

Spinanger, Dean; Zietz, Joachim

**Working Paper — Digitized Version**

## Managing trade but mangling the consumer: Reflections on the EEC's and West Germany's experience with the MFA

Kiel Working Paper, No. 245

**Provided in Cooperation with:**

Kiel Institute for the World Economy – Leibniz Center for Research on Global Economic Challenges

*Suggested Citation:* Spinanger, Dean; Zietz, Joachim (1985) : Managing trade but mangling the consumer: Reflections on the EEC's and West Germany's experience with the MFA, Kiel Working Paper, No. 245, Kiel Institute of World Economics (IfW), Kiel

This Version is available at:

<https://hdl.handle.net/10419/47179>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*

# Kieler Arbeitspapiere

## Kiel Working Papers

Kiel Working Paper No. 245

Managing Trade but Mangling the Consumer:  
Reflections on the EEC's and  
West Germany's Experience with the MFA

by

Dean Spinanger and Joachim Zietz

November 1985

Institut für Weltwirtschaft an der Universität Kiel

ISSN 0342 - 0787

Institut für Weltwirtschaft  
Düsternbrooker Weg 120  
2300 Kiel  
Federal Republic of Germany

Kiel Working Paper No. 245

Managing Trade but Mangling the Consumer:  
Reflections on the EEC's and  
West Germany's Experience with the MFA

by

Dean Spinanger and Joachim Zietz

November 1985

A 5067 / 85 Weltwirtschaft  
114

The authors themselves, not the Kiel Institute of World Economics, are solely responsible for the contents and distribution of each Kiel Working Paper.

Since the series involves manuscripts in a preliminary form, interested readers are requested to direct criticisms and suggestions directly to the authors and to clear any quotations with them.

## Introduction

With almost 25 years in managing international trade in textiles and clothing the industrialized countries have provided the world with a wealth of information on how to develop, apply, and refine trade barriers. Granted, the initiators and the signatories of the STA, LTA, and the MFA<sup>1</sup> all portrayed the measures they initiated as merely ensuring that the necessary structural adjustments could be smoothly effected, thereby avoiding demand for increased protection otherwise prompted by the expected flood of imports from developing countries. It was further emphasized that such an arrangement would allow markets for MFA products to be opened up in an orderly and predictable manner.

Unfortunately, however, the experience over the last quarter century bespeaks a different story. While it cannot be overlooked that developing countries were able to increase their share in world export markets for MFA products,<sup>2</sup> particularly clothing, Table 1 shows that

---

<sup>1</sup>The STA, i.e. the Short-Term Arrangement Regarding International Trade in Cotton Textiles, was indeed of a short-term nature, but only because it was turned into the LTA, i.e. the Long-Term Arrangement Regarding International Trade in Cotton Textiles, one year after its ratification in October 1961. True to its name the LTA, with extensions and/or expansions in 1967 and 1970, lasted over a decade before being turned into the MFA, i.e. the somewhat euphemistically termed Multifiber Arrangement, in 1974. With its two extensions/ expansions in 1978 (MFA II) and 1982 (MFA III), the MFA now covers almost the entire spectrum of textiles and clothing leading up to the final manufacturing steps in the clothing industry. For in depth overviews see Keesing and Wolf (1986), GATT (1984), and Cable and Baker (1983). The legal ramifications of the STA and the LTA are well treated in Dam (1970).

<sup>2</sup>MFA products are considered as covering SITC numbers 65 (textiles) and 84 (clothing).

TABLE 1. Percentage Share of Imports of MFA and All Manufactured Products in Domestic Consumption of EEC, Japan, and North America, 1968 and 1980/81

Product and Countries of Origin	EEC		Japan		North America	
	1968	1980/81	1968	1980/81	1968	1980/81
Textiles	3.7	11.8	1.5	4.6	4.0	5.2
ICs	2.2	6.1	0.9	1.6	2.6	2.4
EEC	(8.5)	(20.7)	0.6	1.1	1.2	1.4
Japan	0.2	0.6	-	-	1.1	0.9
N. America	0.7	1.8	0.1	0.4	(0.7)	(1.3)
LDCs	1.1	4.2	0.6	1.7	1.9	2.0
Clothing	4.1	23.7	2.9	13.7	5.9	19.8
ICs	1.7	7.3	1.3	4.3	3.8	3.5
EEC	(7.9)	(25.2)	0.8	3.0	2.0	2.3
Japan	0.2	0.3	-	-	1.3	0.5
N. America	0.3	1.0	0.2	0.9	(0.3)	(0.5)
LDCs	1.9	12.0	1.2	5.8	2.0	10.8
Manufactures	5.6	11.0	1.9	5.0	3.1	6.9
ICs	4.1	7.4	2.8	3.0	2.4	4.3
EEC	(7.6)	(16.3)	0.7	0.8	1.3	1.8
Japan	0.2	1.0	-	-	0.7	1.8
N. America	1.9	2.8	1.6	1.7	(2.2)	(3.3)
LDCs	1.1	2.3	0.9	1.5	0.8	2.0

Notes: North America includes the USA and Canada. IC stands for industrialized countries, LDC for developing countries. Figures in parenthesis refer to intra-trade, which is otherwise deleted from the statistics used. Data are from UNCTAD.

they are still far from being the chief supplier in the domestic markets of the industrialized countries. Managed trade, with an ever increasing degree of bureaucracy, has thus effectively limited competition from LDCs. In light of the fact that the current Multifiber Arrangement is due to expire at the end of July 1986, it seems essential that the implications of continued protection of textiles and clothing are clearly understood. It is particularly important to understand this with respect to the impact on consumers, since a wider promulgation of these results would make it more difficult to effect tighter trade restrictions.

