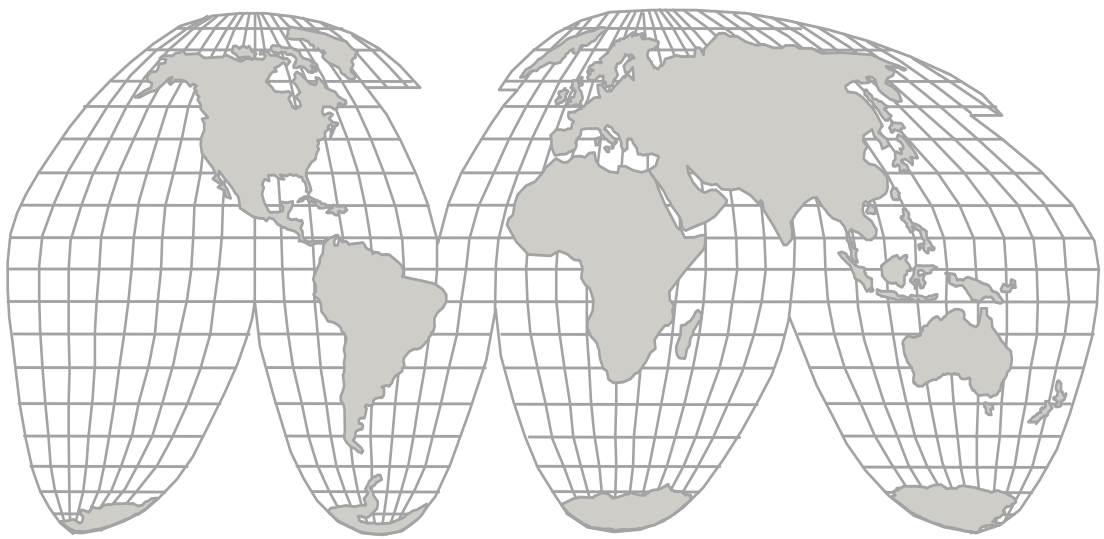
MARKET ACCESS MAPs FOR GTAP:

A BILATERAL MEASURE

OF MERCHANDISE TRADE PROTECTION



Taipei, June 2002

Motivation

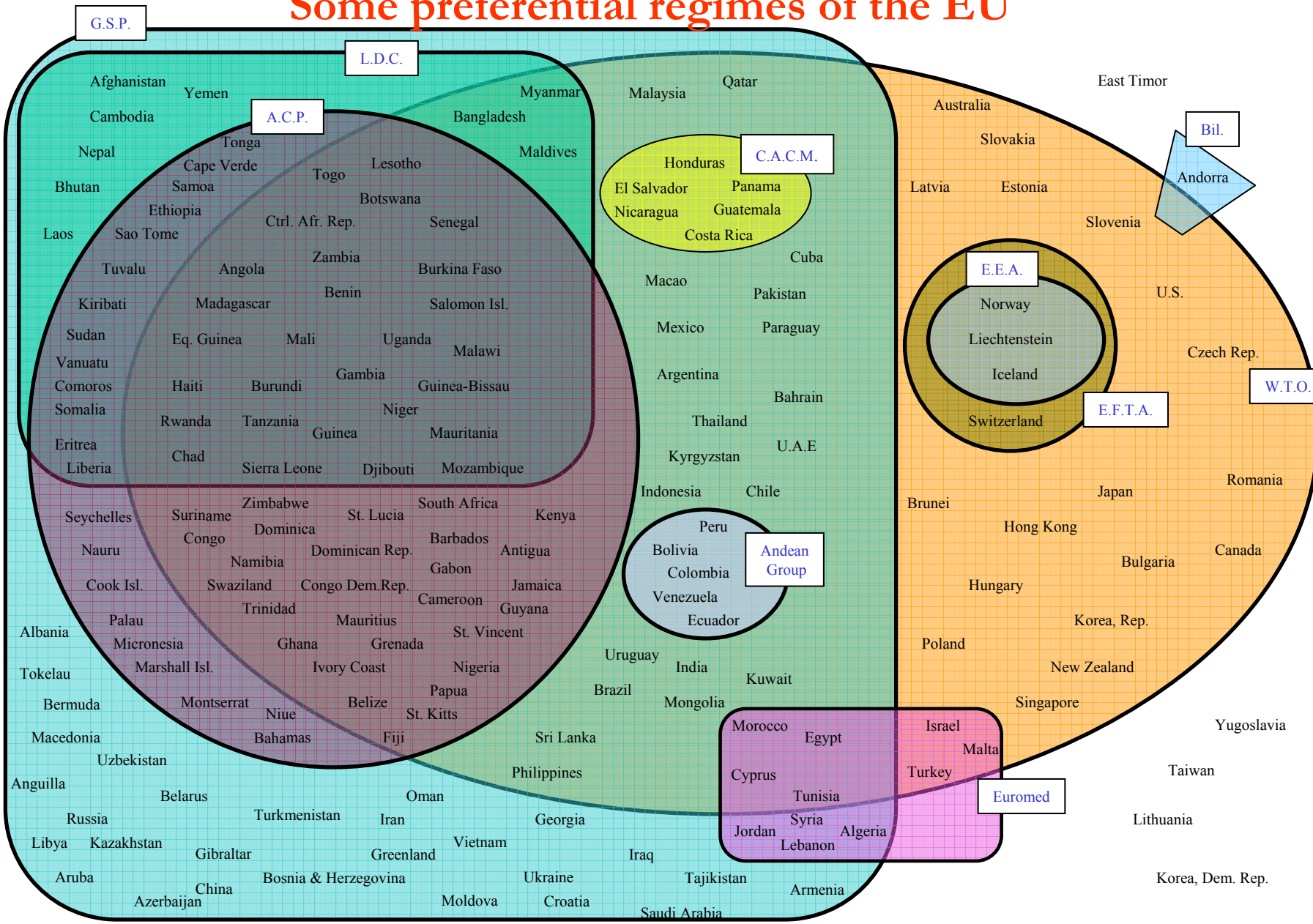
→ Regional groups and trade preferences have multiplied in a context of multilateral tariff dismantling;

