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## **MEASURING THE LEVEL AND COSTS OF EC PROTECTION DURING THE 1990s**

Chapter 2 aims to provide the available information on the level of EC protection using a systematic approach that encompasses all the sectors producing goods. It aggregates all the forms of protection imposed at EC borders: ad valorem tariffs, ad valorem equivalents of specific tariffs, non-tariff barriers, and antidumping duties and measures. Chapter 3 estimates the costs of protection for 22 sectors—most of them defined at a more disaggregated level than that used in chapter 2—to get a better measure of the peaks of protection. It uses two partial-equilibrium models to cross-check the results obtained.

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## The Level and Evolution of EC Overall Protection in the 1990s

This chapter presents a quantitative assessment of the level of overall protection granted to the European output of farm and industrial goods. (A brief conclusion touches upon services that have been, and still are, protected by instruments having little in common with trade barriers imposed on goods.) “Overall” protection refers to all the key trade barriers—tariffs, nontariff barriers (NTBs), and antidumping measures—granted to the EC output of goods. The chapter also gives a sense of the recent evolution of EC protection, because it covers the years 1990, 1995, and 1999 (the last year giving an accurate measure of the post-Uruguay Round tariff protection, because most EC tariff commitments had by then been implemented).<sup>1</sup>

The chapter provides two major results, which echo the main features of EC trade policy underlined in the previous chapter. First, the level of overall protection for the whole EC economy (see table 2.1) was roughly 13 to 14 percent from 1990 to 1997 (for simplicity’s sake, the year 1997, very similar to 1995, is not provided) and still almost 12 percent in 1999, that is, a much higher level (two to three times) than generally stated. This level of EC protection will remain unchanged at least until 2005—most EC commitments on trade barriers in goods taken during the Uruguay Round were implemented in 1999, except the dismantling of the quota regime in textiles and clothing, which will take place in 2005. Second, EC protection is very selective. Rates of overall protection exhibit wide differences by sector, and these differences tended to remain stable during the period examined.

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1. This can be shown by comparing the committed tariffs for 2001 (available in the annex of the WTO’s *Trade Policy Review: The European Community*, 1998) and the tariffs enforced in 1999 (from the annex of the WTO’s *Trade Policy Review: The European Union*, 2000).

**Table 2.1 An overview of EC protection, by industry, 1990, 1995, and 1999**

		1990					
ISIC4	Sectors	Number of tariff lines	Average MFN tariffs <sup>a</sup> (percent)	Non-tariff barriers <sup>b</sup> (percent)	Antidumping measures		Rate of overall protection <sup>d</sup> (percent)
					Number of tariff lines	Rates <sup>c</sup> (percent)	
100a	Cereals (rice excluded)	16		63.0			63.0
100b	Meat (bovine and ovine)	44	20.0	74.0			94.0
100c	Dairy products	67		1,04.0			104.0
100d	Sugar	7		1,17.0			117.0
100e	Other agriculture	443	10.1	10.5			20.6
200	Mining	110	0.5	65.0	3	24.0	2.9
311-12	Food products	483	15.5	15.0	5	15.8	30.6
313	Beverages	52	17.5	5.0			22.5
314	Tobacco	7	66.6				66.6
321	Textiles	1,081	9.9	11.0	23	22.0	21.4
322	Apparel	219	12.3	19.0			31.3
323	Leather and leather products	102	4.7	5.0			9.7
324	Footwear	68	10.9	5.0			16.2
331	Wood products	124	5.3		6	16.1	6.1
332	Furniture and fixtures	27	6.0				6.0
341	Paper and paper products	196	7.6		3	4.6	7.7
342	Printing and publishing	43	6.1		3	0.0	6.1
351	Industrial chemicals	881	7.1		68	16.5	8.4
352	Other chemicals	361	6.2		1	46.9	6.3
353	Petroleum refineries	40	4.6				4.6
354	Petroleum and coal products	13	2.6				2.6
355	Rubber products	80	5.9				5.9
356	Plastic products, nec	139	8.9				8.9
361	Pottery, china, etc.	24	8.4		1	17.5	9.1
362	Glass and products	131	8.3		8	17.5	9.4
369	Nonmetallic products	121	4.5		7	27.7	6.1
371	Iron and steel	469	4.8	15.0	64	15.7	21.9
372	Nonferrous metals	262	4.6		6	8.1	4.8
381	Metal products	524	5.8	n.a.	6	14.0	6.0
382	Machinery	924	4.1	n.a.	28	21.8	4.8
3825	Office and computing equipment			n.a.			
382x	Other machinery			n.a.			
383	Electrical machinery	501	5.8		30	20.3	7.0
3832	Radio, TV, and communication			n.a.			
383x	Other electrical machinery			n.a.			
384	Transport equipment	342	6.1		2	15.0	6.2
3841	Shipbuilding			n.a.			
3842	Railroad equipment			n.a.			
3843	Motor vehicles			n.a.			
3844	Motorcycles and bicycles			n.a.			
3845	Aircraft			n.a.			
3849	Other transport equipment			n.a.			
385	Professional goods	352	8.3	n.a.	9	16.0	8.7
390	Other industries	263	5.5	2.0	3	18.1	7.7
<b>Block A: All sectors</b>							
Total number of tariff lines		8,516			279		
Average level of trade barriers							
Simple average			7.4			17.5	13.8
Labor weighted average			8.1				17.1
Value-added weighted average			8.2				15.3
<b>Block B: Industrial goods (ISIC 314 to ISIC 390)</b>							
Total number of tariff lines		7,294			271		
Average level of trade barriers							
Simple average			6.8				10.8
Labor weighted average			6.8				9.7
Value-added weighted average			7.2				9.5
<b>Block C: Agriculture</b>							
100	Whole agriculture <sup>d</sup>	577					38.3

n.a. = Ad valorem tariff equivalents of these NTBs are not available.

