Appendixes

A *Estimated tariff equivalents of textile and apparel quotas, 1996–2006*

Laura M Baughman
The Trade Partnership

THE CENTRE FOR INTERNATIONAL ECONOMICS in Canberra asked The Trade Partnership to estimate the tariff equivalents of US yarn, fabric and apparel quotas from 1996-2006, disaggregated as follows: cotton yarn, fabric and apparel; wool yarn, fabric and apparel; wool blend yarn, fabric and apparel; and other yarn, fabric and apparel. These estimates provide a measure of the degree to which quota protection can be expected to continue to restrict imports over the term of the ATC (that is, through 2004), followed by tariff protection in 2005 and 2006. Said differently, they measure how much the US plan for implementing the ATC in fact liberalises quotas relative to growing market demand.

The results, shown in table A.1, reveal that — Agreement on Textiles and Clothing liberalisation notwithstanding — US apparel producers are likely to continue to benefit from significant apparel quota protection through the end of 2004, and relatively high tariffs thereafter. In the cases of wool and wool blend apparel, in particular, this protection could actually increase because US quota growth does not keep pace with growth in market demand over the term of the ATC[1]. Fabric and yarn protection is expected to be confined to the effects of prevailing tariffs, which decline only marginally.

[1] The ATC permits importing countries to accelerate textile and apparel liberalisation at any time during the phase-out. Thus, the United States could help its producers avoid these 'cliffs' of protection in 2004 by preparing them better in advance for a quota-free trading environment. One obvious way to do this would be to integrate more quota-covered trade into the GATT during Stages 2 and 3 than the United States has already provided for.

A.1 Summary results: tariff equivalents of US textiles and apparel quotas, 1996–2006 Per cent

	Trade weighted average tariff	*Tariff equivalent – target imports*[a]	*Tariff equivalent – total imports*
Cotton yarn			
1996	7.6	0	0
1997	7.5	0	0
1998	7.4	0	0
1999	7.3	0	0
2000	7.2	0	0
2001	7.1	0	0
2002	7.0	0	0
2003	6.9	0	0
2004	6.8	0	0
2005	6.8	0	0
2006	6.8	0	0
Wool and wool blend yarn			
1996	8.2	0	0
1997	7.9	0	0
1998	7.6	0	0
1999	7.3	0	0
2000	7.0	0	0
2001	6.7	0	0
2002	6.4	0	0
2003	6.1	0	0
2004	5.8	0	0
2005	5.8	0	0
2006	5.8	0	0
Other yarn			
1996	8.7	0	0
1997	8.6	0	0
1998	8.4	0	0
1999	8.2	0	0
2000	8.0	0	0
2001	7.8	0	0
2002	7.7	0	0
2003	7.5	0	0
2004	7.3	0	0
2005	7.3	0	0
2006	7.3	0	0
Cotton fabric			
1996	8.9	0	0
1997	8.8	0	0
1998	8.7	0	0
1999	8.6	0	0
2000	8.5	0	0
2001	8.4	0	0
2002	8.3	0	0
2003	8.2	0	0
2004	8.1	0	0
2005	8.1	0	0
2006	8.1	0	0

(Continued on next page)

A.1 Summary results: tariff equivalents of US textiles and apparel quotas, 1996–2006 Per cent (continued)

	Trade weighted average tariff	*Tariff equivalent – target imports*[a]	*Tariff equivalent – total imports*
Wool and wool blend fabric			
1996	25.0	0	0
1997	24.1	0	0
1998	23.2	0	0
1999	22.4	0	0
2000	21.5	0	0
2001	20.6	0	0
2002	19.7	0	0
2003	18.8	0	0
2004	17.9	0	0
2005	17.9	0	0
2006	17.9	0	0
Other fibre fabric			
1996	11.1	0	0
1997	10.7	0	0
1998	10.3	0	0
1999	10.0	0	0
2000	9.6	0	0
2001	9.2	0	0
2002	8.8	0	0
2003	8.4	0	0
2004	8.0	0	0
2005	8.0	0	0
2006	8.0	0	0
Cotton apparel			
1996	16.3	41.7	26.4
1997	16.1	40.9	25.9
1998	16.0	39.3	24.9
1999	15.8	37.7	23.9
2000	15.6	35.8	22.7
2001	15.5	33.8	21.4
2002	15.3	30.5	19.3
2003	15.2	27.0	17.1
2004	15.0	23.8	15.1
2005	15.0	0.0	0.0
2006	15.0	0.0	0.0
Wool and wool blend apparel			
1996	17.8	35.9	12.8
1997	17.5	37.1	13.3
1998	17.2	38.3	13.7
1999	16.9	39.5	14.1
2000	16.6	40.6	14.5
2001	16.3	41.7	14.9
2002	16.0	42.5	15.2
2003	15.7	43.3	15.5
2004	15.4	44.1	15.8
2005	15.4	0.0	0.0
2006	15.4	0.0	0.0