Although there have been numerous other studies portraying and analyzing the implications of the MFA,<sup>3</sup> the approach taken in the empirical part of this paper, where highly disaggregated data are used, more directly reveals the considerable impact of binding trade restrictions.

The paper begins with a brief overview of the developments leading up to the MFA and the role played by the European Economic Community (EEC), the largest market in the world for textiles and clothing. Next, the EEC is used as a reference point for an overview of protectionistic measures taken within the framework of or sanctioned by the MFA. Finally, it is examined how these measures affected an important individual MFA product at a low level of aggregation. This analysis is performed for shirts

---

<sup>3</sup>See for example Wolf et al. (1984) or Tarr and Morkre (1984).

imported to West Germany.

### **Historical Background of the MFA**

The path of international agreements covering the textile and clothing industry since World War II for a long time ran parallel but counter to general international trade policy trends. For instance:

- whereas GATT was established to provide the legal framework to prevent trade wars of the kind experienced around the Great Depression and at the same time promote trade to increase income and employment, the STA and LTA were constructed to provide the dispensation of measures running counter to basic principles in the Gatt treaty.
- whereas the Kennedy and Tokyo round trade negotiations significantly reduced tariff levels between countries or MFA goods (Table 2), the LTA extensions and then later the MFA counteracted the tariff cuts by imposing quotas and inducing voluntary export restraints.

Only in the most recent years, particularly after the high unemployment levels in industrialized countries showed almost no signs of shrinking, but rather continued to climb, did the direction of trade policies in general shift more noticeably in the direction of

---

<sup>4</sup>Most evident has been the support for such measures in the United States, the country basically responsible for initiating the STA and earlier "voluntary" export restraints (VERs).

TABLE 2. Multilateral Trade Negotiations and Percentage Distribution of Tariff Levels for MFA Products

Tariff Level	Negotiating Round	Percentage Distribution of Tariff Levels		
		USA	Japan	EEC
0.0	Pre-Kennedy	-	-	-
	Pre-Tokyo	3	6	3
	Post-Tokyo	4	6	4
0.1-5.0	Pre-Kennedy	4	1	5
	Pre-Tokyo	6.5	5	5
	Post-Tokyo	18.5	7	8
5.1-10.0	Pre-Kennedy	8.5	11	14
	Pre-Tokyo	19.5	25	17
	Post-Tokyo	41	44	29.5
10.1-15.0	Pre-Kennedy	9.5	27.5	26.5
	Pre-Tokyo	20.5	33	25
	Post-Tokyo	16	33	58.5
15.1-25.0	Pre-Kennedy	37.5	47.5	53.5
	Pre-Tokyo	30.5	30	50
	Post-Tokyo	18.5	10	0
> 25.0	Pre-Kennedy	30.5	13	1
	Pre-Tokyo	20	1	0
	Post-Tokyo	2	0	0

Notes: Pre-Kennedy Round figures are not exactly comparable with those of other Multilateral Trade Negotiation rounds. Data are adapted from GATT (1984, table 3.4).



protection.<sup>4</sup>

The EEC's role in supporting and participating in managed trade in textiles is one which can initially be entitled as being subservient. As a matter of fact, the STA and LTA were not even signed by the EEC but rather by the individual member countries. It was not actually until the second extension of the LTA in 1970 that the Community was represented as a single signator.<sup>5</sup> Thus it was essentially during the negotiations on the replacement of the LTA that the EEC played a more prominent role in designing and structuring the future course of managed trade and, generally speaking, the birth of the MFA could well be considered to be an improvement vis-a-vis the jungle of bilateral agreements under the LTA.

At this point in time, the desire to establish a more all encompassing agreement on international trade in textiles and clothing was particularly strong in the United States, where domestic producers had been coming under increasing pressure from developing countries taking advantage of the shift from natural to man-made fibers. This not only led to extending the LTA beyond the original area of cotton textiles, but also caused the United States to more frequently evoke unilateral restrictions which then were turned into bilateral "agreements". By the early 70ties the United States had applied restrictions to imports of

---

<sup>5</sup>But even then some existing unilateral restraints remained on the books and were not phased out until 1977. See Cable and Baker (1983, p. 76).

textiles and clothing from roughly 30 countries. Given the fact that the GATT treaty was not meant to be interpreted in such a fashion and that such actions were not covered by the LTA it became crucial for the United States to gather support for a reform of the LTA.<sup>6</sup>

Despite the fact that the EEC was not being subjected to the same difficulties as the U.S. - perhaps because of some import restrictions still left over from the post-war era - it agreed to proceed with negotiations under the umbrella of GATT. The result of this process, concluded on the 20th of December 1973 and becoming effective on the first of January 1974, was an arrangement which actually did provide for a greater degree of consideration for the needs of developing countries. Quotas were to be expanded at rates not below a minimum (i.e. 6 percent), swing provisions provided room for shifting a certain amount of the quotas from the past or to the future and institutional arrangements were stipulated to solve disputes, e.g. the Textiles Surveillance Board.<sup>7</sup> The general consensus between the parties concerned following the MFA negotiations in Geneva was indeed one of satisfaction

---

<sup>6</sup>As pointed out in a recent GATT publication (1984, p. 73), U.S. negotiations were successful in obtaining additional voluntary export restraints on non-cotton products from key Asian suppliers, but "the pressures in Congress for quotas did not abate." The similarities with the U.S. situation in the Fall of 1985 cannot be denied.

