GENERAL AGREEMENT ON

TARIFFS AND TRADE

THE ECONOMIC CONSEQUENCES OF LIBERALIZING

WORLD TRADE IN TEXTILES AND CLOTHING:

A SURVEY OF THE EMPIRICAL LITERATURE

A Paper prepared by the GATT Secretariat

for the Textiles Committee

90-0468

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I. INTRODUCTION

1.   This paper has been prepared in response to a request submitted to the Textiles Committee by Finland on behalf of the Nordic countries (COM.TEX/W/212) and subsequently endorsed by the Textiles Committee (COM.TEX/59).

2.   As regards the contents of the paper, the Nordic request included both a general suggestion and a more specific suggestion. They are, respectively,

> "... an analysis of the global economic and trade consequences of the dismantling of all restrictions under the MFA and other trade restrictions in this field."

and,

> "... an in-depth survey of the empirical work in this area and a qualitative assessment of what the future developments would be under changed circumstances."

3.   It is helpful to view the current Secretariat paper in conjunction with Chapter 4 ("The Economic Impact of Policies Affecting Trade in Textiles and Clothing") and Chapter 5 ("Economic Consequences of Alternative Future Trade Policies Governing Textiles and Clothing") of the Secretariat's 1984 study <u>Textiles and Clothing in the World Economy</u>.[1]

4.   Chapter 4 of the 1984 study explored the possible effects of trade restrictions on prices, production, employment, trade and so forth in the importing and exporting countries. However, the analysis was essentially <u>qualitative</u>, in the sense that it indicated only the likely direction of the change in each variable caused by a change in import barriers (for example, that a reduction in trade barriers would cause a decline in the domestic market price of the product in question). The analysis did not take into account estimates of the actual degree of restrictiveness of existing trade barriers, and no attempt was made to indicate the likely size of the changes in the key variables that might follow the partial or complete elimination of existing import restrictions on textiles and clothing. Parts II and III of the current paper extend that earlier analysis by reviewing the methodologies and results of empirical work which has attempted to estimate the magnitude of several - but not all - of the likely economic effects of possible changes in existing trade barriers.

5.   Part IV of the paper is concerned with the issue of "a qualitative assessment of what the future developments would be under changed circumstances". As discussed there, the scope for using the detailed review of the empirical literature surveyed in Parts II and III to assess this issue was found to be limited for three reasons. First, there is no agreement on the definition of "changed circumstances". Second, the review

of empirical studies revealed a number of methodological issues and problems with data which would impair the quantitative assessment of changed circumstances. Third, the evolution of trade in textiles and clothing will depend on a number of factors, apart from policy developments, including demographics, technological change and corporate strategies. As a result, the scope for extending the qualitative assessment of changed circumstances in textiles and clothing beyond what is contained in Chapter 5 of the Secretariat's 1984 study turned out to be limited.

6.   Although many developing economies impose tariff and non-tariff restrictions on imports of textiles and clothing, there was a general emphasis in the Secretariat's 1984 study on import barriers in the developed countries, and in particular on the bilateral quantitative restrictions imposed under the Arrangement Regarding International Trade in Textiles, more commonly known as the Multifibre Arrangement (MFA).[2] Given that the available empirical work on trade barriers in textiles and clothing is concerned more or less exclusively with barriers maintained by developed countries, there is necessarily a similar focus in this paper. Within the developed country group, the United States, the United Kingdom and Canada have been the subject of most of the empirical work. Detailed country studies are not available for other MFA participants.

7.   The principal conclusions of the 1984 study concerning the effects of the quantitative restrictions maintained under the MFA included the following. The imposition of a binding export quota on a product protects the domestically produced version in the importing country. The price of the imported product rises as a result of the scarcity premium associated with the quota (which can be expressed as a tariff equivalent), inducing higher domestic production.[3] Other things being equal, domestic consumption falls. The higher domestic prices of textiles and clothing caused by the (binding) MFA quotas will, in the short run, bring about increased returns for labour and capital in the two domestic industries. In the medium term, however, higher factor prices are likely to attract more labour and capital into these industries, and as a result, the wage rates and profit per unit of capital in the textile and clothing industries tend to return more or less to the previous levels.[4]

8.   Products subject to export quotas are also subject to tariffs applied by the importing governments. The difference between the tariff equivalent of the quota and the import tariff amounts to a per unit quota rent. Aggregate quota rents are generally held to be captured by residents of the exporting country, because the allocation of licenses under the MFA is done by the exporting government. The higher the importing country's tariff, the smaller the exporter's rent per unit. Indeed, in the event of a non-binding quota restriction, it is the tariff which restricts the volume of imports, and exporters' rents are nil. On the other hand, when a developing economy supplier obtains a tariff preference for its MFA-restricted products, the rents it receives are correspondingly increased.

9.   The Secretariat's 1984 study underlined the important rôle that
tariffs play in protecting textiles and clothing. The share of world trade
in textiles and clothing that is affected by tariffs is significant.
Moreover, post-Tokyo Round MFN tariffs on textiles and clothing in the
developed countries are substantially higher than the average tariffs on
manufactured goods, and the tariffs tend to rise with the level of
processing ('tariff escalation').[5] And, of course, more attention will be
given to tariff protection as quotas under the MFA are phased out in the
process of liberalizing trade in textiles and clothing.

10.   The Secretariat's 1984 study noted that under the MFA it is the volume
of exports that is under restraint and not the value, with the result that
exporters have an incentive to "upgrade" from lower quality to higher
quality items, in order to obtain greater revenue from a given quota
level.[6] In addition, the study noted that bilateral export quotas under
the MFA restrain exports only from particular sources, leading to the
possibility - indeed likelihood - of trade diversion from restrained to
unrestrained exporters, and from restricted to unrestricted products.[7]

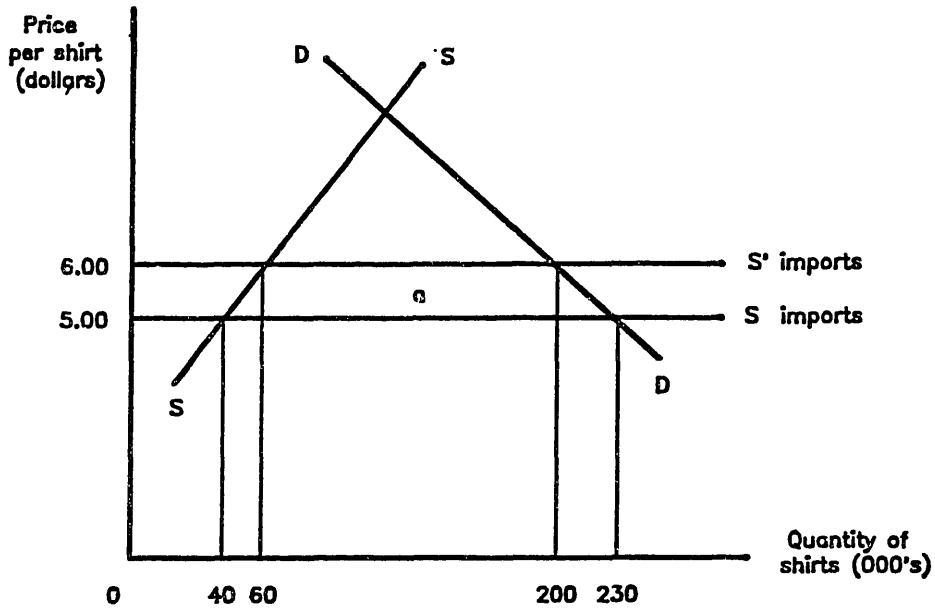## II. QUANTIFYING THE RESTRICTIVENESS OF MFA QUOTAS

A. Tariffs versus quotas

11.   As is the case with tariffs, quantitative restrictions reduce the
volume of imports and raise their prices. Assuming the quota is binding,
the extent to which such volume and price effects occur depends on numerous
factors, including whether the quota is bilateral or global, temporary or
permanent, and so forth. If the imported and domestically produced
versions of the product are essentially perfect substitutes in the eyes of
buyers, the restrictiveness of a quota on imports of a product is evaluated
by measuring the difference between the domestic and world market prices of
the product in question (or by measuring the decline in the quantity of
imports).

12.   The price and quantity effects of a tariff are illustrated in panel A
of Figure 1, which shows a hypothetical import market for cotton T-shirts.
Under free trade, the price of imports is $5 per unit and the quantity
imported per time period is 190 thousand units, equal to the excess of
domestic demand (230 thousand units) over domestic production (40 thousand
units). If a 20 per cent tariff were imposed, the price in the domestic
market would rise to $6 (the world market price remains $5). A combination
of reduced domestic consumption and increased domestic production would
cause imports to decline to 140 thousand units (200 thousand minus
60 thousand). Note that the imposition of an import quota of 140 thousand
units would have had the same impact on the domestic price, production and
consumption as the 20 per cent tariff.

Figure 1
Cotton T-shirts

A. tariff only

Price per shirt (dollars)

D · S

6.00 ——————————————————— S' imports

a

5.00 ——————————————————— S imports

S

D

Quantity of shirts (000's)

0   40 60   200 230

B. tariff plus quota

Price per shirt (dollars)

D · S

7.50 ———————————————

c

6.00 ——————————————————— S' imports

b

5.00 ——————————————————— S' imports

S

D

Quantity of shirts (000's)

0   40   90   170   230
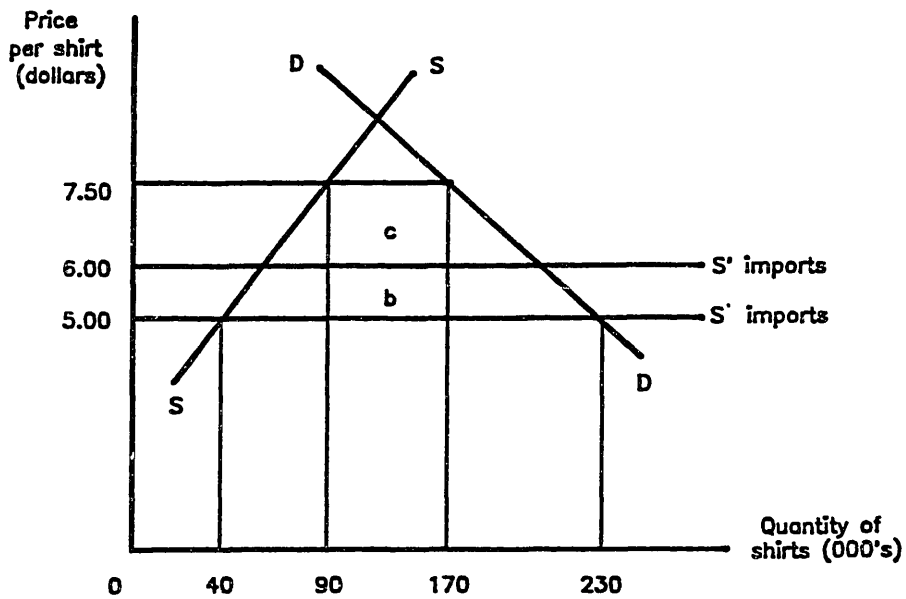
13. Suppose the country decided to restrict imports of T-shirts even further than under the tariff, and that it does so by imposing a quota of 80 thousand shirts per year. As a result, the domestic price must rise in order to reduce the excess of domestic demand over domestic supply from 140 thousand units to 80 thousand units. Assume that the required price increase is from $6 to $7.50, as is indicated in panel B of Figure 1. It is readily apparent from the Figure that a 50 per cent tariff - which pushed the domestic market price from $5 to $7.50 - would have the same impact on imports as the 80 thousand unit quota. In other words, the "tariff equivalent" of this particular quota is 50 per cent.

