

# Memorandum: changes between successive versions of MacMap HS6

This file lists all modifications and changes in the MacMap HS6 and MacMap for GTAP releases.

## 1 From HS6v1 to HS6v1.1 and from MacMap for GTAP pre-release 4 to pre-release 5

Starting from the dataset released in August 2004, several improvements have been made and lead us to provide a new version of MacMap.

### 1.1 Illustrative figures

**Table 1 Differences in average protection by country between MacMapHS6v1 and v1.1 (Protection by country for all products - Ref. grp. weighting scheme)**

	Dif_UT_SPE	Dif_UT_ADV	Dif_AVE
<b>Australia</b>	0.06%	0.00%	0.06%
<b>Bahrain</b>	0.00%	0.00%	0.00%
<b>Bulgaria</b>	0.00%	0.02%	0.02%
<b>Canada</b>	0.00%	0.00%	0.00%
<b>China</b>	0.00%	0.05%	0.05%
<b>European Union</b>	0.10%	0.00%	0.09%
<b>Hungary</b>	0.00%	0.00%	0.00%
<b>Iceland</b>	0.00%	0.00%	0.00%
<b>Israel</b>	-0.07%	0.14%	0.07%
<b>Japan</b>	0.24%	-0.06%	0.17%
<b>Korea</b>	0.00%	0.45%	0.45%
<b>Norway</b>	0.00%	0.00%	0.00%
<b>Pakistan</b>	0.00%	0.05%	0.05%
<b>Philippines</b>	0.00%	0.00%	0.00%
<b>Poland</b>	0.00%	0.00%	0.00%
<b>Qatar</b>	0.00%	0.00%	0.00%
<b>Rwanda</b>	0.00%	-0.01%	-0.01%
<b>South africa</b>	0.00%	0.00%	0.00%
<b>Switzerland</b>	0.19%	0.00%	0.19%
<b>Taiwan</b>	-0.02%	-0.02%	-0.03%
<b>United states of america</b>	0.08%	-0.01%	0.07%

Note: the figures refer to differences in tariffs. "UT" is for utilized (*i.e.* the AVE tariffs used in the database), "SPE" refers to specific component of the tariff, "ADV" to the ad-valorem component. Only the countries affected by a change (but all of them) are reported.

**Table 2 Stronger variations for agricultural products (Protection by country -Ref. grp. weighting scheme)**

	Dif_UT_SPE	Dif_UT_ADV	Dif_AVE
Korea	0.00%	6.28%	6.28%
Switzerland	2.74%	0.00%	2.74%
Japan	3.18%	-0.84%	2.34%
United kingdom	2.33%	0.01%	2.33%
Austria	1.73%	-0.06%	1.67%
United states of america	1.17%	-0.20%	0.96%
<b>World</b>	<b>0.83%</b>	<b>0.08%</b>	<b>0.91%</b>
Australia	0.51%	0.00%	0.51%
Taiwan	-0.25%	-0.23%	-0.48%

Note: the figures refer to differences in tariffs. "UT" is for utilised (*i.e.* the AVE tariffs used in the database), "SPE" refers to specific component of the tariff, "ADV" to the ad-valorem component.

**Table 3 Most important sectoral (GTAP nomenclature) changes for US and EU**

Sector	Prerelease 3 *		Prerelease 4**				Prerelease 5**			
	Ref. Grp		Trade Wei.		Ref. Grp		Trade Wei.		Ref. Grp	
	France	US	France	US	France	US	France	US	France	US
gro	1.1	0.1	1	0.01	2.23	1.00	4.27	0.01	23.72	1.05
mil	39.6	17	33.39	7.99	31.00	9.60	39.38	15.89	39.47	18.78
ocr	1.6	7.5	1.7	2.27	2.61	2.29	1.16	2.10	2.26	2.68
sgr	115.2	27.4	67	2.55	127.00	19.00	88.49	27.80	126.94	38.87

\* Aggregated tariff computed with GTAPAgg

\*\* Aggregated tariff computed with the MacMap trade database

Note: With the Ref.Group weighting scheme Tariff of France = Tariff of European Union

## 1.2 The US protection

Thanks to Marinos Tsigas (USITC), the MacMap figures for US protection have been reviewed in details. For several sectors (of which sugar, dairy products) the US ad valorem equivalent tariff provided by MacMapHS6v1 and included in the GTAP prerelease 4 was underestimated. The central issue was the treatment of allocated Tariff Rate Quotas (TRQs). For a better understanding the current methodology (as described in the MacMap technical note <http://www.cepii.fr/anglaisgraph/bdd/macmap/method.pdf>) is the following.