<sup>7</sup>Basic to the entire agreement was the attempt to balance rights and obligations. Whereas importing countries had the right to impose import restrictions under specified conditions, there was also an obligation to ensure that the reasons for the restrictions be eliminated. Likewise, the right to impose restrictions was balanced by the obligation to abide by the quotas, growth rates and flexibility clauses. See GATT (1984, pp. 74-77) for a more thorough description.

in having established the foundations for a sensible international division of labor.<sup>8</sup>

### **The MFA in Action**

For the EEC the developments soon prompted reactions not in line with the optimistic consensus at the end of the MFA negotiations. The rapid increase in imports from developing countries<sup>9</sup> soon caused domestic producers to pressure for more protection. Perhaps, if the general international economic conditions had not worsened in the aftermath of the 1974 oil price shock, the letter of and particularly the spirit of the MFA might have been clearly reflected in the actual application. But given the virtual stagnation in consumers' expenditures for clothing in the EEC during this time period, the liberal stance read into the MFA was becoming negated by a greater application of the rights of the importing countries without due respect to their obligations vis-a-vis the exporting countries.

This can be easily documented by examining the application of article 115 of the Treaty of Rome, which allows individual countries to apply for an exemption from having to adhere to the common external tariff.<sup>10</sup>

---

<sup>8</sup>See Nachrichten für den Aussenhandel, January 7, 1974.

<sup>9</sup>For example, in 1974, 1975, and 1976 clothing imports increased at an annual rate of about 30 percent as compared to an average of 6 percent in the prior ten years.

<sup>10</sup>Thus, for instance, when the textile or clothing industry of a given country feels that it is being subjected to "injuries" from imports, the government can apply for permission to the EEC to be allowed to take

TABLE 3. Special Protection Measures in the EEC Against Foreign Competition - The Application of Article 115

Products Affected	The Frequency of Invoking Article 115					
	1973	1975	1977	1979	1981	1983
MFA Products	8	12	37	176	89	123
Percentage Distribution						
Benelux	25.0	16.7	27.0	19.9	16.9	12.2
Denmark	0.0	0.0	0.0	1.1	0.0	0.0
France	62.5	42.7	32.4	42.6	39.3	29.3
Germany	0.0	0.0	21.6	3.4	1.1	3.3
Ireland	0.0	0.0	2.7	14.2	27.0	38.2
Italy	12.5	33.3	2.7	3.4	6.7	6.5
UK	0.0	8.3	13.5	15.3	9.0	10.6
Total	100.0	100.0	100.0	100.0	100.0	100.0
Agricultural Products	6	10	2	3	2	5
Other Products	20	14	22	58	25	31
Total	34	36	61	237	116	159

Source: Own calculations based on EEC official registry.

As is evident from Table 3, the number of such requests from the MFA industries was no more than a third of all such applications in 1973 and 1975. By 1977, however, they amounted to 60 percent and in 1981 to almost 80 percent.

Of the countries taking advantage of this option to effect additional protection France and the Benelux countries accounted for by far the greatest share. Up through 1981, over 50 percent of the applications of Article 115 to MFA products were instituted by these countries. In the latest year, however, it was Ireland which, after rapidly increasing its share year after year since 1977, almost evoked this article as often as the next two, i.e. France and the Benelux countries, combined. Germany's role as a moderate, with the exception of one year, is clearly documented, as is that of Denmark.

But most interesting and perhaps surprising at first is the relatively moderate role played by Italy, the one country in the EEC with a positive trade balance in MFA products. Particularly in the area of clothing, precisely in the area where Article 115 was applied the most according to table 4, was Italy able to expand its share of markets within the EEC. This development is reflected, for instance, in the large increase in the intra-trade share as a percentage of consumption in Table 1. What at first glance seems to be surprising is actually

---

individual actions against the country exporting the products in question. See Dartel (1983) for details of the application of Article 115 EEC to trade with textiles.

TABLE 4. The Application of Article 115 to MFA Imports  
by Product Group

Product Group	Number of Applications of Art. 115					
	1973	1975	1977	1979	1981	1983
Fibres	0	0	0	0	0	0
Yarns	0	0	1	13	3	2
Fabrics	1	5	10	28	20	27
Made-up Articles	0	1	2	11	8	4
Clothing	10	15	30	138	86	88
Total	11	23	44	192	124	126

Notes: The product groups were classified as follows in terms of BTN numbers:

Fibres: 5001-03, 5301-5, 5401-02, 5501-04, 5601-04, 5701-04, and 6301-02

Yarns: 5004-07, 5101-03, 5201, 5306-10, 5304, 5505-06, 5605-06, and 5706-07

Fabrics: 5009, 5104, 5202, 5311-12, 5405, 5507-09, 5607, 5710-11, 5804, 5808, 5907-08, 5911, 5913, and 6001

Made-up Articles: 5801-03, 5805-07, 5809-10, 5901-06, 5910, 5912, 5914-17, and 6201-05

Clothing: 6002-06, 6101-11, 6501-05.

