group the main fruits and vegetables can be found which were newly disaggregated in the CAPRI model.

Full EU-Med liberalisation. The import flows for all products rise form all of the three trading blocks except table olives from Morocco. From Turkey and Morocco the imports into the EU will increase by 60% and from the Mediterranean Countries by 346.84%. The imports of the Mediterranean Countries indicated by the model will increase from 143 050 tons to 639 200 tons. This result shows how much more competitive these three trading partners become in the fruit and vegetable sector depending on the level of liberalisation which they experience.

The highest increase of a product from all three trading partners can be found in the imports of tomatoes. The Turkish' imports increase by 68.27%, the Moroccan by 108.13% and the Mediterranean Countries by 1606.06%.

High changes are indicated for apples, pears and peaches (233.33%), table grapes (325.44%), citrus fruits (217.56%) and table wine (322.81%) from the Mediterranean Countries.

Partial EU-Med liberalisation. Mainly TRQs are expanded. The imports of "vegetables and permanent crops" from Morocco increase by 20.61% which is increase in absolute terms of 150 680 tons. The imports from the Mediterranean countries increase on average only by 3.28% but as will be seen later the picture in this group is not that clear. Turkey will decrease its imports by -2.82%.

The new tomato and citrus fruit TRQs for Morocco are nearly filled. This leads to an increase of the imports by 52.65% up to 388 340 tons for tomatoes and 4.39% for citrus fruits (407 430 tons). Before the extension of the TRQs both products were imported even though the quota was over filled. The definition of the scenario implies that the imports of the other products do not change significantly for Morocco because only specific products are addressed. Tomatoes from Morocco (52.65%) substitute the decrease of the import from Turkey (-11.46%) and Mediterranean Countries (-12.66%).

From the Mediterranean Countries only the import quantities for citrus fruits increase by 6 720 tons which occurs from the definition of the scenario.

The increase in the citrus fruit of the Mediterranean Countries and Morocco substitutes imports from the Mercosur Countries (-2% from 146 440 tons to 143 230 tons) and the Rest of America (-3% from 100 460 tons to 97 010 tons). Such a situation appears when the demand on citrus does not increase in the EU but through preferential agreements the competitiveness of

countries like in this situation Morocco and the Mediterranean Countries improves. Table 5 underlines this by showing that for Citrus the net production and the human consumption in the EU are largely unaffected.

Even though the TRQs for "other fruits" and "other vegetables" are expanded for the Mediterranean Countries, no increase of the imports is indicated by the model results. Main reason is that already in the Baseline the TRQs for these aggregated product groups is not filled. Therefore a mere expansion of the TRQs does not change the trading pattern.

Because of the little changes in this scenario for Turkey (only the entry prices have been halved) the import flow from Turkey into the EU in the fruit and vegetable sector does not change significantly.

Partial EU-Med liberalisation + WTO G20. This scenario leads to an increase of the imports in the fruit and vegetable group on average for Turkey by 0.33%, for Morocco by 9.99% and for the Mediterranean Countries by 33.67%. No consistent picture across the three trading blocks appears. All three have increases as well as decreases in their amount of import quantities. Reasons for this can be found in the definition of the scenario. Because all importers of the EU receive tariff reductions, the preferential situation of the Mediterranean trade block (including Turkey and Morocco) becomes less preferential compared to the bilateral scenario. The comparative advantage erases and for products like tomatoes they become less competitive than China (1743% from 90 740 tons to 1 672 610 tons) and the Western Balkans (1235% from 2 420 tons to 32 310 tons). On the other hand the three countries increase the imports of citrus fruits into the EU through substituting imports from the Mercosur Countries (-28% to 105 560 tons) compared to the Baseline.

Imports in table grapes and "other fruits" go up for Turkey, Morocco and the Mediterranean Countries because they are despite the fact of a multilateral liberalisation highly competitive in this fruits compared to the other importers. At the same time the net production in the EU according to the simulation calculated by the model goes down without a decrease in the human consumption therefore the imports of these products in total into the EU increase.

Table 9: Import flows into the EU25 of the fruit and vegetable product group[9]

Year: 2013	Baseline			Full EU-Med Liberalisation Percentage deviation to Baseline			Partial EU-Med Liberalisation Percentage deviation to Baseline			Partial EU-Med + WTO G20 Percentage deviation to Baseline			
1000 t	Turkey	Morocco	Med. countries	Turkey	Morocco	Med. countries	Turkey	Morocco	Med. countries	Turkey	Morocco	Med. countries	Rest of World
Vegetables and Permanent crops	237.75	731	143.05	384.37	1170.21	639.2	231.04	881.68	147.74	238.53	804.06	191.22	3580.24
				61.67%	60.08%	346.84%	-2.82%	20.61%	3.28%	0.33%	9.99%	33.67%	897.26%
Tomatoes	41.98	254.4	16.51	70.64	529.47	281.67	37.17	388.34	14.42	4.61	228.51	10.46	1870.57
				68.27%	108.13%	1606.06%	-11.46%	52.65%	-12.66%	-89.02%	-10.18%	-36.64%	31199.32%
Other vegetables	33.47	15.35	20.96	37.98	17.53	21.74	33.47	15.33	20.96	35.3	16.33	21.09	154.6
				13.47%	14.20%	3.72%	0.00%	-0.13%	0.00%	5.47%	6.38%	0.62%	33.11%
Apples pears and peaches	27.8	0.18	0.06	42.42	0.24	0.2	27.77	0.17	0.06	26.24	0.17	0.06	645.56
				52.59%	33.33%	233.33%	-0.11%	-5.56%	0.00%	-5.61%	-5.56%	0.00%	4433.58%
Table grapes	1.93	0.14	1.14	4.7	0.29	4.85	1.93	0.13	1.15	2.6	0.21	1.7	84.6
				143.52%	107.14%	325.44%	0.00%	-7.14%	0.88%	34.72%	50.00%	49.12%	35.17%
Citrus fruits	120.37	390.31	96.9	210.06	531.36	307.72	118.46	407.43	103.62	154.78	476.1	147.11	226.4
				74.51%	36.14%	217.56%	-1.59%	4.39%	6.93%	28.59%	21.98%	51.82%	-26.50%
Other fruits	6.83	58.03	0.11	8.71	80.61	0.13	6.83	57.97	0.11	7.96	71.87	0.13	471.71
				27.53%	38.91%	18.18%	0.00%	-0.10%	0.00%	16.54%	23.85%	18.18%	178.19%
Table olives	5.15	11.72	6.23	9.51	7.01	18.08	5.19	11.46	6.29	6.78	9.52	9.16	1.69
				84.66%	-40.19%	190.21%	0.78%	-2.22%	0.96%	31.65%	-18.77%	47.03%	44.92%
Table wine	0.22	0.86	1.14	0.34	3.68	4.82	0.22	0.85	1.14	0.26	1.35	1.52	125.07
				54.55%	327.91%	322.81%	0.00%	-1.16%	0.00%	18.18%	56.98%	33.33%	176.81%

Source: CAPRI modelling system

[9] only selected sub items are presented

3.3.2 Export flows of the EU

The export flows are presented in Table 10. For all scenarios the absolute quantities in 1000 tons and the percentage differences in comparison to the Baseline are shown.