The applied tariff for a product under a TRQ is the relevant marginal (or shadow) rate.

The shadow tariff is defined as the *ad valorem* tariff that would lead to the same level of imports as is observed under the tariff rate quota. Three market **regimes** are defined:

0 – If the fill rate is less than 90%, the inside quota tariff rate is chosen as the shadow rate.

1 – In the (90,99%) range, a simple arithmetic average is used (except when expert's advice is available).

2 – If it is higher than 99%, the quota is assumed to be binding and the shadow rate is equal to the outside quota tariff rate (OQTR).

In the case of missing data about the quota level and/or its fill rate, regime 2 is assumed.

The fill rate used here was computed on a global basis since we have no access to bilateral filling rate data.

For allocated quota, the relevant regime should be 1 or 2 even if the global rate is far bellow 100%, as soon as the quota is binding for one of the partner country.

Especially, for the US sugar and dairy products case, the current methodology leads to take the inside rate (regime 0) too often.

In order to fix this problem, a solution was provided. Our approach aims at:

- being simple and transparent

- being based on a close examination of the effective filling rate of the quotas and their distribution
- preserving the integrity of the database.

So, using US-ITC data, a specific solution was tailored for the US quotas based on a case by case methodology and leads to the reclassification of several TRQs (5 for dairy products and 1 for sugar) from regime 0 to regime 1 or 2.

This treatment increases the US protection and gives more realistic figures (see Table 3).

### **1.3 Tariff Rate Quotas improvements**

The previous examination reveals a few elements that have to be taking into account.

- Several TRQs were considered previously as multilateral, new information and narrow the number of countries granted by this preferential access. This leads to increase the protection of several countries (Switzerland...).
- Previously, the consistency of the hierarchy between a specific inside tariff and an ad valorem outside rate (or the reverse case) was checked by using world unit values. In some cases, the use of reference group unit value for computing the AVE of the specific component leads to break this hierarchy. A condition was implemented in order to cap the AVE of the inside rate at the outside level.

### **1.4 The European protection on cereals**

A final correction was applied to European protection on cereals due to some missing information in source files. This led to a strong increase of European Union protection in these sectors (see Table 3).

### **1.5 The Korean Rice**

The Korean rice is currently under an TRQ with an inside rate of 5% and a prohibition of imports outside the quota size.

The actual protection included in the previous version was 5% but it was decided to increase this level to 1,000% in order to reflect the distorsive impact of this prohibition.

Nevertheless, this quota is managed by a state agency and under a monopsony power assumption, it is not assumed to create any rent for the exporter.

### **1.6 GTAP aggregation: Countries relations with no weight**

In order to fill the missing relationships between some partners (no bilateral trade) or in the case of a country not exporting a given good to a specific reference group (no reference group weights), an alternative procedure was designed in order to provide robust figures. Indeed, it was inefficient to waste time and computational resources for irrelevant tariffs. It is based on a simple average if a country exports a given product to any part of the world. Otherwise, we have chosen a computational approach (using the importer's average protection rate applied to the exporting country and its average protection rate of the specific GTAP sector).

