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Chapter Author: Carl B. Hamilton

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8 Restrictiveness and International Transmission of the "New" Protectionism

Carl B. Hamilton

8.1 Introduction

Developed countries on both sides of the Atlantic use nontariff trade barriers (NTBs) extensively to restrict imports from new competitors in manufacturing production. While these protectionist measures are frequently cited as one of the most serious threats to the international trading system, comparatively little is known about how restrictive they actually are and about how they affect trading patterns, prices, and expectations.[1] This paper estimates the restrictiveness of a subset of NTBs and then considers their effects on the trade pattern of North Atlantic developed countries (NADCs).

One reason for the lack of knowledge about NTBs is that they seem politically attractive precisely because they are difficult to identify, not transparent, and hard to evaluate.[2] Sometimes there is no official information on an NTB. In cases where information does exist, it is not always found classified under foreign trade. Examples are the (illegal)[3] industry-to-industry export restraint agreements between the footwear industries in the United Kingdom or France and South Korea, and the regulations in many countries on sanitary, hygienic, and phytosanitary standards and packing requirements for food imports.

Even knowing that an NTB exists tells us little about its restrictiveness. NTBs mentioned in official publications may prevent all imports, or may be used only occasionally, or the NTB may not be upheld at all by the authorities. For example, an import quota may never be filled, either because demand is low, or because other trade restrictions cause the quota to be underutilized. There is a Norwegian license requirement for import of Taiwanese footwear, for example, but licenses are never given. In the early 1980s, European quotas on certain textiles and clothing products were not binding for a period. The French footwear quotas against Taiwan have been much larger than the actual import volume for several years now.[4] Finally, regulations in bilateral trade agreements that limit exporters' ability to substitute between narrowly defined commodity categories and to carry over and carry forward underutilized quotas between periods can make full utilization of quotas extremely difficult.[5]

This paper measures the restrictiveness of one of the most important types of NTBs, Voluntary Export Restraints (VERs), applied to textiles and clothing, the commodity groups where the bulk of today's VERs are found.[6] Exports of textiles and clothing in 1984 constituted 9 percent of world trade in manufactures and 25 percent of developing areas' manufactured exports to industrial areas. Of these developing areas' exports, clothing amounted to 19 percentage points.[7] The "Big Three" developing-country exporters (Hong Kong, Taiwan, and South Korea) captured 60 percent of the U.S. import market for clothing in 1982, with Hong Kong's share 24 percentage points. In Europe, the Big Three are much smaller suppliers. They supplied 32 percent of the EC import market for clothing (excluding EC intra-trade), with Hong Kong furnishing over half of this amount, 18 percentage points.[8] Thus, by estimating the restrictiveness of VERs applied to the Big Three's clothing exports, one can learn much about how world trade in manufactures and total developing-country exports of manufactures are affected by VERs.

8.2 Restrictiveness of VERs applied to Hong Kong, Taiwan, and South Korea

In a previous paper (Hamilton 1986a), I investigated the restrictiveness of VERs on clothing exported from Hong Kong to the United States and to several European countries. I estimated the import-tariff equivalents (MTEs) on the basis of prices registered on the market for export-quota rights in Hong Kong and found that these rates were high, that they fluctuated considerably over time, and that they differed between Europe and the United States. In this paper I use two approaches to broaden the estimates of the restrictiveness of VERs to

include clothing exported from the other two members of the Big Three, Taiwan and South Korea.

8.2.1   Approach I: Direct Measurement

For Taiwan, official monthly prices for trade in export-quota rights were collected from 1980 to 1983. Officially, no quota trade was allowed during this period unless it was undertaken through the Taiwan Textile Federation (TTF). When an exporter traded export-quota rights through the TTF, the transaction and the price of the quota were registered. However, since the TTF is a quasi-public body, the recorded revenue was clearly visible to the tax authorities. For this reason, the TTF's officially reported quota prices are generally regarded as below the prices of quota traded "under the table." In practice, the Taiwanese authorities also permitted under-the-table quota trade.

After the beginning of 1984, the TTF no longer registered quota prices; the data on prices paid for quotas were gathered from the Chinese-language magazine *Quota Weekly*. Unfortunately, price data from *Quota Weekly* are available only for the first half of 1984.[9] The information collected from the TTF and *Quota Weekly* was used to calculate import-tariff equivalent rates for clothing exported from Taiwan to the United States, the United Kingdom, and West Germany.[10]

To be able to uphold their VER agreements under the Multifiber Arrangement (MFA), the United States and the European Community produce special trade statistics in which textiles and clothing products are classified in a large number of subcategories. These special trade statistics were used to calculate import unit values for European countries and unit values for exports to the United States, which then served as proxies for the rent-inclusive import and export prices.[11] The Hong Kong and Taiwanese quota prices were given in Hong Kong dollars and New Taiwanese dollars, by category, importing country, and time period. The quota prices (rents) and proxies for the rent-inclusive import prices could then be used to calculate half-yearly import-tariff equivalents of the Community's VER agreements with Hong Kong, and monthly export-tax equivalents for both the United States' agreements with Hong Kong and Taiwan. For the Community's trade with Taiwan, monthly import-tariff equivalents were calculated. In table 8.2 below, only yearly averages are given.[12]

8.2.2   Approach II: Indirect Measurement

A simple framework can be used to show how to derive the MTE rate of one exporting country from the known MTE rate of another exporting country. Let t_j^{xm} be the *ad valorem* tariff rate on product j exported from country x to importing country m, and let u_j^{xm} be the *ad valorem* import-tariff equivalent of a VER on product j exported

from country x to country m. Since only a single commodity is being considered, the subscript j is dropped here. The volume of exports from x to m is $e^{xm} \geq 0$. When exports are restricted by VERs, there is an upper limit, $e^{xm} \leq e^{-xm}$. Under these conditions, traders will extract the import-tariff equivalent of the VERs so as to maximize their profits. Assuming perfect competition in the market for rights to export, in equilibrium the zero-profit condition requires that

(1) $[p^m - p^x(1 + u^{xm})(1 + t^{xm})]e^{xm} = 0$ for $e^{xm} = e^{-xm}$

and

(2) $[p^m - p^x(1 + t^{xm})]e^{xm} = 0$ for $e^{xm} \leq e^{-xm}$,

where p^m is the domestic price in country m and p^x the domestic price in country x. It is assumed that circular trade is not profitable. Production in the importing country is assumed to be positive with domestic output being a perfect substitute in consumption for imports. When the constraint on the traded volume is binding and trade is positive, $0 < e^{xm} = e^{-xm}$, the relationship between p^x and p^m can be written

(3) $$p^x(1 + u^{xm})(1 + t^{xm}) = p^m.$$

Suppose we know the MTE rate for exporting country x, that is, u^{xm}. Is it possible from this piece of information to derive the MTE rate of another country exporting commodity j to the same market, m? This would be very useful, since it is normally difficult to measure MTE rates, and even impossible when export quotas are allocated entirely in an administrative way, e.g., through government regulation. In particular, can the Hong Kong MTE rates be used to derive the implicit MTE rates of the South Korean government's export-quota allocation system, as well as to derive an alternative estimate of Taiwan's MTE rates from those based on the TTF's and *Quota Weekly*'s quota prices? Such a derivation would be especially useful with South Korea, the second-largest exporter of clothing among the developing countries, because it was not possible to collect quota prices directly from South Korea.[13]

In the cases studied here it can be assumed that the differences in the transportation costs for the exports of the three exporting countries to their common destinations are insignificant. Writing out equation (3) for the trade of two exporting countries, k and h, with importing country m yields

(4) $$p^k(1 + u^{km})(1 + t^{km}) = p^m,$$

and

(5) $$p^h(1 + u^{hm})(1 + t^{hm}) = p^m.$$

Combining the two expressions, remembering that one of the MTE rates, u^{hm}, say, is known and that tariff rates can be obtained from official publications, that is, t^{hm} and t^{km} are known, one can write the following expression for country k's MTE rate:

(6) $\qquad (1 + u^{km}) = [p^h(1 + u^{hm})(1 + t^{hm})]/p^k(1 + t^{km}).$

The crucial information concerns the relationship between the supply prices in the two exporting countries. If they are equal, the estimation is straightforward. Furthermore, if one knows that the supply price in country k is no higher than that of country h, that is, $p^k \leq p^h$, then (6) yields a lower-bound estimate of country k's MTE rate. To be on the conservative side, the aim here is for such lower-bound estimates.