ISIC = International Standard Industrial Classification.

MFN = most favored nation

nec = not elsewhere classified

OECD = Organization of Economic Cooperation and Development.

1995						1999							
Number of tariff lines <sup>d</sup>	MFN tariffs		Non-tariff barriers <sup>b</sup>	Antidumping measures		Rate of overall protection <sup>d</sup>	Number of tariff lines	MFN tariffs		Non-tariff barriers <sup>b</sup>	Antidumping measures		Rate of overall protection <sup>d</sup>
	Average rates <sup>a</sup>	Maximum rates		Number of tariff lines	Rates <sup>c</sup>			Average rates <sup>a</sup>	Maximum rates		Number of tariff lines	Rates <sup>c</sup>	
21			48.0			48.0	21	14.0	15.2	5.0			19.0
41	20.0	20.0	29.0			49.0	26	11.2	12.1	64.8			76.0
91			108.0			108.0	61	9.7	10.3	100.3			110.0
7			106.0			106.0	7			125.0			125.0
417	9.6	25.0	2.2	1	5.6	11.8	538	8.9	179.7	11.2	4	5.3	20.0
132	0.8	1.4	71.3	14	9.4	3.5	137	0.2	8.0	71.3	10	7.1	2.3
618	15.4	42.0	15.0			30.4	1,586	19.5	236.4	5.0			24.5
52	17.5		5.0			22.5	180	8.6	64.0				8.6
7	66.6	117.0				66.6	9	47.3	81.9				47.3
1,087	9.8	25.0	9.0	200	23.3	26.2	1,059	8.5	13.0	8.0	141	18.9	22.1
216	12.4	14.0	19.0			31.4	225	11.6	13.0	19.0			30.6
105	4.8	12.0				4.8	102	3.2	9.7		9	27.9	5.7
53	8.4	20.0		2	0.0	8.4	58	7.4	17.0		5	17.5	8.9
131	4.8	10.0				4.8	181	2.6	10.0		3	6.8	2.7
35	5.7	7.0				5.7	38	1.8	5.6				1.8
198	7.6	12.5		2	0.0	7.6	200	3.8	7.5				3.8
42	6.2	12.0		3	12.3	7.1	41	3.0	8.0		1	18.6	3.5
959	7.4	20.0		49	25.0	8.7	1,153	5.3	41.7		32	24.5	6.0
392	6.4	17.6		10	17.4	6.8	423	3.4	22.0		3	19.0	3.5
46	4.3	7.1				4.3	62	2.1	6.5				2.1
18	1.4	9.0				1.4	17	0.4	6.0		1	30.0	2.2
88	7.8	20.0				7.8	105	5.5	17.0				5.5
34	7.7	8.6				7.7	35	5.9	6.5		3	0.0	5.9
24	8.4	13.5				8.4	25	5.9	12.0				5.9
146	7.0	12.5				7.0	137	4.8	11.0		2	0.0	4.8
124	4.5	10.0		6	2.6	4.6	132	2.4	7.0		1	0.0	2.4
542	5.3	10.0	7.0	63	21.3	14.8	521	2.7	7.0	4.0	51	24.0	9.0
258	4.5	10.0		4	25.3	4.9	255	2.9	10.0		6	15.3	3.3
339	5.5	17.0		9	32.8	6.4	354	3.0	8.5		17	31.0	4.5
930			n.a.				1,017			n.a.			
58	4.6	12.0	n.a.	10	20.7	8.2	76	0.8	3.0	n.a.	1	13.5	1.0
872	4.2	12.0	n.a.	9	7.7	4.3	941	1.8	9.7	n.a.	3	0.0	1.8
534							679						
225	7.3	15.0	n.a.	40	24.6	11.7	321	3.6	14.0	n.a.	45	37.7	8.9
309	4.9	8.5	n.a.	10	23.1	5.6	358	2.6	6.9	n.a.	3	19.5	2.7
323							354						
57	3.0	10.0	n.a.			3.0	63	1.6	6.2	n.a.			1.6
35	4.7	7.5	n.a.			4.7	40	1.8	3.7	n.a.			1.8
149	8.5	22.0	6.1			14.6	164	6.3	22.0	4.0			10.3
31	8.7	17.0		1	28.4	9.6	34	6.1	15.0		6	24.5	10.4
45	2.9	15.0	n.a.			2.9	47	1.7	7.7	n.a.			1.7
6	4.6	4.9				4.6	6	1.5	2.7				1.5
362	5.6	16.1	n.a.	4	0.0	5.6	381	2.2	6.7	n.a.	1	0.0	2.2
303	5.8	20.0		3	27.1	6.1	308	3.1	17.0		2	31.5	3.3
8,675					440		10,427				350		
	7.4				21.8	13.7		7.0			22.4	11.7	
	7.9					14.4		6.4				12.8	
	8.5					15.1		6.6				12.3	
7,296					425		7,871				336		
	6.7					11.0		4.3				7.7	
	6.7					10.0		4.3				7.1	
	7.5					10.1		4.7				6.8	
577						32.0	653						31.7

a. Many specific tariffs in agriculture (ISIC 100a to 100e) are not taken into account.

b. For agriculture, defined as global rate of protection minus MFN tariff and antidumping barriers.

c. Ad valorem estimates of antidumping measures terminating cases.

d. For agriculture (sectors 100a–100d), based on three-year averages of OECD “CSE-based tariffs” (see text).

Sources: GATT Secretariat, WTO, *WTO Trade Policy Reviews*; EC, *Official Journal*, appendix A; author's computations.