Full EU-Med Liberalisation. The impact on the export flows of the EU is high which can be attributed to the definition of the scenario. Especially the wheat export into Turkey will increase by 569.55% according to the model which means an increase of the export quantities from 529 450 tons to 3.5 Mn tons (Table 10). Producer prices in the EU increase for wheat by 6.24% from formally 111.16€/t up to 118.10€/t (Table 3). Net production of wheat in the EU rises (3.64%) and at the same time the human consumption decreases in an analogous manner (Table 4). This is then accompanied by an increase in the EU's exports of wheat. This increased exports flows into Turkey substitutes for domestic supply (-4.05%) and meets slightly increase demands (Table 10).

The exports of oilseeds and other arable field crops (mainly pulses) out of the EU into Morocco and the Mediterranean Countries increase strongly (Table 10). The net production of oilseeds in both importing countries goes down as well as the human consumption but the net production decreases stronger than the human consumption (Table 7). The consumption will therefore according to the model be covered through higher imports of oilseeds from the EU. At the same time the exports from the EU decrease for all other trading partners. For pulses the situation looks slightly different. The net production in Morocco and the Mediterranean Countries drops and the human consumption rises. Exports from the EU increase to cover the appearing excess demand. For this product the exports from the EU into other countries except Morocco and the Mediterranean Countries decrease. As the EU production and demand remains unchanged the total exports adjust only slightly (Table 7). To still meet the increased demand of these two trading partners the export flows have to be deflected from China and Bulgaria/Romania.

In the vegetable and permanent crop group (mainly tomatoes) the export to the Mediterranean Countries increases by 224.35% up to 2 458 450 tons from 757 960 tons in the Baseline. Net production in the Mediterranean Countries decreases stronger than human consumption (Table 10). At the same time the imports into the EU increase because of the elimination of the trade barriers. Hence, the national markets of the Mediterranean Countries cannot be covered by home products anymore and exports from the EU into the Mediterranean Countries increase. The same happens for Morocco (38.30%) and Turkey (12.85%), but not to the same extent (Table 10). This might sound surprising when facing an increase of tomato exports from those countries into the EU25, as described in the previous section. But even in the Baseline situation

the EU25 shows both exports and imports of tomatoes from Morocco and Turkey. In this situation it may be the case that the trade flows into the EU mainly consist of fresh tomatoes, while the flows out of the EU are mainly processed tomatoes.

Also of significant interest is the increase of dairy product exports to the Mediterranean Countries by 10.01% (Table 10). It results mainly from the export of skimmed milk powder.

Important for the EU is also the increase in exports of oils by 244.90% (Turkey) and 111.13% (Morocco). Thereby the increase is mainly recorded for sunflower seed oil and soya oil. This occurs from an increase in the price for sunflower seed oil for the EU producers by 0.95% and for soya oil by 1.82% (Table 3). The net production of sunflower seed oil will increase according to the model in the EU by 0.25% and the demand decreases by -0.35% for soya oil a similar picture emerges (Table 4). Supply excess is generated for both products wherefore more has to be exported. The export surplus meets the demand in Turkey and Morocco.

Partial EU-Med liberalisation. The reaction indicated through the model is rather small. Exports from the EU to Turkey or the Mediterranean Countries rise at the most by 1.48% (other arable field crops) given the limited changes in the scenario. Only to Morocco the EU export increases significantly in the product group "vegetables and permanent crops" by 18.35%. This results mainly from an increase in tomato exports (Table 10). At the same time the net production in the EU as well as the total demand of tomatoes decreases (Table 4). However, the extension of the Mediterranean countries' TRQs for tomatoes also allows for increased EU exports of tomatoes.

The exports of dairy products from the EU into Morocco increase by 12.67% (Table 10). Here the increase can be ascribed to an increase in butter exports. The reason for this increase is the expansion of the butter TRQ. In this scenario the TRQs which the EU has in the Baseline into Morocco are expanded by 50%.

Partial EU-Med liberalisation + WTO G20. The third scenario has the general impact that the exports into the three trading blocks increase. Compared to the Full Liberalisation the increase does not appear to be strong and is again explained by the higher competition induced through multinational trade liberalisation.

Morocco's imports from the EU increase for oilseeds (17.24%), other arable field crops (11.87%), oils (10.81%), oil cakes (23.12%) and secondary products mainly sugar (139.34%). Only the exports of meat (-22.96%) and dairy products (-19.81%) decrease.

The exports into Turkey increase for cereals (15.78%), other arable field crops (250 tons) and oil cakes (12.10% which means an absolute increase by 150 tons). Dairy products are reduced by -58.44%, oils by -1.66% and secondary products (rice) by -12.60%. The high reduction of dairy products comes from the reduction of the net production and the increase of the demand in the EU25 (Table 7).

Into the Mediterranean Countries the exports increase for meat (46.59%), dairy products (10.55%) and secondary products mainly sugar (24.31%). Only the exports of oils are reduced by -0.21%.

For all the other product groups that are not explicitly mentioned in either scenario, the export pattern of the EU into Morocco, Turkey and the Mediterranean Countries do not change significantly.