(Continued on next page)

A.1 **Summary results: tariff equivalents of US textiles and apparel quotas, 1996–2006** Per cent (continued)

	Trade weighted average tariff	*Tariff equivalent – target imports*[a]	*Tariff equivalent – total imports*
Other fibre apparel			
1996	21.2	59.7	40.1
1997	21.0	57.7	38.7
1998	20.8	54.9	36.8
1999	20.7	52.3	35.1
2000	20.5	49.3	33.1
2001	20.3	46.3	31.1
2002	20.1	42.1	28.3
2003	20.0	37.8	25.4
2004	19.8	33.8	22.7
2005	19.8	0.0	0.0
2006	19.8	0.0	0.0

[a] Target imports are imports subject to quotas.

Source: The Trade Partnership.

The balance of this paper describes the methodology and data sources used to estimate the tariff equivalents in table A.1.

Methodology

The first step in estimating the tariff equivalents of US textile and apparel quotas on import prices is to ascertain whether the quotas are restrictive[2]. If quotas are not restrictive, it is the tariff, not the quota, that drives up import prices. For a 1996 base year[3], The Trade Partnership collected **quota** and **target import** data for each of 147 three–digit textile and apparel commodity classifications[4]. (The calculation of variables in boldface type is described in detail at the end of this section.) Imports from countries subject to quota (target imports) for each individual category were compared with quota for that category. For most individual apparel categories, quotas were restrictive and, consequently, quotas were restrictive at the aggregated level of cotton apparel, wool apparel[5] and other apparel.

---

2 The trade generally considers a quota filled (or restrictive) when imports reach 85 per cent or more of available quota.

3 1996 was selected as the base year because at the time the project was begun it was the most recent year for which US production data were available.

4 The United States assesses quotas on the basis of a three digit category structure. It assigns each textile and apparel harmonised tariff system number to one of 147 categories, segregated for the most part by fibre (some 200 series categories cover both cotton and man-made fibre products).

5 The US quotas applicable to wool cover wool blends as well as pure wool. Therefore, it was not possible to disaggregate the quota data, and, consequently,

Yarns and fabrics told a different story. In some instances, quotas were restrictive for individual three-digit categories of yarns or fabrics. For example, the polyester filament and other synthetic filament fibre fabric quota (category 619/620) was 100 per cent filled in 1996, and cotton and man-made fibre pile and tufted fabric quota (category 224) was 92 per cent filled. In contrast, woven man-made fibre (MMF) and wool blend fabric quota (category 624) was only 4 per cent filled, cotton and MMF special weave quota (category 220) only 2 per cent filled. But, because underfilled quota generally vastly outweighed filled quota, the overall weighted average quota premia for the broader classifications (cotton yarn, wool yarn, other yarn, cotton fabric, wool fabric and other fabric) are therefore probably very small and assumed to be zero. Moreover, one would not expect the quotas to become restrictive over the term of the ATC because, as the charts and data in appendix B show, in all cases quota is expected to grow at a faster pace than demand for these products. For non-restrictive quotas to become restrictive, imports would have to surge by several multiples of their current levels. Therefore, the tariff equivalent facing US imports of yarns and fabrics over the term of the ATC is the relevant projected **tariff rate**[6]. Table A.1 reports the results.

To estimate the tariff equivalents of US cotton, wool, wool blend and other apparel quotas (all of which, again, were restrictive in 1996[7]) over the term of the ATC, The Trade Partnership used a partial equilibrium model developed by the US International Trade Commission (ITC). Two country groups were included in the model: target imports (all countries subject to quota) and non-target imports (all countries not subject to quota). The model is a quota-variant of the Commercial Policy Analysis System (COMPAS) model developed by Joseph Francois and Keith Hall at the ITC to measure the effects on various US industries and consumers of tariffs. Based on Armington (1969), it posits that imported and domestically-produced goods are imperfect substitutes for each other. It is a log-linear model incorporating constant own- and cross-price elasticities of demand[8].