These results are based on three very conservative assumptions: (1) They rely on tariff averages, which, even by sector, cover tens or even hundreds of different tariff lines, so that peak protection rates are largely eroded by the averaging process. (2) They include the major *border* nontariff barriers (quantitative restrictions and antidumping measures), but they are based on the most conservative estimates. (3) They ignore almost all the *non-border* barriers to trade (which would be very difficult to quantify), in particular technical regulations (norms and standards; see chapter 4), public procurement, and production and export subsidies (see chapter 5).

These results deserve three general comments. First, the Uruguay tariff commitments are less dramatic than has often been said (and still is) because EC tariff reductions have been concentrated on already low tariffs (a key point when assessing the costs of protection; see chapter 3). Second, the high level of EC overall protection flows from the systematic incorporation of NTBs and antidumping measures, which are not included in the official figures usually reported. It reveals that a substantial proportion of *industrial* goods is still highly protected, a point often hidden by the focus on protection of farm products. For instance, in 1999, the rate of overall protection was higher than 10 percent in industrial sectors amounting to almost 24 percent of the EC industrial value added; it was higher than 20 percent for almost one-sixth of the EC industrial value added; and it was higher than 30 percent in the clothing sector, the value added of which was equivalent to the combined value added of the sugar and meat sectors.

Third, the almost complete stability of the EC rate of overall protection from 1990 to 1997 is interesting, because it shows that both the fear of Fortress Europe and the hope of a more open EC after the 1992 Single Market Program are equally wrong. Rather, the stability reflects that the communitarization of member-state trade policies—which was ongoing between the mid-1980s and mid-1990s—has allowed the Community to substitute its own trade barriers (mostly antidumping measures) for the old ones run by the member-states. The completion of the Single Market (and the hope that it will improve the competitive position of EC producers and induce the EC to open its borders), the dismantling of the barriers between the EC and the European Free Trade Area (EFTA) countries in 1993, and the accession of three new member-states in 1995 have had no noticeable (indirect) influence on EC barriers.<sup>2</sup>

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2. A direct impact was impossible, because the EC has imposed on new member-states a strict adoption of the “*acquis communautaire*” in trade policy (meaning the EC trade barriers). This point is important when assessing the global welfare effects of the 1995 EC enlargement: EC producers may have been “deprotected” vis-à-vis their EFTA counterparts (chapter 3 examines this point, and concludes that the EC gains have been modest, even under the most favorable assumptions), but EFTA producers may have been “reprotected” when their countries adopted the EC trade regime (chapter 4 provides some evidence of this aspect for manufactured products).

This broad picture of EC overall protection suggests two points that are at the core of chapter 3. First, large pockets of such high protection in agriculture, industry, and services imply very high costs of protection. Second, such an entrenched position of highly protected sectors means that the coming WTO negotiations will be very difficult: they aim to open sectors that have been very successful at remaining highly protected through all the previous GATT rounds. In this respect, this chapter reveals the *raison d'être* of the next round, which is not well perceived by public opinion, nor by many decision makers, who wonder why a new round is needed if the previous one was so successful. In fact, this chapter shows that there is still serious work to be done to eliminate high trade barriers, including in manufacturing.

## EC Tariff Protection Between 1990 and 2000

Table 2.1 presents the EC most-favored-nation (MFN) *bound* tariffs for all the sectors producing goods (agriculture, mining, and manufacturing) for the three years 1990, 1995, and 1999 (the question of applied tariffs under preferential agreements is examined at the end of the section). This information is drawn from the various WTO *Trade Policy Review* reports on the EC which is the best source available because it has been approved by the EC Commission and EC member-states and subject to inquiries by the WTO Secretariat and EC trading partners.

Common Agricultural Policy has been divided into five groups of products: the four large, highly protected products (from cereals to sugar) at the heart of the Common Agricultural Policy, and the rest of the farm products ("other agriculture"). For the four sectors, the columns labeled "MFN tariffs" report only the ad valorem average and maxima tariffs which are far from covering all the tariff lines (specific tariffs are a very frequent instrument in these sectors). For "other agriculture," ad valorem tariffs and ad valorem equivalents of specific tariffs made available to the WTO and provided in the annexes of *Trade Policy Review* are reported.<sup>3</sup> The same is done for industrial goods.

Table 2.1 provides five major results. First, the simple average of all EC existing tariffs on goods was 7.4 percent in 1990 and in 1995, and still 7 percent in 1999 (see "block A" toward the bottom of the table). These figures are significantly higher than the averages generally reported. This difference can be explained by the fact that the generally reported estimates cover only a narrowly defined set of industries excluding a substantial proportion of the EC output of goods, that has been, and still is,

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3. In fact, most of the high maximum MFN tariffs in table 2.1 are ad valorem equivalents of specific tariffs.

protected by opaque instruments (in particular, farm and food products representing 20 percent of EC total value added in goods). This limited coverage introduces a systematic underestimating bias both in the estimated level of protection and in its evolution.

These biases can be shown by comparing blocks A and B at the bottom of table 2.1. The simple tariff average of the narrowly defined set of industries (block B is based on International Standard Industrial Classification [ISIC] sectors 314 to 390 which are covered by the usual estimates of EC protection) starts at only 6.8 percent for 1990 and 1995. It declines to 4.3 percent in 1999, and it is expected to decline to 4 percent in 2001, when all existing EC commitments on tariffs will be implemented.<sup>4</sup> In sum, the widely disseminated impression of the low level of EC protection depends on incomplete (not all sectors are covered) and imperfect (not all instruments of protection are included; see below) coverage of EC protection.

Second, the simple average of all EC existing tariffs declines by a small amount (from 7.4 to 7 percent). This result is due to the fact that EC tariff reductions have been concentrated on already low tariffs, as can be shown with table 2.1: the sectoral tariffs higher than 7.4 percent in 1995 declined, on average, by 23 percent in 1999, whereas the sectoral tariffs lower than this threshold declined by 53 percent.