14. The situation portrayed in Figure 1 is both over-simplified and static (that is, it is simply a snapshot of the situation at a particular point in time). In reality, tariffs and quotas have different effects on domestic production, employment, trade, consumer welfare and so on, and the full 'equivalence' of tariffs and quotas holds only under extremely limited conditions. At the same time, this consideration does not invalidate the essential step in empirical work of estimating the tariff equivalents of existing quotas in order to evaluate their effects on prices of imported products. It is important to keep in mind, however, the considerable limitations of the estimates.

B. Measuring the tariff equivalents of MFA quotas

15. One of the difficulties which the reader encounters in going through the empirical literature is the sometimes confusing terminology concerning key concepts. For example, with respect to panel B of Figure 1, some analysts would measure the tariff equivalent of the 80 thousand unit quota by the difference between $5 and $7.50 (a 50 per cent tariff equivalent), while others would use the percentage increase in the tariff-inclusive price from $6 to $7.50 caused by the quota (a 25 per cent tariff equivalent). Another key term which is defined in different ways by different authors is "quota rent". In order to minimize the confusion which can result from the differing definitions and imprecise terminology, this report will utilize the following terminology throughout:

> tariff equivalent of a quota: The literature on the equivalence of tariffs and quotas (which pre-dates the empirical work surveyed in this paper) uses the following definition: "A tariff rate that would produce an import level which, if alternatively set as a quota, would produce an identical discrepancy between foreign and domestic prices" (Bhagwati, 1965, p.53). That is, it is the difference between the price at which the quantity of imports specified by the quota would be available under free trade (this price includes a normal profit rate) and the domestic market price in the presence of a binding quota. In terms of panel B in Figure 1, the tariff equivalent of the 80 thousand unit quota is the tariff that would cause the domestic price to rise from $5 to $7.50, that is, 50 per cent.

quota price wedge: The increase in the tariff-inclusive price of the
imported product caused by a binding quota. In terms of panel B in
Figure 1, it is the increase from $6 to $7.50 and can be expressed
either as $1.50 (absolute increase) or 25 per cent (percentage
increase).

total quota rent: The revenue associated with the quantity of imports
specified by the quota and the estimated increase in the domestic
price of the imported product. In terms of panel B in Figure 1, it is
$200,000 on an aggregate basis ($2.50 x 80 thousand, equal to the sum
of areas "b" and "c").

importer's tariff revenue: The amount of tariff revenue associated
with the quota-restricted product in the importing country (this is,
in effect, "retained rent"). In terms of panel B in Figure 1, it is
$1 on a per unit basis, and $80,000 on an aggregate basis ($1 x 80
thousand, equal to area "b").

exporter's rent: The amount of the quota rent which is (in principle)
captured by the exporting country by virtue of the quota scheme being
administered by the exporting country's government. In terms of panel
B in Figure 1, it is $1.50 on a per unit basis and $120,000 on an
aggregate basis ($1.50 x 80 thousand, equal to area "c"). On a
per unit basis it is referred to as the "quota premium".

16. The first step in quantifying the impact of quotas is to estimate the
corresponding tariff equivalents. A problem facing empirical researchers
is that the free trade import price cannot be observed except in the case
when the country has just introduced import restrictions. Furthermore, it
is often very difficult to obtain comparable data on domestic and world
market prices of imported products. In some cases, import or export unit
values are available, but in other cases, all that may be available is a
domestic price index for the product which is an average of the imported
and domestically produced items. Supply prices of the exporting countries
(producer prices adjusted for transport costs) may be used as proxies for
the world market prices of imports, but these data are not available for
most exporters under the MFA.

17. Apart from the inadequacy of the data, a number of additional issues
should also be noted. Calculations based on the difference between world
market and domestic market prices capture the effects of all barriers to
trade, which may not consist only of tariffs and quotas. In addition, it
is difficult to use estimated tariff equivalents of quotas to consider
alternative trade policy regimes without additional information relating to
existing import demand and supply conditions, the degree of competition,
and the substitutability of foreign and domestically produced products.

18. As a result of the problems associated with obtaining specific
information on domestic and world market prices of imports, researchers

generally take one of two approaches in estimating the tariff equivalents of MFA quotas. These are: (1) collect data on the prices of export licenses by product and destination in the markets of suppliers, and combine that data with data on the nominal tariffs; and (2) econometric estimation of tariff equivalents in partial equilibrium models.

19. Regarding the first approach, it will be recalled that one of the features of the MFA is that the quotas are administered in the exporting country. When exporters can accurately forecast future conditions in the importer's market, the value of a license is equal to the difference between the domestic tariff-inclusive price in the importing country and the supply price (excluding the value of the license) in the exporting country. With reference to panel B of Figure 1, an export license for one T-shirt is worth $1.50, and if the government of the exporting country distributes the licenses free of charge, exporters obtain a quota rent of $1.50 per shirt (this is a pure windfall gain since the regular export price - $5 in Figure 1 - includes a normal rate of profit). Alternatively, if the licenses are sold at a price equal to their value (for example, at auction), the government of the exporting country captures the exporters' quota rent. Finally, if firms are allowed to buy and sell the licenses without restrictions, they will trade at a price equal to the quota premium, that is, $1.50. Again with reference to Figure 1, an exporter who was not on a list for free distribution of export licenses, and who could earn a normal rate of profit selling the product for $5, would be willing to pay up to $1.50 per unit for the right to sell into the restricted market.[18]

20. Data on the prices of traded export licenses in exporting countries is sparse. Among the many quota license systems in operation, the administrative and resale features of the Hong Kong quota system are considered to be the closest to the conditions of a competitive market for licenses. In addition, the time series on prices of traded quota licenses in Hong Kong used by researchers is the most complete data set, both in terms of destinations, years covered and consistency.

21. Estimates of quota price wedges for Hong Kong exporters are reported by Hamilton (1986b) in Table 1. Import statistics (value and quantity) were collected for the European Communities and the EFTA countries, converted to unit values, which then served as proxies for the exporters' rent-inclusive prices. Similarly, unit values for Hong Kong's exports to the United States were calculated and used as proxies for the rent-inclusive export prices. The rent-exclusive export supply price for each product was assumed to be the difference between the exporters' rent-inclusive price and the per unit price of a quota license, and it was then straightforward to obtain the quota price wedge expressed in percentage terms. The total trade barrier on imports of clothing from Hong Kong combines the quota price wedge and the tariff rate.

Table 1·

Quota price wedges for MFA quotas and import tariffs on clothing imported from Hong Kong
in selected countries

(Percentage)

Importer	Quota price wedge	Average import tariff	Combined trade barrier	Reference period(quarter)
EC countries				
Denmark	14	17	33	1980(3)-1985(1)
France	13	17	32	1981(1)-1985(1)
Germany, Fed. Rep.	13	17	32	1980(3)-1985(1)
Italy	3	17	21	1982(1)-1983(3)
United Kingdom	15	17	35	1980(3)-1985(1)
EC average	14	17	33	1980(3)-1985(1)
EFTA countries				
Austria	4	33	38	1982(1)-1983(1)
Finland	6	35	43	1982(1)-1983(3)
Sweden	26	13	42	1980(3)-1985(1)
Switzerland[a]	0	13	13	Permanently
United States	27	23	56	January 1982- December 1983

[a]Switzerland has no MFA restrictions on imports from developing countries.

Note: The combined trade barrier on clothing is (1 + quota price wedge) X (1 + tariff) -1.

Source: Hamilton (1986b).

22. One important result reported by Hamilton is the uniformity of
estimated average levels of protection from tariffs and quotas in the
members of the European Communities (except for Italy). This uniformity is
to be expected from the operation of a customs union, where agreements
between the importers and the exporter cover the same product categories
and have the same terms, and where arbitrage can be expected to largely
eliminate any cross-country gaps in average prices of the products. A
similar uniformity exists in average protection levels for members of EFTA
(except for Switzerland) for which data are available. A more surprising
result is the difference in the combined trade barrier between EFTA and EC
countries, which in theory, should be much smaller given the free trade
agreement in manufactures between these entities. Hamilton suggests the
difference is the result of residual non-tariff barriers on imports of
clothing applied by the EC, as well as different rules of origin. Another

reason for the difference may be the difference in product coverage and terms of the VER agreements that the EFTA countries operate as compared to those of EC countries. These considerations suggest that intercountry comparisons on the degree of protection must be made with caution.

23. A second important result reported by Hamilton is that there are sharp variations over time in the quota price wedges and thus in exporters' rents. For example, between January 1982 and December 1983, the quota price wedges on exports to the United States varied from about 10 per cent to over 130 per cent, and Hong Kong's rents are estimated to have risen from $125 million in 1982 to nearly $410 million in 1983. Hamilton suggests that the variability may be due to changes in exchange rates, expectations of available quota volumes and demand conditions in the importer, and changes in the supply prices of the exporters. The sensitivity of the estimation method to changes in non-policy factors (including exchange rates), is one of the most important reasons why these estimates must be used with considerable caution.

24. Sources of data on quota license prices of a similar quality to Hong Kong's are not available in other exporters. Hamilton (1988b) estimates export quota price wedges for the Republic of Korea and Taiwan by adjusting his (1986b) estimates for Hong Kong. The procedure adjusts the Hong Kong estimates for differences in domestic supply prices (using hourly wages) in the other two exporters. Hamilton argues that this procedure can be considered acceptable because the textile and clothing industries in these three countries operate under largely similar conditions (in terms of labour productivity, capital costs, and so forth). Results of the method indicate that average quota price wedges for the period 1980-84 associated with Hong Kong's exports to the United States and the European Communities were higher than those for the Republic of Korea or Taiwan.[11]

25. Hamilton's (1986b) procedure was extended by Trela and Whalley (1988) to cover other exporters to the United States. Trela and Whalley adjust the average of Hong Kong's quota price wedges in 1982 and 1984 for differences in a supplier's relative wage, in product quality of exports and in labour productivity. The implication is that an exporter that has lower labour costs than Hong Kong (the case of most MFA-restricted exporters) obtains a correspondingly higher per unit quota price wedge. Of course, if the textile and clothing industries in the other exporters do not operate under conditions largely similar to those in Hong Kong, the validity of the procedure is more questionable.

26. Smith and Bence (1989) use monthly data on Hong Kong's premia for export quotas to Canada to compute quota price wedges for the period 1985-89 (first four months of 1989 only). An analysis of the time series indicates that the quota premia vary a great deal from month to month. Their estimates of quota price wedges in percentage terms fluctuate seasonally and from year to year, confirming Hamilton's results for exports to the United States.