---

the tariff equivalent estimates, for wool blends and for pure wool. All references hereafter to wool apparel apply equally to wool blend apparel.

6 The analysis thus assumes that most individual yarn and fabric quotas remain non-binding over the course of the ATC.

7 Similarly, the analysis assumes that the apparel quotas remain binding over the term of the ATC.

8 For the specific equations used, see chapter 5 of Francois, JF and Hall, KH 1995, 'Partial Equilibrium Modeling,' in Francois, JF and Reinert, KA (eds), *Applied Methods for Trade Policy Modeling*, Cambridge University Press.

The model requires the following data, all exclusive of the distorting effects of existing quotas:

- Annual volume and value of US production, 1996–2004.
- Annual volume and value (cif plus duties) of target imports, 1996–2004.
- Annual volume and value (cif plus duties) of **non-target imports,** 1996–2004.
- **Elasticities** of substitution between target imports and domestic production, non-target imports and domestic production, and target and non-target imports, an elasticity of aggregate demand, and elasticities of domestic and import supply.

Thus, before the model could be used, tariff equivalents needed to be estimated for 1996 so that 1996 production and import data (and, consequently, all data projected from it) could be 'purged' of the influence of the quotas).

Calculating base year tariff equivalents

The Trade Partnership used an indirect method for calculating apparel tariff equivalents for 1996, first developed by Morkre (1984) and Hamilton (1986) and modified later by Yang (1994). Basically, the price of imports (tariff and tariff equivalent inclusive) in a given country is equal to the foreign cost of production multiplied by the tariff rate and the tariff equivalent. Morkre used Hong Kong quota prices as a starting point for estimating tariff equivalents. Hamilton postulated that with perfect competition in the import market, if tariff equivalents for one country are known (for example, Hong Kong), those for other can be inferred given ratios of supply prices, tariffs and import prices:

$$(1) \quad \frac{C_a}{C_b} * \frac{1+TE_a}{1+TE_b} * \frac{1+t_a}{1+t_b} = \frac{P_a}{P_b}$$

where C_a and C_b are supply prices of restricted products in exporting countries 'a' and 'b,' respectively, TE_a and TE_b are tariff equivalents of quotas for the two exporting countries, respectively, in the same export market, t_a and t_b are tariffs facing the two countries in the same export market, and P_a and P_b are prices (tariff and tariff equivalent inclusive) of imports from the two exporting countries at the border of the same importing country.

Since the tariffs facing various exporting countries to the same import market are the same, t_a and t_b can be dropped from the above equation. He

then suggests that the ratio of apparel supply prices be calculated from import prices in the Japanese market. Yang argues that, since Japan does not impose quotas on apparel imports, relative unit values of apparel imports into Japan provide reasonable estimates of relative supply prices at the margin across exporting countries.

> Consequently, any differences between the restricted (United States) and unrestricted (Japanese) markets with respect to *relative* import prices (tariff equivalent inclusive) among exporters result from the different tariff equivalents of (Multifibre Arrangement) quotas they face, assuming that the same tariffs are applied to all exporters. (Yang 1994, p. 898)

The Trade Partnership used the Morkre, Hamilton and Yang approaches to calculate the US tariff equivalents of apparel quotas by fibre for 1996. Because Hong Kong quota premia for the US apparel market (TEa in equation (1)) are available, all of the variables in equation (1) are known except TEb, the tariff equivalent in the US market for all countries subject to quota other than Hong Kong. **Foreign cost** (Ca/Cb) was calculated as the ratio of the unit value of Japan's 1996 imports from Hong Kong to the unit value of imports from a sample of other countries. The US import price (Pa/Pb) was calculated as the ratio of the unit value of US imports from Hong Kong in 1996 to the unit value of total imports from a sample of countries subject to quota. The **tariff equivalent facing Hong Kong** (TEa) was calculated from disaggregated quota price data for 1996.

The equation was then solved for TE_b, the tariff equivalent for all sample exporters to the United States subject to quota. A weighted average was computed between TE_a and TE_b to get the total tariff equivalent facing all imports subject to quota in 1996. This process was conducted separately for cotton apparel, wool apparel, and other apparel. The results for 1996 are shown in table A.2.