The Total includes products not listed separately. The figures are not necessarily comparable with those of other tables using aggregation by country because some applications of Art. 115 by a given country include more than one four digit BTN. Data are from EEC, Official Journal, respective years.

quite logical once consideration is given to the mode of clothing production in Italy: it is essentially a cottage industry, working to a large degree in the underground economy. Hence, neither are numerous large firms present to exact pressure on the government to apply for additional protection in Brussels, nor does the government seem to have perceived of an urgent need to step in on behalf of workers being "threatened" by imports. In other words, the existence of a wide-spread, largely underground cottage industry acts as a brake on protectionistic tendencies. The above mentioned developments in Ireland can be interpreted in a similar vein. That is, the cottage system for clothing manufacturing is but of minor importance or rather the tax system functions well enough so as to hinder working underground and earning money net of taxes. The factories, in which garments are produced, are not only subjected to increased competition from LDCs, they are located in areas suffering from very high unemployment. The politics of MFA protection in Ireland can thus be viewed as a crucial holding game, which is no doubt keeping more and more firms from effecting the necessary measures. In Italy, on the other hand, the adjustments occur to a far greater degree via the price mechanism, directly in the factor market and thus induce economically efficient solutions in the clothing sector.

A closer examination of Table 4 shows that the shares for fabrics and clothing have not changed significantly over time. Together, they account for about 90 percent of all applications of Article 115 to MFA products. Underlying this general trend is a noticeable correlation

between a surge in the application of Article 115 in a specific four digit BTN-group and the subsequent ebbing of cases in this area, an obvious indication of how the quotas are biting.<sup>11</sup> Disaggregating even further to four digit BTNs and major suppliers the shifting from areas subjected to Article 115 and new areas becomes quite noticeable. Table 5 examines major EEC suppliers with respect to the application of Article 115 in the area of fabrics and clothing. The shifting is discernable only in an indirect manner, namely in the persistence with which countries like Hong Kong, Korea, and Taiwan appear in the listings. Likewise the category Other LDCs implicitly reveals how new suppliers are quickly called to order, not so much on the basis of the volume of their exports to the EEC, but rather on the rate of growth at which they are expanding. Hence the contention that the MFA allows countries coming on stream to enjoy better and more secure access is proving to be true at an increasingly lower level. Such was for instance the case for Bangladesh, which heeded the advice of the developed world that the only way out of its permanent dependence on aid was to diversify exports into non-traditional areas. It did so and began to forcefully expand the manufacturing of shirts in the early 80ties. In December of 1984, Great Britain and France applied for application of Article 115 to restrict the import of shirts from Bangladesh.<sup>12</sup> Bangladesh, which up to that

---

<sup>11</sup>This aspect will receive closer examination in the empirical section.

<sup>12</sup>It should also be noted that the United States, to which most of the exports of garments were being shipped, also applied quotas to Bangladesh. These now cover four categories with four more to be negotiated in November 1984 and two others on the "watch list". With an internal quota allocation system in effect, these quotas together with



TABLE 5. The Application of Article 115 to EEC Imports of Selected MFA Products by Country of Origin

Country of Origin	Frequency of Invoking Art. 115					
	1973	1975	1977	1979	1981	1983
FABRICS						
Hong Kong	0	0	0	0	0	0
India	0	0	0	1	1	0
Singapore	0	0	0	0	0	0
Korea, Rep. of	0	1	3	5	0	6
Taiwan	0	2	0	3	2	5
Yugoslavia	0	0	0	0	0	0
Other LDCs	1	4	8	19	14	16
TOTAL	1	7	11	28	17	27
As Percentage of all MFA Products	9.1	30.4	25.0	14.6	13.7	21.4
CLOTHING						
Hong Kong	3	6	6	14	25	28
India	0	0	0	9	12	5
Singapore	0	0	0	0	0	0
Korea, Rep. of	4	6	5	10	10	8
Taiwan	1	1	5	12	8	15
Yugoslavia	0	0	0	15	2	3
Other LDCs	2	1	15	77	27	32
TOTAL	10	14	31	137	84	91
As Percentage of all MFA Products	90.9	60.9	70.5	71.4	67.7	72.2

Notes: The percentages are calculated with respect to the bottom line of Table 4. Data sources are given in the same table.

point in time was not covered by an explicit EEC quota, joined the ranks of a club, which is rapidly becoming less and less exclusive.

To summarize the above, it perhaps suffices to note that the initial liberal stance taken by the EEC vis-a-vis the MFA soon gave way to a rapid increase in the application of article 115 and then to a tightening up of the restraints in MFA II and MFA III. It remains now to be seen what the specific impact of these measures meant in terms of prices, quantities and welfare losses in the EEC.

#### **Quantifying the Effects of the MFA: the Case of Shirts**

To illustrate the impact of the MFA we move from the general EEC level to a particular country, Germany. As we have seen, Germany is one of the more liberal EEC-members when it comes to import restrictions in textiles and clothing. Hence any conclusions drawn from this case are bound to be on the conservative side if one tries to apply the German experience to other EEC-members. The product group we have chosen for the impact analysis is shirts for men and boys. The quantitative importance of this product group is exemplified by the fact that shirt imports alone make up close to 8 percent of total clothing imports of Germany for 1980.