27. Among critics of the method, Laird and Yeats (1988) suggest that using data on prices for traded quota licenses can only have limited reliability in terms of calculating quota price wedges. Their reasons include the following: (1) it requires statistics on the prices of export licenses and

this information is available in relatively few members of the MFA; (2) if
the supply of exports to the importing country from a particular source is
not perfectly elastic, an approach that uses observed quota prices in the
exporter as a basis for computing tariff equivalents produces an upward
biased estimate of the VER's true price effect; and (3) the approach
assumes the exporters capture all the rents of the VER, which may in fact
be shared with importers.

28. Silberston (1984) argues that Hamilton's transformation of Hong Kong's
quota license prices into quota price wedges almost certainly overstates
the restrictive impact of the quotas, and the associated exporters' rents.
Only a small fraction of quota licenses are sold in any given year (the
initial allocation by the government is free of charge), indicating that
the Hong Kong's premia measure the demand for an export license at the
margin. When demand is strong on the importing market, the prices of
export licenses are high, and when demand is low, the converse holds. As a
result, only in conditions of strong demand is the quota premium likely to
reflect actual scarcity rents. On average, then, the quota premia at the
margin are higher than the average quota premia, but the extent of the
difference cannot be estimated on the basis of the available data. This
conclusion is supported by the fact that Hong Kong's premia are much more
variable throughout the year than export prices, and this variability
cannot be explained by changes in supply prices. More generally, when only
a small proportion of the licenses is sold, the selling price may not be a
good indicator of the average price (quota premium) that would hold if all
the licenses had been sold.

29. A more fundamental limitation of this approach to computing quota
price wedges is Anderson's (1988) argument that under uncertainty, a quota
license is an option to export before an expiry date. The price a firm is
willing to pay for the option to export depends on the expected future
value of selling the product in the importing country minus the cost of
supplying the product. In turn, the expected revenue in the destination
hinges on a probabilistic assessment of the possible states of the market,
wh.ch include the possibility that the overall quota may not be binding at
the time of export. The only requirement for the option to have a value is
the expectation that the quota will be binding at the time of export.
Because suppliers add the purchase price of a license to the supply price
of the product, the quota distorts the domestic price of imports to some
extent even when it is not binding. Among other things, this argument
reconciles the observation that licenses typically command a positive price
with the existence of unfilled quotas.[12] Anderson also demonstrates that a
use-it-or-lose-it requirement may induce the holder of a license to use it
in the current period, even at a loss, in order to obtain future export
licenses with a positive expected value. In this case, the effect of the
regulation "is to subsidize exports and reverse the transfer of rent under
the VER system" (pp.206-7). While such research is still in a preliminary
stage, it suggests that the observed behaviour of prices of export licenses
in the secondary market is influenced not only by scarcity but by the
complex characteristics of the quota licensing system - of which each
exporter under the MFA operates its own variant (see Hamilton (1986a) for a
discussion of allocation systems in ASEAN countries).

30.   An alternative method developed by Pelzman (1988) attempts to overcome
the limitations of using quota license prices in the exporter's market as a
proxy for the actual quota price wedge in the importing market. He also
explicitly allows for trade diversion by separating imports into the United
States into two groups: those which are directly affected by tariffs and
MFA quotas (the "controlled" market) and those that are only affected by
tariffs (the "uncontrolled" market). Products from each source of supply
- controlled, uncontrolled and domestic - are treated as distinct products
(imperfect substitute for the other two), which leads to the three separate
markets. The imposition of a quota in the market for controlled imports
increases the quantities demanded of both the uncontrolled import and
domestically produced version. The net effect on the price of the product
in the controlled market depends on the extent to which these spillover
effects are satisfied in the two other markets. Other things being equal,
the presence of an uncontrolled source of supply means that the tariff
equivalent of a quota is lower than if all sources of supply of the product
are treated as being controlled.

31.   Using Pelzman's model, the United States International Trade
Commission (1989), obtained tariff equivalents of MFA quotas on exports to
the United States that generally exceed by a large margin the corresponding
tariff rate, indicating that MFA quotas are binding in most product
categories, despite the existence of uncontrolled (alternative) sources of
supply (Table 3). The average tariff for textiles was 14.1 per cent and
the tariff equivalent of quotas was 21.8 per cent, while the corresponding
figures for clothing were 19.0 and 28.3 per cent, respectively. Expressed
as quota price wedges, the MFA induces increases in the tariff-inclusive
prices of 6.7 per cent in textiles and 7.8 per cent in clothing. These
results confirm the general expectation that protection is higher in the
clothing industry than in textiles, where uncontrolled sources of supply
are quantitatively more significant.[13]

32.   In principle, the method used by USITC (1989) is superior to a method
that does not account for unconstrained sources of supply.[14] On the other
hand, the 'disequilibrium' nature of the econometric model used to perform
the estimation implies a much more complex equation structure than standard
partial equilibrium models. In particular, the link between the excess
demand in one market and its spillover effects to other markets must be
specified in an essentially ad hoc manner. These additional structural
elements add a complexity to the model which affects the reliability of
estimates. The reliability is also affected by a problem which is common
to much of the work in this area, namely the absence of reliable estimates
of certain crucial parameters (such as the cross-price elasticities between
the three different versions of the product). Another limitation of the
method is that it will tend to capture the effects of all barriers to
trade, which may not consist only of tariffs and quotas.

33.   Table 2 presents two sets of estimated quota price wedges of MFA
quotas for selected clothing categories in the United States, based on the
work of Morkre (1984) and Hamilton (1986b). Comparing the results obtained
by Hamilton and Morkre for different years, it is evident that the quota

price wedges for Hong Kong's MFA quotas on the same product category vary greatly. The absolute level of the quota price wedge on each product category differs, and the ranking across product categories obtained by each author is appreciably different. Thus, even when essentially the same approach is used to obtain quota price wedges, the results are very sensitive to the choice of year. The choice of base year is important insofar as the results are affected by changes in the underlying supply and demand conditions, including those caused by exchange rate variability. This argument, also made by Hamilton (1986b), implies that it is important to use _averages_ of annual quota price wedges.

Table 2

Quota price wedges of MFA quotas for selected clothing categories for the United States, based on Hong Kong quota license prices

(Percentage)

Category	Number	Morkre	Hamilton	
		1980	1982	1984[a]
Men's cotton jackets	333/334	12.2	10	23
Ladies' cotton jackets	335	27.1	20	36
Cotton knit shirts and blouses	338/339	9.3	49	54
Men's cotton woven shirts	340	11.5	6	57
Ladies' cotton woven shirts	341	1.7	11	42
Ladies' cotton woven skirts	342	n.a.	n.a.	44
Cotton knit sweaters	345	27.3	n.a.	59
Men's cotton pants	347		8	49
Ladies' cotton pants	348	32.9[b]	10	57
Ladies wool knit blouses	438	n.a.	1	33
Wool knit sweaters	445/446	46.3	21	61
Men's MMF jackets	633/634	n.a.	23	n.a.
Ladies' MMF shirts	635	n.a.	n.a.	15
MMF knit shirts and blouses	638/639	n.a.	2	31
Men's MMF woven shirts	640	n.a.	n.a.	65
Ladies' MMF woven blouses	641	15.7	6	n.a.

[a] January to May 1984.

[b] Categories 347 and 348 combined.

Note: MMF = man-made fibres.
Sources: Morkre (1984); and Hamilton as reported in Trela and Whalley (1989).

34. In Table 3, USITC (1989) figures for tariff equivalents of quotas on a
similar set of product categories to Hamilton's are reported. The figures
reported in Tables 2 and 3 are not directly comparable because they refer
to different years, and the USITC figures are based on imports from all
sources while the figures in Table 2 are based on Hong Kong's exports
alone.[15] After adjustment of the USITC (1987) figures for tariffs, it
would appear that using Pelzman's method results in estimates of quota
price wedges that are significantly lower than those obtained by Morkre or
Hamilton.

Table 3

Tariffs, tariff equivalents of MFA quotas, and quota price wedges for selected clothing categories for the
United States, based on imports from all sources in 1987

(Percentage)

Category	Number	Tariff rate (t)	Tariff equivalent of the quota (q)	Quota price wedge (w)
Ladies' cotton jackets	335	9.8	0.0	0.0
Men's cotton woven shirts	340	20.9	33.7	10.6
Ladies cotton woven shirts	341	16.5	23.9	6.4
Ladies cotton woven skirts	342	8.9	17.8	8.2
Cotton knit sweaters	345	20.8	44.2	19.4
Men's cotton pants	347	16.9	22.9	5.4
Ladies cotton pants	348	16.9	19.5	2.2
Ladies wool knit blouses	438	18.4	48.7	25.6
Ladies MMF shirts	635	27.3	51.9	19.3
Men's MMF woven shirts	640	29.2	42.5	10.3
Ladies' MMF woven blouses	641	29.2	34.1	3.8

Notes: 1. MMF = man-made fibres.

2. To compare figures with those in table 2, note the following:

- if $t \geq q$, then the quota is not binding, and the applicable trade barrier is t (tariff
only).
- if $t < q$, then $w = [(1 + q)/(1 + t) - 1]$, and the combined trade barrier is
$[(1 + w)(1 + t) - 1]$ or q.

Sources: The figures for tariffs and tariff equivalents are taken from USITC (1989). The figures for the
quota price wedges were calculated by the Secretariat.

C. Estimates of quota rents

35. In the partial and general equilibrium models used to estimate the effects of the MFA, quota rents and their distribution between the importer and exporters are important factors. As described in the preceding paragraphs, quota price wedges and tariff equivalents of quotas have been estimated in a variety of ways, with no consensus as yet on which is the best methodology. In addition, as was noted above, estimates of the impact of quotas in individual product categories generated by the same method vary substantially between years. The wide range of estimates of quota rents is an important reason for interpreting the results of quantitative analyses of the MFA with caution.

36. Morkre (1979) argued that for Hong Kong

"....anywhere from 15 per cent to 25 per cent of (restrained) textile export value in 1976 was rent. This would be between H.K.$ 1.8 - 3.0 billion or 3.9 per cent to 6.4 per cent of Hong Kong's annual gross domestic product." (p.113)

Morkre (1984) estimated that rents associated with Hong Kong's quotas on exports of nine product categories to the United States (see Table 2) amounted to $218 million, about 23 per cent of the 1980 import (f.o.b.) value of these products in the United States. These rents were primarily concentrated in the cotton jeans and wool sweater categories.

37. According to Hamilton (1986b), Hong Kong's rent income from exports to Western Europe and the United States was $218 million in 1982 and $507 million in 1983 (at 1984 prices), which accounted for 0.7 and 1.7 per cent of Hong Kong's GDP, respectively. He estimated that exporters' rents alone constituted 10.5 per cent of the total value added in Hong Kong's clothing industry in 1982.[16] In a more recent study, Hamilton (1988b) estimates rents accruing to Hong Kong, the Republic of Korea and Taiwan from quotas imposed on exports to the United States and the EC (10), at $1 billion for the two years, 1982-83 (at 1985 prices). Of this rent income, more than 80 per cent was accounted for by exports to the United States, and Hong Kong's share of the rents was significantly larger than those of the Republic of Korea or Taiwan.[17]

38. Using Hamilton's (1986b) estimates of the quota price wedges associated with Hong Kong's export quotas in 1984 (first five months only), Tarr (1989) estimates that exporters' rents in the United States market amounted to more than $7 billion in 1984. Trela and Whalley (1988) obtain the lower figure of $5.2 billion, using averages of Hamilton's quota price wedges for 1983 and 1984.[18] The difference between Trela and Whalley's figure and Tarr's can in part be accounted for by Tarr's use of the 1984 data alone, which for many products constituted a peak. In addition, Trela and Whalley argue that Tarr applies the quota price wedge to United States imports of textiles and clothing from all sources, and not just those from MFA-restricted exporters.