A.2 **Estimated tariff equivalents for apparel, 1996** Per cent

	Target imports	*Total imports*[a]
Cotton apparel	41.7	26.4
Wool apparel	35.9	12.8
Other apparel	59.7	40.1
Total apparel	48.7	30.4

[a] Target imports tariff equivalent weighted by customs value.

Source: The Trade Partnership.

The analysis necessitated a few simplifying assumptions, none of which is believed to bias the results to any significant degree. As Yang notes, the approach assumes that tastes and other non-price factors play an insignificant role in the determination of relative prices of imports from various exporting countries. And the use of the particular Japanese data available,

which provides import values inflated by insurance and freight charges, could distort the relative cost comparisons (C_a/C_b). However, the countries chosen for C_b were all approximately as far from Japan as Hong Kong (C_a) so differences in insurance and freight charges should not unduly distort the results, if at all. In addition, the use of Japan as the surrogate quota free economy assumes that no other non-tariff barriers limit imports in any way that would distort relative cost comparisons.

The results are consistent with estimates made by others. For example, Hufbauer and Elliott (1994) estimated the tariff equivalent of US apparel quotas in 1990 to be 29.0 per cent. Cline (1987) calculated a tariff equivalent of US apparel quotas in 1986 of 30.0 per cent. The tariff equivalents reported in table A.2 reflect only one year of ATC liberalisation -- no integration benefits because the United States integrated no products subject to quota in Stage 1, and only one year of accelerated growth rates. It is not surprising that the overall tariff equivalent for 1996 -- 30.4 per cent -- is so similar to tariff equivalents estimated by others for earlier years in which no quota liberalisation occurred. It is likely that demand growth was strong enough in 1996 to outweigh any liberalisation of apparel quotas that came from the accelerated growth rates of the quotas in that year.

Revising 1996 base year data — projecting future data

Using these 1996 tariff equivalents, the base 1996 values for production and imports were 'purged' of the effects of 1996 quotas as follows. An Armington model similar to the COMPAS model was benchmarked using data for 1996 and the elasticity values specified earlier. This model was then used to solve for the counterfactual 1996 values for imports and domestic production that would have been observed absent the quotas.

The resulting values were projected through 2004 by first projecting **market demand** through 2004 and then deriving production and imports from projected market demand on the basis of those variables' shares of 1996 market demand. The Trade Partnership relied on earlier research conducted for the International Textiles and Clothing Bureau by Baughman (1997), in which market demand was projected for individual textile and apparel products relying on expected changes in US demographics and other factors that would influence demand. The results are reported in appendix B. Once the market demand projections were calculated, target and non-target imports and US production were projected using their 1996 market shares. Using 1996 market shares holds relative technology, productivity, and quality constant. Of course, over time producers in, say, China would be expected to upgrade product and shift more heavily into the production of higher-

grade products. However, attempting to incorporate some estimate of these relative shifts between suppliers would have required assumptions too arbitrary to justify.

Calculating projected tariff equivalents

The resulting projected data, plus projected **quota** volume over the term of the ATC, was then inputted year by year into the ITC model to obtain the estimated tariff equivalents through 2004. Quotas are scheduled to be eliminated on 1 January 2005, so from 2005 on the relevant restraint is the tariff. The results are shown in table A.1 above.

Detailed data descriptions (listed alphabetically)

Elasticities

The Trade Partnership obtained all required apparel elasticities from Cline (1987). Cline (and others[9]) suggests a domestic supply elasticity of 1 and an infinite import elasticity of supply; elasticities of substitution between target imports and domestic production, between non-target imports and domestic production, and between target and non-target imports of -2.5; and an aggregate demand elasticity of -0.5.[10]

Foreign cost

The calculations of relative supply prices -- Hong Kong to other target countries -- used a Laspeyres-type index. To calculate the relative cost of imported cotton, wool and other apparel in the Japanese market in 1996, nine digit HTS import data from the Japan Tariff Association (Japan Exports and Imports: Commodity by Country, 1996) were allocated to the relevant three digit US apparel category classification using a 1996 correlation published by the US Department of Commerce, Office of Textiles and Apparel.[11] The differing category volume data (some in

---

[9] Hufbauer, Berliner and Elliott (1986).

[10] Cline, WR 1987, *The Future of World Trade in Textiles and Apparel*, Institute for International Economics, Washington DC. See pages 307 and 308 for his analysis of why these elasticities are appropriate.