**Table 4 Details of changes - GTAP aggregation – Prerelease 4 to 5**

Country	Sector	AVE_TW_5	AVE_TW_4	AVE_RG_5	AVE_RG_4	DIF_TW	DIF_RG
aus	b_t	9.23%	6.72%	11.53%	7.85%	2.51%	3.69%
aut	cmt	63.05%	45.79%	63.92%	67.70%	17.26%	-3.78%
aut	gro	14.94%	1.40%	23.79%	2.32%	13.53%	21.46%
aut	mil	30.33%	25.54%	39.49%	31.88%	4.79%	7.61%
aut	pcr	104.77%	18.33%	139.12%	3.93%	86.44%	135.19%
aut	pdr	77.20%	17.57%	62.98%	4.84%	59.63%	58.13%
aut	wht	0.84%	0.00%	0.53%	0.00%	0.84%	0.53%
bel	gro	16.13%	3.49%	23.79%	2.32%	12.64%	21.46%
bel	mil	50.28%	44.79%	39.49%	31.88%	5.49%	7.61%
bel	pcr	100.56%	28.74%	139.12%	3.93%	71.81%	135.19%
bel	pdr	54.96%	0.11%	62.98%	4.84%	54.85%	58.13%
bgr	ofd	22.01%	23.09%	20.53%	21.09%	-1.08%	-0.56%
bgr	sgr	51.00%	32.52%	73.55%	65.98%	18.49%	7.57%
che	b_t	22.84%	12.92%	19.34%	15.06%	9.92%	4.28%
che	mil	25.31%	19.67%	84.21%	56.57%	5.64%	27.64%
che	omt	110.87%	110.29%	126.16%	122.23%	0.59%	3.92%
che	v_f	29.96%	28.29%	34.95%	33.96%	1.67%	0.98%
chn	omt	11.40%	3.98%	15.47%	10.55%	7.43%	4.92%
deu	cmt	38.64%	34.79%	63.92%	67.70%	3.85%	-3.78%
deu	gro	13.46%	4.16%	23.79%	2.32%	9.30%	21.46%
deu	mil	26.61%	19.39%	39.49%	31.88%	7.21%	7.61%
deu	pcr	126.40%	8.19%	139.12%	3.93%	118.21%	135.19%
deu	pdr	57.68%	0.98%	62.98%	4.84%	56.70%	58.13%
dnk	cmt	38.55%	36.18%	63.92%	67.70%	2.37%	-3.78%
dnk	gro	18.34%	2.46%	23.79%	2.32%	15.88%	21.46%
dnk	mil	53.33%	27.64%	39.49%	31.88%	25.69%	7.61%
dnk	pcr	164.25%	0.14%	139.12%	3.93%	164.10%	135.19%
dnk	pdr	48.25%	14.77%	62.98%	4.84%	33.48%	58.13%
esp	cmt	76.77%	75.36%	63.92%	67.70%	1.41%	-3.78%
esp	gro	22.60%	0.05%	23.79%	2.32%	22.55%	21.46%
esp	mil	36.40%	26.84%	39.49%	31.88%	9.56%	7.61%
esp	pcr	154.42%	7.84%	139.12%	3.93%	146.58%	135.19%
esp	pdr	85.22%	62.34%	62.98%	4.84%	22.88%	58.13%
fin	cmt	51.35%	40.05%	63.92%	67.70%	11.30%	-3.78%
fin	gro	16.37%	3.21%	23.79%	2.32%	13.16%	21.46%
fin	mil	25.87%	22.63%	39.49%	31.88%	3.24%	7.61%
fin	pcr	108.09%	26.93%	139.12%	3.93%	81.16%	135.19%
fin	pdr	68.87%	0.01%	62.98%	4.84%	68.86%	58.13%
fin	wht	1.20%	0.00%	0.53%	0.00%	1.20%	0.53%
fra	gro	4.28%	1.08%	23.79%	2.32%	3.20%	21.46%
fra	mil	39.47%	33.39%	39.49%	31.88%	6.07%	7.61%
fra	pcr	123.20%	14.57%	139.12%	3.93%	108.63%	135.19%
fra	pdr	65.09%	0.59%	62.98%	4.84%	64.50%	58.13%
fra	wht	0.77%	0.00%	0.53%	0.00%	0.77%	0.53%
gbr	cmt	31.66%	28.06%	56.45%	51.95%	3.60%	4.50%
gbr	gro	23.56%	1.94%	26.68%	2.32%	21.62%	24.35%
gbr	mil	44.49%	21.53%	38.97%	26.67%	22.96%	12.30%
gbr	pcr	106.47%	9.09%	139.12%	3.93%	97.38%	135.19%
gbr	pdr	54.05%	0.27%	62.98%	4.84%	53.77%	58.13%

Note: the figures refer to differences in tariffs. "UT" is for utilized (i.e. the AVE tariffs used in the database), "SPE" refers to specific component of the tariff, "ADV" to the ad-valorem component. TW refers to the trade weighted aggregation and RG to the reference group weighting scheme. 4 and 5 gives the prerelease version. Only the sectors affected by a change greater than 0.5% are reported.

(...)