Third, as is well known, economy-wide tariff averages are crude indicators with limited economic meaning. Foreign exporters look at the tariff imposed on the specific product(s) they want to sell in Europe, not at an EC-wide average. Because looking at the 8,000 to 10,000 individual tariffs the EC imposed in the late 1980s and 1990s would make little sense, a more suitable measure of EC protection is to look at average and maximum tariffs by *sector*.<sup>5</sup> Sectors in table 2.1 are defined at the 3-digit level of ISIC codes, except for three industries (machinery, electrical machinery, and transport equipment), which, when possible, are presented at a more meaningful 4-digit level.

As table 2.1 shows, the EC average tariffs by ISIC sector vary widely—mirroring the existence of very different maxima tariffs (for almost all ISIC sectors, the minimum tariff is 0 percent). Since the Uruguay Round, such maxima tariffs can still reach astronomical rates: higher than 100 percent (live bovines, milk, cheese, bananas, wheat, rice, fruit, and starch), up

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4. The only noticeable tariff declines implemented in 2000 were the elimination of tariffs agreed to under the Information Technology Agreement of 1997, and of those on certain pharmaceutical products and alcoholic beverages. All these expected declines rely on the assumption that the EC does not significantly reshuffle its tariff classification (see text below).

5. Table 2.1 does not provide minima tariffs by sector because, for almost all sectors, tariffs are zero (for details, see the table in the annex of the appropriate WTO *Trade Policy Review*). Standard deviations by sector are not reported either (see the same source).

to 826.2 percent or 1,009.9 percent in 1997 for certain meat products or prepared animal feeds. (The WTO Secretariat, which relies on computations of ad valorem equivalents of specific tariffs done by the EC Commission, does not provide similar details for 1999.) Maxima tariffs in the industrial sectors can also be very high—and even *increased* after 1995 (e.g., chemicals) as a result of specific tariffs.

Fourth, the number of tariff lines is not stable, in particular, between 1995 and 1999. There is an almost continuous “reshuffling” of the tariff schedule during the whole period. This phenomenon, well known by practitioners, is neglected by most studies of protection, despite its importance. Of course, reshuffling tariffs does not necessarily have a protectionist intent; it can be related to new products or technologies, and it aims to make the product list of the tariff schedule closer to the set of products effectively available on the markets.

But tariff reshuffling makes possible tariff increases on new (and not so new) products for protectionist motives—particularly important motives in a technologically developed economy facing difficulties in following the fast course of modern technical progress, such as the EC. For instance, before 1983, compact-disk players were considered by the EC tariff schedule as “record players,” with a 9 percent tariff. In 1984, they were granted a specific tariff line in the EC schedule, with a tariff increase to 16.5 percent (to be reduced to 13.5 percent in 1988 and to 9.5 percent in 1989). As a result, it is not surprising that unilateral decisions on tariff reshuffling can lead to serious frictions with trading partners, and ultimately possibly to WTO panels and Appellate Body rulings (e.g., the 1995 EC decision to reclassify local area network equipment) and to consultations and renegotiations under GATT Article XXVIII. As shown in table 2.1, tariff reshuffling was particularly intense for farm, food, and chemical products between 1995 and 1999.

Fifth, being based on simple tariff averages, our estimates are higher than figures usually reported, which are import-weighted averages. Import-weighted estimates have two shortcomings that lead to a systematic underestimate of the level of protection: they weigh high tariffs by restricted (hence smaller than they would be in the absence of protection) import flows and low tariffs by unrestricted (even possibly magnified by substitution effects) import flows. In a study of protection from the perspective of new WTO negotiations, such as this one, a better approach is thus to weight tariffs in a way that mirrors the essential fact that protection is granted to *domestic producers*; hence, it should ideally reflect the relative weight of vested interests.

Table 2.1 uses two different weights: value added and employment of EC sectors in 1990 and 1995 (data are from OECD 1997a, and from annual *EC Reports on Agriculture*). It shows that both EC-wide labor-weighted or value-added-weighted *tariff* averages are larger than simple tariff aver-

ages if one includes farm products (see block A), but not necessarily if one excludes them (see block B). This result may be partly due to a statistical problem—the aggregation of the whole universe of manufacturing products in only 35 ISIC sectors. But it is also not so surprising. Protecting with NTBs and antidumping measures is much more attractive for vested interests than trying to modify a whole schedule of bound tariffs.

All the above observations are based on MFN tariffs. One could argue that such an approach overstates the level of EC protection, because the many preferential agreements between the EC and its trading partners (see chapter 6) imply EC *applied* tariffs that are lower than MFN tariffs. This argument deserves a too often forgotten caveat: the MFN treatment of WTO members by the EC was *expanded* during the late 1990s, from Australia, Canada, Japan, New Zealand, and the United States, to Hong Kong, South Korea, and Singapore after their graduation from the Generalized System of Preferences in May 1998. As a result, the import share of EC trade under MFN tariffs *increased* from 35 percent (1990) to 39 percent (1999).

Notwithstanding this argument, it may still seem that a possibly better indicator of the EC *average* tariff rate would be the ratio of tariff duties paid (almost €14 billion in 1996) to total imports (roughly €596 billion for the same year), that is, 2.3 percent. However, such a figure ignores the fact that the EC economy does not produce many goods (oil, tropical food, etc.) that are imported under zero *MFN* tariffs. According to Sapir (1998), 30 percent of EC imports were under zero MFN tariffs in 1996. A better indicator of the average protection of EC production would thus be the ratio of tariff duties paid to *all* dutiable imports, that is, 3.4 percent. This figure for 1996 should be compared with the 6.7 percent (1995) and 5.1 percent (1997, not shown in table 2.1) simple average tariffs of block B in table 2.1 (*not* to the block A average tariffs, because the EC preferential agreements give very limited [if any] preferences for farm goods from temperate countries and food products; see chapter 6).