[11] The Japanese data are only provided at a comparable level to US data at the six digit HTS level, and the US concordance is at the ten digit level, so for some categories the matching is not as precise as the US concordance would require. There would be some overlap between categories, resulting in distorted unit

dozens, some in kilograms) were converted to square meter equivalents using US conversion factors designed for this purpose so they could be aggregated to the broader commodity groupings. Value data in yen were converted into US dollars using a 1996 exchange rate published by the International Monetary Fund. Data in 200 series categories (cotton and/or man-made fibres) were divided equally between cotton and other apparel.

Unit values were calculated for selected HTS items within a given category classification for Hong Kong and each of five sample countries: Korea, China, Taiwan, the Philippines and Indonesia.[12] The goal was to calculate relative unit values for products and countries that were as representative of the broader category as possible. For each category, a representative sample of six digit HS items was selected (attempting to choose HTS items that most closely represented, in both volume and unit value terms) the overall US category. For example, US category 237, 'play suits and sunsets', is largely composed of children's wear (although there are significant amounts of children's wear included in other categories as well). But Japanese import data do not break out children's wear in any way. Therefore, to calculate representative unit values for imports into Japan in category 237, The Trade Partnership chose those HTS items within that category that yielded unit values most consistent with children's clothing.

Unit values were calculated for each HTS selected for the five countries as a group. The total unit values for sample group *and* for Hong Kong were calculated by weighting the individual unit values for each category by the quantity of imports from Hong Kong for that category into the United States (the Laspeyres weights). In all cases unit values were converted into US dollars per square meter equivalent.

Import price (US)

US customs value and quantity data for imports for consumption were used to calculate the unit value of imports from Hong Kong and 'other' target countries into the US market for each of the three digit category groupings within the broader apparel group. The overall unit value for Hong Kong is the sum of the values of these categories divided by the sum

values relative to unit values calculated for US imports (some will be too high; others too low).

12 It was assumed that cif charges included in the Japanese import values did not distort unduly the unit values because the five countries chosen are relatively close to Japan relative to Hong Kong (thus reducing the cif bias). (The exercise was also done for just Korea, China and Taiwan, on the theory that cif charges mattered more for the Philippines and Indonesia, to see if there was indeed a bias, and there was no difference in the results.)

of the volumes (again, converted into square meter equivalents). The overall unit value of the 'other' target countries is the individual unit values weighted by the quantity of imports from Hong Kong into the US market. It should be noted that the definition of 'other' target countries here is broader than above: it includes **all** countries subject to quota (a specific limit or SL) in 1996 for a given category, not just the five sample countries selected above for foreign costs calculations.

Market demand

1996 data

The volume and value of market demand were calculated by adding production, target and non-target imports. Unfortunately, because adequate data in most cases do not exist, exports could not be subtracted, but this does not distort the results because market demand data were used solely to derive future production and import data.

1997-2004 data

In a study for the International Textiles and Clothing Bureau, Baughman (1997) projected market demand through 2004 for individual textile and apparel products largely on the basis of trends in the volume of US consumption of these products between 1987 and 1995, adjusted as necessary by expected changes in US demographics over the 1995-2005 period. A linear 'least squares fit' regression trend line was calculated for available historical data for each product, future annual demand levels and growth rates were calculated using an equation derived from the trend line.

In this study, as many individual projections as possible from the ITCB study were aggregated into the cotton apparel, wool apparel and other apparel classifications. In most cases, the number of projections at the individual category level represented the bulk of categories within the broader fibre grouping. Year-to-year growth of the resulting aggregations was computed. These growth rates were applied to the base market data for 1996, projecting future market demand through 2005. The results are shown in appendix B.

Non-target imports

1996 data

The value of non-target imports (both customs value and value including duties and cif charges) and the volumes of these imports were calculated as the difference between total imports of the relevant textile or apparel category and target imports. 'Non-target imports' includes trade subject to guaranteed access levels. Data sources included the US International Trade Commission and the US Department of Commerce, International Trade Administration, Office of Textiles and Apparel, *Major Shippers* (both by volume and by value). Information from these sources was collected at the individual category level, by individual country supplier; volume data were converted from category units to square meter equivalents. Data in the 200 category series (cotton and/or man-made fibres) were divided equally between 'cotton' and 'other' yarn, fabric and apparel. The category data were then aggregated to the broader category classifications.

1997-2004 data

The 1996 market share for non-target imports at the broader product grouping level with the effects of the quotas deleted was calculated and then applied to projected market demand over the period to yield projected non-target import volume and value.