---

what has already been shipped, has meant that roughly only two months of the annual production capacity has been utilized for exports. The survival of the firms depends now on how successful they are in restructuring production and/or sales channels.

## The Model

The following calculations are based on the assumption that Germany can be considered a small country with respect to the imports of shirts. This assumption seems well justified given the fact that imports are several times as large as domestic production. If one also assumes that imported shirts are perfect substitutes for domestically produced shirts, the domestic price  $p$  is related to the world price  $p_w$  by the equation

$$(1) \quad p = p_w (1 + \tau^n) (1 + \tau)$$

where  $\tau^n$  is a nominal tariff and  $\tau$  the ad valorem equivalent of the MFA related quotas and voluntary export restraints (VERs). Equation (1) implies, of course, that import supply is infinitely elastic.

Import demand is modeled as a function of disposable income (YD), domestic price ( $p$ ), MFA related quotas and VERs (QT), and a vector of other determinants denoted by  $\underline{G}$ .

$$m = m(\underset{+}{YD}, \underset{-}{p}, \underset{-}{QT}, \underline{G})$$

where the expected signs of the partial derivatives are given below, and where  $dQT > 0$  is to be interpreted as a tighter quota.

For a small country facing infinitely elastic import supply, it is straightforward to derive that the change in imports  $dm$  induced by a tariff  $\tau$  is given by the equation

$$(2) \quad dm = -\eta^m m_2 \frac{\tau}{1 + \tau}$$

where  $\tau^m$  is the import demand elasticity and  $m_2$  imports at the time of the tariff. For given values of  $dm$ ,  $m_2$ , and  $\tau^m$ , this equation can also be used to derive the tariff equivalent of a quota or other non-tariff barrier to trade. In fact, this is the way the equation is used in the present context.  $\tau$  is interpreted as the tariff equivalent of the MFA quotas and VERs. For constant nominal tariffs,  $\tau$  then also equals the percentage price increase that is brought about by the quantitative import restrictions of the MFA.

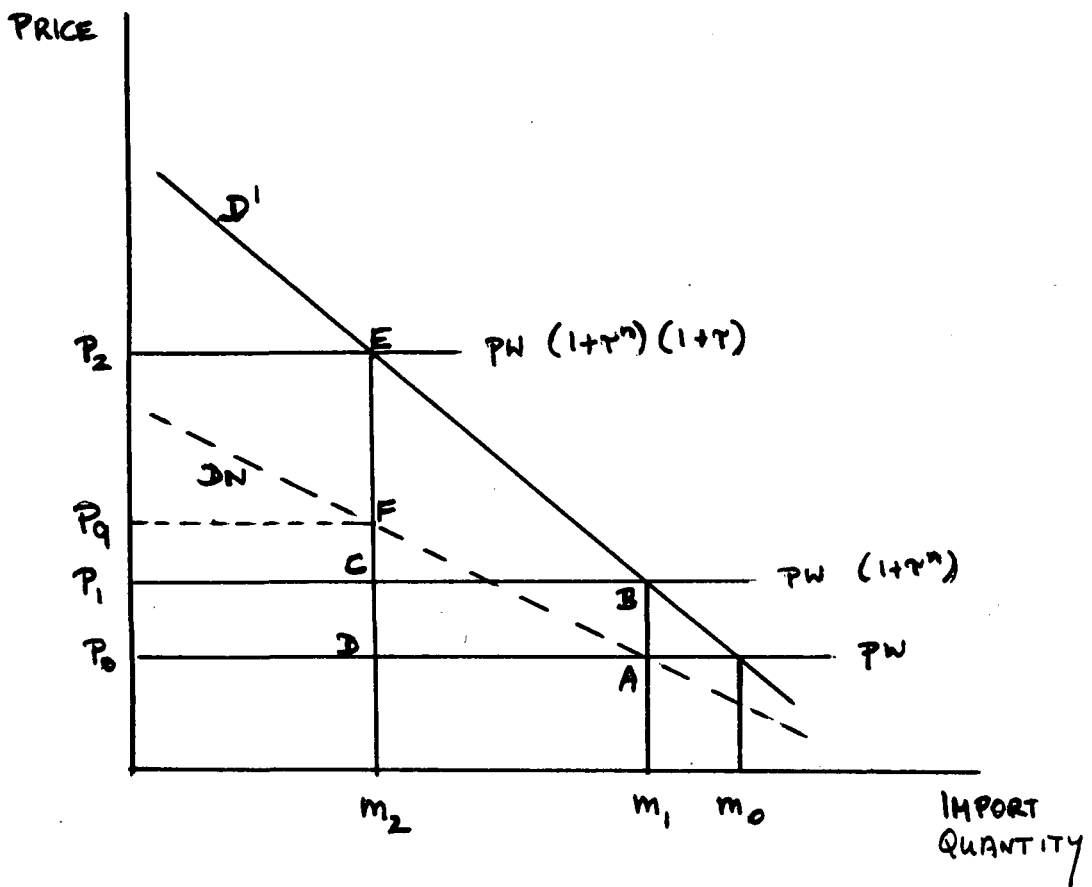
The welfare loss to the importing country of the MFA related trade restrictions can best be explained using Figure 1.<sup>13</sup> Given import demand curve  $D'$ , the country is importing  $m_0$  at world price  $p_w$  in the case of free trade. An ad valorem tariff  $\tau^n$  rotates  $D'$  to the left generating curve  $DN$ , the net import demand curve facing exporters to the country after imposition of a tariff. Imports are reduced to  $m_1$ . Distance  $AB$  is the resulting price increase.  $P_1$  equals  $p_w (1 + \tau^n)$ . Further restricting imports to the quota level  $m_2$  raises price to  $p_2$ , which equals  $p_w (1 + \tau^n) (1 + \tau)$ . The magnitude of the welfare loss deriving from the import quota  $m_2$  depends on the assumptions made with respect to the quota rents.