→ Other trade barriers (tariff quotas, specific tariffs, antidumping, etc) are increasingly being enforced;

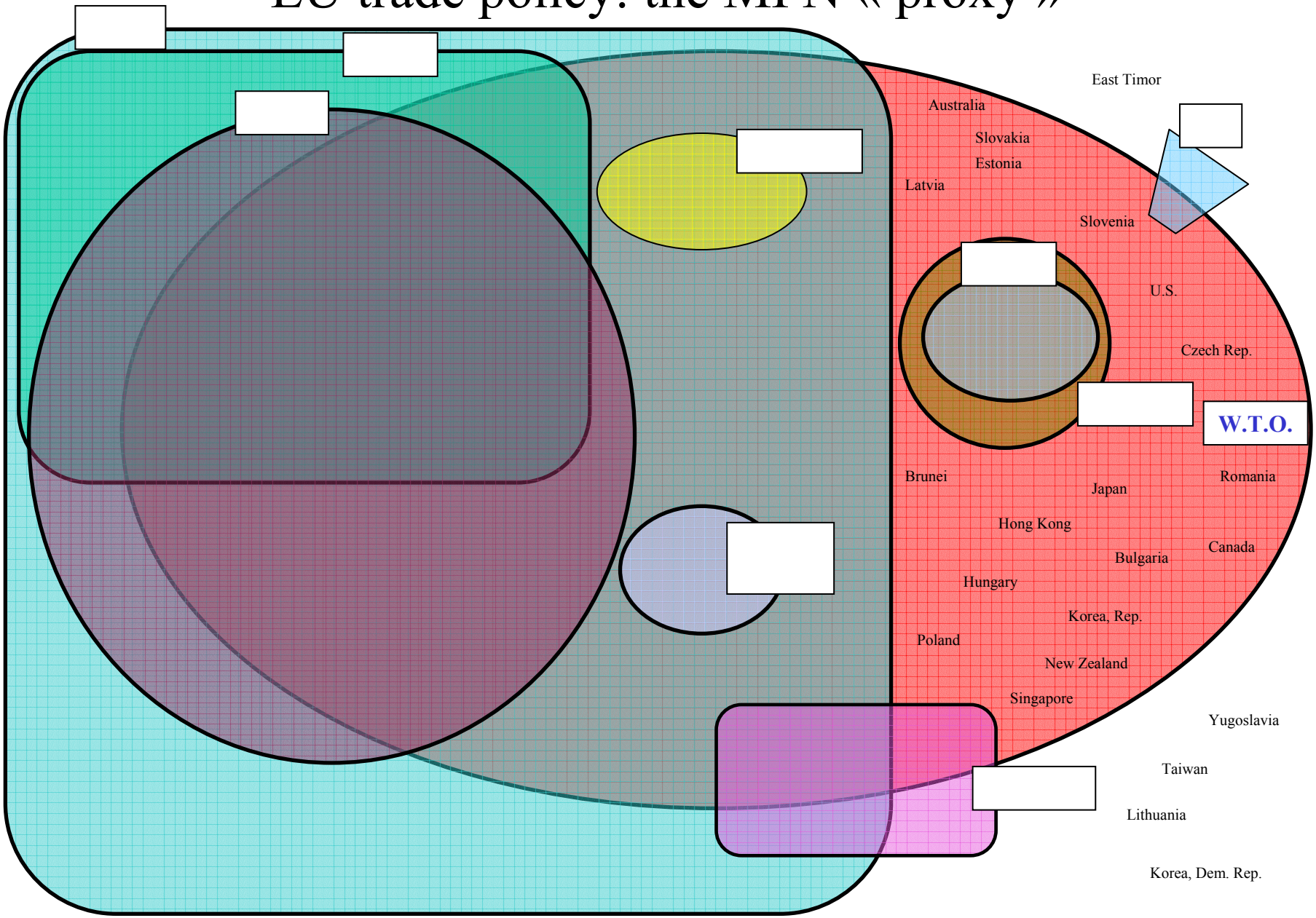
→ Information about applied measures is increasingly complex.