Country	Sector	AVE_TW_5	AVE_TW_4	AVE_RG_5	AVE_RG_4	DIF_TW	DIF_RG
grc	cmt	34.55%	33.36%	63.92%	67.70%	1.19%	-3.78%
grc	gro	14.69%	0.24%	23.79%	2.32%	14.45%	21.46%
grc	mil	33.96%	29.52%	39.49%	31.88%	4.44%	7.61%
grc	pcr	135.06%	1.20%	139.12%	3.93%	133.85%	135.19%
grc	pdr	58.41%	0.00%	62.98%	4.84%	58.41%	58.13%
irl	cmt	106.55%	95.64%	63.92%	67.70%	10.91%	-3.78%
irl	gro	11.36%	0.24%	23.79%	2.32%	11.12%	21.46%
irl	mil	33.82%	30.36%	39.49%	31.88%	3.45%	7.61%
irl	pcr	100.36%	18.53%	139.12%	3.93%	81.83%	135.19%
irl	pdr	58.68%	47.86%	62.98%	4.84%	10.82%	58.13%
ita	cmt	67.69%	54.64%	63.92%	67.70%	13.05%	-3.78%
ita	gro	8.35%	0.76%	23.79%	2.32%	7.60%	21.46%
ita	mil	28.19%	23.33%	39.49%	31.88%	4.86%	7.61%
ita	pcr	144.25%	6.27%	139.12%	3.93%	137.99%	135.19%
ita	pdr	77.80%	22.94%	62.98%	4.84%	54.86%	58.13%
ita	wht	1.43%	0.00%	0.53%	0.00%	1.43%	0.53%
jpn	mil	54.38%	51.83%	85.59%	68.51%	2.55%	17.08%
jpn	ofd	9.86%	9.28%	16.37%	14.74%	0.57%	1.64%
jpn	v_f	13.78%	6.72%	12.65%	7.16%	7.06%	5.48%
kor	pcr	1000.00%	5.00%	1000.00%	5.00%	995.00%	995.00%
kor	pdr	1000.00%	5.00%	1000.00%	5.00%	995.00%	995.00%
lux	gro	10.30%	0.08%	23.79%	2.32%	10.22%	21.46%
lux	mil	28.91%	22.37%	39.49%	31.88%	6.54%	7.61%
lux	pcr	77.34%	59.27%	139.12%	3.93%	18.07%	135.19%
lux	pdr	64.06%	27.09%	62.98%	4.84%	36.97%	58.13%
nld	cmt	73.15%	62.53%	63.92%	67.70%	10.62%	-3.78%
nld	gro	14.72%	5.74%	23.79%	2.32%	8.97%	21.46%
nld	mil	40.41%	29.88%	39.49%	31.88%	10.53%	7.61%
nld	pcr	117.21%	18.68%	139.12%	3.93%	98.53%	135.19%
nld	pdr	52.03%	3.06%	62.98%	4.84%	48.97%	58.13%
nld	wht	0.88%	0.00%	0.53%	0.00%	0.88%	0.53%
phl	oap	11.90%	16.22%	5.59%	6.34%	-4.32%	-0.75%
prt	cmt	63.05%	57.59%	63.92%	67.70%	5.46%	-3.78%
prt	gro	26.25%	0.34%	23.79%	2.32%	25.92%	21.46%
prt	mil	30.42%	26.03%	39.49%	31.88%	4.39%	7.61%
prt	pcr	73.37%	11.59%	139.12%	3.93%	61.78%	135.19%
prt	pdr	31.76%	3.23%	62.98%	4.84%	28.54%	58.13%
prt	wht	0.57%	0.00%	0.53%	0.00%	0.57%	0.53%
swe	cmt	81.80%	73.98%	63.92%	67.70%	7.82%	-3.78%
swe	gro	24.13%	1.29%	23.79%	2.32%	22.84%	21.46%
swe	mil	27.18%	24.30%	39.49%	31.88%	2.87%	7.61%
swe	pcr	143.30%	4.29%	139.12%	3.93%	139.02%	135.19%
swe	pdr	55.25%	2.48%	62.98%	4.84%	52.77%	58.13%
twn	omt	38.66%	54.68%	47.76%	54.44%	-16.02%	-6.68%
usa	mil	15.89%	7.99%	18.78%	9.66%	7.90%	9.12%
usa	sgr	27.86%	2.55%	34.86%	19.34%	25.31%	15.52%

Note: the figures refer to differences in tariffs. "UT" is for utilized (i.e. the AVE tariffs used in the database), "SPE" refers to specific component of the tariff, "ADV" to the ad-valorem component. TW refers to the trade weighted aggregation and RG to the reference group weighting scheme. 4 and 5 gives the prerelease version. Only the sectors affected by a change greater than 0.5% are reported.