39.   Using Pelzman's method, the USITC (1989) obtains total quota rents of $5.2 billion in 1987. Net of tariff revenues accruing to the government on imports from controlled sources, $3.5 billion, exporters' rents amounted to $1.6 billion in 1987.

40.   Exporters' rents associated with quotas in the United States' market obtained using Hamilton's (1986b) quota price wedges clearly lead to much larger estimates than those obtained by USITC (1989), and these differences are difficult to explain by differences in the choice of base year or in methodology alone. According to Silberston (1989), Hamilton's method is likely to produce overestimates, and he concludes that "the 1987-88 quota premia may have been approximately double the average level of quota rents on clothing, taking one year with another" (p.83). Another reason for the difference may be that Hong Kong is not representative of the group of MFA-restricted exporters in all product categories, and thus its rents may not be a good proxy for all exporters' rents even after adjustment for differences in estimated labour costs and product quality.

41.   Kumar and Khanna (1989) reported that exporters' rents accruing to India amounted to $102 million for the three years, 1983-85, based on average "black market" quota price wedges of 6.5, 24.5 and 21.6 per cent for the three years, respectively.[19] More recent data on quota prices has become available as a result of the Indian government's new open tender system, but Silberston (1989) argues that "the limited nature of the quota auctions in India make it unlikely that these high levels of quota [price] represent the average [exporters'] quota rents being earned in the Indian industry" (p.58).

42.   Each of the studies surveyed in this paper assumes that all of the difference between quota rents and the importing country's tariff revenue accrues to exporters. If this is not the case in practice, and exporters' rents accrue (in part) to importers, the net benefits to exporters from trade liberalization in textiles and clothing are, other things being equal, increased. Morkre (1984) argues that at least for Hong Kong complete rent transfer is a reasonable assumption:

> "The monopoly position [of the Hong Kong government] together with a large number of U.S. importers enables Hong Kong to capture the economic rent created by the quota." (p.7)

Kumar and Khanna (1989), on the other hand, argue that there are cases in India in which exporters' rents may be partially leaked to importers through "under-invoicing" below the contract prices initially agreed between the importer and exporters, depending on "demand related bargaining positions".[20]

43.   In summary, there are divided views among researchers on how best to estimate tariff equivalents of MFA quotas, quota price wedges, and the quota rents accruing to exporting countries. Although empirical results derived from different methodologies are difficult to compare, and vary substantially from product to product, the available evidence indicates

that MFA quotas are generally binding and for a number of products are associated with substantial scarcity premia. While statistics on the quota premia are available for Hong Kong, the practice of using "adjusted" Hong Kong's data for other exporters' quota rents means that the resulting estimates are necessarily less reliable. Finally, a common characteristic of all the estimates of tariff equivalents, quota price wedges and associated rents is their variability from year to year. This variability results from changes in underlying market conditions. In other words, it is not primarily the result of deficiencies in the methodologies used to make the estimates.

III. ECONOMIC EFFECTS OF TRADE RESTRICTIONS UNDER THE MFA

44. The empirical literature on the economic impact of tariffs and MFA quotas on textiles and clothing focuses on a variety of issues and employs a variety of methodologies. Most of the empirical work has focused on the importing countries, particularly on the United States, and has employed partial equilibrium techniques. This means that no account is taken of the economy-wide implications of tariffs and MFA quotas, such as the possible impact on the average wage rate and supply and demand conditions in the markets for other products. General equilibrium approaches explicitly model such effects, and thus are - in principle - much better than partial equilibrium approaches if the goal of the analysis is to estimate the overall economic costs and benefits of the MFA. In the case of a general equilibrium model of the world economy, the results include the effect of removing restrictions on the pattern of international trade and the terms of trade of importers and exporters. The difficulty with the general equilibrium models is their greater complexity and greater data requirements.

45. The major empirical studies of the economic effects of tariffs and MFA restrictions on textiles and clothing are reported in Table 4. The basic analytical models used in the studies reported there can be broadly classified into four groups:

(IA) **Partial** equilibrium model, with the assumption that imported goods and domestically produced goods in a given product category are **perfect** substitutes;

(IB) **Partial** equilibrium model, with the assumption that imported goods and domestically produced goods in a given product category are **imperfect** substitutes;

(IIA) **General** equilibrium model, applied to a single country;

(IIB) **General** equilibrium model, applied to two or more countries.

Table 4

Empirical studies of the cost of protection in textiles and clothing, 1980-89

	Country	Base year	Product coverage	Basic model	Type of cost measured	Form of protection	Other characteristics
Morkre (1984)	US	1980	Clothing (9 products)	Partial (IB)	Net welfare costs	Quotas	- Net welfare costs of quota protection on imports from Hong Kong in 9 major apparel clothing categories.
Hickok (1985)	US	1984	Clothing	Partial (IB)	Consumer costs	Tariffs and quotas	- Total demand for clothing is assumed to be unaffected by protection.
Hufbauer et al. (1986) Phase I	US	1974	Textiles and clothing	Partial (IB)	Consumer and net welfare costs	Tariffs and quotas	- No effect from quotas on cotton textiles because imports of man-made textiles and clothing put a ceiling on domestic prices.
Phase II	US	1981	Textiles and clothing	Partial (IB)	Consumer and net welfare costs	Tariffs and quotas	
Phase III	US	1984	Textiles and clothing	Partial (IB)	Consumer and net welfare costs	Tariffs and quotas	
Cline (1987)	US	1986	Textiles and clothing	Partial (IB)	Consumer and net welfare costs	Tariffs and quotas	- Estimates of welfare costs by income group.
Tarr (1989)	US	1984	Textiles and clothing	General (IIA)	Net welfare costs	Quotas	- A computable general equilibrium model. - Hamilton's (1986b) data on quota price wedges are used.
USITC (1989)	US	1987	Textiles and clothing	Partial (IB)	Net welfare costs	Tariffs and quotas	- Based on Pelzman's model.
Jenkins (1980)	Canada	1979	Clothing (16 products)	Partial (IA)	Consumer and net welfare costs	Tariffs and quotas	- Estimates of welfare costs by income group.
Cable (1983)	UK	1980	Clothing	General (IIA)	Macroeconomic effects	Tariffs and quotas	- The Cambridge Growth Project Model - Direct consumer costs are calculated on the basis of imports from MFA restricted sources.
Silberston (1984)	UK	1982	Clothing and household textiles	General (IIA)	Macroeconomic effects	Quotas	- The Cambridge Growth Project Model - Direct consumer costs are calculated on the basis of a 5 per cent fall in retail prices.
Greenaway and Hindley (1985)	UK	1982	Clothing (3 products)	Partial (IA)	Consumer and net welfare costs	Tariffs and quotas	- Trousers, shirts and blouses, accounting for 30 per cent of total clothing imports in 1982.
Trela and Whalley (1988)	US Canada EC	1986	Textiles and clothing	General (IIB)	Net welfare costs	Tariffs and quotas	- A computable general equilibrium model - Estimates of net welfare costs to 34 developing suppliers. - Hamilton's (1986b) data on quota price wedges are used.

46. As may be seen in Table 4, seven of the studies are based on partial equilibrium models. Within this group, the assumption of imperfect substitutability between domestic and imported products has been made more frequently in recent studies, with the exception of Jenkins (1980) and Greenaway and Hindley (1985), which are based on perfect substitutability.

47. The main difference between (IA) and (IB) is that in the former imports are defined as a residual between domestic consumption and domestic supply, with the 'law of one price' prevailing for both the domestic and imported versions. In the case of (IB), equilibrium prices and quantities of imports and domestic substitutes are determined simultaneously in their respective markets. The assumption that the domestically produced and imported versions of the product are imperfect substitutes reduces the impact of trade barriers on domestic production and employment, and may raise the consumer costs associated with protection.

48. General equilibrium models extend the analysis of protection from two industries - textiles and clothing - to consider the spillover effects in all industries of the economy. Of the two basic types of general equilibrium models, the first treats wages as "sticky" (Cable, 1983; Silberston, 1984, 1989; Deardorff and Stern, 1989), while the second models them as fully flexible (Tarr, 1989; Trela and Whalley, 1988). In the former case, trade policy changes induce temporary unemployment and as such, these models have more of a short-run horizon than in the latter case, which is more appropriately viewed as a long-run model of the economic effects of trade liberalization.

49. One important aspect of the economic models listed in Table 4 is their treatment of changes in the terms of trade following trade liberalization in textiles and clothing. All the partial equilibrium models assume the foreign supply curve of textiles and clothing to be perfectly elastic (horizontal). This means that the increase in the amount of imports demanded following trade liberalization will not cause the foreign supply price to rise - that is, it is assumed that foreigners can supply the additional imports at unchanged prices. Thus there is no terms-of-trade effect from trade liberalization, as the country is assumed to be a price-taker on world markets (the "small country" assumption). Single country general equilibrium models also make this assumption, while multi-country models explicitly take into account interactions between countries that can lead to terms of trade changes.

50. Whether or not the assumption of a perfectly elastic supply of imports is reasonable is a source of considerable debate. Most analysts would agree (i) that an increase in demand for imports of a particular product by a country which is a "small" buyer in the world market for the product is not likely to have a noticeable impact on the world market price; and (ii) that an increase in import demand by a "large" buyer (or an aggregate of several buyers) may cause the world market price to rise in the short run. There is much less agreement on the issue of the longer-run impact on world market prices of phasing out MFA quotas. Could the developing economies - with their abundant supplies of unskilled labour - supply the additional amount of clothing exports at unchanged prices? Is it possible that phasing out the MFA's market-sharing arrangements would actually cause

world market clothing prices to decline even though demand increased? What about textiles? The issue of whether the terms of trade are likely to change is a key one in the quantitative analysis of dismantling the MFA quotas because of its important influence on the estimated net impact of liberalization on the various groups of importing and exporting countries.

51. It is important to note that most of the general equilibrium models rely on estimates of quota rents that were made using partial equilibrium techniques. For example, Hamilton's estimates of quota price wedges for Hong Kong's export quotas are used by Tarr (1989) and Trela and Whalley (1988). The results obtained using such models thus continue to depend on the accuracy of the tariff equivalent and quota rent estimates discussed above. Indeed, computable general equilibrium techniques involve simulation, not estimation. As with partial equilibrium models, they rely on "external" estimates of key parameters such as elasticities of demand, supply, and substitution. The results of these models are thus highly dependent on the reliability of the parameters obtained from other sources. As Whalley (1989) observes, "there are major weaknesses in the data used and key elasticity parameters" (p.3) which "are increasingly being seen as features of most empirical analyses in economics" (p.4).

A. Major effects on importing countries

52. Import restrictions have two major economic effects on the countries which impose them. First, they redistribute income away from consumers towards producers and - in the case of tariffs and auctioned import licenses - the government. In the case of MFA restrictions, the income is redistributed from domestic consumers both to domestic producers and - via the quota rents - to foreign producers. Second, there is a reduction in economic efficiency in the protecting countries, as labour, capital and other resources remain in less productive employment.