Table 10: Export flows[10]

Year: 2013	Baseline			Full EU-Med Liberalisation Percentage deviation to Baseline			Partial EU-Med Liberalisation Percentage deviation to Baseline			Partial EU-Med + WTO G20 Percentage deviation to Baseline			
1000t	Morocco	Turkey	Med. countries	Morocco	Turkey	Med. countries	Morocco	Turkey	Med. countries	Morocco	Turkey	Med. countries	Rest of World
Cereals	3696.06	529.45	13782.97	6305.13	3544.93	27211.58	3696.98	529.51	13781.47	3948.57	612.98	15066.19	19501.97
				70.59%	569.55%	97.43%	0.02%	0.01%	-0.01%	6.83%	15.78%	9.31%	760.11%
Wheat	3494.21	62.90	12840.93	5706.11	3197.51	24213.33	3496.25	62.90	12839.83	3616.58	66.24	13544.57	11193.24%
				63.30%	4983.48%	88.56%	0.06%	0.00%	-0.01%	3.50%	5.31%	5.48%	257.86%
Oilseeds	1.16	177.07	10.51	3.66	335.3	30.46	1.17	177.1	10.5	1.36	184.31	10.64	15.26
				215.52%	89.36%	189.82%	0.86%	0.02%	-0.10%	17.24%	4.09%	1.24%	700.78%
Other arable field crops	12.64	1.35	465.85	54.18	1.83	1464.21	12.78	1.37	465.52	14.14	1.6	495.84	1510.44
				328.64%	35.56%	214.31%	1.11%	1.48%	-0.07%	11.87%	18.52%	6.44%	1045.80%
Pulses	12.06	0.07	462.97	51.62	0.16	1406.41	12.18	0.07	462.63	13.22	0.09	492.10	1405.32%
				328.03%	128.57%	203.78%	1.00%	0.00%	-0.07%	9.62%	28.57%	6.29%	177.63%
Vegetables and Permanent crops	228.77	10.66	757.96	316.38	12.03	2458.45	270.74	10.66	762.9	242.62	11	805.91	47925.93
				38.30%	12.85%	224.35%	18.35%	0.00%	0.65%	6.05%	3.19%	6.33%	146.01%
Meat	1.35	1.87	27.54	1.09	1.45	11.19	1.38	1.87	27.53	1.04	1.83	40.37	1628.43
				-19.26%	-22.46%	-59.37%	2.22%	0.00%	-0.04%	-22.96%	-2.14%	46.59%	178.90%
Other Animal products	0.08	0.2	0.93	0.39	1.26	6.43	0.09	0.2	0.93	0.14	0.43	1.24	56.67
				387.50%	530.00%	591.40%	12.50%	0.00%	0.00%	75.00%	115.00%	33.33%	375.08%
Dairy products	26.76	20.21	238.2	26.01	7.41	262.04	30.15	19.88	240.95	21.46	8.4	263.33	1859.49
				-2.80%	-63.33%	10.01%	12.67%	-1.63%	1.15%	-19.81%	-58.44%	10.55%	649.83%
Oils	89.33	28.84	221.45	188.6	99.47	248.25	89.62	28.85	221.41	98.99	28.36	220.98	1943.48
				111.13%	244.90%	12.10%	0.32%	0.03%	-0.02%	10.81%	-1.66%	-0.21%	557.62%
Oil cakes	1.99	1.24	1178.33	10.81	1.31	1207.89	1.97	1.24	1178.45	2.45	1.39	1206.71	56.98
				443.22%	5.65%	2.51%	-1.01%	0.00%	0.01%	23.12%	12.10%	2.41%	224.58%

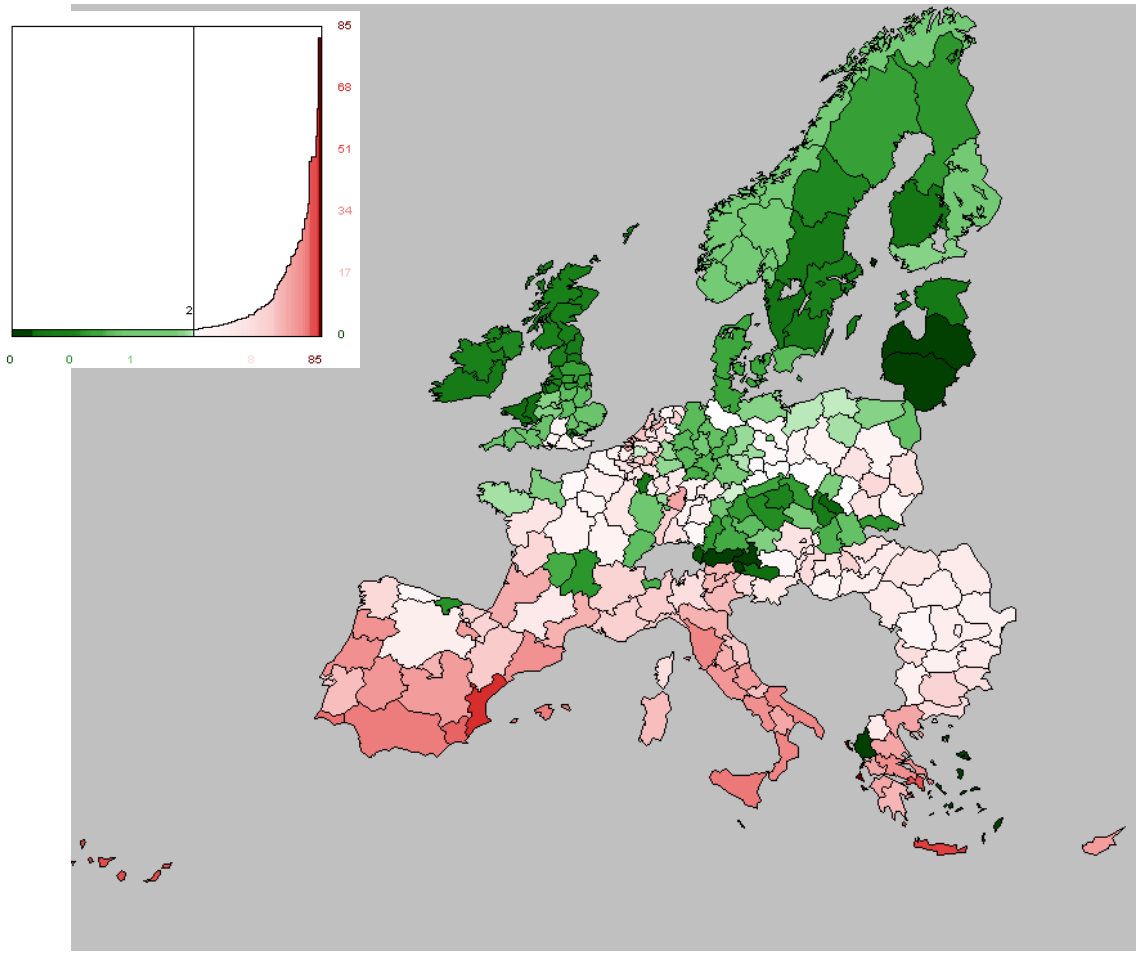
Source: CAPRI modelling system

[10] only selected sub items are presented

3.4 Regional impacts on farm income

The product group vegetables and permanent crops is the most interesting with respect to this study. Therefore we focus on the regional impacts of these products. For a better orientation one can depict from Figure 3.1 how important vegetables and permanent crops are in the different NUTS II regions of the EU25. The share of those products in the regional land allocation ranges from 0% (dark green shaded) to 85% (dark red). It becomes apparent, that vegetables and permanent crops are of a higher importance in the southernmost regions of Europe, while they do not play a considerable role in the north and the middle of Europe. Consequently, the analysed scenarios tend to have lower effects with respect to regional farm income in the northern regions. Exemplarily for the development in the southern regions, we concentrate the regional impact analysis on Spain and Italy.