First, however, the possibility of quality differences among the three countries' clothing exports needs to be considered. To a large extent, quality differences are reflected in the Big Three's export mixes of MFA categories. These differences are taken into account in the calculations. For example, the fact that the export mixes of Taiwan and South Korea contain larger shares of high-tariff MFA categories explains the comparatively higher U.S. tariffs on exports from these two countries. Furthermore, quantitative restrictions stimulate profit-maximizing exporters to "upgrade" the quality of their restricted-export volume, and this tends to reduce quality differences within each commodity category. This means that exporters in the Big Three, all of which are mature clothing-exporting developing countries, will be found in the higher-quality segment within each MFA category. Thus, while there are quality differences among developing-country producers in general, in the exports of the Big Three as modelled in this paper, they are assumed to be insignificant.

Estimates of the unit cost of production are useful proxies for domestic prices in equation (6). What information can be derived from existing studies of unit costs of clothing production in general, and for Hong Kong, Taiwan, and South Korea in particular? Clearly, labor costs are an important cost component and probably the one that varies most among countries. "Labor costs in the apparel industry still represent 20 to 40 percent of the sales turnover [compared with 8 to 20 percent in modern textile plants, and] the required investment per employee in the apparel industry does not exceed $15,000, so obviously the hourly wage differences between one country and another are of significant importance in the apparel industry."[14] Table 8.1 presents hourly compensation data for production workers. Labor costs in Taiwan were lower than in Hong Kong, and were lower still in South Korea. To reach the Hong Kong level, the hourly compensation figure would have had to increase by 20 percent in Taiwan and by 60 percent in South Korea.

Table 8.1   Labor Costs in Textile and Clothing Production

Country	Clothing		Basic Textiles	
	Hourly Compensation for Production Workers[a] Average 1981–83		Hourly Labor Cost incl. Soc. Charges[b] Winter 1985/86	
	US$	Index	US$	Index
Hong Kong	1.58	21	1.81	21
Taiwan	1.32	18	1.60	18
S. Korea	0.98	13	1.57	18
Portugal	1.56[c]	21	1.27	15
U.S.	7.38	100	8.67	100
W. Germany	9.20	125	8.88	103
U.K.	5.10	69	5.90	69
France	6.46	88	7.44	86
Italy	6.65	90	8.22	95
Spain	4.09	55	3.54	41
Sweden	9.15	124	9.61	111
Japan	4.43	60	8.20	95
Brazil	1.45	20	1.67	19
Thailand			0.53	6
China			0.20	2
India	0.43[d]	6	0.61	7

[a]"Hourly compensation" consists of two parts: "hourly wage rates" and "additional compensation." Source: U.S. Dept. of Labor Statistics, Office of Productivity and Technology.

[b]"Social charges" includes "other costs paid by operator" and "other costs paid by company." Dollar figures based on exchange rates as of 15 January 1986. Source: Werner International Management Consultants, Brussels and New York.

[c]1981 and 1982 only.

[d]1981 only.

By adjusting wage costs for differences in labor productivity, we can obtain unit labor costs. With regard to labor productivity in clothing production, the comment is frequently made that the NICs as a group have caught up, or almost caught up, with labor productivity levels in developed countries. "From 1972 to 1982 productivity levels [in the group of newly industrialized countries, the NICs] almost reached those of the industrialized countries,"[15] where the NICs are defined to include Hong Kong, Taiwan, Portugal, and South Korea. "[High and rising productivity in industrialized countries] is probably not an effective counter to low wage costs in the clothing industry since the skills are, generally, easily acquired, and the machinery available—especially for sewing—is not exceptionally sophisticated. Studies of clothing industries in various locations in poor countries have shown the number of pieces produced per hour to be not much lower—or even higher—than

in Europe, the United States, or Japan."[16] The U.S. International Trade Commission, in a 1985 study of emerging textile-exporting countries, considered the Big Three as having approximately the same labor productivity.[17]

Capital costs, the other main cost component, are small in clothing as compared with most other industries. Capital costs are not subsidized in Hong Kong, and government-subsidized loans to apparel production for export in South Korea have been comparatively small.[18] Taiwan also has not pursued a policy of subsidizing capital costs.

Thus, we may conclude that Taiwanese and South Korean wages in the clothing sector, if anything, are below those in Hong Kong; that labor productivity is approximately the same in Hong Kong, Taiwan, and South Korea; and that unit costs are slightly lower in Taiwan and South Korea than in Hong Kong. Consequently, from Hong Kong data one can derive lower-bound estimates of the MTE rates and VER rents in Korean and Taiwanese clothing exports to the United States, West Germany, the United Kingdom, and the European Community.

Table 8.2 presents the directly and indirectly estimated MTE rates. U.S. tariffs are higher than those of the EC. The difference is accounted for in part by the fact that the U.S. tariff is levied on the (rent-inclusive) export price when the goods have been delivered free on board (f.o.b.) in the exporting country, while the EC tariff is levied on the (rent-inclusive) import price that includes handling costs, insurance, and freight costs (c.i.f.).[19] As expected, the TTF-based MTE rates are lower than the *Quota Weekly* figures, although the time periods do not overlap exactly, and they are also lower than the lower-bound MTE rates derived from Hong Kong data.

8.2.3 Estimates of VER Rents to the Big Three

We know that VERs transfer the rent from protection to the exporting country. Knowing these MTE rates, as well as the volumes traded, we can calculate the rent income transferred from the United States, West Germany, the United Kingdom, and the European Community to Hong Kong, Taiwan, and South Korea. These estimates are presented in table 8.3. However, it should be stressed that the rents of Taiwan and South Korea are lower-bound estimates. The rents to Hong Kong are considerably larger than those of Taiwan and Korea. Rents from exports to the United States constitute around 80 percent of the total rent from Europe and the United States in 1982–83. The higher U.S. rent transfer can be explained partly by the strong U.S. domestic demand in 1982–83 as compared with that in Western Europe. Since European demand was weaker, European VERs were less restrictive, and thus rents transferred were smaller. (For Hong Kong, the total rent income was about 1 percent of GNP in 1982–83.)

Table 8.2   **Trade Barriers against Clothing Imported from Hong Kong, Taiwan, and South Korea by North Atlantic Developed Countries (percent)**

		Import-Tariff Equivalents						Combined Trade Barrier
	Tariff Rate	1980	1981	1982	1983	1984 1–5	Avg.	
U.S.:								
Hong Kong	22	37					—	67
Hong Kong	27			9	37	47	28	64
Taiwan, TTF	31	3	5	5	8		5	38
Taiwan, QW	31					22	—	60
Taiwan, hk	23	25					—	54
Taiwan, hk	31			5	19		12	47
Korea, hk	23	15					—	42
Korea, hk	30			4	19		12	45
West Germany:								
Hong Kong	17		26	3	11	8	13	32
Taiwan, TTF	17	8	8	6	5		7	25
Taiwan, hk	17		20	3	6		10	29
Korea, hk	17		15	2	5		7	25
U.K.:								
Hong Kong	17		20	11	7	19	15	35
Taiwan, TTF	17	9	7	4	6		7	25
Taiwan, hk	17		14	5	4		8	26
Korea, hk	17		13	6	5		8	26
France:								
Hong Kong	17		18	12	7	7	13	32
Taiwan, hk	17		21	13	7		14	33
Korea, hk	17		20	14	6		13	33
EC-10:								
Hong Kong	17		18	7	9		14	33
Taiwan, hk	17		19	4	5		9	28
Korea, hk	17		16	5	5		9	27

[a]Taiwanese MTEs are based on the TTF and the *Quota Weekly* (QW) quota prices, respectively. "hk" means derived from Hong Kong quota prices. The average figures for the Community countries' import tariff equivalents for imports from Hong Kong are averages over a period stretching from the 3d quarter of 1980 to the 1st quarter of 1984. The corresponding average for the United States is from January of 1982 to May of 1984. The yearly MTE rates for the European Community are averages. "1984, 1–5" means January to May of 1984. Concerning the United States, the figures relating to Hong Kong in 1980 (and the rents presented in table 8.3) are calculated from the data in M. Morkre, *Import Quotas on Textiles*, Bureau of Economics Staff Report to the Federal Trade Commission, August 1984, Washington, D.C. Morkre's data cover a small set of MFA categories having a lower tariff rate (import-value-weighted) than my own set of commodities of later years.