53. Empirical evidence suggests that the income redistribution effects of protection in textiles and clothing are regressive in the developed countries. Jenkins (1980) found that while a Canadian family belonging to the highest income group earned six times more than a family in the lowest category, the costs borne by the former group due to protection (tariffs and quotas) on clothing were only about twice as high. A similar regressive effect on income distribution due to protection in textiles and clothing was found by Cline (1987) in the case of the United States.[21]

54. In partial equilibrium analysis, the net welfare cost of tariff and quota protection to the importing economy consists of the so-called "deadweight losses" - the aggregate amount of welfare loss from reduced consumption and economic waste from increased (less efficient) domestic production - plus the rent transferred to foreign suppliers. In a general equilibrium model, the net welfare cost is related to the inefficiencies in consumption and production in all industries (caused by trade barriers in a particular industry), the rent transferred to the exporters, and the terms of trade effects (if any).

55. The main empirical results of the eleven studies listed in Table 4 are summarized in Table 5. It should be stressed at the outset that most of these empirical results are not directly comparable because of differences

__in product coverage, base year, choice of elasticity values, methodology,
and so forth.__ Nevertheless, there are a number of interesting points to be
made concerning the results report~d in Table 5:

(a) Estimates of the welfare costs of protecting the clothing
     industry in the United States are much higher than those of
     protecting the textile industry (this is probably true in the
     developed countries in general). The main reasons are that the
     value and volume of imports of clothing are much greater than for
     textiles, and that the level of protection is higher for clothing
     (tariffs as well as the coverage of quotas).

(b) Estimates of the total annual costs to consumers in the United
     States range from $7.5 billion in USITC (1989) to $27 billion in
     Cline (1987). Because the gain to domestic producers and the
     tariff revenue collected by the overnment are included in these
     figures, the direct cost of protection to consumers is far
     greater than the __net__ welfare cost to the economy as a whole (this
     is not equivalent to saying that the latter figure is small).

(c) The __relative__ importance of rent transfers to foreign producers in
     the net welfare cost varies from one estimate to another. For
     example, Hufbauer __et al__. (1986) estimated that in 1984 the rent
     transfer was about 27 per cent for the United States, while
     Greenaway and Hindley (1985) concluded that it was nearly 90 per
     cent of the net welfare cost to the United Kingdom economy in
     1982. USITC (1989) found that quota rents received by foreign
     producers were 69 per cent of __net__ welfare costs for the United
     States in 1987.

(d) With the exception of Hufbauer __et al__. (1986) and USITC (1989),
     the estimates of welfare gains from liberalization reported in
     Table 5 make no allowance for the costs of transitory
     unemployment which often occur in the process of
     liberalization.[22] It should be kept in mind that while consumers
     have to pay the cost of protecting jobs __every year__ until
     protection is lifted, the cost of adjustment to trade
     liberalization is a one-time expense during the transition
     period. Moreover, the estimated annual consumer costs of
     protection per job saved (column B) are roughly four to seven
     times higher than the average annual wage rate in the textile and
     clothing industries.

(e) Estimates of the __net__ annual welfare cost of maintaining the
     current trade regime for textiles and clothing range from
     $2.4 billion (USITC) to $14.8 billion (Tarr). As was noted
     above, differences between the results shown in Table 5 are
     attributable to the choice of model (partial versus general
     equilibrium), specification of structural equations, method of
     estimating tariff equivalents, parameter values and so forth.
     One source of the difference between the general equilibrium
     estimates - from $3.6 billion in Trela and Whalley (1988) to
     Tarr's (1989) figure of $14.8 billion - is the rôle of terms of
     trade effects of trade liberalization. Tarr models the United
     States as a price-taker on world markets, while Trela and Whalley
     obtain a substantial terms of trade deterioration for all
     developed country importers.

Table 5

Results of empirical studies of the cost of protection

	Country	Base Year	Product Coverage	Cost of protection to consumers		Gain from restraints to producers (C)	Tariff revenue (D)	Net welfare cost of protection (E)	Exporters' rent (F)	of which	
				Total (A)	Per job saved (B)					Welfare loss from reduced consumption (G)	Efficiency loss from increased production (H)
(US$ Million)											
Morkre (1984)	US	1980	Clothing (9 products)					308	218	90	
Hickok (1985)	US	1984	Clothing	8500-12000							
Hufbauer et al.[a] (1986)	US	1974									
Phase I			Textiles				243				
			Clothing				915				
			Combined	9400	22000	8700	1158	1100			1100
Phase II		1981	Textiles		40000	5400	388				
			Clothing		36000	12600	1755				
			Combined		37000	18000	2143	3450	350		3100
Phase III		1984	Textiles	9000	50000	8400	400	650	300		350
			Clothing	18000	39000	13600	2135	6000	1500		4500
			Combined	27000	42000	22000	2535	6650	1800		4850
Cline (1987)[b]	US	1986	Textiles	2788	134686	1513	488	811	584	203	24
			Clothing	17556	81973	8005	3167	7317	3254	3130	933
			Combined	20344	86607	9518	3655	8128	3838	3333	957
Tarr (1989)	US	1984	Textiles and Clothing	7536-13883		1061-7654		11535-14870	7163-7037		
USITC (1989)	US	1987	Textiles and Clothing				4019	2367-2613	1645		
(C$ Million)											
Jenkins (1980)[c]	Canada	1979	Clothing (16 products)	778.0		418.2	183.3	176.5	76.2	29.0	71.3

Table 5 (cont.)

| | Country | Base Year | Product Coverage | Cost of protection to consumers | | Gain from restraints to producers | Tariff revenue | Net welfare cost of protection | Exporters' rent | of which | |
				Total (A)	Per job saved (B)	(C)	(D)	(E)	(F)	Welfare loss from reduced consumption (G)	Efficiency loss from increased production (H)
(£ Million)											
Cable (1983)	UK	1980	Clothing	500							
Silberston (1984)	UK	1982	Clothing and household textiles	500	20800						
Greenaway and Hindley (1985)	UK	1982	Clothing (3 products)	170.4	21300	49.1	53.0	68.3	59.2	7.1	2.0
(US$ Million)											
Trela and Whalley (1988)		1986	Textiles and Clothing								
	US							3562			
	Canada							324			
	EC							3642			
	34 LDCs							7973			
	Total							15500			

aThe aggregation of net welfare cost (B) and income transfers (C+D) does not necessarily correspond to the direct cost to consumers (A) because of the author's definition of "deadweight losses", which is different from the others.

bThe author excludes column (H) from his calculation of the direct cost to consumers (A).

cRevised estimates in 1982 for publication, cited in Wolf, M. et al. (1984), p.110.

Notes: 1. The cost of protection to consumers (A) is defined as the total of producers' gain (C), tariff revenue (D), and net welfare cost (E).

2. All figures in column F refer to amounts in the applicable currency.

3. With the exception of USITC (1989), none of the studies listed in this table took into account the possibility of exchange rate changes following trade liberalization. The USITC figures reported in the table do not reflect their adjustment for exchange rate changes. In order to increase the comparability of figures, the USITC figures reported in the table do not reflect their adjustment for exchange rate changes.

(f) Trela and Whalley (1988) estimate that the combined net welfare gain to the world from removal of tariffs and MFA quotas would be $15.5 billion, and that the gain would be almost equally divided between the developed importing countries and the developing exporters.

(g) When the effect of MFA quota removal is modelled separately from tariff removal by Trela and Whalley (1988), estimates of the net welfare gains are not reduced substantially. They estimate that welfare gains from quota removal alone amount to over 90 per cent of total potential welfare gains. One important reason for this result is that removal of MFA quotas alone allows the developed countries to source their imports from the lowest cost supplier. On the other hand, the distribution of gains between developed and developing economies is substantially altered: exporters gain only 23 per cent of the total world gain, as compared to 51 per cent when all trade restrictions are removed. This is primarily due to the important rôle tariffs play in protecting domestic producers in Canada and the United States, and to a lesser extent in the European Communities (see below).

56. In summary, despite the methodological problems involved in the quantification of the gains to consumers and the economy as a whole from liberalizing current trade barriers, all the existing empirical studies reviewed above indicate that the current trade regime, and in particular the system of bilateral MFA quotas, is costly. This is true both from the viewpoint of the annual aggregate costs and in terms of the annual cost per job "saved" in the textiles or clothing industry (column B in Table 5). Furthermore, it must be stressed that there are a number of other costs that are not taken into account in the research reviewed in this paper, largely because the quantification of these costs is very difficult. For example, the cost of customs inspection with respect to the operation of quotas is expected to be larger than that in the case of tariffs; these and other additional administrative expenses - including the bureaucracy required in the exporting countries to administer the system of export licenses - are not included in the above studies. Other costs not taken into account include the anti-competitive effects and arbitrage inefficiency noted by Anderson (1988), and the economic resources spent on lobbying for trade protection in the area of textiles and clothing. All these activities represent 'economic waste' to society, insofar as resources could otherwise have been used in ways that would have added to national welfare.

B. Other Effects on Importing Countries

(a) Prices, imports and production

57. As mentioned earlier, a binding quota on imports of a product causes the domestic price of that product (that is, of both the imported version

and its domestically-produced close substitutes) to be higher than it would have been in the absence of the quota.[23] The available evidence on quota price wedges associated with MFA quotas indicates that the price-raising effect of these MFA restrictions varies considerably both between products and import markets. In addition, Erzan, Goto and Holmes (1989) note that the impact on import unit values is "considerably greater in the case of shipments under binding quotas compared to those falling under nonbinding quotas" in the European Communities, the United States, Canada and Sweden (p.20).

58. In the United States, the decline in the average import price of clothing due to the removal of tariffs and MFA quotas is estimated at 30 to 50 per cent in Cline (1987) and 40 per cent in Tarr (1989) using Hong Kong quota premia.[24] In the United Kingdom, Silberston (1989) argues that the effect of ending the MFA might bring the average price of clothing down by about 5 per cent at the retail level. Elimination of tariffs would lead to a larger price decline. Using Pelzman's method of estimating tariff equivalents of quotas, USITC (1989) obtains an average figure of 28.3 per cent for clothing.

59. The actual increase in the import price of a product under quota restraint can be attributed, in theory, to (a) inclusion of the quota premium in the c.i.f. export price, and (b) product upgrading or quality improvements, after adjustment is made for inflation. It is, however, extremely difficult from a statistical point of view, to separate these two effects. Quality upgrading, when not accounted for in empirical studies, leads to an overestimate of the tariff equivalents and rents associated with the MFA. However, quality upgrading is likely to increase the degree to which the burden of MFA quotas falls on lower income groups (see paragraph 53 above), since it tends to raise the relative prices of lower quality textiles and clothing by reducing their supply by even more than is suggested by the quota.[25]

60. In terms of convincing empirical evidence, the question of the impact of the MFA on quality upgrading within product categories remains open. Cline (1987) provides partial evidence, based on trends in unit values of United States imports of textiles and clothing, which suggests that the 'upgrading' effect of MFA restrictions has been significant in the case of clothing, a conclusion which is supported by Hickok (1985).[26] Wolf et al. (1984) argue that while upgrading may have allowed affected exporters to augment the purchasing power of their textile and clothing exports, this has not been sufficient to compensate for the quantity restrictions.