European trade policy

Some preferential regimes of the EU



EU trade policy: the MFN « proxy »



General features of MAcMaps

→*Year: 1999*

→*Geographic coverage*: 147 markets for 220 exporting countries;

→ *Sectoral coverage*: HS 6 or 10 (5,000 to 10,000 positions)

→ *Aggregation*: using a reference group to avoid endogeneity

Instruments of Protection in MAcMaps for GTAP

- Ad valor. duties
- Specific duties
- Prohibitions
- Tariff quotas

Global ad valorem equivalent

- Antidumping

Antidumping

- TBTs
- SPS

Sources of MAcMaps

- Country sources reported to UNCTAD (TRAINS),
- Agricultural Market Access Database (AMAD) for tariff-quotas,
- Notifications to the WTO and national sources regarding antidumping duties,
- Official national journals, circulars and customs web sites,
- COMTRADE (UNSD) for trade data.

Constitution of reference groups

- Clustering of all countries according to:
  - Per capita PPP GDP (by far the most significant);
  - Per capita imports;
  - Per capita exports.

- 5 reference groups

CN code	Description	Rate of duty			Supplementary unit
		autonomous (%)	conventional (%)		
			1/1 - 30/6	1/7 - 31/12	
1	2	3	4a	4b	5
1702 50 00	**– Chemically pure fructose . . . . . .**			**16 + 50,7 €/ 100 kg/net mas (1)**	
1702 40 90	– – Other	31,2 €/ 100 kg/net	21,9 €/ 100 kg/net	20 €/ 100 kg/net	—
1702 50 00	– Chemically pure fructose	20 + 63,4 €/ 100 kg/net mas	16,7 + 52,8 €/ 100 kg/net mas (1)	16 + 50,7 €/ 100 kg/net mas (1)	—

(1) WTO tariff quota: see Annex 7.

Tariff for Chemically pure fructose in the EU

Partner	Regime	Ad valorem Tariff %	Specific Tariff $/ton	Tariff quota %	Ad valorem Equivalent %	Global ad valorem Equivalent %
USA	MFN	16.0	456.3	20	84.6	121
TURKEY	MFN	16.0	456.3	20	68.1	104
HUNGARY	MFN	16.0	456.3	20	60.8	97
JAPAN	MFN	16.0	456.3	20	45.6	82
CHINA	GSP	13.6	456.3	20	89.7	123
MEXICO	GSP	13.6	456.3	20	89.4	123
MALAYSIA	GSP	13.6	456.3	20	42.8	76
ICELAND	EEA	7.8	0	20	00.0	28
BRAZIL	Exclusion GSP	16.0	456.3	20	68.0	104
ARGENTINA	Exclusion GSP	16.0	456.3	20	59.9	96
TUNISIA	Bilateral Agreement	0.0	456.3	20	68.0	88
ANGOLA	LDC	0.0	456.3	20	37.0	57
BOLIVIA	Drug	0.0	0	20	00.0	20
COLOMBIA	Drug	0.0	0	20	00.0	20

The dimension of the problem

→ The problem is not two-dimensional

products * importing country

→ It is four-dimensional:

products * M countries * X countries * instruments

→ It will be reduced to a three-dimensional one in MAcMaps for GTAP :

sector*exporting country/region*importing country/region

Reporting of antidumping practices since 1995

	1995	1996	1997	1998	1999	Total
All notifications of duties	118	86	124	162	181	*671*
Total missing in MAcMap	18	21	19	17	24	*99*
Of which:						
Argentina	13	20	11	13	9	66
Chile	2	0	2	2	0	6
Colombia	1	1	1	0	6	9
Czeck Republic	0	0	0	0	0	0
Nicaragua	0	0	0	0	1	1
Thailand	0	0	1	2	0	3
Venezuela	2	0	4	0	8	14