A lower bound estimate of the welfare loss results if one assumes that the quota rent is captured by the importing country. This may be the case, at least to some extent, if the importing country operates

---

<sup>13</sup>The diagram is adapted from Tarr and Morkre (1984, figure 5.1).

FIGURE 1. Welfare Loss due to Trade Restrictions



powerful buying organizations in the exporting countries and quotas are controlled jointly. In this case, imports continue to be bought at  $p_w$  on the world market. Tariff revenue to the government equals area  $DCP_1P_0$  and importers capture area  $CEP_2P_1$  as a quota rent. Compared to the situation without a quota the welfare loss to the country amounts to the area  $ABED$ , of which area  $ABCD$  is lost tariff revenue and triangle  $BEC$  part of the loss in consumer surplus.

An upper bound estimate of the welfare loss is based on the assumption that the quota rent is captured by the exporting countries. This is a likely outcome if the quota is solely controlled by the exporting countries. In this case, importers face an import price equal to  $p_q$  rather than  $p_w$  for imports of size  $m_2$ . The difference between  $p_q$  and  $p_0$  is the quota premium attached to the right to export to the protected country. The deadweight loss to the importing country consists of quadrilateral  $ABED$  and quota rent  $DFP_qP_0$ .

In either case, the welfare loss to consumers minus the welfare gain to producers of the quota  $m_2$  is given by area  $BEP_2P_1$ . It is a standard exercise to decompose this welfare loss into the loss incurred by consumers (LC) and the gain enjoyed by producers (PG). The former equals

$$LC = 0.5 \tau p_1 (C_1 + C_2)$$

where  $\tau$  is the tariff equivalent of the quota  $m_2$ .  $C_2$  denotes domestic consumption in the presence and  $C_1$  in the absence of the quota.  $C_1$  is

calculated as

$$C_1 = (1 - \tau \eta) C_2 \quad \text{with } \eta < 0$$

where  $\eta$  is the domestic demand elasticity. The gain to producers is calculated similarly as

$$GP = 0.5 \tau p_1 (Q_1 + Q_2)$$

where  $Q_1$  and  $Q_2$  are domestic production without and with the quota, respectively.  $Q_1$  is derived as

$$Q_1 = (1 - \tau \epsilon) Q_2 \quad \text{with } \epsilon > 0$$

where  $\epsilon$  is the domestic supply elasticity. All three elasticities, i.e.  $\eta$ ,  $\epsilon$ , and  $\eta^m$ , are related to each other via the familiar excess demand elasticity formula

$$(3) \quad \eta^m = \eta (C/m) - \epsilon (Q/m).$$

### **Empirical Results**

To implement the model empirically, the import demand equation is estimated on data relating to shirts for men and boys made out of synthetics and cotton, that is BTN trade classification numbers 61.03.11 and 61.03.15, respectively.

The import demand equation was estimated for the years 1965 to 1984. The preferred version is

$$\ln m = -13.89 + 3.06 \ln YD - 1.10 \ln p^m + 1.51 \ln cpi - .326 DMFA$$

(6.9)                      (-1.8)                      (2.3)                      (-2.7)

$$R^2 = 0.974 \quad DW = 1.86 \quad BP(4) = 5.97 \quad Q(5) = 7.63$$

$$CUSUM = 0.448 \quad CUSUM^2 = 0.213$$

where the prefix  $\ln$  denotes natural logarithms.  $YD$  is disposable income deflated by the consumer price index with base year 1980 ( $cpi$ ). For lack of a domestic price at the producer or wholesale level, the import unit value  $p^m$  had to be substituted for  $p$ . The dummy variable  $DMFA$  is unity for the years 1978 to 1984. It is supposed to capture the reduction in imports resulting from the quotas and VETs of the second phase of the MFA (1978-82) and the first two years of its third phase. To check the statistical adequacy of the equation,  $t$ -values are provided in parenthesis.  $BP(n)$  is the test statistic for the Breusch-Pagan test for heteroskedasticity.  $Q(n)$  is the Box-Pierce  $Q$ -statistic for  $n$ th order autocorrelation. Both statistics are distributed as chi-squared with  $n$  degrees of freedom.  $CUSUM$  identifies the respective test for the constancy of parameter estimates as developed by Brown, Durbin, and Evans (1975).  $CUSUM^2$  refers to the associated  $CUSUM$  of squares test. None of the reported statistics are significant at any reasonable level of data confidence. Hence, the equation does not seem to be subject to any obvious specification error.