61. Turning to the impact on the level of imports, Cline (1987) suggests that the MFA has been effective in restricting import growth since 1973 in both the United States and the European Communities. Erzan, Goto and Holmes (1989) argue that the volume of imports subject to binding quotas grew much more slowly than the volume of imports from sources not under quota restraint during the period 1981-87, suggesting the presence of trade

diversion to unconstrained exporters. Their data indicate that this was more pronounced in the United States and Canada than in the European Communities (and insignificant in Sweden). At the same time, since the MFA restricts imports only from particular sources and allows a certain degree of flexibility in the quota operation (such as carry-over provisions), the overall level of imports has been responsive to economic factors such as the growth of domestic demand, changes in exchange rates and so forth. According to Cline (1987), the first half of the 1980s witnessed a substantial acceleration in _real_ terms in imports of textiles and clothing into the United States, as opposed to a continued deceleration in real import growth into the European Communities. The strength of the dollar vis-a-vis the major European currencies during that period, almost certainly explains part of the differing trends.

62. Finally, all the studies reviewed are in agreement that price declines in imported products following trade liberalization in the developed countries would lead to reduced domestic production of textiles and clothing in the developed countries. Using Pelzman's model, the USITC (1989) found that in all import product categories, the removal of MFA quotas raises imports from currently constrained suppliers while domestic output declines. Decreases in domestic production range from 1 per cent to 100 per cent. It is important to note, however, that none of the studies attempted to estimate what might happen to textile and clothing production in the developed countries if trade liberalization included substantial reductions in import barriers on textiles and clothing maintained by many developing economies. Such a more general liberalization could conceivably lead to an expansion of textile production in the developed countries if they became important suppliers to developing economy clothing producers.

(b) Employment

63. The textile and clothing industries in most developed countries have been experiencing long-term declines in employment. In some countries, the decline in textile employment dates back to the 1950s, while the reduction in clothing employment appears to be more recent.[27] Moreover, despite protection provided by the MFA, the declining trend in employment has accelerated since 1973. GATT (1984) notes:

> "The general conclusion from recent empirical studies is that the labour-displacement effects (in the industry in question) of productivity growth are far more important than those of imports, though the magnitude of job displacement caused by different sources does vary by industry and even by sub-industry within the same industry" (paragraph 2.60).

64. Cline (1987) reports that for the United States textile and clothing industries the adverse impact of imports on employment has been much more limited than that of productivity growth in both textiles and clothing, except for a period of rapidly increasing imports (1982-85) in which the

negative impact of imports on clothing employment was as large as that of productivity growth. The Congressional Budget Office (1986) notes that:

"While employment in both industries has declined somewhat, imports have not caused an abrupt contraction in the industry. Although many firms have exited, existing firms have expanded and other firms, most notably apparel manufacturers, have entered. Firms in the textile and apparel industries face competition from domestic as well as foreign producers. Indeed, domestic competition and shift of domestic resources among regions of the country have undoubtedly been as significant as foreign competition in causing dislocations in the industry" (p.36).

(c) **Profits and Investment**

65. Historical statistics for the major OECD countries show that following an investment boom during 1969-1974, real investment in textiles and clothing declined both absolutely and relative to total manufacturing until the early 1980s.[28] It appears that the fall in investment during this period is attributable to such factors as (a) over-investment in the preceding period, stimulated by selective investment incentives to labour-saving innovations and overly optimistic projections of demand; and (b) a low level of profits.[29]

66. Since 1983, however, there has been a recovery of real investment in the textile and clothing industries, particularly in the United States. One of the factors behind this investment performance is a strong rise in profits in these industries. According to the Congressional Budget Office (1986), after-tax profits in the U.S. textile industry increased from $520 million in 1980-82 to $740 million in 1983-84. Cline (1987) argues that in the United States, declining employment and rising labour productivity, coupled with a recent recovery of output, have raised profits in the textile industry. Although there is no comparable data on after-tax profits for clothing, Cline (1987) argues that profits in the U.S. clothing industry have been relatively favourable due to the lagging costs of textile and labour inputs as well as the heavy protection provided by the MFA.[30]

67. In evaluating the current and potential situation (overall profitability) of the textile and clothing industries, one method is to analyze the stock market performances of listed shares in these industries. Viewed from the perspective of investors purchasing shares in the stock market, the textile and clothing industries are relatively more attractive than other industries, taken as a whole, when their stock market indices rise faster than the market average. On this issue, available data for the United States confirm that these industries have outperformed the market in the 1980s. While the market average (Standard and Poor's 400 index) rose 233 per cent over the period 1980-89, clothing stocks rose almost 350 per cent and textiles rose almost 850 per cent.[31]

68. Views are divided regarding the attribution of higher profits and investment to MFA restrictions. Some economists argue that the existence of the MFA improved the profit performance and thus investment in textiles and clothing (Pelzman (1984), and Cline (1987) in the case of clothing as noted above), while others are sceptical (Silberston (1984) and Congressional Budget Office (1986)).

C. Effects on exporting countries

69. The primary effect of the MFA on exporters subject to quotas is to restrict the growth in exports of product categories in which they have a comparative advantage, and thus to reduce the potential benefits of international trade. A lower volume of exports is only partly compensated by higher prices (as discussed above, some of the price increases may be due to product upgrading), leading to export revenues below their potential level. Employment in these industries is lower than it would otherwise be. Thus, the MFA limits the expansion of an industry where value-added activities could contribute in an important way to per capita income growth and employment expansion in a number of developing economies. For non-MFA exporters, it is often argued that trade diversion benefits their textile and clothing industries by inducing inward flows of direct investment from restrained exporters (Keesing and Wolf, 1980). Thus, countries that would otherwise not participate in international textile and clothing trade obtain market niches. At the same time, it may also be the case that the system of quotas protects the market shares of higher-wage developing economy exporters from competition from lower-wage developing economy exporters. Finally, trade will be diverted to developed country suppliers. It appears that the scope for trade diversion to developing economies not subject to quota restrains is inherently limited, in spite of investment flows, primarily by the fact that as soon as an unrestrained source begins to export significant amounts of textiles or clothing, it is likely to come under restraint. Evidence that quotas raise domestic prices in importing countries supports this view, since the price effects of quotas would not be discernible if increased imports from unconstrained sources of supply could fully compensate for the decline in imports from restrained sources.

70. Quantitative estimates of the economic effects of MFA restrictions on exporters are not as readily available as they are for importing countries. For most exporters, the unavailability of detailed production and other data explains this dearth, and empirical studies have either tended to focus on trade diversion or on quota rents. As Trela and Whalley (1989) argue, the effects of MFA removal on developing countries have been so little studied that "the size of the effect on both the trade and GDP performance of most currently participating developing countries cannot be accurately determined on the basis of existing research" (pp.4-5).

71. Trade data analysed by Wolf (1987), indicate that the European Communities' imports of MFA products from the developing countries with

agreements under the MFA grew at an average annual rate of 5 per cent in
volume (tonnes) between 1981 and 1985, compared with the 8.4 per cent
growth of imports from the EC's preferential countries (the ACP countries,
Cyprus, Malta, Morocco, Portugal, Spain, Tunisia and Turkey). In the
United States, imports from the so-called, 'dominant suppliers' (Hong Kong,
the Republic of Korea and Taiwan) and Japan increased in volume (square
yard equivalent) by 9.7 and 9.2 per cent a year, respectively, during the
same period, while those from other developing economies and Western Europe
expanded by 22 and 32 per cent, respectively. Based on trade data for the
period 1982-85, Hamilton (1988b) also found that imports of textiles and
clothing processed from MFA fibres, originating in developing MFA suppliers
under restraint, performed poorly compared with those from non-restrained
West European suppliers.[32]

72. In results reported in Tables 6 and 7, Erzan, Goto and Holmes (1989)
observe that the import market shares of Hong Kong, the Republic of Korea
and Taiwan (measured in terms of value) fell between 1981 and 1987 in the
United States for the textiles and clothing product categories in which
their quotas were binding. The decline of the aggregate market share of
the top three was sharp (from about 55 to 44 per cent), and was largely
matched by a rise in the import market share of other MFA suppliers,
particularly countries covered by the Caribbean Basin Initiative (CBI). In
the European Communities, the import market share of the top three extra-EC
suppliers also fell, but the decline was relatively small. Unrestrained
developing economy suppliers, in contrast, registered large gains (in
percentage terms) in market share. In both the United States and the
European Communities, the import market shares of other developed country
suppliers fell slightly over the period. The authors conclude that
"binding constraints faced by established developing suppliers have had an
apparent relation to the loss of market shares. Except in the US, however,
the scope of this seemed rather small" (p.26).

73. While it appears that in the case of the United States, the MFA has
contributed to trade diversion from the top three to other restricted
developing countries, other factors (including the valuation effects of
exchange rate changes) are also likely to have played a part. One feature
of the MFA is that an importing country may apply different growth rates
and other provisions among suppliers. Other reasons for shifts are changes
in relative competitiveness in the textile and clothing industries among
suppliers, shifts in consumer tastes in importing countries, and so forth.
Finally, preferential treatment for groups of countries (CBI for the United
States, the Mediterranean associates of the European Communities) appears
to have contributed to shifts in market shares.

Table 6

Changes in the import market shares of suppliers of selected textile and clothing products in the European Communities, 1981-87

Exporter	Import Market Share		
	I 1981	II 1987	II/I
Three largest developing economies	13.07	10.48	0.80
Hong Kong	7.29	5.83	0.80
Korea, Rep.	3.71	2.90	0.78
Taiwan	2.07	1.75	0.85
Other restricted developing economies	12.66	15.40	1.22
Argentina	0.03	0.05	1.91
Bangladesh	0.12	0.14	1.16
Brazil	0.81	0.55	0.69
China	1.53	2.58	1.68
Colombia	0.11	0.06	0.56
Egypt	0.38	0.55	1.42
India	2.10	1.97	0.94
Indonesia	0.13	0.60	4.74
Macao	0.86	0.86	1.00
Malaysia	0.39	0.39	0.99
Mexico	0.04	0.08	1.83
Pakistan	0.56	0.87	1.56
Peru	0.12	0.12	0.97
Philippines	0.55	0.53	0.95
Romania	1.23	1.08	0.88
Singapore	0.68	0.44	0.65
Sri Lanka	0.17	0.31	1.87
Thailand	0.86	1.32	1.52
Uruguay	0.02	0.01	0.49
Yugoslavia	1.95	2.89	1.48
Total restricted developing economies	25.73	25.88	1.01
Other developing economies	4.74	8.33	1.76
ACP	0.52	0.81	1.56
All developing economies	31.00	35.02	1.13
Eastern Europe[a]	2.65	2.23	0.84
Developed countries	64.67	61.51 (61.86)[b]	0.95
Intra-EC	52.33	49.60 (55.08)[b]	0.95
Total	100.00	100.00	1.00

[a] Bulgaria, Czechoslovakia, Hungary and Poland.

[b] EC(2).

Notes: 1. The product categories covered in the table are those for which (i) imports from Hong Kong, the Republic of Korea and Taiwan were under binding quotas, and (ii) one or more of these three economies had quota utilization rates 90 per cent or above for more than half of the period 1981-87 (at least four years).