Source: based on WTO: “AD measures by reporting party from 01/01/95”

Aggregation procedure

Issues to be tackled in the aggregation of tariffs:

- Aggregating sectors using national imports as weights under-valuates protection
- Aggregating exporting countries leads to the same problem
- To aggregate importing countries weights must reflect the purchasing power

Aggregation across products

- Tariffs are weighted by *bilateral imports of the reference group* (RG) of importing countries.

Example : tea = black tea + green tea

US tariff on Aus. tea =

(US tariff on Aust. black tea * US RG's imports of Aust. black tea +
US tariff on Aust. green tea * US RG's imports of Aust. green tea) /
(US RG's imports of Aust. black tea + US RG's imports of Aust. green tea)

Tariff aggregation of products

$$\forall k = 1,2,\ldots 147; \forall u = 1,2,\ldots 220, \forall z = 1,2,\ldots 6, \quad t^{z}_{k,u} = \frac{\sum_{s \in z} m^{s}_{ZR(k),u} \times t^{s}_{k,u}}{\sum_{s \in z} m^{s}_{ZR(k),u}}$$

Aggregation across exporting countries

- Tariffs are weighted by *bilateral imports of the reference group* of importing countries

Example : Oceania = Australia + New Zealand

US tariff on Oceanian tea =

(US tariff on Aus. Tea* US RG's imports of Aus. tea +
US tariff on NZ tea * US RG's imports of NZ tea) /
(US RG's imports of Aus. tea + US RG's imports of NZ tea)

Aggregation of the suppliers of a particular country

$$\forall k = 1,2,\ldots 147; \forall j = 1,2,\ldots 8; \forall z = 1,2,\ldots 6; t^{z}_{k,j} = \frac{\sum_{u \in j} m^{z}_{ZR(k),u} \times t^{z}_{k,u}}{\sum_{u \in j} m^{z}_{ZR(k),u}}$$

Aggregation across importing countries

- Tariffs are weighted by *global* imports of importing countries.

Example : North = US + Luxembourg

Northern tariff on Oceanian tea =

(US tariff on Oceanian tea * US global imports +
Lux. tariff on Oceanian tea * Lux. global imports) /
(US global imports + Lux. global imports)

Tariff aggregation of importing countries

$$\forall v = 1,2,\ldots 8; \forall j = 1,2,\ldots 8; \forall z = 1,2,\ldots 6; \quad t^{z}_{v,j} = \frac{\sum_{k \in v} \left(t^{z}_{k,j} \times m^{z}_{ZR(k),j} \times \sum_{z} \sum_{j} m^{z}_{k,j} \right)}{\sum_{k \in v} \left(m^{z}_{ZR(k),j} \times \sum_{z} \sum_{j} m^{z}_{k,j} \right)}$$

Illustrative example

7 exporting regions*7 importing regions*6 sectors

Regions:

- ACP
- AED
- Cairns
- EU25
- Japan
- USA
- Row

Sectors:

- motor vehicles & parts
- wearing apparel
- manuf. diary pts.
- wheat
- sugar
- textile

Market access into each importing zone is estimated for each exporting zone for each of these products

Rates of protection in MAcMaps

Market access for wheat

Importers

Partners	ACP	AED	Cairns	EU25	Japan	RoW	USA
ACP		42%	33%	50%	289%	7%	2%
AED	25%		24%	83%	270%	19%	4%
Cairns	20%	93%		40%	130%	18%	1%
EU25	19%	62%	33%		133%	12%	3%
Japan	40%	1%	13%	15%		1%	2%
Row	21%	97%	30%	58%	346%		4%
USA	17%	89%	16%	37%	150%	16%	

Illustrative example of Mac Maps for GTAP : beverage & tobacco products (« b_t » sector)

	Austr.	Brazil	Eur Un	India	Japan	USA
Australia		19,0%	4,2%	39,5%	27,9%	2,7%
Brazil	78,0%		14,7%	134,8%	38,1%	5,9%
Europ Union	104,0%	21,7%		94,3%	21,6%	6,3%
India	124,5%	25,6%	8,3%		20,1%	28,6%
Japan	88,1%	21,9%	11,7%	146,5%		4,2%
USA	164,3%	21,6%	7,8%	74,7%	18,3%	