Table 8.3   **Rent Income to Hong Kong, Taiwan, and South Korea from**
                       Voluntary Export Restraints on Clothing Exports (millions of U.S.
                       dollars, 1985 prices)

Country	1980	1981	1982	1983	Total 1982–83
U.S.:					
Hong Kong	218		129	423	552
Taiwan, TTF	29	36	46	69	115
Taiwan, hk	54		48	164	212
Korea, hk	37		52	93	145
Total U.S.:					812–909
West Germany:					
Hong Kong		87	20	37	57
Taiwan, TTF	13	10	7	5	12
Taiwan, hk		22	3	6	9
S. Korea, hk		27	3	6	9
Total Germany:					78
France:					
Hong Kong		3	2	1	3
Taiwan, hk		1	0	0	0
S. Korea, hk		7	5	1	6
Total France:					9
United Kingdom:					
Hong Kong		72	37	25	62
Taiwan, TTF	6	5	2	3	5
Taiwan, hk		8	3	2	5
S. Korea, hk		18	8	4	12
Total U.K.:					79
EC-10:					
Hong Kong		189	73	76	149
Taiwan, hk		39	7	9	16
S. Korea, hk		75	21	16	37
Total EC-10:					202
Total U.S. and EC-10:					1014–1111

   The considerable variation in rents over the business cycle points to
a problem associated with the recent U.S. suggestions that the gov-
ernment should retain the rent from its import protection by auctioning
import rights and then use this revenue to subsidize the adjustment of
labor and capital to changed comparative cost conditions.[20] Govern-
ment subsidies to increase labor mobility and retrain labor are usually
preferable to import barriers, and these subsidies would be needed
most in times of recession. However, the auction-financed revenue
would be at its lowest in a recession and at its highest in a boom. For
the system to work, one would have to transfer revenues obtained from
quota auctions in boom periods to recession periods.

8.3   Effects of NTBs on the Cross-Atlantic Trade Pattern

8.3.1   Theory

The tariffs of the United States, Canada, and the Western European countries (here defined as the EC and EFTA combined) on imports of manufactured goods are levied against all countries. But when it comes to NTB's, the situation is quite different. The United States, Canada, and Europe—the North Atlantic developed countries—do not apply NTBs against manufactured imports from each other (except for steel), whereas they often apply NTBs against "sensitive" manufactured imports (textiles, clothing, and footwear) from the rest of the world. The United States, Canada, and Europe constitute a North Atlantic trade area free of internal NTBs on manufactures.[21] For a given "sensitive" commodity, the NADCs do not necessarily apply NTBs to *all* countries in the rest of the world, or to the *same* set of exporters.

For important manufactured exports from less developed countries (LDCs), the set of restricted LDCs is fairly similar; for example, in textiles and clothing, the restricted LDCs are basically the MFA signatories plus Taiwan. For the U.S. and European footwear industries between 1977 and 1985, the restricted group was Brazil, South Korea, and Taiwan.

The NADCs' practice of maintaining only tariffs against each other while simultaneously also imposing NTBs against the rest of the world gives rise to an interdependence between the trade policy measures of these countries. This can be illustrated in the following analysis where only two NADC trading partners are considered, Europe (country e) and the United States (country s). Two cases can be distinguished that depend on whether *both* or only *one* of these countries use NTBs to restrict imports from the rest of the world. (Each imposes tariffs against the other and the rest of the world.)

Case 1: Both the United States and Europe employ NTBs to restrict imports from all countries except each other.

Consider the situation facing European producers of the NTB-restricted commodity. They can sell either in Europe at the European domestic price, p^e, or they can sell in the United States. If they sell in the U.S. they face the U.S. (*ad valorem*) tariff barrier for the commodity, $1 + t^{es}$, and they must cover transport cost, insurance costs, etc.[22] The Europe-to-U.S. transport and insurance costs are here expressed in *ad valorem* terms as $1 + z^{es}$. Denoting total European output by q^e, the volume exported to the United States by q^{es}, and the domestic U.S. price by p^s, one of the following two expressions will hold on the margin:

$$(7) \qquad p^e(1 + t^{es})(1 + z^{es}) = p^s \qquad \text{for } 0 < q^{es}$$

(8) $$p^e(1 + t^{es})(1 + z^{es}) > p^s \quad \text{for } 0 = q^{es}$$

The first expression states that for Europe-to-U.S. trade to take place the domestic U.S. price equals the combination of the domestic European price, the U.S. tariff, and the transport costs. If not, equation (8) holds; that is, there will be no trade. From (3) the equations for domestic prices in Europe and the United States can be written as:

(9) $$p^e = p^x (1 + t^{xe})(1 + u^{xe})$$

and

(10) $$p^s = p^x(1 + t^{xs})(1 + u^{xs}),$$

where p^x is the domestic price in the rest of the world. Assuming that Europe-to-U.S. trade takes place, i.e., (7) holds, and inserting (9) and (10) into (7), we can then write:

(11) $$p^x(1 + t^{xe})(1 + u^{xe})(1 + t^{es})(1 + z^{es}) = p^x(1 + t^{xs})(1 + u^{xs}).$$

If one ignores existing tariff preferences, and assumes that Europe and the rest of the world face the same tariff in the United States, this expression reduces to (12). The assumption of identical tariffs faced by European and rest-of-the-world suppliers in the United States is likely to hold for commodities subject to NTBs. Typically, tariff preferences on "sensitive" commodities are minimal in the United States and Europe.