Production

1996 data

Data for the volume of US production came from two sources: (1) US Department of Commerce, Bureau of the Census, *Current Industrial Reports: Apparel (MQ23A)*, 1996 (issued July 9, 1997), and (2) US Department of Commerce, International Trade Administration, Office of Textiles and Apparel (OTEXA), *US Imports, Production, Markets, Import Production Ratios and Domestic Market Shares for Textile and Apparel Product Categories*, Quarterly Report (September 1998). Data at the three digit category level were converted from category units to square meter equivalents and aggregated to the broader product groupings. However, because the OTEXA publication covers most but not all categories making up cotton apparel, wool apparel and other apparel, these totals were compared with similar estimates derived from the *Current Industrial Report* and adjustments, if necessary, were made to ensure as complete coverage as possible.

The value of US production by fibre is not available from any source. Therefore, The Trade Partnership estimated production value using US production volume data and the unit value of US imports from a country with apparel production similar to the United States: the United Kingdom. The customs value and volume of US imports from the United Kingdom, by three digit category, were used to calculate unit values by three digit category for 1996. Those unit values were multiplied by US production volume for the same three digit categories to estimate production value, and the results aggregated to the broader category groupings.

Production data in the 200 category series (cotton and/or man-made fibres) were divided equally between cotton and other apparel.

1997-2004 data

The 1996 market share for US production with the effects of the quotas deleted was calculated, and then applied to projected market demand over the period.

Quota

Using 1996 as the base year (and quota prevailing in 1996), The Trade Partnership applied the ATC's accelerated quota growth rates for each individual country subject to quota (a Specific Limit only) within a given category -- country by country, category by category. Small suppliers received extra growth (advanced stage growth, per the ATC). We assumed that China and Taiwan become World Trade Organization (WTO) members in the year 2000 and receive whatever accelerated growth factor prevails for other major suppliers in that and subsequent years. *If China and Taiwan do not become WTO members until sometime after 2000, the tariff equivalents presented in this study would be understated for those years from 2000 on during which China and Taiwan remained outside the WTO.* The Trade Partnership assumed that several countries do not become WTO members over the period, and their quota grows annually by the base growth rate only: Oman, Nepal, Laos and the United Arab Emirates (they either have not yet applied for WTO membership at all, or applications are dormant).

To simplify the analysis, The Trade Partnership ignored all quotas facing Mexico, the tariff preference levels facing Canada, any three year quotas imposed as a result of calls and integration of products over the ATC term. It would have been too arbitrary to project trade changes resulting from the elimination of these quotas during the phase out period. Ignoring integration does not unduly bias the results because very little US apparel is

scheduled to be integrated into the GATT before 2005. In addition, The Trade Partnership ignored guaranteed access levels (the '807A' quotas) as they are not restrictive.

The resulting quota volumes in category units (again, by country, by category) were converted to square meter equivalents and aggregated to the broader product groupings. In instances where quota is merged across fibres,[13] the full amount of the quota was allocated to each fibre grouping, downward biasing the results. In other words, if one quota volume covered imports of cotton and man-made fibre underwear (category 352/652), 100 per cent of that volume was allocated to cotton underwear (category 352) and 100 per cent to man-made fibre underwear (category 652) before the aggregations to cotton apparel and other apparel were calculated. Also, quota in 200 series categories (cotton and/or man-made fibres) was allocated in its entirety to *both* cotton apparel and other apparel.

Because the resulting quota levels in 1996 were much higher than the actual level of target imports (again, because 100 per cent of cross-fibre quota was attributed to each fibre product group), and it was known (because of the existence of tariff equivalents for 1996) that the apparel quotas were restrictive, the actual level of target apparel imports was assumed to be the 'quota level' for 1996. The ratio of target imports in 1996 to 1996 quota was applied to projected quota through 2004 to get the quota level inputted into the ITC model.

Target imports

1996 data

Target import data reflect only that trade for which a 'specific limit' applied. Thus, if a given country faced US quotas in one three digit category but not in another, its trade was included among the target import total in the former case but in the non-target total in the latter case. Trade subject to guaranteed access level limits is not included as target imports.[14]

---

13 Many US quotas cover merged categories, both within a given fibre or across fibres. For example, cotton knit shirts are combined with man-made fibre knit shirts. Exporting countries can ship either one under the same quota category limit. Thus, to fairly distribute the quota by fibre, 100 per cent of such a merged quota should be allocated to each fibre.