The parameter of the greatest interest in the present context is the coefficient of the dummy variable  $DMFA$ . Its magnitude implies that without the MFA restrictions, imports of shirts would have been higher by 38.5 percent, on average, in each year from 1978 to 1984.<sup>14</sup> As one



would expect, this value is somewhat higher than the import reduction of 30 percent reported by Zietz (1985) for the total of the German clothing industry. The value is quite similar to the assumptions underlying the paper by Tarr and Morkre (1984, table 5.3). There a range of between 12 and 38 percent is used for the increase in U.S. imports of cotton shirts from Hong Kong.<sup>15</sup> Upon substituting the percent increase in imports along with the price elasticity of import demand (-1.1) into equation (2) one can calculate a value of 0.539 for  $\tau$ , the ad valorem equivalent of the MFA related quotas and VERs.<sup>16</sup> As noted above in the theoretical section,  $\tau$  also represents the average price increase per year induced by the MFA. As such it forms the basis for the following estimates of the welfare losses resulting from the quotas of the second and third phase of the MFA.

The relative size of the welfare loss is reported in Table 6. The calculations are based on average quantities and values for the years 1978 to 1984.<sup>17</sup> For the lower bound estimates it is assumed that the

---

<sup>14</sup>This is derived by taking the exponent of 0.326 and subsequently subtracting unity.

<sup>15</sup>For other clothing products, however, for example sweaters and trousers, their assumed values are more than twice this size.

<sup>16</sup>Using a somewhat different approach Witteler (1985, Table A46) reports ad valorem equivalents of all import restrictions combined (including nominal tariffs) of two to three times this size for shirts imported to Germany.

<sup>17</sup>Import quantity, import unit value, and nominal tariff are 88.612 mill., 8.93 DM, and 0.17, respectively. The nominal tariff is taken from Galli (1982). It might be noted that for mens and boys shirts being produced in 1985 for export from Bangladesh the average price was about US\$2.50 or approximately DM 6.50. The suggested retail price was generally 300 percent higher.

TABLE 6. Welfare Loss Due to MFA Quotas for Shirts as  
Percentage of Import Value of Shirts - Germany

	Lower Bound Estimate	Upper Bound Estimate
Consumption Distortion	18.7	16.8
Quota Rent	----	10.2
Economic Loss to Country	18.7	27.0

Notes: Consumption Distortion refers to the quadrilateral  
ABDE of Figure 1. The average import value of shirts  
for 1978-84 is DM 789.8 mill.

historical import unit values equal the world price  $p_w$ . For the upper bound estimates the observed import unit values are assumed to equal  $P_q$  and the world price  $p_w$  is derived by adjusting this value by the quota premium reported by Tarr and Morkre (1984, Table 5.1) for U.S. imports of cotton shirts from Hong Kong.<sup>18</sup> The deadweight loss to the country amounts to approximately DM 148 million per year for the lower bound estimate and DM 213 million per year for the upper bound estimate.<sup>19</sup> This is approximately 19 and 27 percent, respectively, of the average import value of shirts from all sources for the years 1978-84. These numbers are slightly higher than the corresponding figures that are implicit in the work of Tarr and Morkre (1984). Their results imply a percentage loss of between 14.2 and 20.4 percent per year for the U.S.<sup>20</sup>

Although the estimates of the welfare loss reported in Table 6 are impressive in their own right, the numbers pale when compared to the loss incurred by consumers. Table 7 presents the results of decomposing quadrilateral  $BEP_2P_1$  of Figure 1 into the gain captured by producers and the loss incurred by consumers owing to the quotas of the second and third phase of the MFA.<sup>21</sup> For the range of domestic demand elasticities

---

<sup>18</sup>The authors set the quota premium at 11.5 percent of the import price.

<sup>19</sup>The quota rent is implicitly assumed to be distributed among all countries exporting to Germany. This implies that countries not subject to a quota will raise their export price along with those countries that are subject to quotas.

<sup>20</sup>The percentages are based on a reported quota rent of \$US 12.17 mill., a consumption distortion of between \$US 3.4 and 10.2 mill., and a value of imports of \$US 109.2 mill. for imports of cotton shirts for men and boys from Hong Kong.

<sup>21</sup>For each assumed value of the domestic demand elasticity, equation (3) implies a corresponding value of the domestic supply elasticity given

TABLE 7. Welfare Gain to Producers and Welfare Loss to Consumers  
Due to MFA Quotas, 1978-82 Averages

Domestic Elasticity		Loss in Consumer Surplus (DM mill)	Gain in Producer Surplus (DM mill)
Demand	Supply		
-0.6	1.75	624.1	59.7
-0.8	0.79	653.1	88.6
-0.9	0.32	667.5	103.1

Note: Calculations are based on the assumptions associated with the lower bound estimates of table 6.

analyzed, the loss in consumer surplus amounts to approximately three times the size of the total economic loss (upper bound estimates) presented in Table 6. This is equivalent to 80 to 90 percent of the total average import value of shirts for the period 1978-82.<sup>22</sup>

The results reported so far suggest that total imports of shirts into Germany were reduced considerably for the second and third phase of the MFA. They underestimate, however, the impact the MFA has had on individual exporting countries that are subject to quotas and VERs. In that respect, one has to consider that the import demand equation is estimated for imports coming from all sources, including imports from developed countries that are not subject to restrictions. To identify how the MFA restrictions impacted upon the imports of individual exporting countries, import demand equations would have to be estimated for individual exporters. To provide a representative example this is done for the case of Yugoslavia. German imports of cotton and synthetic shirts from this country can be represented by the equation

---

the estimated value of  $\eta^m$ . To avoid negative values for the domestic supply elasticity or domestic production in the absence of the MFA import quotas, the range of values for the domestic demand elasticity was restricted to the range -0.6 to -0.9.