At this stage, a last question needs to be examined. How do foreign exporters that benefit from EC preferential tariffs really behave? Do they pass through their tariff preferences to EC consumers, or do they keep forgone tariff revenues for themselves (except a small portion “abandoned” to EC consumers in order to be slightly cheaper than producers subject to full MFN tariff rates), either as pure rents (if they are as competitive as producers under MFN conditions) or as cost differentials (if they are less competitive than producers under MFN conditions)? Profit maximization suggests the rent/cost differential option as the most likely situation. In this case, the best indicator of the average tariff rate would be the ratio of tariff duties paid to *MFN* dutiable imports. On the basis of Sapir’s computations—which suggest that 25 to 30 percent of EC imports are under preferential tariffs—this last indicator would range from 5.9 to 5.2 percent, that is, a figure close to block B results for 1995 and 1997.

## EC “Overall” Protection Between 1990 and 2000

As is well known, EC trade protection is far from relying exclusively on tariffs. NTBs, such as variable levies in agriculture, voluntary export restraints (VERs) in industrial sectors (e.g., those imposed by the Multi-Fiber Agreement [MFA] in textiles and clothing or by the EC car agreement with Japan), quotas on imports from centrally planned economies, antidumping measures, and technical barriers to trade have played or are playing a significant role. Table 2.1 includes only “core” NTBs: import quotas, VERs, minima prices, and specific tariffs for which there are available ad valorem equivalents.

The other NTBs have been ignored, because they are too difficult to assess or too marginal—for instance, entry price system (fresh fruit and vegetables), excise duties imposed by EC member-states (beer, wine, and cigarettes), and state-trading enterprises (gas, electricity, and minerals in France; tobacco in Italy; one may also wonder whether EC domestic policies, such as the CAP, have not created de facto state-trading enterprises; see chapter 4). There are two exceptions: crude tariff equivalents of technical barriers to trade have been introduced for the food and car sectors because of their importance.<sup>6</sup> To combine all the NTBs taken into account in order to estimate the EC-wide and sectoral rates of overall protection requires two steps: (1) arriving at a better understanding of interactions between tariffs and other trade barriers through the communitarization process of EC trade policy, and (2) defining the method for combining tariffs and “tariff equivalents” of the NTBs and antidumping measures taken into account in table 2.1.

### “Communitarizing” Trade Policy in Industrial Goods, 1977–97

In the early 1980s, protection of farm products was already almost entirely communitarized under the Common Agricultural Policy (see chapter 4 and appendix A, cases 15 to 19). By contrast, things have been more recent and complex in manufacturing. Until the early 1980s, NTBs on industrial

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6. The reason is that both sectors are covered by the EC “Old Approach” in terms of technical harmonization (*Single Market Review* 1997c, 66), which is particularly rigid and prone to be captured by protectionist interests (see chapter 4). According to the scant available information for food products (*Single Market Review* 1998, vol. 1, 224), technical barriers could represent up to 20 to 25 percent of unit prices in the food sector; table 2.1 is based on a very conservative estimate of 5 percent. Similarly, an estimate of 4 percent has been used for the car sector, which is covered by 200 directives on technical regulations, out of a total of slightly more than 500 directives (see appendix A, case 12). This figure is very conservative: estimated cost equivalents of technical regulations imposed on certain auto parts range from 15 to 30 percent (in the case of Japanese exports to the EC) (OECD 2000g).

goods were introduced (although more and more rarely) and enforced by individual member-states.<sup>7</sup> The 1987–97 decade has witnessed the end of these practices and the communitarization of NTBs on imported industrial goods. What follows shows that this long process has exacted a price in protection costs because Community protection has been substituted for member-state protection, mostly through antidumping measures.

The 1974–85 steel depression offered the first major opportunity to communitarize trade policy on steel products—which, according to Articles 71 to 73 of the Treaty of Paris, was still a member-state competence (see box 1.1). In 1977–79, the Commission let fly a broadside of almost a hundred Community antidumping complaints, getting strong leverage on most foreign exporters to impose EC-wide VERs and price arrangements. Steel trade policy reached its full communitarization with the 1994 ruling of the European Court of Justice (see box 1.1) stating that, when included in an agreement of “general nature” with third countries, steel under the Treaty of Paris is subjected to the Community’s exclusive competence, as defined by the Treaty of Rome.

For the other industrial products, the first steps toward communitarized trade NTBs occurred in 1982–83, when member-states agreed to freeze their existing national NTBs in two lists embodied in Regulation 288/82 (NTBs against exports from market economies) and Regulation 3420/83 (NTBs against nonmarket country exports). After the adoption of these regulations, the few tentative moves by member-states to impose new national NTBs were either stopped or undercut by Community measures, as is best illustrated by videocassette recorders (see appendix A, case 8).

In 1988, about 1,000 quotas (most of them imposed on imports from centrally planned economies) were still enforced by member-states—excluding the textile and clothing quotas under the MFA, which were negotiated by the Community, but on a member-state basis (Langhammer 1990). However, only a small proportion of these quotas triggered frequent requests under Article 134 (ex 115) mostly by France, Ireland, Italy, and Spain: during the 1980s only 100–150 derogations from intra-EC free circulation were granted every year.