(12) $$1 + u^{xs} = (1 + u^{xe})(1 + t^{xe}) (1 + z^{es}).$$

Equation (12) states that where there is Europe-to-U.S. trade, an increase in the restrictiveness of U.S. NTBs will cause prices to rise in Europe. Suppose import quotas are reduced, or rules of origin for countries in the rest of the world are changed in order to restrict imports. If introduced by the United States, such policy changes would increase the U.S. MTE rate, u^{xs}, and raise the domestic U.S. price. This in turn would lead to increased imports from unrestricted European producers. Since in case 1 imports into Europe are assumed to be fixed because of European NTBs, the increased exports from Europe to the United States would reduce overall supply in Europe, and consequently increase the domestic price in Europe. To achieve a given percentage increase in the U.S. price by increasing the restrictiveness of U.S. NTBs, U.S. imports from the rest of the world must be reduced by a larger volume than would be the case without interdependence between the United States' NTB policy and European exports to the United States. In other words, the more restrictive U.S. NTB must reduce the overall supply in the *combined* NADC market to raise the domestic price in the United States.
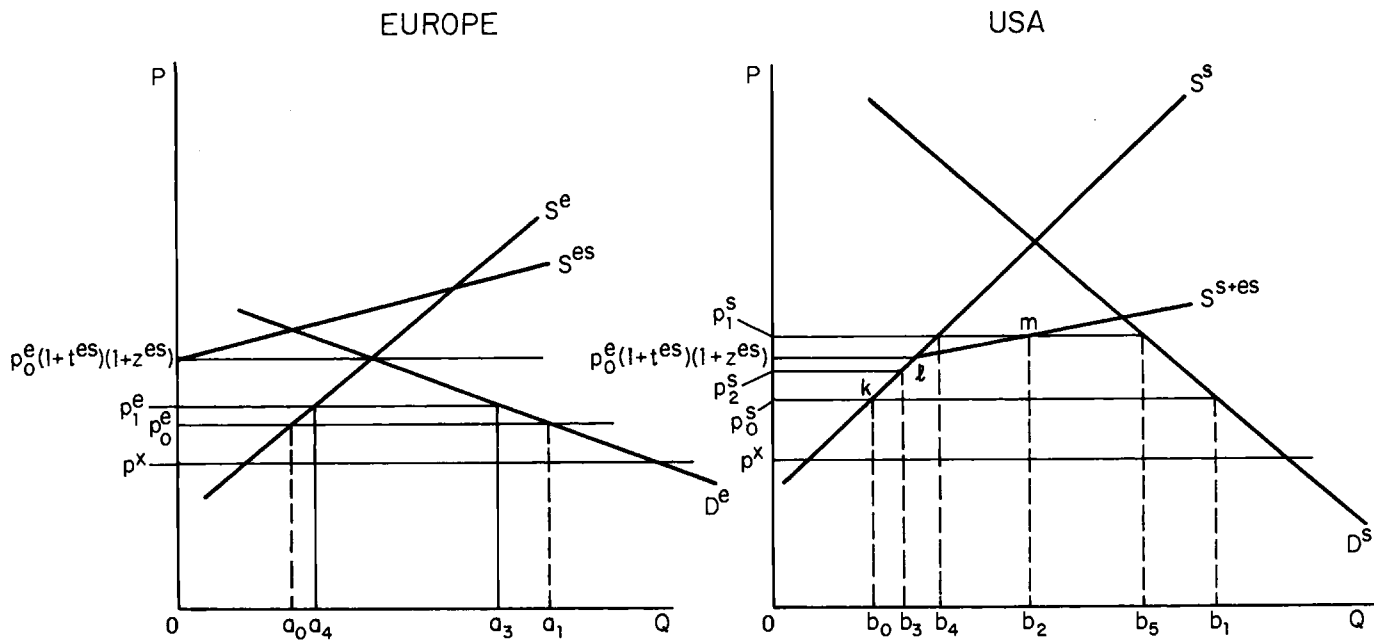
Case 1 is illustrated in figure 8.1, which depicts the supply and demand curves of the two countries, "Europe" and "U.S.A.," and the European export supply curve, S^{es}. The world market price is p^x, and is assumed to be constant (this is discussed later). The domestic European price is above the world market price at p_0^e because imports from the non-NADCs—"the rest of the world"—are restricted to $a_0 a_1$, so that domestic supply in Europe is $0a_0$. U.S. producers sell at home at the price of p_0^s, which in the figure is assumed to be above the European domestic price even if European tariff and transport costs are zero. At price p_0^s, the domestic U.S. supply is $0b_0$ and imports are $b_0 b_1$. Assuming that the higher U.S. domestic price is not high enough to cover the tariff and transport costs that Europeans face when selling in the U.S. market, all imports originate in the rest of the world.

When the U.S. government decides to reduce imports from the rest of the world, the U.S. domestic price increases from p_0^s to p_2^s and U.S. production increases from $0b_0$ to $0b_3$. This has no effect on trade with Europe. However, suppose the U.S. government reduces imports from the rest of the world even further, to $b_2 b_5$. Trade deflection is prevented in the real world by rules of origin. Consequently, such rules are assumed here to prevent European importers from buying from the rest of the world and reselling such goods in the United States. In this case, the U.S. domestic price reaches the level at which European producers find it profitable to sell in the United States, in other words, at the price $p_0^e (1 + t^{es})(1 + z^{es})$. When this price is reached, the U.S. market supply curve kinks at ℓ. Beyond ℓ the combined U.S.-European supply curve is S^{s+es}. The U.S. price increases to p_1^s, U.S. domestic production increases to $0b_4$, and European production sold in the U.S. is $b_4 b_2$. European production and price increase to $0a_4$ and p_1^e, respectively, and European consumption is reduced to $0a_3$. The European exports to the United States are the result of both an increase in European production and a decrease in European consumption.

Case 2: Only one of the two NADC partners maintains an NTB against the rest of the world on the commodity in question. Suppose Europe protects itself only with an *ad valorem* tariff and that the European tariff is lower than the combined tariff equivalent of the U.S. tariff and the U.S. NTB. (Otherwise the trade flow would be reversed.) The European domestic price is $p_0^e = p^x(1 + t^{xe})$, and again making the simplifying assumption that $t^{es} = t^{xs}$, (12) can be rewritten as,

(13) $(1 + t^{xe})(1 + z^{es}) = (1 + u^{xs}).$

Equation (13) states that, when trade takes place, there is an upper limit on the restrictiveness of the U.S. NTB that is determined by the *European* tariff rate against the rest of the world and by cross-Atlantic

EUROPE

USA

P

S^e

S^{es}

$p_0^e(1+t^{es})(1+z^{es})$

p_1^e

p_0^e

p^x

D^e

0 a_0 a_4 a_3 a_1 Q

P

S^s

S^{s+es}

p_1^s

$p_0^e(1+t^{es})(1+z^{es})$

p_2^s

p_0^s

p^x

m

k

l

D^s

0 b_0 b_3 b_4 b_2 b_5 b_1 Q

Fig. 8.1   Case 1: Two policy intervals

transport costs. In the extreme case, European producers will export their entire output to the United States while the European market will be served exclusively by imports from the rest of the world. If the United States (or in the reverse case, Europe) wants to prevent its NADC partner from increasing exports as it tightens NTBs against the rest of the world, it must also introduce an NTB on imports on cross-Atlantic trade.

Figure 8.2 illustrates case 2. At the world market price of p^x and a tariff equal to $p_0^e\, p^x$, Europe imports $a_0 a_1$ from the rest of the world. Suppose again that the U.S. government decides to reduce imports from the rest of the world. Considering a U.S.-to-Europe transmission of protection, one can distinguish among three policy intervals.

Interval I: No policy transmission. As long as the U.S. domestic price increase resulting from the tighter NTB is kept below the European supply price, $p_0^e(1 + t^{es})(1 + z^{es})$, the increase in U.S. domestic supply and the effect on U.S. consumers and producers is determined by the U.S. supply curve only (along $k\ell$). Exporting from Europe does not take place, that is, $q^{es} = 0$, and $p^s < p_0^e(1 + t^{es})(1 + z^{es})$.

Interval II: Complete policy transmission. Suppose U.S. imports from the rest of the world are reduced further. The U.S. domestic price reaches the supply price of imports from Europe, so that the supply curve kinks at ℓ and is horizontal up to m. Imports to Europe from the rest of the world increase by the same amount as European exports to the United States, an amount shown by the segment ℓm on S^{s+es}. U.S. production remains unchanged at $0b_2$. Within Europe, domestic producers now supply less than $0a_0$, the difference between $0a_0$ and the Europeans' supply of European home demand being exported to the U.S.A. In this situation, $q^{es} \le q_0^e$, where q_0^e is the initial level of European production ($0a_0$ in the figure), and $p^s = p_0^e(1 + t^{es})(1 + z^{es})$.

Interval III: Modified policy transmission. If U.S. imports from the rest of the world are reduced even further, the point m is reached where S^{s+es} kinks upward and intersects with the U.S. domestic demand curve at n. The U.S. price increases to p_1^s; U.S. consumption falls; U.S. production increases to $0b_3$; and imports from Europe increase beyond the initial European production volume of $0a_0$ to $0a_2$, since the price of European output sold in the U.S. increases to p_1^s. In Europe a wedge is driven between the export price received by producers and the import price p_0^e paid by consumers. Since there is no European production for home demand, the European government could, in principle, dismantle its protection without affecting the price received by European producers, i.e., allow its consumers to enjoy the world market price p^x while its producers sell at the higher U.S. domestic price.