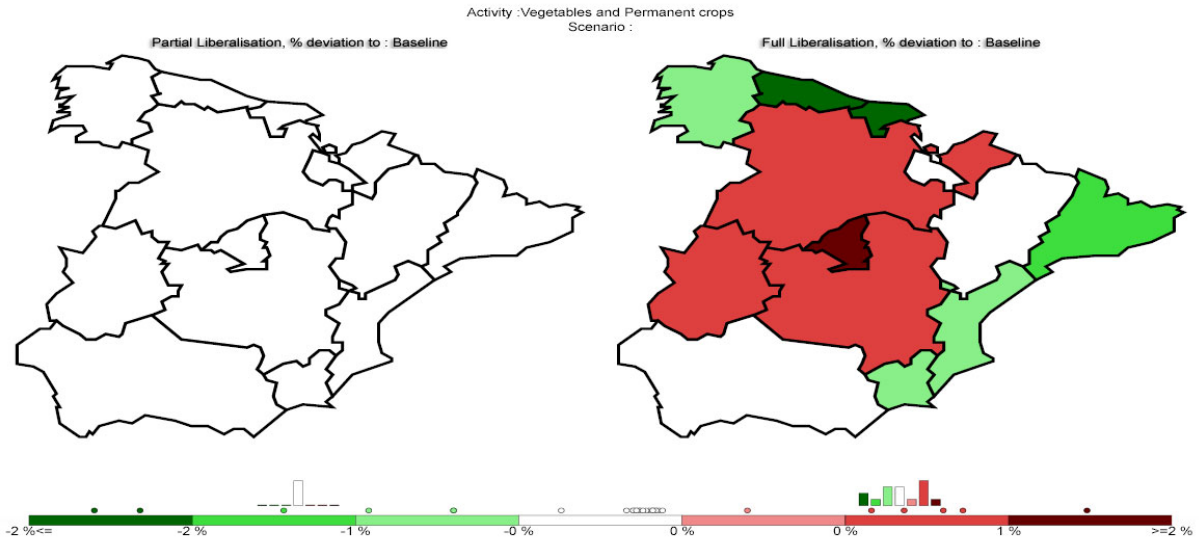
Figure 3.1 Relative activity levels of Vegetables and permanent crops in total agricultural area (Baseline)



3.4.1 Spanish regions

In Figure 3.2 on the left hand side the partial liberalisation scenario appears to have no considerable income effect on the Spanish regions. The Full EU-Med liberalisation scenario, on the right hand side, shows a more heterogeneous picture. In the green shaded regions an income drop occurs, while the red regions stand for an income increase.

Figure 3.2 Relative change of total regional income from cultivating vegetables and permanent crops in partial and full liberalisation scenarios



The relative income changes in the full liberalisation scenario can be explained through the development of two products of the aggregate vegetables and permanent crops, namely tomatoes and citrus fruits. The latter, as visible in Figure 3.3, are connected with income reductions between -4% and -6%. On the other hand, the income of tomato production is increasing in all Spanish regions (compare Figure 3.4). Both effects result from price changes. The tomato price increases due to expanded export possibilities, which also results in an increasing of the tomato production (compare Table 3). On the other hand, prices for citrus fruits are going down because imports substitute for domestic production. The aggregated effect for the vegetables and permanent crops on regional income depends therefore mainly on the compensation degree between these two products.

Figure 3.3 Relative change of total regional income from cultivating citrus fruits in partial and full liberalisation scenarios

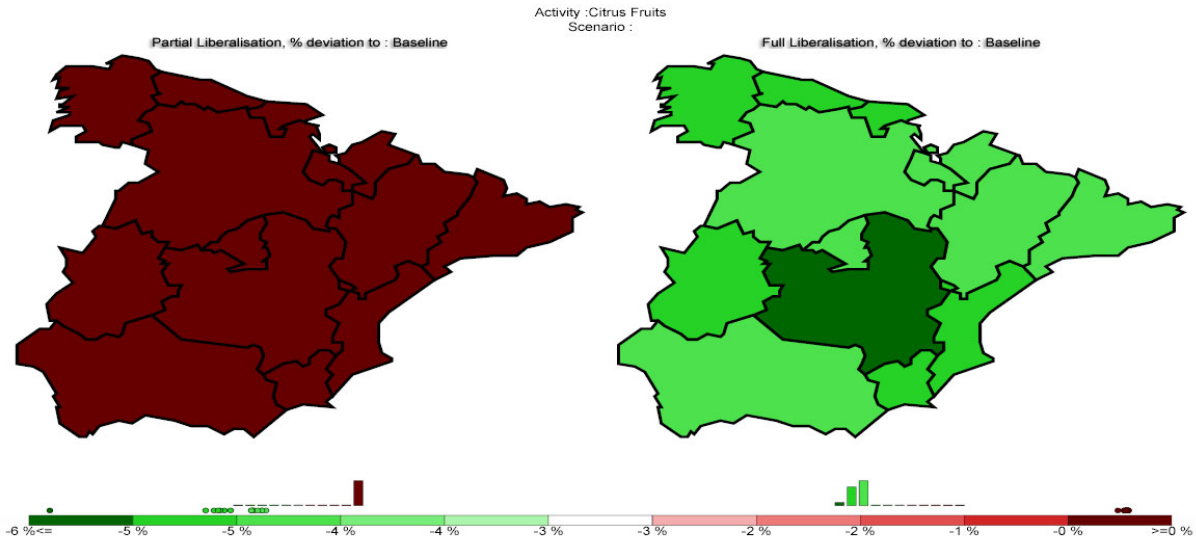
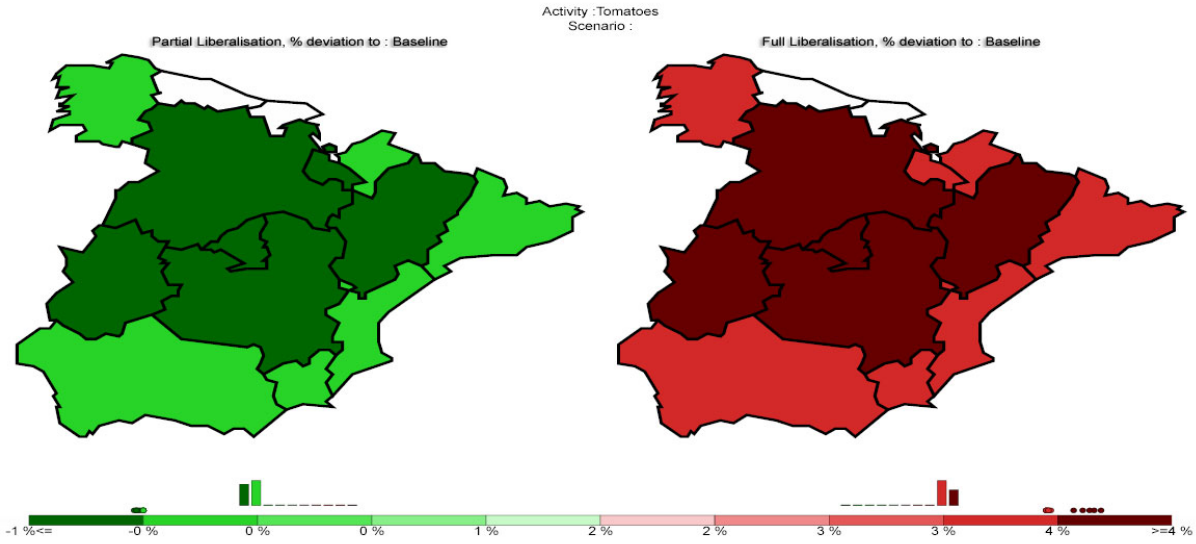