<sup>22</sup>For the U.S., it has been suggested that the welfare loss to consumers of the MFA restrictions in 1984 amounted to \$US 23 bill. or 135 percent of total imports of textiles and clothing. See Asian Wallstreet Journal, May 31, 1985 for the welfare loss and Gatt (1985) for the import data.

$$\ln m = -46.87 + 8.90 \ln YD - 2.00 \ln p^m - .646 DYUG$$

(9.8)                      (-4.0)                      (-4.3)

$$R^2 = 0.954 \quad DW = 1.79 \quad BP(3) = 10.07 \quad Q(5) = 8.54$$

$$CUSUM = 1.107 \quad CUSUM^2 = 0.23$$

The equation is estimated for the period 1965 to 1984. The dummy variable DYUG is unity for the years 1978-82 only, since Yugoslavia was not subject to shirt quotas during the third phase of the MFA. Both the Breusch-Pagan and the CUSUM statistic are marginally significant at the 5 percent level. Since none of the other reported statistics, however, point to any problems, the specification is accepted as adequate.

The coefficient of the dummy variable DYUG indicates that without the restrictions of the MFA, imports from Yugoslavia would have exceeded actual levels for 1978-82 by about 91 percent. This percentage figure is in excess of twice the size of the figure calculated for imports of shirts from all sources. These quantitative results strongly support what was said earlier about the disastrous impact of the MFA on particular developing countries such as Bangladesh.

## Conclusion

When the MFA was originally conceived, there was hope that at least in comparison with its predecessor agreements STA and LTA the new arrangement would lay the ground for a more liberal and orderly trade regime in textiles and clothing. As experience has taught the trade regime actually turned more orderly in a sense but certainly not more

liberal. The era of relative liberalism was short-lived indeed. It did not outlast the first two to three years of MFA I. What followed was a surge in import quotas and voluntary export restraints negotiated and enacted under the rules of the MFA. Trade in textiles and clothing became more orderly in the sense that gradually a significant part of it was conducted under binding, tightly controlled, bilateral or multilateral agreements of export restraint with developing countries, particularly those of Asia. For a sizable number of them, in particular newcomers such as Bangladesh, the MFA has virtually destroyed any hope to replicate the earlier success stories of countries such as Hong Kong that were characterized by export led growth on the basis of labor-intensive industries such as clothing. As the case study of Germany has shown, the MFA has also had a considerable impact on developed countries. For consumers, the consequences of trade restrictions of the MFA type have meant paying prices far in excess of what would have been the case without trade restrictions. The huge welfare losses for Germany speak for themselves. One wonders in this connection what kind of welfare losses one may expect to see for other EEC countries which, almost without exception, have enacted far more restrictive trade regimes than Germany.

## References

- Brown, R.L., Durbin, J., and J.M. Evans, Techniques for Testing the Constancy of Regression Relationships over Time. Journal of the Royal Statistical Society Ser. B, Vol. 37 (1975): 149-92.
- Cable, Vincent, and Betsy Baker, World Textile Trade and Production Barriers. Economist Intelligence Unit, Special Report No. 152, London, 1983.
- Dam, Kenneth, The GATT - Law and International Economic Organization. Chicago, 1970.
- Dartel, R.J.P.M., The Conduct of the EEC's Textile Trade Policy and the Application of Article 115 EEC. in: Bourgeois, J.H.J. et al., Protectionism and the European Community. Deventer, Netherlands: Kluwer Law and Taxation Publishers, 1983.
- Galli, Anton, Textil- und Bekleidungsindustrie. In: Galli, A., Helmschrott, H. und W. Orchel, Wechselwirkungen von Entwicklungspolitik, Handels-, Struktur- und Beschäftigungspolitik. Forschungsberichte des Bundesministeriums für Wirtschaftliche Zusammenarbeit, Bd. 33, Köln 1982.
- X Gatt, Recent Developments in Demand, Production, and Trade in Textiles and Clothing. Com.Tex/W/167, Geneva 1985.
- \_\_\_\_\_, Study on Textiles and Clothing in the World Economy. Geneva, 1984.
- Keesing, Donald B. and Martin Wolf, Textile Quotas against Developing Countries., 2nd ed., London: Trade Policy Research Centre, forthcoming 1986.
- Tarr, David G. and Morris E. Morkre, Aggregate Costs to the United States of Tariffs and Quotas on Imports: General Tariff Cuts and Removal of Quotas on Automobiles, Steel, Sugar, and Textiles. Bureau of Economics Staff Report to the Federal Trade Commission, Washington, D.C., 1984.
- UNCTAD, Handbook of International Trade and Development Statistics. New York, various issues.
- Witteler, Doris, Quantifizierung nichttarifärer Handelshemmnisse. Theoretische Grundlagen und empirische Analyse für die Sektoren Textilien und Bekleidung der Bundesrepublik Deutschland. Diss., Münster, 1985.



Wolf, Martin, Glismann, Hans H., Pelzman, Joseph, and Dean Spinanger,  
Costs of Protecting Jobs in Textiles and Clothing. Thames Essay No.  
37, London: Trade Policy Research Centre, 1984.

Zietz, Joachim, Some Econometric Evidence on the Impact of the  
Multifiber Agreement on the German Clothing Industry. Kiel Working  
Paper No. 238, August 1985.