The early 1990s witnessed the almost complete communitarization of the trade policy in four major steps. First, between 1989 and 1992, under the pressure from the bold, nondiscriminatory, unilateral trade liberalization undertaken by Central European countries, the EC eliminated almost

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7. This feature raised the issue of whether or not it was possible to isolate completely a member-state market from the EC markets by using Article 115. In particular, Hamilton (1986) has argued that, in most of the cases, Article 115 has been unable to generate a perfect segmentation of the member-state markets, and hence that the lowest member-state NTBs were de facto the only relevant restrictions.

all member-state NTBs against exports from Central European countries when signing with them the Europe Agreements (see chapter 6). Second, the 1991 Japan-EC consensus on cars imposed an EC-wide VER, coupled with specific VERs for five member-states (see Appendix A, case 12). Third, in 1994, under the Uruguay Agreement on Safeguards, the EC committed itself to eliminate all its remaining “grey area” measures (except the Japan-EC car consensus, which was to be eliminated 31 December 1999, and indeed was eliminated at this time). Fourth, since 1995, the EC has imposed EC-wide restrictions following the Uruguay Agreement on Textiles and Clothing (see appendix A, cases 13 and 14). Since 1997, the EC has done the same on steel from certain Eastern European countries that are still not WTO members (Russia, Ukraine, and Kazakhstan). As a result, in mid-2001, the only major exceptions to complete communitarization of border instruments of protection are antidumping measures enforced only with respect to certain “regional” EC markets (“regional” generally meaning a certain member-state territory).

### **Combining NTBs and Antidumping Measures with Tariffs**

Combining NTBs and antidumping measures with tariffs in table 2.1 imposes getting the ad valorem tariff equivalents of the NTBs, an exercise that requires looking separately at agriculture and industry. In agriculture, the only available estimates of *non*-tariff protection for 1990 and 1995 consist of the various “subsidy equivalents” calculated by the OECD Secretariat (see box 2.1). In 1999, tariffs had been substituted for the existing NTBs (variable levies, quotas, etc.) as a result of the implementation of the Uruguay Round. But *transparent* EC protection is still lacking, because many EC tariffs (almost one-half of farm tariff lines; WTO, *Trade Policy Review: The European Union*, 2000) are totally or partly expressed in specific terms (euros per physical unit of output), not in ad valorem terms. (Hence the level of protection effectively granted by such specific tariffs varies with world prices.) In other words, NTBs in EC agriculture include many specific tariffs (at least, those for which there has been no ad valorem equivalents made available to the WTO Secretariat by the EC Commission).

As a result, the subsidy equivalents calculated by the OECD still constitute the key source of information on which computations have to be calibrated. Table 2.1 combined these various sources of information as follows. For the four key farm products (cereals, meat, dairy products, and sugar), the sectoral CSE-based tariffs (more precisely, the average for the three years ending the year under scrutiny) are used as the estimates of the rates of overall protection. Then, the ad valorem tariff equivalents of the NTBs in these four sectors are calculated as the differences between

### **Box 2.1 Measuring the level of protection and support in agriculture**

The OECD Secretariat provides two basic estimates of protection and support in agriculture: “consumer subsidy equivalents” or CSEs (which measure the transfers from domestic consumers to producers, resulting from agricultural policies); and “producer subsidy equivalents” or PSEs (which include all the transfers that farmers receive from farm policies). Because this study is interested in the costs of protection for consumers, it focuses on CSEs. The CSEs and PSEs used in this study are based on the “old” OECD method of measuring support, which is better suited for estimating the level and costs of protection than the “new” method (for a description of both methods, see OECD 1999a). However, the CSE and PSE data used in this study have been updated so that they benefit from all the corrections introduced through February 2000.

CSEs are available under two different forms: as a percentage of the consumption values at domestic prices, and as a percentage of world prices. In what follows, this latter form is called the CSE-based ad valorem tariff equivalent—for short, the CSE-based tariffs. The OECD Secretariat does not provide CSE-based tariffs directly; rather, it provides NACs (“Nominal Assistance Coefficients”) defined as  $[1 + (T/p^*)]$ , where  $p^*$  is the world price and  $T$  the CSE in ECUs per unit (i.e., the tariff equivalent in ECUs per unit). In other words, CSE-based tariffs are defined by  $(T/p^*)$ . NACs (and hence CSE-based tariffs) have often been disregarded because world farm prices could depend substantially on the farm policies of all the large OECD countries (introducing a circular causality when estimating costs of protection). However, chapter 3 provides evidence that the EC (alone) is not a much larger world producer of farm goods than of industrial products.

Table 2.1 is based on the CSE-based tariffs. The fact that Hufbauer and Elliott’s study of US protection (1994) relies on simple CSEs (and not on CSE-based tariffs) is without any serious consequence for comparing the two studies, because CSEs and CSE-based tariffs are close in the US case (except for dairy and sugar). By contrast, using CSEs (instead of CSE-based tariffs) in the EC case would have led to severe underestimates of the costs of protection in the EC.

the MFN tariffs and the sectoral CSE-based tariffs. For the rest of agriculture (“other agriculture”), a more global procedure has been followed.<sup>8</sup>

In manufacturing, because ad valorem equivalents of NTBs (essentially import quotas and voluntary export restraints) are notoriously difficult to estimate, this study has not tried to generate such estimates systematically. Rather, it draws on existing information (the various sources are

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8. This more global procedure adopted has three steps. First, the average rate of overall protection of the whole agriculture has been estimated (see block C of table 2.1) as the weighted sum of the overall CSE-based tariff estimated by the OECD (for detail, see table 4.2) and the average MFN tariff for the rest of agriculture. The weights used are drawn from the production: 60 percent for the overall CSE-based tariff (the OECD Secretariat estimates that the CSE-based tariffs cover roughly 60 percent of EC farm production) and 40 percent for the rest of agriculture. Second, the average rate of overall protection for “other agriculture” has been defined as the weighted difference between overall protection for the whole of agriculture and overall protection for the four sectors (in this case, the weights are the number

mentioned in the detailed case studies provided in appendix A).<sup>9</sup> Concerning antidumping measures, they can first consist of ad valorem duties; in this case, it is simple to combine them with tariffs. They can also consist of specific tariffs, minimum prices, or quantitative restrictions. In these cases, ad valorem equivalents of such measures have been estimated on the basis of the dumping margins (always expressed in ad valorem terms in EC antidumping procedures; see appendix B) multiplied by a (conservative) coefficient of 0.5 (this coefficient replicates the proportion observed, on average, in the cases that provide appropriate information). Antidumping cases initiated between 1980 and 1989 have been combined with the 1990 tariffs; those initiated between 1986 and 1994, with the 1995 tariffs; and those initiated between 1992 and 1999, with the 1999 tariffs.<sup>10</sup>