If Europe imports its entire domestic demand from the rest of the world, would this drive up the world market price? No, because the

EUROPE

USA
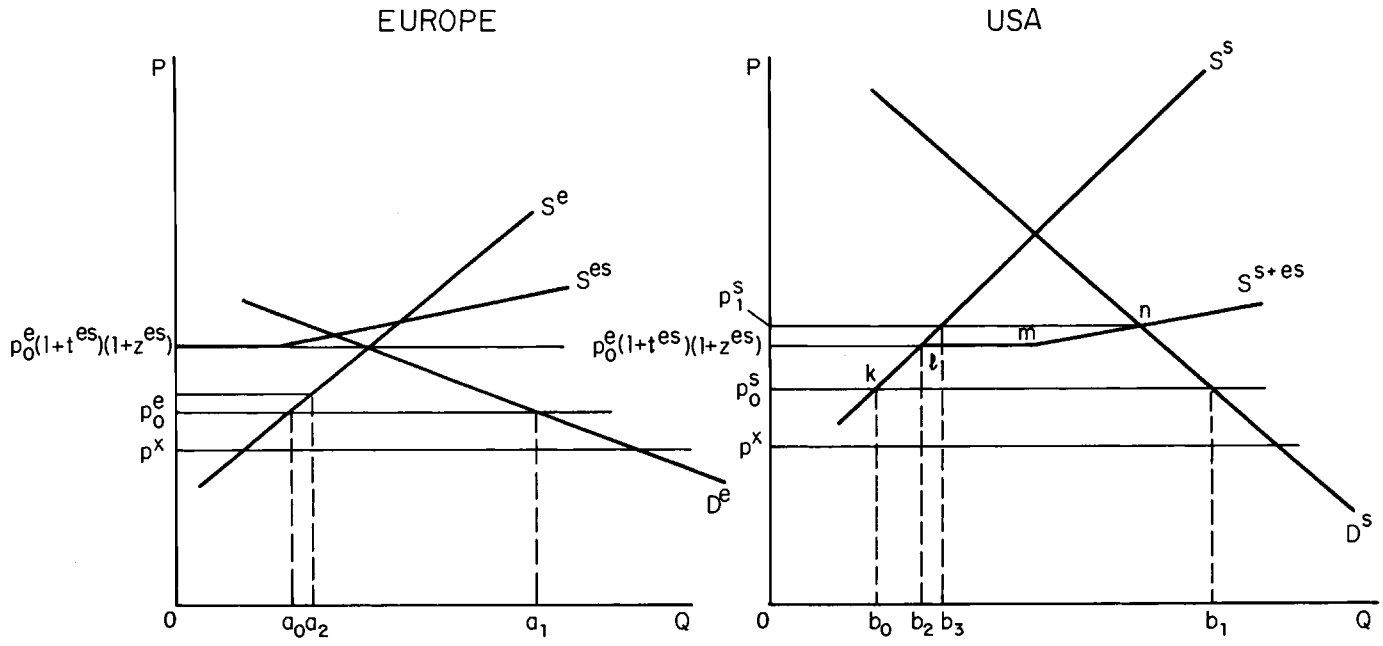
Fig. 8.2   Case 2: Three policy intervals

suppliers in the rest of the world can redirect the supply originally intended for the United States to Europe, and the combined U.S. and European demand from the rest of the world will remain unchanged (along ℓm) or fall (beyond m). If anything, the world market price will fall. In this policy situation, $q_0^s \leq q^{es}$ and $p_0^s(1 + t^{es})(1 + z^{es}) < p^s$.

It is sometimes said that developed-country tariffs are no longer important. However, as cases 1 and 2 indicate, this view overlooks the (potential) interplay between one importing country's NTBs and another importing country's tariff levels. More specifically, it is not necessarily one country's NTB combined with its tariff that determines its combined trade barrier on a product.

Suppose both NADC partners initially maintain NTBs, but then one (say, Europe) liberalizes imports. Case 2 represents this situation. If Europe lowers its nontariff trade barriers, this stimulates European producers to look towards the United States, since that market becomes relatively more lucrative. Consequently, the U.S. domestic price is reduced.

The EC-EFTA countries' liberalization of textile and clothing imports from Spain and Portugal through the enlargement of the EC illustrates how reduced protection may also be transmitted to another country, namely, the United States. Portugal has a well-established, competitive textile and clothing industry, but presently faces quantitative restrictions (VERs) on its exports to the EC and EFTA countries.[23] Wage rates in Portuguese textile and clothing production are shown in table 8.1. They are not only below those of the United States and northern European countries, but are close to the levels of Hong Kong, South Korea, and Taiwan. These wage levels should give Portugal a competitive edge in Europe when the EC-EFTA VERs are removed in 1990. If, as would be expected, the European price on textiles and clothing then declined, other European suppliers would export to the United States. The case 2 mechanism would be put in motion, reducing the U.S. domestic price and production. No U.S. rules of origin that discriminate against textile and clothing exports from Portugal could prevent such an indirect trade deflection.

8.3.2   Empirical Evidence

Is it possible to observe such transmission effects on intra-NADC trade because of NTBs on "sensitive" commodities? Can NTBs be said to have caused larger cross-Atlantic trade flows than otherwise would have occurred?

Ideally one would like to compare two sets of commodities: those subject to NADCs' NTBs and those not subject to such NTBs, with *both* sets displaying the same shift in comparative advantage away from NADC producers to producers in the rest of the world. In practice,

the problem with such a comparison is that almost all developing-country manufacturing exports in which important shifts in comparative advantage have taken place are subject to NTBs. Thus, the set of commodities displaying the same shifts in location of production as the commodities where the bulk of NTBs are found is too limited to be useful as a "control" group. What I will use instead to indicate the effect of NTBs on trade flows is a comparison of changes in suppliers' shares of home demand (apparent consumption), specifically: (a) domestic, (b) partner NADC, and (c) rest-of-the-world suppliers.

Home demand of commodity j is defined as domestic production, P_j, plus imports, M_j, minus exports, E_j. The supply of home demand is then divided into the following three sources of origin (dropping the subscript j):

a. Domestic share of home demand (D): $D = (P - E)/C$
b. NADC countries' share of home demand (N): $N = M^{NADC}/C$
c. Rest-of-the-world's share of home demand (X): $X = M^X/C$

In any one year, these shares sum to unity, with the change in the combined shares between any two years summing to zero. In the traditional literature on customs unions, $\Delta N \geq 0$ implies gross trade creation. However, the measure of gross trade creation does not tell whether $\Delta N \geq 0$ has been at the expense of domestic supply (a shift from high- to low-cost suppliers) or rest-of-the-world supply (a shift from low- to higher-cost partner suppliers). To ascertain this, net trade creation is defined as $\Delta D \leq 0$. Furthermore, $\Delta X \leq 0$ is defined as trade diversion.