14 The United States operates a special import program for countries in the Caribbean generally known in the trade as '807A' after its classification in the old tariff schedule of the United States. (The new official designation is '9082' trade). Briefly, this program permits relatively large quantities of selected apparel products to be exported to the United States from these countries only essentially

The Trade Partnership used data from the US International Trade Commission and the US Department of Commerce, International Trade Administration, Office of Textiles and Apparel, *Major Shippers* (both by volume and by value). Information from these sources was collected at the individual category level, by individual country supplier. Data in the 200 category series (cotton and/or man-made fibres) were divided equally between 'cotton' and 'other' yarn, fabric and apparel. The individual data were converted to square meter equivalents (in the case of volumes) and then aggregated to the broader category classifications.

1997-2004 data

The 1996 market share for target imports with the effects of the quotas deleted was calculated, and then applied to projected market demand over the period to estimate projected target imports over the 1997-2004 period.

Tariff equivalent facing Hong Kong

The Federation of Hong Kong Garment Manufacturers provided monthly prices for US apparel quota by three digit category classification for 1996 (in Hong Kong dollars per category unit). The Trade Partnership averaged the monthly data to get an annual average, then weighted each category's premium expressed in US dollars per square meters by the US customs value of imports from Hong Kong (absent the quota premium) to get a total for each apparel fibre category.

Tariff rates

Projected tariff rates were obtained from an unpublished US Department of Commerce, Office of Textiles and Apparel, table of US textile and apparel tariff cuts, 1994 to 2005 (prepared by the Trade Data Division, 4 January, 1994). The table provides 1994 and projected 2005 tariff rates by product grouping by fibre. Year-to-year changes were calculated and reported in table A.1 as the tariff equivalent expected to face yarns and fabrics over the term of the ATC (through 2004), plus the additional two years requested by the Centre for International Economics.

---

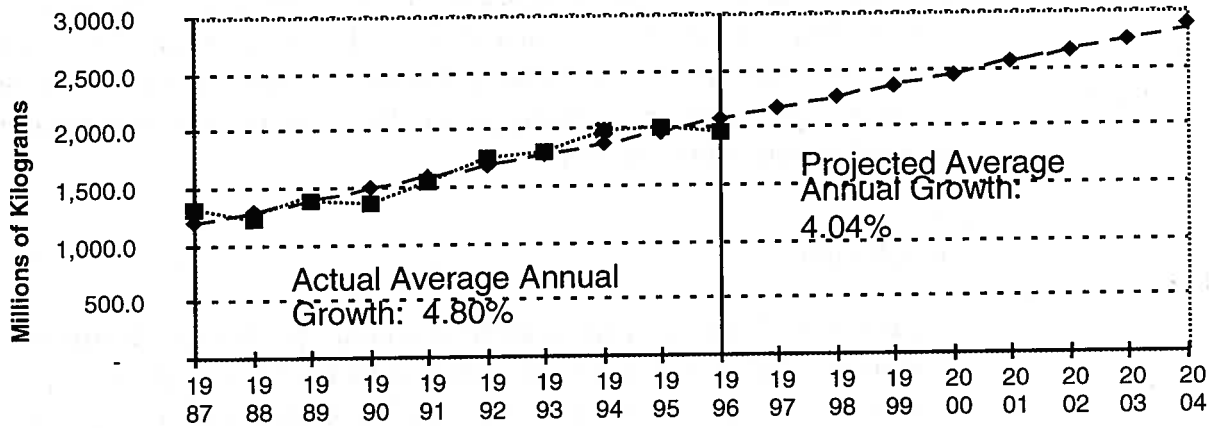
quota free — the '807A' quotas, called 'guaranteed access levels' (GALs), are as their name implies meant to be non-restrictive. Thus, for example, while the Dominican Republic may be subject to quotas on some products and therefore a quota covered country, if it had no quotas relevant to a particular category or those quotas were only GALs, the Dominican Republic was included in the non-target import classification for the relevant category. Thus, the list of target and non-target countries varies by category.