2. Import market shares are calculated using values in current dollars. The aggregate figure for EC imports includes intra-EC trade; EC(10) for both 1981 and 1987.

Source: Erzan, Goto and Holmes (1989).

Changes in the import market shares of suppliers of selected textile and clothing products in the United States, 1981-87

Exporter	Import Market Share		
	I 1981	II 1987	II/I
Three largest developing economies	55.11	43.45	0.79
Hong Kong	22.78	17.28	0.76
Korea, Rep.	15.14	11.21	0.74
Taiwan	17.19	14.96	0.87
Other restricted developing economies	28.67	41.92	1.46
Bangladesh	0.02	1.66	102.22
Brazil	0.37	0.86	2.34
Burma	0.00	0.02	-
China	6.43	7.91	1.23
Colombia	0.57	0.44	0.77
Costa Rica	0.53	1.06	2.01
Dominican Republic	1.34	2.08	1.55
Egypt	0.16	0.29	1.87
El Salvador	0.14	0.13	0.93
Guatemala	0.01	0.22	37.99
Haiti	0.80	0.71	0.88
India	2.55	2.69	1.06
Indonesia	0.54	2.43	4.51
Jamaica	0.23	1.03	4.41
Macao	1.41	1.72	1.22
Malaysia	0.71	1.86	2.63
Maldives	0.02	0.07	3.84
Mauritius	0.14	0.68	4.78
Mexico	2.56	2.18	0.85
Nepal	0.00	0.16	-
Pakistan	0.78	0.99	1.27
Panama	0.03	0.26	8.66
Peru	0.45	0.22	0.49
Philippines	3.11	3.04	0.98
Romania	0.68	0.59	0.86
Singapore	2.26	2.84	1.26
Sri Lanka	1.20	1.97	1.63
Thailand	1.30	1.70	1.30
Trinidad and Tobago	0.02	0.00	0.31
Turkey	0.01	1.27	142.51
Uruguay	0.23	0.36	1.59
Yugoslavia	0.10	0.46	4.81
Total restricted developing economies	83.78	85.37	1.02
Other developing economies	0.94	1.29	1.38
All developing economies	84.72	86.66	1.02
Caribbean Basin Initiative	3.59	6.01	1.67
Eastern Europe	0.67	0.57	0.85
Developed countries	14.54	12.77	0.88
Total	100.00	100.00	1.00

Note: See notes to Table 5.

Source: Erzan, Goto and Holmes (1989).

74. According to USITC (1989) estimates, in about half the product categories the volume of imports from unconstrained suppliers would decline following trade liberalization (despite the removal of tariffs), suggesting the presence of trade diversion due to quotas in these products. However, because only 12 per cent of United States clothing imports is unconstrained, trade diversion due to MFA quotas is not quantitatively very significant in dollar terms. About 32 per cent of textile imports is unconstrained, but trade diversion is again not very important due to the relatively low value of trade in this product group.

75. Estimates of aggregate foregone export revenue in textiles and clothing differ considerably, but most studies support the view that potential export opportunities from removal of the MFA are substantial. Using Pelzman's model, estimates by USITC (1989) imply that the value of exports of constrained suppliers to the United States would rise by 20½ per cent for textiles and 36½ per cent for clothing, or an average of 35 per cent in both product groups. Kirmani et al. (1984) suggest that developing country exports to the major OECD countries could increase by 82 per cent for textiles and 93 per cent for clothing. UNCTAD (1986) estimated that removal of all tariffs and quotas could increase developing economy exports of clothing by 135 per cent and textiles by 78 per cent. In a general equilibrium model, Trela and Whalley (1988) obtain increases in the value of imports of textiles and clothing combined of 244 per cent in the United States, 214 per cent in Canada, and 264 per cent in the European Communities.

76. Comparisons between foregone export revenues and quota rents are not readily available. Balassa and Michalopoulos (1985) believe that the value of foregone textile and clothing exports to the United States exceeds the transferred rent by a factor of nine, and by a factor of seven for the European Communities. The USITC (1989) estimates a value of foregone exports of $5.8 - $6.0 billion for constrained exporters, compared to $1.6 billion of exporters' rents; according to these figures, the net increase in foreign exchange receipts of the constrained exporters following liberalization would be in the range of $4.2 to 4.4 billion. It should be noted, however, that rents represent an income transfer and are thus not comparable with the value of exports, as the latter require real resources to produce. It follows that while the difference between currently foregone export earnings and current rents may be a rough approximation of the likely increase in the foreign exchange earnings of exporters following the removal of tariffs and MFA quotas, this figure is a very poor guide to the impact of such a policy change on production, employment and welfare.

77. Available estimates of the effects of removing MFA restrictions on employment, consumer welfare and other economic indicators in developing economy suppliers are again sparse. Partial equilibrium studies for particular countries are virtually nonexistent, and the few available

studies are multi-sector models, where the interdependences between individual exporters and importing countries are explicitly modelled. One reason why a general equilibrium approach is desirable is that MFA restrictions affect many developing economies where the textile and clothing industries play a relatively important role, and removal of these restrictions is likely to lead to a significant rearrangement in patterns of domestic production, consumption and international trade. As was noted earlier, results from general equilibrium models are typically viewed as long-run effects of trade liberalization, when all sectoral adjustments in production and employment have taken place.

78. Using a general equilibrium model with three developed country importers and 34 developing economy exporters, Trela and Whalley (1988) estimate the effects of MFA quota removal and tariff elimination. In contrast to most of the studies reviewed above, they do not assume that the importers' terms of trade remain unchanged by trade liberalization in textiles and clothing. Instead, exporters realize a positive shift in their terms of trade in combination with very substantial increases in the volume of exports to developed countries. Efficiency gains in consumption and production are sufficiently great in importing countries to more than compensate for the adverse terms of trade effect.

79. One of the more interesting results from the Trela and Whalley analysis reported in Table 8 is that virtually all of the exporters currently restricted by tariffs and MFA quotas would benefit from complete trade liberalization in textiles and clothing. The principal reasons behind the broadly based nature of the welfare gains is that the removal of tariffs leads to a substantial across-the-board increase in market access. Second, the elimination of the bilateral quotas frees the importing countries to seek out the lowest cost suppliers among the exporting countries. When MFA quota removal is modelled alone, about one-third of the developing economy exporters - primarily the higher cost producers - would experience a decline in exports of textiles and/or clothing as a result of the trade liberalization. These results support the view that, at least in some instances, the MFA is protecting the market shares of higher cost current exporters.

80. The analysis is not immune to the well-known criticisms of applied general equilibrium modelling documented in Whalley (1989). Gains are driven by differences in adjusted supply prices, and the paucity of data for most developing country suppliers makes it difficult to confirm this key input into the simulation. The results are, however, robust to different elasticity values and supply prices. In addition, trade diversion to lower-cost producers may be exaggerated by not sufficiently accounting for consumer preferences in importing countries for textile and clothing products from certain suppliers. However, the authors see this work as preliminary and conclude that "more work is needed on all fronts, and especially on the effects of the MFA on the growth process in developing countries" (1989, p.3).[33]

Table 8

General equilibrium welfare effects of removing tariffs and MFA quotas
on textiles and clothing

(Hicksian equivalent variations in 1986 dollars)

	Quota and tariff removal	Quota removal
United States	3.562	5.452
Canada	0.324	0.406
European Communities	3.642	5.211

Exporters

Bangladesh	0.290	0.222
Brazil	0.92ᶜ	0.756
Bulgaria	0.002	-0.003
China	1.720	0.835
Colombia	0.317	0.248
Czechoslovakia	0.091	0.024
Costa Rica	0.007	-0.003
Dominican Republic	0.004	-0.012
Egypt	0.052	0.024
Guatemala	0.006	0.002
Haiti	0.006	-0.003
Hong Kong	-0.082	-0.569
Hungary	0.109	0.059
India	0.080	-0.031
Indonesia	0.320	0.148
Korea, Rep.	1.615	0.862
Macao	-0.005	-0.058
Malaysia	0.195	0.126
Mauritius	0.031	0.014
Mexico	0.105	0.034
Nepal	0.018	0.008
Pakistan	0.003	-0.032
Panama	0.001	-0.001
Peru	0.048	0.020
Philippines	0.180	0.065
Poland	0.144	0.056
Romania	0.107	0.016
Singapore	0.016	-0.041
Sri Lanka	0.054	0.000
Taiwan	0.893	0.171
Thailand	0.017	-0.046
Turkey	0.635	0.392
Uruguay	0.004	-0.004
Yugoslavia	0.053	0.041
All developing economies	7.973	3.245
All countries	15.500	14.315

Source: Trela and Whalley (1988).

81. Using a multi-sector model, Deardorff and Stern (1989) obtain the result that the elimination of MFA quotas (modelled as export taxes) would lead to lower prices for textiles and clothing on world markets, which are more than offset by an appreciation of developing suppliers' exchange rates, leading to an overall decline in their terms of trade. Suppliers' exports and imports of all goods rise and exchange rates appreciate to restore the aggregate trade balance to its original position.[34] Employment in the textile and clothing industries would increase in every developing economy in the sample (Hong Kong's gain is the highest at 15 per cent).

82. Along with those of Deardorff and Stern, the USITC (1989) results also include a change in exchange rates following liberalization of trade restrictions on textiles and clothing. It should be noted, however, that in both instances it is assumed that the liberalization of developed country import restrictions on textiles and clothing is unilateral. This assumption reduces the usefulness of their estimates in the present setting - that is, when the liberalization is being considered in the context of a multilateral trade negotiation in which reciprocal "concessions" help to bring about a more balanced expansion of trade than would occur initially under unilateral liberalization (for this reason, the USITC figures reported in the text and in Table 5 <u>exclude</u> their adjustment for the assumed exchange rate change). With a more balanced expansion of trade, there is little reason to expect an exchange rate change.[35]

IV. THE CHALLENGE OF ESTIMATING FUTURE DEVELOPMENTS
UNDER CHANGED CIRCUMSTANCES

83. Any attempt to use the empirical work surveyed in Parts II and III to make relatively precise statements about the likely magnitudes of "future developments ... under changed circumstances" quickly encounters three problems. They include, in order of increasing seriousness, the following:

(1) <u>Defining "changed circumstances"</u>. With the exception of Trela and Whalley (1988), the empirical studies reviewed above define "changed circumstances" as free trade in textiles and clothing on the part of the developed countries (zero tariffs and no quotas). However, current policy discussions centre on a package that includes phasing out the MFA quotas and bringing trade in textiles and clothing under GATT rules. While it is possible to quantitatively estimate certain effects of a once-and-for-all elimination of quotas, the qualitative aspects having to do with the operation of GATT rules (themselves under negotiation) are not amenable to quantification. Particularly important, in this regard, is the future operation of Article XIX, and the agreements on subsidies, countervailing and anti-dumping duties as they relate to the textile and clothing industries. In a quantitative analysis, it would also be necessary to specify developments in the areas of tariffs on textiles and clothing in the developed countries, of tariffs and non-tariff measures affecting textile and clothing imports into the developing economies,

of possible special provisions for certain groups of exporting
countries and so forth. Discussions in the Negotiating Group on
Textiles and Clothing, not to speak of proposals offered in the
literature, indicate a wide range of options for these and other
components of the future policy regime, many of which are difficult to
evaluate empirically.[36]

(2) <u>Methodological issues and data problems</u>. Researchers remain
divided on a number of important issues related to the methodology
(models) used to make the kinds of empirical estimates surveyed above.
There are also serious problems stemming from the large number of
countries involved, the generally poor quality of the data, the
complexity of the various trade regimes, and the large number of
heterogeneous products. Although it is not, strictly speaking, an
issue of methodology or data, there is the additional problem of the
considerable sensitivity of the empirical estimates to the base
(reference) year used for the calculations.