If it is assumed that the NADCs have lost comparative advantage in a commodity, one would expect to find that, in the absence of NTBs against the rest of the world, there would be net trade creation, in other words, $\Delta D \leq 0$, and an increase in the share of imports in home demand would come mainly from the rest-of-the-world suppliers. However, since it is known that NTBs in some instances have covered only part of a commodity category—for example, only certain types of footwear—and have not always covered all exporters, one should allow for the possibility of NTBs' being "leaky" rather than "watertight." Thus, the following hypotheses are formulated: In the absence of NTBs, and given the lower costs of the rest-of-the-world suppliers, one would expect $\Delta D < 0$, $\Delta N < 0$, and $\Delta X > 0$. With NTBs one would expect $\Delta N \geq 0$, and, if the NTBs were "leaky," one would expect that $\Delta X > \Delta N$, but still with $\Delta N > 0$. Summarizing the hypotheses:

In the absence of NTBs: $\Delta D < 0$, $\Delta N < 0$, and $0 < \Delta X$
With "watertight" NTBs: $\Delta D \leq 0$ or $0 \leq \Delta D$, $0 \leq \Delta N$, and $\Delta X \leq 0$
With "leaky" NTBs: $\Delta D \leq 0$, $0 < \Delta N$, and $\Delta N < \Delta X$

Five NADCs—the United States, West Germany, France, the United Kingdom, and Sweden—are studied, first separately and then as a combined group. Their shares in 1975 and 1983 are compared, and then also are compared to the U.S. shares for 1981 and 1983. The latter comparison is of interest because the U.S. dollar appreciated significantly between those two years (40 percent against the European Currency Unit, ECU).

Commodities are classified on the basis of the three-digit ISIC code. For the United States, four NTB-restricted commodity groups are studied: textiles (ISIC 321), clothing (322), footwear (324), and basic iron and steel (371). This last group differs from the others in that there are NTBs between Europe and the United States (as well as subsidies, minimum-price rules, production quotas, etc.). However, the trade-restricting actions taken by the NADCs against each other in steel were designed to be in line with historical trade patterns. That is, the NTBs in steel tend to take the form of discrimination against the newly industrialized countries.

Table 8.4 indicates the share of U.S. domestic demand supplied by domestic producers, by exporters in other NADCs, and by the rest of

Table 8.4   **Shares of Apparent Consumption: the United States (percent)[a]**

Commodity	1975	1981	1983	Change 1975–83	Change 1981–83
Textiles:					
Domestic	96.3	94.5	94.7	− 1.6	+ 0.2
NADCs	1.2	1.6	1.5	+ 0.3	− 0.1
ROW	2.5	4.0	3.8	+ 1.3	− 0.2
Clothing:					
Domestic	90.2	81.6	79.7	− 10.5	− 1.9
NADCs	1.2	1.2	1.5	+ 0.3	+ 0.3
ROW	8.6	17.2	18.8	+ 10.2	+ 1.6
Footwear:					
Domestic	76.2	67.8	56.7	− 19.5	− 11.1
NADCs	9.4	8.0	9.6	+ 0.2	+ 1.5
ROW	14.4	24.2	33.8	+ 19.3	+ 9.6
Steel:					
Domestic	90.4	86.1	87.1	− 3.3	+ 1.0
NADCs	3.9	6.3	5.4	+ 1.5	− 0.9
ROW	5.6	7.5	7.5	+ 1.8	− 0.1

Source: Constructed from "The OECD Compatible Trade and Production Data Base 1970–1980," OECD Department of Economics and Statistics, Working Paper no. 31, March 1986, Paris.

[a]NADC is North Atlantic developed countries and ROW is rest of the world. Figures have been rounded off.

the world between 1975 and 1983. For textiles, the changes in shares of home demand are small, and the hypothesis of "leaky" NTBs appears to hold for the 1975–83 period. With clothing, there was much more net trade creation. With the rest of the world taking almost all of the reduced domestic share of home demand, the hypothesis again holds that NTBs were "leaky" yet produced some trade deflection. The net trade creation in footwear was almost twice as large as in clothing—particularly so after 1981, when the U.S. restrictions on non-rubber footwear imports from Taiwan and South Korea were lifted. The "leaky"-NTBs hypothesis holds both for 1975–83 and for 1981–83.

Steel imports behaved similarly to textiles. Thus, over the period 1975–83, there was net trade creation. NADC partners' shares of U.S. home demand increased, but less than the increases from the rest of the world. U.S. NTBs were "leaky," and permitted import penetration by the rest of the world, especially in clothing and footwear. The increases in NADC partners' shares of U.S. home demand likely slowed down the observed increases in the rest of the world's import penetration into the United States.

Table 8.5 shows developments in France, West Germany, the United Kingdom (all of them members of the Community), and Sweden (a member of EFTA) in clothing and footwear trade. For these four European countries, the NADC group includes partners in EC and EFTA that have tariff-free access. There is net trade creation in all four countries in both commodities. Apart from West Germany, the NADCs' shares of home demand in clothing increased more than the shares of suppliers in the rest of the world. Consequently, the "leaky"-NTBs hypothesis does not hold for France, Sweden, and the United Kingdom. Sweden stands out as a country in which the partner share increased much more than the share of the rest of the world. With regard to footwear, all European countries experienced much faster growth in import penetration of NADC partners than in import share of the rest of the world. Overall, the net trade creation in Europe benefited NADC suppliers much more than in the United States, but domestic shares of home demand in clothing were lower in Europe than in the United States.

Finally, in table 8.6 all NADCs are treated as a group (the United States, Canada, Belgium-Luxembourg, Finland, France, West Germany, Italy, Netherlands, Norway, Sweden, and the United Kingdom). In addition to the four commodity groups mentioned above, a group of "all other manufactures" is included.[24] Over the period, there was net trade creation in the "all other manufactures" category of minus 3 percent; the rest of the world (which includes Japan[25]) accounted for just over half of that net trade creation.

Table 8.5   **Shares of Apparent Consumption: France, West Germany, the United Kingdom, and Sweden (percent)[a]**

		1975	1983[b]	Change 1975–83[c]
France:	*clothing*			
Domestic		83.4	66.9	− 16.5
NADCs		11.3	19.9	+ 8.5
ROW		5.2	13.3	+ 8.0
	footwear			
Domestic		83.2	66.5	− 16.7
NADCs		11.8	23.0	+ 11.2
ROW		5.0	10.5	+ 5.5
Germany:	*clothing*			
Domestic		55.1	26.8	− 28.3
NADCs		24.8	35.1	+ 10.3
ROW		20.1	38.1	+ 18.0
	footwear			
Domestic		56.7	38.9	− 17.8
NADCs		34.6	45.2	+ 10.6
ROW		8.7	15.9	+ 7.2
U.K.:	*clothing*			
Domestic		72.5	60.0	− 12.5
NADCs		11.5	18.2	+ 6.7
ROW		16.0	21.8	+ 5.8
	footwear			
Domestic		80.5	64.0	− 16.5
NADCs		10.4	22.1	+ 11.7
ROW		9.1	13.9	· + 4.8
Sweden:	*clothing*			
Domestic		38.0	14.0	− 24.0
NADCs		42.4	55.9	+ 13.6
ROW		19.7	30.0	+ 10.4
	footwear			
Domestic		36.1	20.9	− 15.3
NADCs		52.3	63.1	+ 10.8
ROW		11.6	16.1	+ 4.4

Source: Same as table 8.4.

[a]NADCs is North Atlantic developed countries and ROW is rest of the world. Figures have been rounded off.

[b]For Sweden 1981.

[c]For Sweden 1975 to 1981.

Textiles display about the same changes as "all other manufactures." Clothing and footwear, in contrast, had more net trade creation and the rest-of-the-world suppliers increased their shares of clothing and footwear relatively more than of textiles. In steel, there was little net trade creation and the increased import penetration was due entirely

Table 8.6 **Shares of Apparent Consumption: North Atlantic Developed Countries (NADCs) Combined (percent)**[a]

Commodity	Source	1975	1983	Change 1975–83
Textiles	Domestic	83.9	80.6	−3.3
	NADCs	14.8	16.0	+1.2
	ROW	1.3	3.4	+2.1
Clothing	Domestic	78.6	69.3	−9.3
	NADCs	12.0	13.0	+1.0
	ROW	9.4	17.7	+8.3
Footwear	Domestic	73.1	56.1	−17.0
	NADCs	18.5	23.9	+5.4
	ROW	8.4	20.0	+11.6
Steel	Domestic	85.0	84.5	−0.5
	NADCs	13.8	14.4	+0.6
	ROW	1.2	1.1	−0.1
All other manufactures				
	Domestic	82.9	79.9	−3.0
	NADCs	13.5	14.9	+1.4
	ROW	3.6	5.2	+1.6

Source: Same as table 8.4
[a]ROW is rest of the world. Figures have been rounded off.

to NADC suppliers. There was even a slight trade-diversion effect against the rest of the world.