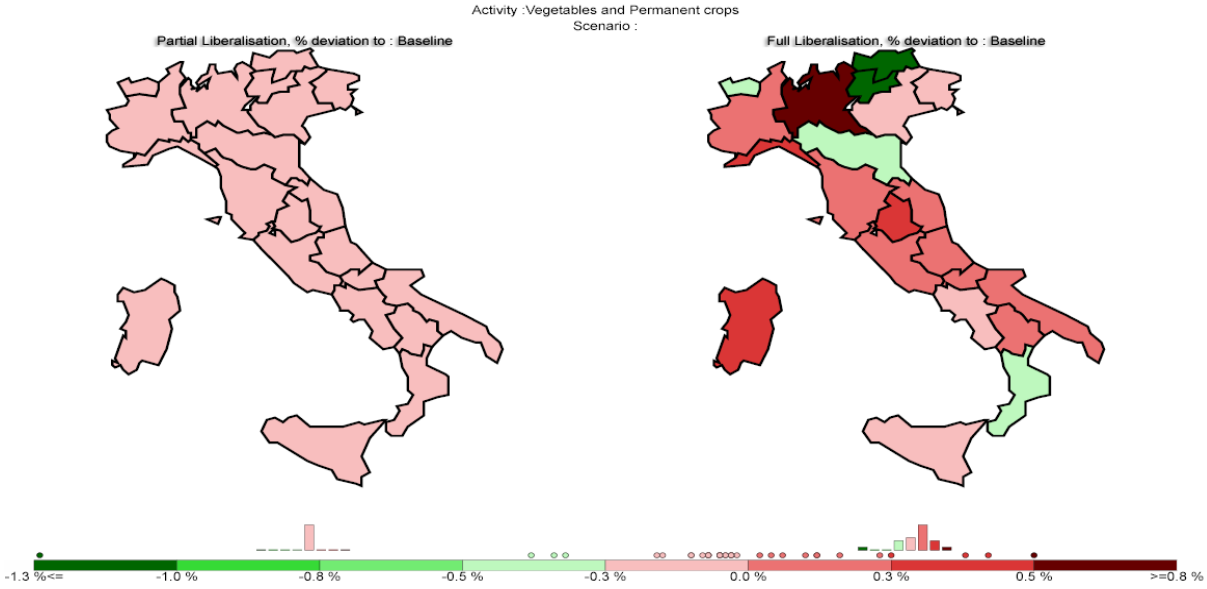
Figure 3.4 Relative change of total regional income from cultivating tomatoes in partial and full liberalisation scenarios



3.4.2 Italian regions

The impacts described for Spanish regions hold for Italian ones as well, as product prices changes, which drive the supply response, have an equal effect (in relative terms) across all EU countries in CAPRI. Consequently the picture for the vegetables and permanent crop aggregate given on the right hand side of Figure 3.5 is very heterogeneous again. Most regions show income increases, but there are some where income decreases. The spread of relative income changes is, however, very small (-1.3% - 0.8%).

Figure 3.5 Relative change of total regional income from cultivating vegetables and permanent crops in partial and full liberalisation scenarios



Similar to Spain, this development is mainly driven by the results of different responses in citrus fruit and tomato production (Figure 3.6 and Figure 3.7). While income from tomato production increases in all Italian regions by more than 2%, citrus fruit income decreases by more than 4%. The compensation degree between these two effects depends naturally on the importance of the two cropping activities in the respective regions.

Figure 3.6 Relative change of total regional income from cultivating citrus fruits in partial and full liberalisation scenarios