The last step is to aggregate all these equivalents of NTBs and antidumping measures with tariffs in order to get the rates of “overall” protection by industrial sector and for the whole EC economy. The method used differs for NTBs and antidumping measures. Concerning NTBs, the available ad valorem estimates have been added to the average tariffs of the sectors in question. Concerning antidumping, the aggregation procedure is as follows: For each sector, the share of tariff lines under antidumping measures (table 2.1 provides the number of tariff lines under antidumping measures) has been computed to get the share-weighted average ad valorem antidumping duty, which then has been added to the existing sectoral average tariff.<sup>11</sup> One could argue that this method as-

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of tariff lines). Third, the NTBs for “other agriculture” are the differences between the rate of overall (CSE-based) protection and the average MFN tariff. It is interesting that this procedure provides a rate of overall protection for “other agriculture” for 1999 (20 percent) very close to the rate of protection (aggregating ad valorem tariffs and ad valorem equivalents of specific tariffs) estimated by the WTO Secretariat (17.3 percent) for the same year.

9. In the case of coal (not included in the appendix A cases), ad valorem equivalents of NTBs are derived from estimates (Anderson 1995; Fundación de Economía Analítica 1998) of the German subsidies (weighted by the production share of German coal in the EC). It is assumed that there are no subsidies in the rest of the EC coal sector, a very conservative assumption for Belgium, France, Spain, and (since the recent arbitrage between coal and gas) Britain.

10. Combining 7 to 9 years of antidumping cases may seem inconsistent with the sunset clause in EC antidumping regulations, which requires the automatic expiration of antidumping measures after 5 years of enforcement. But, as shown in appendix B, there is strong evidence that the time span of antidumping measures has lasted more than 5 years (on average, 7–8 years, at least) because of delays, legal disputes, and “reviews” of all kinds, so that the effective impact of the sunset clause is limited.

11. Conservative methods have been used to count the number of lines. Double counting has been eliminated (tariff lines concerning two or more cases have been counted once). This approach explains almost entirely the decline in the number of tariff lines between 1995 and 1999 shown in table 2.1. Ignoring double counting would give 475 lines in 1995 and 449 lines in 1999 (comparing the latter figure with the 336 lines given in table 2.1 gives an indication of the intensity of harassment in certain sectors—mostly textiles and steel). Tariff lines

sumes that antidumping measures are applied on an MFN (nondiscriminatory) basis, whereas they are imposed only on certain countries. However, available evidence shows that de facto, they apply to all sources of competitive producers, and have a powerful “chilling” effect on the rest of the producers (Messerlin 1989).

## Overall Protection: Level and Evolution

The estimated rates of overall protection suggest five observations. First, the estimated *level* of EC *overall* protection is still high; the EC-wide average rate of overall protection until 1997 was roughly 13 to 14 percent, almost double the EC-wide average tariff. Moreover, following the Uruguay Round, this level declines only by a small amount, because it was still close to 12 percent in 1999. This modest decline is due to the fact that liberalization has been concentrated on already low rates of overall protection, as can be shown with table 2.1; sectoral rates of overall protection higher than 13 percent in 1995 declined by 18 percent in 1999, whereas sectoral rates lower than this threshold declined by 40 percent—note that these declines are *smaller* than those observed for the tariffs alone (23 and 52 percent, respectively; see above).

These results are far from being exclusively due to the heavily NTB-based protection of farm (ISIC 100) and food (ISIC 311 to 313) products. Of course, the rate of overall protection in agriculture was still high in 1999—more than 30 percent for the whole agricultural sector (see block C of table 2.1). If it declined between 1990 and 1995 (due to the increases of key world farm prices in 1995), it remained stable between 1995 and 1999, although the shift from border protection (reflected in the CSEs) to nonborder protection (mirrored in the PSEs) after the Uruguay Round is *not* captured in table 2.1 (which relies entirely on CSE-based tariffs). But NTBs and antidumping measures also increase the rate of overall protection of *industrial* goods *stricto sensu* by a third or two-thirds—from 6.7 to 11 percent in 1995, and from 4.3 to 7.7 percent in 1999 (see block B of the table).

Second, NTBs and antidumping measures tend to be *concentrated* in the same sectors: The decline in NTBs (imposed by EC member-states) ob-

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involved in cases terminated by a “no dumping” conclusion have been ignored but not those included in cases terminated by a “no injury” or in withdrawn cases, in order to take into account the “chilling” effect of antidumping complaints. Last, tariff lines specified with only six digits have been counted as only one tariff line: for instance, tariff line *xxxx.xx00* (where *x* represents numbers) has been counted as one tariff line, even if it includes two tariff lines *xxxx.xx10* and *xxxx.xx20*. One case (cotton fabric) has been treated in an ad hoc way. The 1994 version of this case has had much wider coverage than cases in subsequent years. Despite the fact that no measures have terminated the 1994 case, the tariff lines included in this case but not in the subsequent cases have been counted as if subjected to an antidumping “measure” of 3 percent, in order to take into account the “harassment” associated with the 1996 and 1997 versions of the same case.

served between 1990 and 1999 has often been compensated for by the expanding product coverage of Community antidumping measures (particularly in the cases of consumer electronics and textiles, but also in fisheries and mining) and by increasingly high antidumping measures (see appendix B)—again putting back to back the Fortress Europe and Open Europe arguments (Pelkmans and Carzaniga 1996, 99).<sup>12</sup> This evolution is worrisome, all the more because the average ad valorem tariff equivalent of antidumping measures increased from 17.5 percent (on a per tariff line basis) in 1990 to 22.4 percent—that is, almost three times the average MFN bound tariff—in 1999.