In summary, net trade creation seems to have been much stronger in clothing and in footwear than in textiles, "all other manufactures," and steel. In clothing and footwear, the NADCs' partner penetration of home demand was larger than with "all other manufactures," but smaller than the penetration of the rest-of-the-world suppliers. One interpretation of this is that, while NTB protection against the rest of the world has not been "watertight," it has still generated increased intra-NADC trade in clothing, footwear, and steel.[26]

Considering just textiles and clothing under the MFA, there are indications that there has been significant trade deflection since 1983. No doubt the United States became more restrictive in its bilateral agreements with developing MFA suppliers after 1982. The United States also changed its rules of origin for textiles and clothing so as to restrict imports. (Hong Kong and China were primarily affected by this.) In combination with the strong demand for imports in the United States, this policy is likely to be the major factor behind the widening gap between the growth of imports from restrained developing-country producers and from unrestrained West European suppliers.

From 1982 to 1985, imports of textiles and clothing processed from
MFA fibers, originating in developing MFA suppliers, increased very
slowly compared to imports from Western Europe. In 1985, such im-
ports increased by a mere 4 percent, while imports from Western Eu-
rope rose by 24 percent (see table 8.7). During the same period, the
share of developing-country MFA suppliers in the United States' im-
ports of textiles and clothing processed from MFA fibers declined by
4 percent, whereas the share of imports from Western Europe increased
by 6 percent. But this is only part of the story: The United States'
policy also had the effect of boosting the import supply of clothing
made of fibers *not* covered by the MFA (linen, ramie, silk, and jute).
Thus, non-MFA fiber clothing products increased from 80 million square
yard equivalents (SYE, a volume measure used by the United States
government) in 1983 to over 500 million SYE in 1985, or by almost 600
percent. They now account for 10 percent of MFA clothing imports.

These developments illustrate not only the trade-pattern effect of
NTBs but also the effect on commodity composition. Because of NTBs,
Western European producers have an incentive to supply the United
States with certain types of restricted textiles and clothing, even though
they may not have a comparative advantage in these commodity groups.
(The same applies to their supply of the domestic MFA-protected Eu-
ropean market, of course.)

Table 8.7   **United States Imports of Textiles and Clothing Processed from
MFA Fibres from All Sources, from the Developing MFA
Suppliers, and from Western Europe**

	1982	1983	1984	1985
	Billions of Square Yard Equivalent			
Total imports	6.11	7.73	10.15	10.83
Developing MFA suppliers	3.73	4.55	5.98	6.22
Western Europe	0.55	0.76	1.34	1.66
	Percentage Increase over Previous Years			
Total imports		27	32	7
Developing MFA suppliers		22	32	4
Western Europe		38	76	24
	Percentage Share in Total Imports			
Total imports	100	100	100	100
Developing MFA suppliers	61.0	58.9	58.9	57.4
Western Europe	9.0	9.8	13.2	15.3

Sources: U.S. Department of Commerce, International Trade Administration TQ 2010,
TQ 2210, TQ 2310 and Major Shippers Report. Table taken from International Textiles
and Clothing Bureau, "Textile and Clothing: Developments in Industry, Technology, and
Trade during MFA III", Geneva, 1986.

In the previous section, neither case 1 nor case 2 applies fully to the North Atlantic developed countries' trade during the periods studied. On both sides of the Atlantic, the systems of VERs have "leaked" and have allowed increased import penetration, partly because VERs cannot cover new suppliers and new products, and partly because VERs were designed to permit some increases in imports.

8.4   Summary and Conclusions

The "new" forms of protectionism of the North Atlantic developed countries are frequently pointed to as a serious and growing problem for the world economy. However, surprisingly little is known about the extent and impact of that new protectionism on trade flows, prices, and welfare, especially in the exporting countries.

The first part of this paper estimated the restrictiveness of, and rent income generated by, voluntary export restraints (VERs) on clothing exported in the early 1980s to the NADCs from the Big Three. Most VERs today are on clothing and textiles, and these two commodity groups account for almost 10 percent of world trade in manufactures and around 25 percent of developing-country manufactured exports to the NADCs. Exports to the NADCs are dominated by the Big Three, which make up almost two-thirds of the U.S. import market and one-third of the European import market.

Restrictiveness was measured directly, and also indirectly by using estimates of the restrictiveness of one exporting country's VERs to derive the restrictiveness of another exporting country's VERs. The main findings were: (1) the combined tariffs and VERs of the United States in the early 1980s were higher than Europe's; (2) the import-tariff equivalent (MTE) of the VERs varied with the business cycle in the importing NADCs; (3) the lower-bound MTE estimates for Taiwan and South Korea were lower than the rates of Hong Kong; and (4) the rent income transferred to the Big Three was substantial. It averaged at least half a billion U.S. dollars over the two-year period 1982–83, with around 80 percent of this total being transferred from the United States, and approximately two-thirds of the total rent going to Hong Kong.

The second part of the paper investigated the implications of the fact that the NADCs do not apply nontariff barriers to imports from each other (with the notable exception of steel), whereas they do apply such barriers against the rest of the world. This has an overlooked implication for the transmission of protectionist policies among the NADCs through indirect trade deflection. This mechanism operates to modify, or even nullify, the effects on the domestic economy of increased protectionism against the rest of the world. It cannot be counteracted

through rules of origin. Thus, the enlargement of the EC to include Portugal and Spain could have an important impact on the U.S. government's ability to protect U.S. producers of clothing.

The final section of the paper presented empirical evidence on the possible effect of nontariff barriers to trade on cross-Atlantic trade flows. Although rest-of-the-world suppliers of "sensitive" commodities, like footwear and clothing, increased their shares of the NADCs' home demand between 1975 and 1983, the shares of partners on the other side of the Atlantic also increased, pointing to the conclusion that NTBs have been "leaky."

Notes

1. A recent paper on the types and frequency of NTBs is by Nogues, Olechowski, and Winters (1986).

2. Of course, the question of evaluation ought to be a problem for the policymakers who constructed and introduced the measures, provided that the politicians' objective has been to restrict imports. However, this objective is not self-evident. See Yoffie (1983).

3. The agreements violate the Community's competition laws in addition to the article of the Rome Treaty disallowing new national trade restrictions.

4. Langhammer (1982) and Hamilton (1986a) and (1986b).

5. Choi, Chung, and Marian (1985) and Yoffie (1983).

6. The developed countries' protection regarding textiles and clothing is formally legitimized within GATT through the Multifiber Arrangement (MFA). See, e.g., Wolf (1983) and Choi, Chung, and Marian (1985) for descriptions of the MFA.

7. GATT (1985).

8. GATT (1984).

9. Publication of *Quota Weekly* ceased in mid-1984 after 18 months.

10. One feature of the quota market in Taiwan is that there is trade both in rights to export that are valid for the present year only ("temporary quotas") and trade in rights to export that are valid for all future periods ("permanent quotas"). Unfortunately, the registered prices for "permanent quotas" either were almost constant over time—the data from the TTF, or contained too few observations to be useful—the data from *Quota Weekly.* For a theoretical paper on intertemporal aspects of trade in quotas, see Anderson (1987).

11. It should be noted that, owing to the "upgrading effect" of VERs, there is a tendency within each commodity category for an exporting country to concentrate on higher-quality and more costly grades (see Falvey 1979 and Feenstra 1984). This upgrading mechanism works toward a narrower range of quality differences within each commodity category than would have been the case, or could be expected to be the case for unrestrained exports.