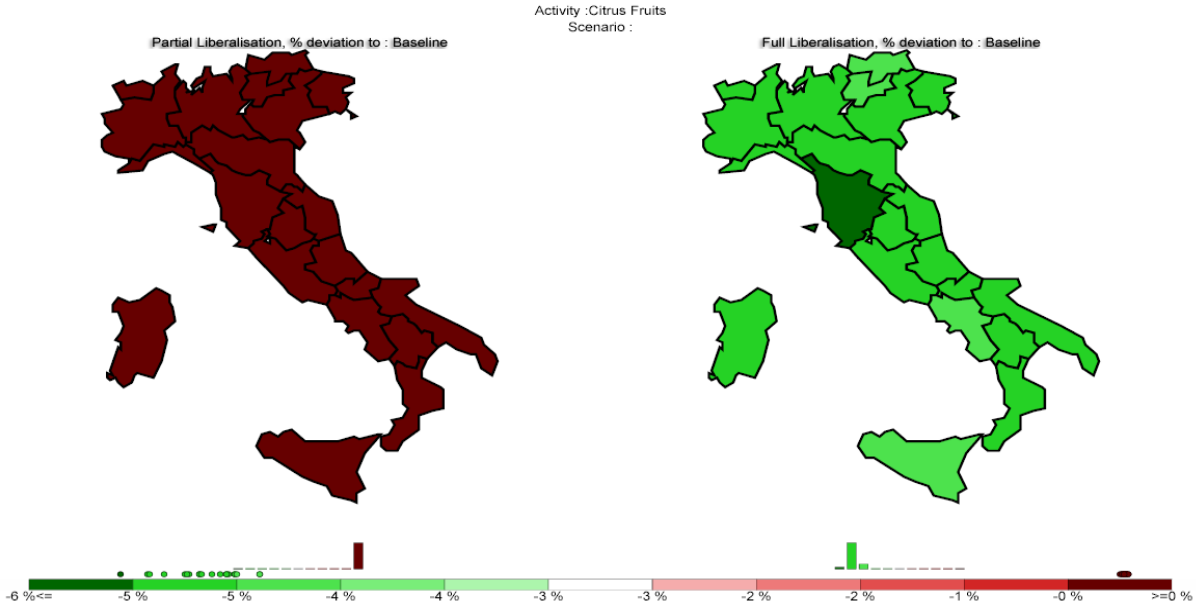
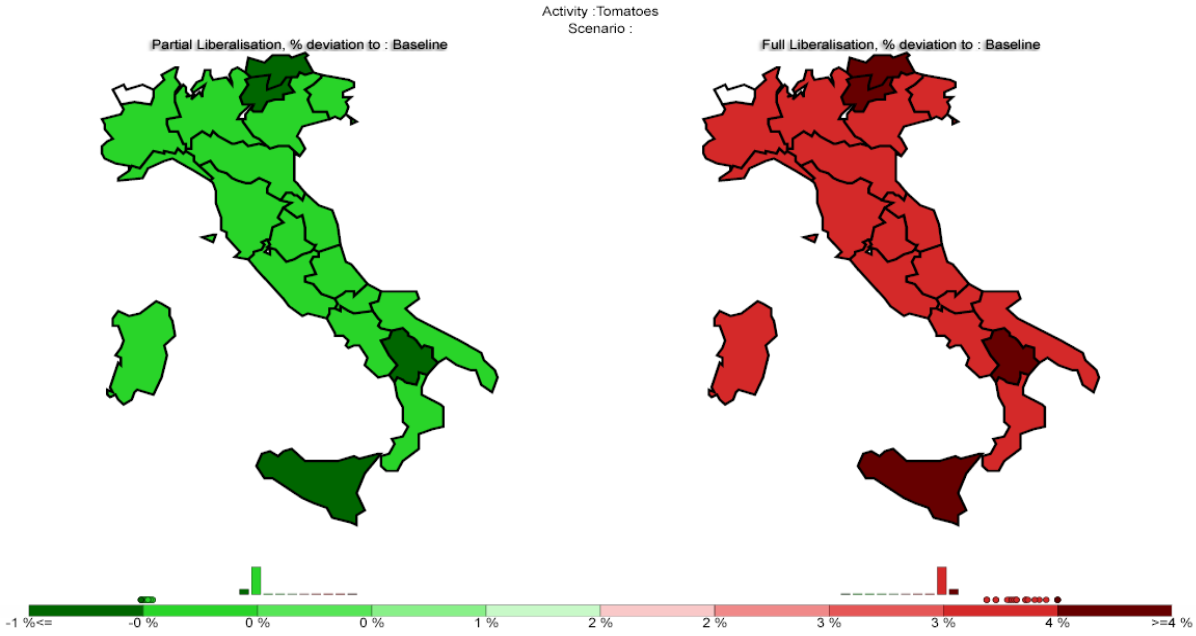
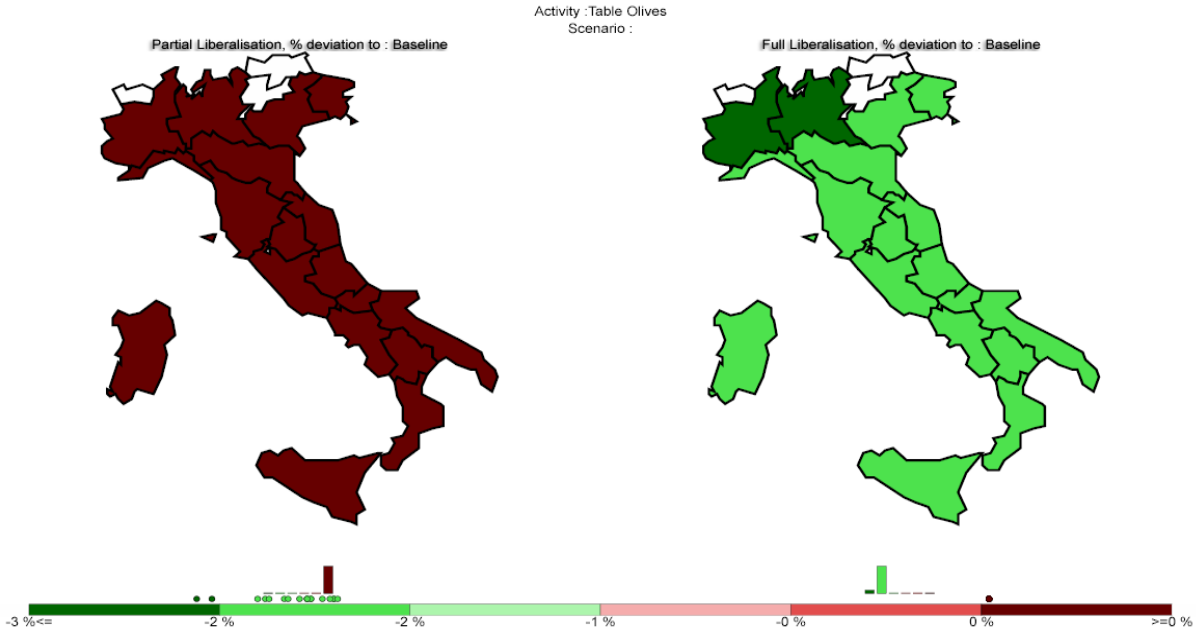


Figure 3.7 Relative change of total regional income from cultivating tomatoes in partial and full liberalisation scenarios



Additionally we find in Italy a mentionable reduction in income from table olive production (Figure 3.8). It ranges around -2%. This also results from a price drop in the olive sector as visible in Table 3.

Figure 3.8 Relative change of total regional income from cultivating Table Olives in partial and full liberalisation scenarios



3.5 Welfare and Budget Effects in the EU

An overview on the welfare effects for the EU25 is given in Table 11.

Full EU-MED liberalisation. Under the scenario, total welfare increases slightly by 0.01% or over 1 Bn €[11]. Consumer welfare decreases by -0.01% or 495.8 Mn € which can be explained by generally higher prices for agricultural commodities. For the same reason, agricultural income increases by nearly 1% or 1.7 Bn €. As expected, tariff revenues decrease by -0.93% or 89.9 Mn €. The outlays for the common agricultural policy decrease by -0.1% or 42.8 Mn € because export subsidies, mainly for cereals and meat, can be reduced and the overall expenditure for premiums can be reduced because beef meat activities that still receive partially coupled premiums in some member states, are reduced.