Of course, one could argue that the average antidumping ad valorem equivalent is only 0.8 percent when spread across *all* manufacturing sectors (in other words, antidumping contributes only 7 percent to the overall rate of protection). But this argument misses the point that this instrument has been used (so far) in 350–450 tariff lines only (of a total of almost 11,000). When one considers only the manufacturing sectors that have been effectively subject to antidumping procedures, antidumping contributes 13 percent to the rate of *overall* protection of these sectors.

The few sectors where NTBs have not been (so far) replaced by antidumping measures are cars and other transport equipment (ships, trains, aircraft, etc.), which could still rely on even more powerful alternative instruments of protection, such as norms, repressed competition at the distribution level, subsidies, tied contracts, and public procurement. A last source of re-protection is the permanent, substantial tariff “reshuffling” after 1995; creating more tariff lines allows getting tailor-made protection of existing domestic production (note that farm [ISIC 100] and food [ISIC 311–12] products, textiles [ISIC 321], and industrial chemicals [ISIC 351]—all very actively protected industries—are among the sectors with the highest number of tariff lines by unit of value added).<sup>13</sup>

Third, the most heavily protected sectors (farm and food products, textiles, and apparel) exhibit almost *constant* rates of protection between 1990 and 1997 (not shown in table 2.1), and the decline was very limited (if there was any) between 1997 and 1999. It should be added that a *declining* simple average rate of protection by sector can be consistent with a *constant* level of protection granted to domestic production if the imple-

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12. Our conservative method for reporting the number of tariff lines in antidumping cases has led to the elimination of more than a hundred lines in textiles for the years 1995 and 1997. If one takes into account this point, the trade coverage of antidumping cases in terms of nonfarm tariff lines is increasing from 3.5 percent (1990) to 4.6 percent (1997).

13. Indeed, there was a noticeable hike of the EC protection rate between 1995 and 1997 (13.9 to 14.3 percent). This hike is the arithmetical consequence of averaging over tariff lines (when calculating simple averages); there is no hike if one combines the level of protection in 1997 and the number of tariff lines in 1995. But it is important to emphasize that this hike has a real economic meaning, to the extent that it mirrors the protectionist impact of a much more detailed tariff schedule.

mented protectionist instruments are increasingly “better” targeting the domestic output to be protected—a hypothesis quite compatible with the “optimal” use (from the complainants’ point of view) of antidumping measures.

Fourth, the *dispersion* between rates of overall protection by sector is larger than the dispersion between sectoral tariff averages, because NTBs and antidumping measures vary between sectors more widely than tariffs (antidumping measures reach levels rarely achieved by industrial tariffs, even maxima tariffs, such as 80 or 100 percent).

Fifth, labor-weighted rates of overall protection are higher than the corresponding simple averages—suggesting that EC *overall* protection is concentrated in labor-intensive sectors, a result consistent with the perception of the EC as a relatively capital-abundant economy, and confirming the suggestion that protecting with NTBs and antidumping measures is much more attractive to vested interests than trying to modify tariffs. However, the differences between simple and labor-weighted averages appear to be smaller in 1999 than before. This evolution may reflect the fact that what counts in recent antidumping cases is sheer political clout and legal expertise, which reduce the need to demonstrate job losses and make the antidumping instrument equally available to capital-intensive as well as labor-intensive industries.

## Concluding Remarks

The above results complement, refine, and generalize those reached by two recent studies (Hoeller, Girouard, and Colechia 1998; Daly and Kuwahara 1998) by looking at a much more detailed production structure and by introducing the tariff equivalents of major trade barriers (NTBs and antidumping measures). When comparing the EC to the three other Quad countries (Canada, Japan, and the United States), the two other studies conclude that EC tariff protection is higher than in the United States and Japan (including after the full implementation of the Uruguay Round commitments).

The above exercise has two main limits. First, it relies exclusively on *nominal* tariffs (and tariff equivalents). *Effective* rates of protection (which take into account the impact of trade barriers imposed on inputs imported by domestic producers) are not provided in this study, because there is no input-output table available for the EC at the disaggregation level reached by table 2.1. Indeed, effective rates of protection based on the information provided in this chapter are unlikely to be very different from nominal tariffs, because the peaks of EC protection are largely eroded by the level (ISIC 3-digit) used for defining sectors (the “averaging” effect). That being said, it is clear that the EC production structure must face some very large

effective rates of protection, because tariffs higher than 50 or 100 percent are not so rare.

Second, the chapter provides no estimates of the level of protection for all the services. On the basis of appendix A, cases 20 to 22, chapter 3 provides estimates of the level of EC protection for three services (films, passenger air transport, and telecommunications) that range from 40 to 100 percent—suggesting huge costs of protection in EC services. These estimates of the level of protection are high when compared with other available estimates, which suggests that protection in services is no more than double the average merchandise protection (Hoekman 2000). This may be due to the fact that the absence of effective liberalization in services makes it very hard to find a good “free trade” benchmark in services, because links between prices and production costs are much looser in services than in manufacturing. For instance, retailers may not seem very well protected because the price of their services does not differ much between countries; but that tells little about potential differences in their production costs, which should constitute the basis for measuring the level of protection (and which are much better captured in the manufacturing sector).