12. Readers interested in the variations over time in import-tariff equivalent rates are referred to Hamilton (1986a). Export trade statistics are not available on the MFA classifications. In table 8.2, the United States' export-tax equivalents are converted into import-tariff equivalents by exploiting the fact that ordinary U.S. import statistics—but not the MFA trade statistics—are given

on both a c.i.f. and an f.o.b. basis. The conversion was made by taking the ratio of c.i.f. and f.o.b. values on clothing imported from Hong Kong, which turned out to be 1.07. On precise references to statistical sources, and on the use of disaggregated unit values, see also Hamilton (1986a).

13. I tried in vain to collect quota prices for South Korea, also through Korean colleagues and research institutes. An indirect method seems to be the only one possible since trade in quotas is strictly forbidden, and this law is enforced. See also Breitenacher, Gälli, and Grefermann (1986, 229). Also, apart from different intensities of policing, controls in South Korea are more effective than they probably can ever be in Taiwan or in Hong Kong, as the bulk of Korea's clothing trade is concentrated in a few large corporations, compared to a very large number of small firms in Taiwan and in Hong Kong.

14. Werner International Management Consultants (1986).

15. Breitenacher, Gälli, and Grefermann (1986, 87).

16. Cable and Baker (1983, 54).

17. United States International Trade Commission (1985, 29–30).

18. Hong (1981, table 8.19). Also, "[the] expansion of exports of textiles, wearing apparel, and miscellaneous manufactures can be attributed more to basic comparative advantage of Korea (i.e., low wages) than to subsidized interest rates" (Hong 1981, 382). It is clear from Hong's analysis that, if anything, the labor-intensive parts of South Korean industry were discriminated against when it came to the allocation of capital.

19. The difference between U.S. f.o.b. and c.i.f. clothing prices from Hong Kong is around 7 percent.

20. Hufbauer and Schott (1985) and Hufbauer, Berliner, and Kimberly (1986).

21. An exception, in addition to steel, is the less important Canadian global import quota on footwear.

22. Because of tariff preferences like the General System of Preferences (GSP), the tariff on goods originating in Europe is not necessarily the same as the tariff on goods originating in LDCs.

23. Portugal has been a member of EFTA since its formation on 4 January 1960. The VERs on Portugal imposed by other EFTA members was against Article 11 of the EFTA charter, which forbids all quantitative trade restrictions after 31 December 1961.

24. ISIC groups 311, 313, 314, 323, 331, 332, 372, 381, 382, 383, 384, 385, and 390 combined.

25. The United States restricts imports of textiles and clothing from Japan.

26. It would be desirable in future research to identify precisely the restricted categories. As of today, there are no production data on a tariff line-commodity classification.

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Comment   Juergen B. Donges

Hamilton has developed an interesting method for estimating tariff equivalents of VERs. Direct international price comparisons may have been preferred, but they are difficult to make because of lack of data

Juergen B. Donges is vice-president of the Kiel Institute of World Economics and Hon. professor of political economy at the University of Kiel.

in most cases; moreover, there is always the tricky question of how to purge consumer prices, if they are available, from transport costs, handling margins, taxes, and the like. Therefore, any attempt to improve on reduced-information methods in this field is useful and stimulating.

The order of magnitude of restrictiveness that Hamilton finds for VERs on clothing is quite plausible, though for the EC his implicit tariffs are somewhat lower than those reported elsewhere (including several studies which have been done at the Kiel Institute of World Economics). The estimates on the recent income accruing to the exporting countries by means of VERs also look sensible. For the sake of comparison, these rents should be expressed as a percentage of GDP or export value. I submit that they are important in relative terms, which is one explanation for the fact that exporting countries do not forcefully oppose VERs. I would like to add that in the case of the EC, various member states have requested time and again (temporary) exclusion from the common external tariff (invoking Article 115 of the Treaty of Rome). Textiles and clothing account for the lion's share of all exemptions granted. This could mean that the tariff-cum-NTB degree of restrictiveness in individual countries might be higher than measured in this paper.

Another fascinating topic is the international transmission of protectionist policies. Hamilton puts his finger on a key attribute of the present protectionist system, namely that individual countries do not protect, but rather groups of countries protect. Leaving aside only agriculture, EC protection exists in a number of tiers: one against the developing countries; one against Japan, the United States, and a few other industrial countries; one against the centrally planned economies; and one tier encompassing a free trade area with EFTA.

Thus Hamilton correctly perceives the results of raising nontariff barriers against some countries only as indirect trade deflection. This could tend to mitigate the effects of new trade barriers after a change in comparative advantage within such a quasi-customs union. For instance, the costs of protection associated with the U.S.-Japanese VER in automobiles should be lower than suggested by standard theory for just this reason: U.S. small car imports can be diverted from Japan to Europe.

Be that as it may, further research on the transmission of protectionism among trading partners is extremely welcome. In particular, I wonder how sensitive the findings are to assumptions on supply elasticities in the new lost-cost producers. It should also be interesting to disentangle trade flows across the North Atlantic trade at least with regard to clothing and textiles in order to capture more fully the trade effects of the MFA within the EC.

It is true that indirect trade deflection illustrates that VERs (as other NTBs) are not watertight. This may reduce their restrictiveness in particular cases. And yet, they create a sort of policy-induced uncertainty. This worries me because it may easily become a source of export pessimism in developing countries and it tempts them to embark upon, or continue with, an excessive import substitution (in spite of the substantial distortions and the notably growth-retarding effects which this strategy usually generates).

As to Tarr's paper,* it persuasively shows what other studies also have portrayed, namely that government intervention in favor of a particular sector does not resolve perennial structural adjustment problems of declining industries. It is just an illusion to believe that protection by itself transforms underlying comparative cost disadvantages into advantages. On the contrary, the so-called "breathing spaces" reduce the incentive to adjust in an efficient manner, especially if we deal with an industry such as the iron and steel industry, which the general public may want to see shielded from imports at any rate; survival is perceived as necessary also for noneconomic reasons (e.g., for national defense, as a symbol of strength). The futility of sector-specific protectionist measures explains why so many NTBs that were at one time announced as temporary have endured over time, and not only in steel.

I share Tarr's sceptical view on the EC's steel policy (initiated in 1977). Incidentally, three years before, the Kiel Institute had already published a comprehensive study that showed that steel production in traditional locations (such as the United States, EC, Germany) was bound to come under increasing adjustment pressures from Japan and several NICs (Wolter 1974). In addition to the reasons given in Tarr's paper I would like to add two observations:

First, subsidies to inefficient steel mills are of little help even if these mills use them to modernize their production capacity and to diversify activities, because these options are also open to the more efficient steelmakers (which are in a much better financial position to carry out the investment).

Second, as the decision on the allocation of production quotas across the Community has become a political issue (much influenced by pressure groups from structurally weak regions in which steel production is concentrated), the quotas are typically set up too high. This makes the process of cutting down capacity even more troublesome, particularly so if it affects capacity which was created through modernization (nobody wants to write off costly investment immediately after it is undertaken). Incidentally, there is an incentive for firms to invest today in excessive capacities in order to get a higher quota tomorrow.

*Chapter 7 in this volume.

As to the EC's code on national subsidies of 1981, it is worth recalling that it blatantly violates Article 4 of the ECCS founding Treaty of Paris which explicitly forbids all kinds of national subsidies in member states and that it runs counter to Articles 2 and 3 of that treaty which call for efficiency in steel production and openness in trade among member states and vis-à-vis third countries as well. The language used in that code to define the conditions under which a steel mill qualifies for subsidies at first glance sounds sensible and progressive. But, in fact, a strange set of rules has been set up which allows governments to go ahead with distorting subsidization. The subsidy was to expire at the end of 1985. In December 1985 the Council of Ministers decided to extend the code until 1990. Any similarity of European steel policy with the history of the Common Agricultural Policy, or with that of the Multifibre Arrangement, is purely coincidental!

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