Partial EU-MED liberalisation. Welfare changes are very small under this scenario. Total welfare in the EU decreases slightly by 38.4 Mn €, however, this change is close to zero in percentage terms. Consumers gain from slightly reduced prices for some commodities under the partial trade liberalisation (37.6 Mn €), but as in the case of total welfare, in percentage terms this is close to zero. The agricultural income decreases by 64 Mn € or -0.03% due to the overall price changes. The development of tariff revenues and the FEOGA budget follow the same direction with decreases of 21.5 Mn € (-0.22%) and 1.14 Mn €, respectively. The lower expenditure for the FEOGA budget can be explained by lower export subsidies and reduced intervention stock costs for meat and cereals.

Partial EU-MED + WTO G20. If the partial liberalisation between the EU and the Mediterranean countries is complemented by an agreement on WTO level the largest increase of total welfare is observed: It increases by 9.1 Bn € or 0.1%. Under this scenario, consumers experience the largest welfare gains from reduced prices for important agricultural products as cereals and meat that are not offset by the increased prices for e.g. fruits and vegetables and oilseed. The benefit to consumers amount to 20.5 Bn € or 0.23%. The developments in total welfare and consumer welfare stand in contrast to the development of agricultural income in the EU25, which decreases by over 15 Bn € or 8.1% due to reduced prices. The multilateral trade liberalisation has a strong effect on the EU's tariff revenue. They decrease by 4.8 Bn €, which correspond to a decrease of nearly -50%. The outlays for the CAP increase under this scenario by 741.8 Bn € or 1.75%, because the savings from the eliminated export subsidies do

[11] A billion is here 10^9

not compensate the increase of other positions as the expenses for intervention purchases for cereals, meat and dairy products.

Table 11: Welfare Effects [12]

Region : European Union 25	Baseline	Full EU-MED Liberalisation	Partial EU-MED Liberalisation	Partial EU-MED + WTO G20
Year : 2013	absolute values and percentage differences to Baseline			
Welfare Mn €				
Total	8896934.15	8897999.18	8896895.77	8906067.72
absolute difference	0	1065.03	-38.38	9133.57
percentage difference	0.00%	0.01%	0.00%	0.10%
Money metric	9003856.39	9003361.21	9003894.03	9024377.85
absolute difference	0	-495.18	37.64	20521.46
percentage difference	0.00%	-0.01%	0.00%	0.23%
Agricultural income	186814.54	188521.58	186749.61	171704.27
absolute difference	0	1707.04	-64.93	-15110.27
percentage difference	0.00%	0.91%	-0.03%	-8.09%
Tariff revenues	9664	9574.39	9642.54	4852.82
absolute difference	0	-89.61	-21.46	-4811.18
percentage difference	0.00%	-0.93%	-0.22%	-49.78%
FEOGA budget outlays first pillar	42432.38	42389.55	42431.24	43174.21
absolute difference	0	-42.83	-1.14	741.83
percentage difference	0.00%	-0.10%	0.00%	1.75%

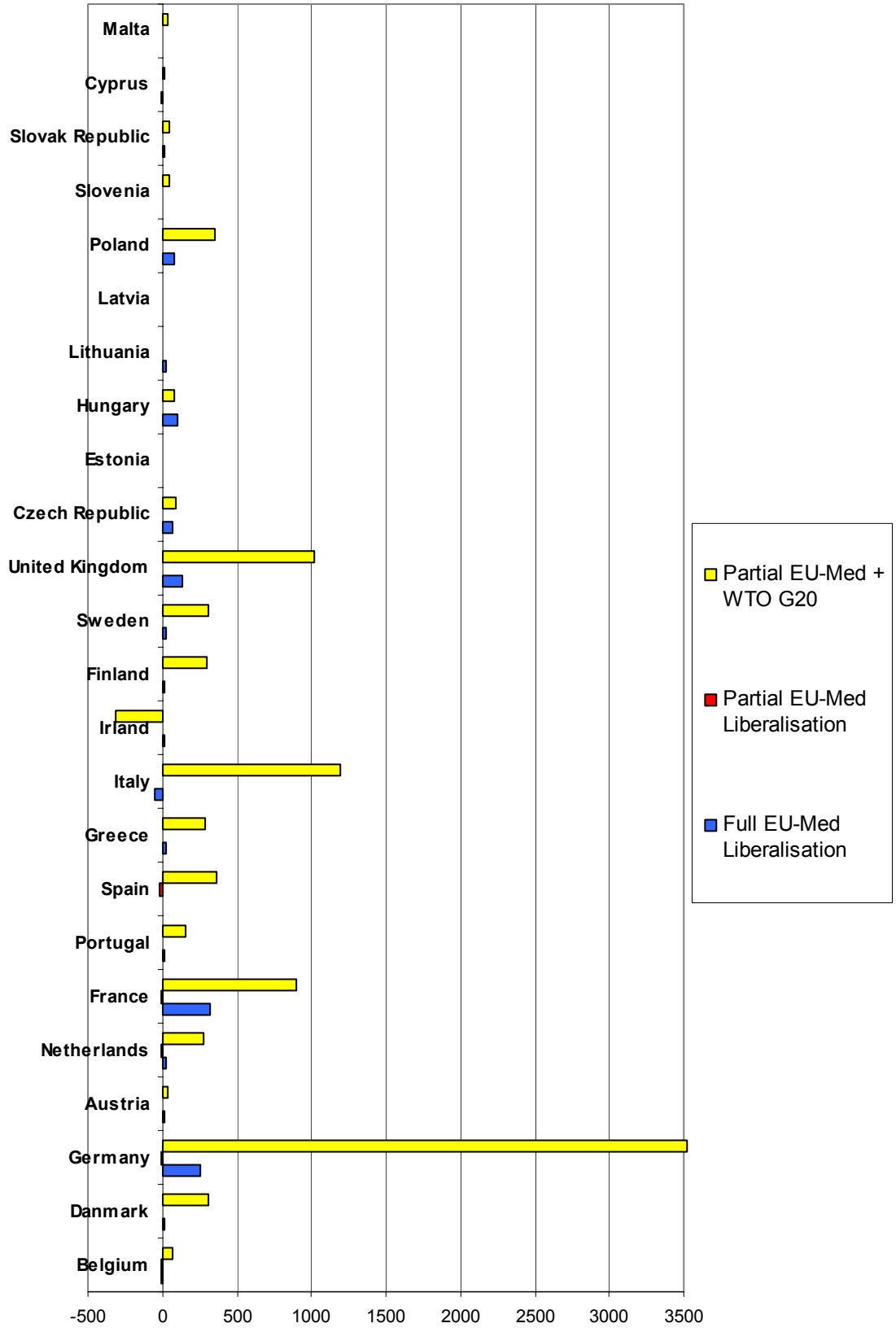
Source: CAPRI Modelling System

3.5.1 Welfare Effects in the EU

For a more differentiated view of the changes in the welfare effects in the EU25, the EU25 has been split up in its individual Member States in Figure 9. Secondly only the absolute differences according to the Baseline are presented as the percentage changes would not show any noticeable changes. Therefore a clear picture of the specific scenarios is attained through this delineation.