(3) <u>The evolution of textiles and clothing will not take place in a
vacuum</u>. The central question addressed by the studies reviewed in
this paper is: What would have happened if, <u>in the base period</u>, MFA
quotas and/or developed country tariffs on textiles and clothing had
been eliminated? The partial equilibrium models assume everything
outside the textile and clothing industries remains unchanged. The
general equilibrium models allow developments in the textile and
clothing industries to have repercussions on the rest of the economy
(and for feedbacks onto textiles and clothing), but they seldom if
ever allow for changes which initiate outside textiles and clothing.
When estimating the various effects of protection at a particular
point in time, this practice of assuming that the only changes are
changes in policies which apply directly to textiles and clothing is
perfectly valid. But it does mean that for forecasting purposes it is
necessary to allow for a wider range of developments.

84. To be more precise about this third point, in order to forecast the
post-liberalization situation in 1995 or 2000 it would be necessary to have
information on, or make assumptions about economic trends in the importing
and exporting countries, including:

A. population and labour force growth
B. per capita income growth
C. technological change in textiles and clothing
D. corporate strategies in textiles and clothing
E. trade-related policies:
    (1) in the Uruguay Round:
        (a) in the Negotiating Group on Textiles and Clothing;
        (b) in the other 14 groups;
    (2) outside the Uruguay Round (for example, regional integration
    and unilateral liberalizations by developing countries).

One way of determining the usefulness of a study's results for forecasting purposes is to ask how many of the developments on this list were taken into account in arriving at the empirical estimates. Only E.(1)(a) is explicitly allowed for in the available empirical work on textiles and clothing - and even there, the analyses are limited to two options: removal of MFA quotas, and simultaneous removal of MFA quotas and developed country tariffs.

85. It must be emphasized that these remarks are not a criticism of the cost of protection studies. Subject to various limitations mentioned in Parts II and III, the authors answered the question or questions they set out to answer and demonstrated conclusively that current levels of protection of textiles and clothing in the developed countries are costly. Resources are being wasted and large amounts of income are being redistributed away from consumers (and probably disproportionately from lower-income consumers). As such, the results of empirical work on the costs of protection play an important rôle in the evaluation of countries' trade policy regimes, including the urgency of policy reform. But the results are only one part of the information needed to forecast - in a quantitative way - the situation that would exist in the years following a liberalization. This does not mean that simply by waiting five or ten years, the costs of protecting the textiles and clothing industries would vanish. Barring an unforeseen reversal of the underlying pattern of comparative advantage, there is no question that protection will be costly in the future for the same reasons it has been costly in the past three decades.

86. For the reasons mentioned above, the detailed review of the empirical literature in Parts II and III cannot be used to carry the discussion of post-liberalization developments beyond the purely qualitative analysis and assessment contained in Chapter 5 of the Secretariat's 1984 study.

FOOTNOTES

[1]An update of the statistical parts of the Secretariat's 1984 study is available in MTN.GNG/NG4/W/8 (30 November 1987).

[2]See paragraphs 3.197 to 3.211 of the 1984 Secretariat study for an indication of textile and clothing import barriers in the developing economies.

[3]The imposition of restrictions on imported textiles raises the cost of production in the clothing industry - the "upstream" effects of trade barriers on inputs. The 1984 Secretariat study concluded that "as long as the restrictions on clothing imports are more than sufficient to offset the higher cost of textile inputs, the production effects will be similar in the domestic clothing industry" (paragraph 4.69).

[4]It is important to distinguish the short-run and medium- to long-run effects of price changes. The 1984 Secretariat study notes that "in the short-run protection affects mainly wages and profits, whereas in the medium term it affects primarily the pattern of production ("where people work") in the economy" (paragraph 4.70).

[5]Details on post-Tokyo Round tariffs in the developed countries are given in Tables 3.2, 3.3 and 3.4 of the 1984 Secretariat study.

[6]See paragraphs 4.71 to 4.73 of the 1984 Secretariat study.

[7]With the exception of certain Japanese textile exports to the United States, only exports from developing economies and from some countries in the Eastern trading area are under restraint in the markets of the seven developed country members of the MFA. MFA I, II and III covered textiles and clothing made of cotton, wool and man-made fibres. MFA IV has extended the product coverage to those made of vegetable fibres and blended silk.

[8]On the "non equivalence" of tariffs and quotas, see, for example, Anderson (1988, Chapter 1) and Bhagwati and Srinivasan (1983, Chapter 10).

[9]The use of a standard terminology means that the descriptions in this paper of the empirical results contained in the articles and books covered in the survey do not always use the authors' terminology, a fact which needs to be kept in mind by readers who refer to the original sources.

[10]In practice, because tariffs are generally ad valorem rather than specific, the importing government obtains revenue on the basis of the rent-inclusive import price. Consequently, the amount an exporter would be willing to pay for the quota licence is reduced from that implied by

Figure 1 ($1.50). For example, if the tariff was 20 per cent, the maximum
price an exporter would be willing to pay for the quota licence given a
supply price of $5.00 is $1.25, because $5.00 + $1.25) X 1.20 = $7.50.

[11]Average quota price wedges in the United States market were 28 per
cent for Hong Kong and 12 per cent for Taiwan and the Republic of Korea for
the period 1980-84.

[12]See paragraphs 4.42 to 4.53 of the 1984 Secretariat study for a
discussion of quota utilization rates.

[13]According to USITC (1989) trade figures for 1987, uncontrolled
imports accounted for 14½ per cent of cotton textiles imports, 47 per cent
of manmade fibres textiles imports, and 6 per cent of clothing imports in
square yard equivalents.

[14]One form of trade diversion that is not taken into account is the
circumvention of United States trade regulations. A study by the U.S.
Congress (1985) showed that exporters circumvented their quotas by
transhipment, port shopping, split shipments, and false import
declarations, and estimated that 1/3 of total United States textile and
clothing imports under the MFA in 1985 were involved.

[15]Hong Kong's share of total United States imports of clothing was
18½ per cent in 1987.

[16]Note that Hamilton's estimates are based on six clothing categories
for West European countries and 12 to 15 categories for the United States.

[17]See paragraph 24 above and footnote 11 for details.

[18]Note that their estimate refers to exporters' rents associated with
the United States, Canada and the European Communities.

[19]The estimates for 1984 and 1985 were generated on the basis of
confidential surveys of firms. In January 1988, the government introduced
a system of quota auctioning, called the 'Open Tender System (OTS)',
limited to 15 per cent of total quota available in certain super-fast
categories. Kumar and Khanna reported that the OTS auctions had generated
Rs. 120.2 million (January 1988), Rs. 77 million (June 1988) and
Rs. 187.8 million (January 1989).

[20]A survey of thirty-five firms indicated that, during the period of
hte survey, importers were charged a price which included 54 per cent of
the prevailing quota price, and thus f.o.b. prices generally increased by
about half of the price paid for the quota.

[21]In addition, Cline noted that the average income of the poorest
20 per cent of households in the United States was $3,577 in 1984, compared
to incomes of $16,846 and $12,700 for households of workers employed in the
textile and clothing industries.

[22]See Wolf et al. (1984) for a detailed empirical survey of the costs
of job losses, including the duration of transitory unemployment. Cline
(1987) also notes that the duration of unemployment for workers displaced
from the textile and clothing industries appears to be much shorter - about
3 to 6 months - than the average for all workers in the United States.

[23]As was noted in the 1984 GATT Secretariat study (paragraph 4.8),
evidence that textiles or clothing prices declined in certain periods
cannot be used to argue that import barriers had no impact on those
domestic prices.

[24]See paragraphs 27-29 above for criticisms of this method.

[25]It is widely argued that the quality upgrading effect not only
reduces disproportionately the supply of lower quality clothing, but also
the supply of children's clothing. If true, this would add to the
"regressive tax effect" of MFA quotas because at the time the typical
family is buying children's clothing, its annual income is very likely to
be below its average annual lifetime income.

[26]Hickok estimated that during the period 1971-84, the United States
import price of clothing increased by 65 per cent due to quotas, after
adjusting for inflation in clothing. Out of the 65 per cent rise, the
first 20 percentage points were attributable to the quota premium, and the
remainder to quality upgrading.

[27]See Table 2.2 of the 1984 Secretariat study.

[28]See, for example, GATT (1984, paragraphs 2.102-2.108) and
Congressional Budget Office (1986, pp.33-35).

[29]As for the low level of profits in textile and clothing industries
during this period, see Keesing and Wolf (1980), Silberston (1984), CBO
(1986) and Cline (1987).

[30]It should be also stressed that profitability in the clothing
industry has been relatively high, compared with textiles and total
manufacturing. However, according to Cline (1987), profits in the clothing
industry tend to be distributed to shareholders rather than to be
reinvested.

[31]See Goldman Sachs Investment Research, Textile, Apparel and Fiber Monthly, January 1990.

[32]He also found that United States imports of clothing processed from non-MFA fibres (linen, ramie, silk and jute) increased by almost 600 per cent in square yard equivalents (SYE) between 1983 and 1985. In 1985, such imports amounted to 500 million SYE compared to total imports of 6220 million SYE from developing MFA suppliers.

[33]One additional modelling weakness should be noted: intra-developing economy trade in textiles and clothing is not considered, and one would expect this trade to be significant given the important differences in supply prices among exporters.

[34]In Trela and Whalley (1988), terms of trade effects are due only to changes in relative prices and not in nominal exchange rates. This is at least one important reason for the difference in the terms of trade consequences of trade liberalization between Deardorf and Stern, and Trela and Whalley.

[35]The USITC (1989) recognizes this point: "The terms-of-trade adjustment [flowing from the exchange rate change] is relevant only for a unilateral restraint elimination" (footnote 3 to Table 4-9, pages 4-21). An additional comment on the treatment of possible exchange rate changes in both the Deardorff and Stern and USITC studies is that neither utilizes a macroeconomic model in which financial asset markets interact with goods and services markets (including the non-traded sector) to determine the change in the exchange rates (real and nominal) following the assumed unilateral liberalization. Thus both seem to overlook, for example, the possibility that a unilateral liberalization could lead to an appreciation or depreciation of the real exchange rate (depending on the relative weights of importables and exportables in the price index of tradeables).

[36]See Bagchi, 1989; Raffaelli, 1989; Sampson, 1987; Sampson and Takacs, 1989; Silberston, 1989; and Wolf, 1989.

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Note:This bibliography includes seven papers that were presented at
the workshop on International Textile Trade, the Multifibre Arrangement and
the Uruguay Round, held in Stockholm on June 20-21, 1989. After the
present paper was completed, the seven papers (in some cases with
revisions) were published in C.B. Hamilton (editor), Textiles Trade and the
Developing Countries (Washington, D.C.: The World Bank), 1990.