[12] Only selected sub items are presented

Figure 9: Total Welfare changes in the individual Member States (Mn €)



Source: CAPRI Modelling System

Comparing the three scenarios at a Member State level the welfare effect becomes clear in more depth.

Even though the welfare increases overall in a *Full EU-Med liberalisation* only a few Member states like Germany (252.24 Mn €), France (323.6 Mn €), United Kingdom (132.09 Mn €), the Czech Republic (63.19 Mn €), Hungary (99.86 Mn €) and Poland (74.11 Mn €) obtain a noticeable surplus in their welfare. Accept for Italy who as a loss in their total welfare of -49.79 Mn € all other Member States have no distinguishable change.

Regarding the *Partial EU-Med liberalisation* again the small impact on the EU becomes apparent. All Member States have no regarding changes in their welfare. This explains the slight change in the overall welfare of the EU25. Spain is the only Member State where the welfare decreases by -14.72 Mn €. Its losses appearing from the definition of the scenario in the agricultural income cannot be compensated by the gains of the consumer.

The *Partial EU-Med Liberalisation combined with the WTO G20 proposal* leads to an increase in the welfare of nearly all Member States. Through the scenario definition the gains of the consumer are high enough to compensate the losses in the agricultural income. The only exception is Ireland. Here the total welfare drops by-310.89 Mn €. This reaction appears as the losses in the agricultural income cannot be compensated through the gains of the consumer. Secondly, Germany shows a high increase in their welfare because of the processing sector. This is likely to result from an overestimation of processing possibilities in Germany.

3.5.2 Budget Effects in different product sectors

The FEOGA payments decline in the *Full* and *Partial EU-Med liberalisation* but increases in the *WTO G20 scenario*. To identify the reasons for these different developments it is useful to split the payments up into the different product sectors.

Table 12: FEOGA payments[13]

Region: EU25	**Full EU-Med Liberalisation**						**Partial EU-Med Liberalisation**						**Partial EU-Med + WTO G20**					
Year: 2013	FEOGA budget outlays	Premiums	Export subsidies outlays	Intervention stock costs	Processing aid	Consum. Aid	FEOGA budget outlays	Premiums	Export subsidies outlays	Intervention stock costs	Processing aid	Consum. aid	FEOGA budget outlays	Premiums	Export subsidies outlays	Intervention stock costs	Processi ng aid	Consum. aid
M €	Absolute differences to Baseline						Absolute differences to Baseline						Absolute differences to Baseline					
Cereals	20.91	56.42	-38.1	2.61	0	0	0.26	0.15	0.06	0.05	0	0	-57.34	25.78	-101.46	18.34	0	0
Oilseeds	-33.88	-33.88	0	0	0	0	0.04	0.04	0	0	0	0	37.79	37.79	0	0	0	0
Other arable field crops	8.45	8.45	0	0	0	0	-0.07	-0.07	0	0	0	0	-19.84	-19.84	0	0	0	0
Vegetables and Permanent crops	-3.99	-3.99	0	0	0	0	-0.02	-0.02	0	0	0	0	4.25	4.25	0	0	0	0
All other crops	-0.27	-0.27	0	0	0	0	0	0	0	0	0	0	1.05	1.05	0	0	0	0
Fodder	-34.49	-34.49	0	0	0	0	0.02	0.02	0	0	0	0	-42.07	-42.07	0	0	0	0
Meat	-9.39	-0.94	-8.1	-0.36	0	0	0.22	0	0.2	0.01	0	0	2166.3	-13.51	-389.03	2568.8	0	0
Other Animal products	-0.51	-0.51	0	0	0	0	0	0	0	0	0	0	-13.26	-13.26	0	0	0	0
Young animals	-7.87	-7.87	0	0	0	0	-0.01	-0.01	0	0	0	0	-88.7	-88.7	0	0	0	0
Dairy products	18.09	0	12.25	7.72	0	-1.88	-1.44	0	-1.16	-0.3	0	0.02	-783.1	0	-822.48	26.66	0	12.77

Source: CAPRI Modelling System

[13] only selected sub items are presented

Regarding the *Full EU-Med liberalisation* the overall decline of the FEOGA payments in the EU 25 declines by -42.83 Mn €. Looking at the product groups in detail mainly oilseeds (-33.88 Mn €) and fodder (-34.49 Mn €) have a reduction in the FEOGA budget outlays. This results in both cases from a reduction of premium payments due to reduced land allocations for both products. Land devoted to those two activities in the Baseline is now reallocated to mainly cereals so that premium expenditures for cereals increase. Vegetables and permanent crops' payments go down as a result of the scenario definition which makes it more attractive to import vegetables and permanent crops than to produce them. The only products that experience an increase in their FEOGA payments are cereals (20.91 Mn €) and dairy products (18.09 Mn €). The prices increase and hence the incentive to raise the production is given.

As mentioned before also the FEOGA budget outlays do not change significantly in the *Partial EU-Med liberalisation*. Only for dairy products the payments decrease by -1.44 Mn € mainly resulting from a drop in the export subsidies outlays. All other product groups remain nearly the same.

The absolute differences compared to the Baseline are positive which means that the FEOGA payments increase in the *Partial EU-Med liberalisation + WTO G20 proposal* scenario. This occurs through the high increase of meat FEOGA payments (2166.3 Mn €) which are mainly intervention stock costs. These appear as the price for meet drops (Table 3) wherefore the intervention stocks are filled.[14] The high reductions in FEAOGA payments for cereals (-57.34 Mn €) and dairy products (-783.1 Mn €) are caused through omission of the export subsidy payments according to the scenario definition. Through increasing premium payments the FEOGA budgets outlays rise for oilseeds (37.79 Mn €), vegetables and permanent crops (4.25 Mn €) and other arable crops (1.05 Mn €).

[14] This effect might be overestimated by the model.

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