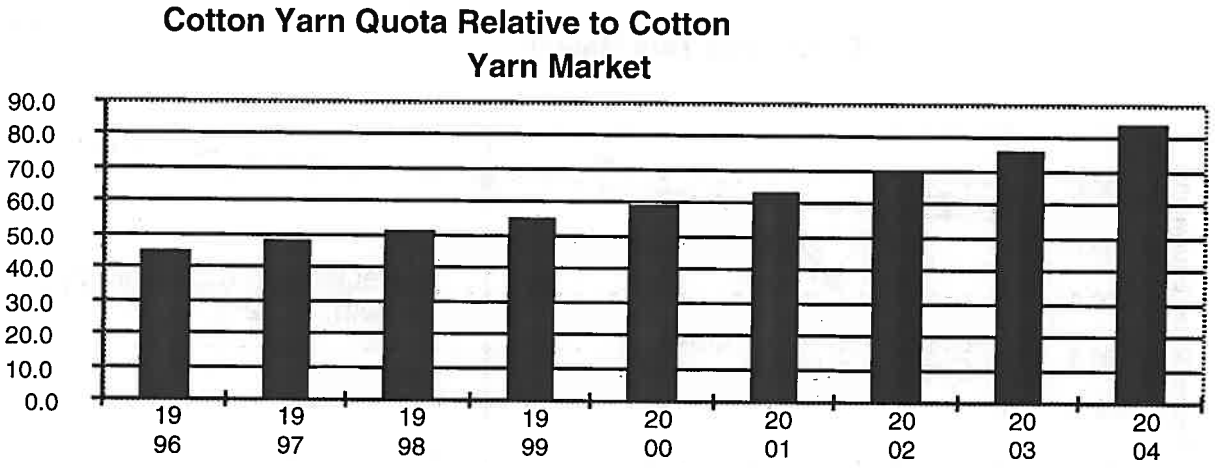
B *Projected market and quota results*

THIS APPENDIX REPORTS MARKET demand projections relative to projected quota over the term of the ATC.

It covers cotton and other (non-wool) fibre yarns (wool yarns are not reported because the US imposes no quotas (specific limits) on wool yarns for which tariff equivalents were estimated); cotton, wool and man-made fibre fabric; and cotton, wool and man-made fibre apparel.

Cotton Yarn Market





Cotton yarn: projected market demand and quota (Millions of kilograms)

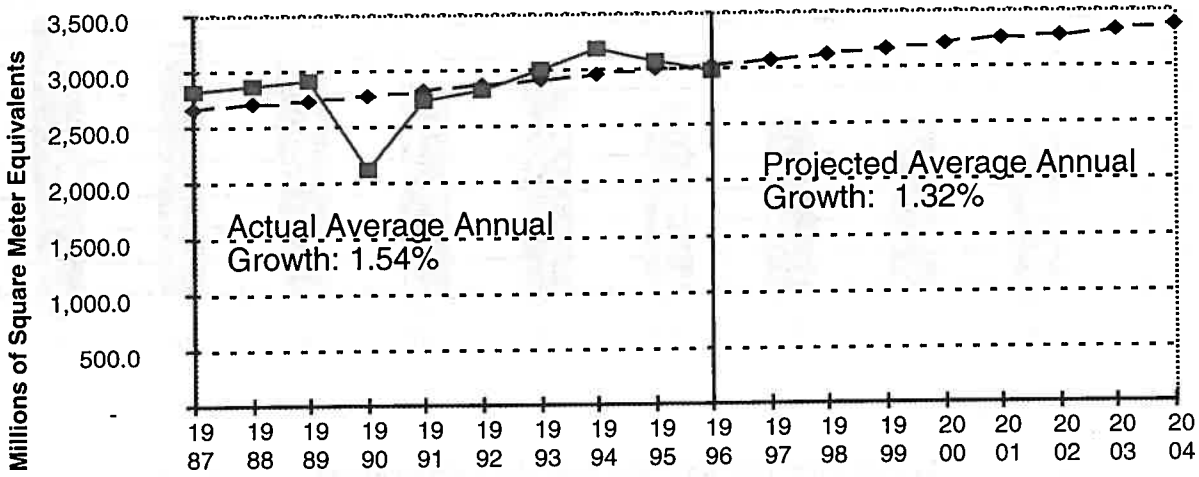
	Market	*Quota*
1996	1 961.8	45.2
1997	2 165.5	47.8
1998	2 261.9	51.3
1999	2 358.3	55.1
2000	2 454.8	59.3
2001	2 551.2	63.8
2002	2 647.7	69.9
2003	2 744.1	76.7
2004	2 840.5	84.3

Special notes to cotton yarn charts and table.

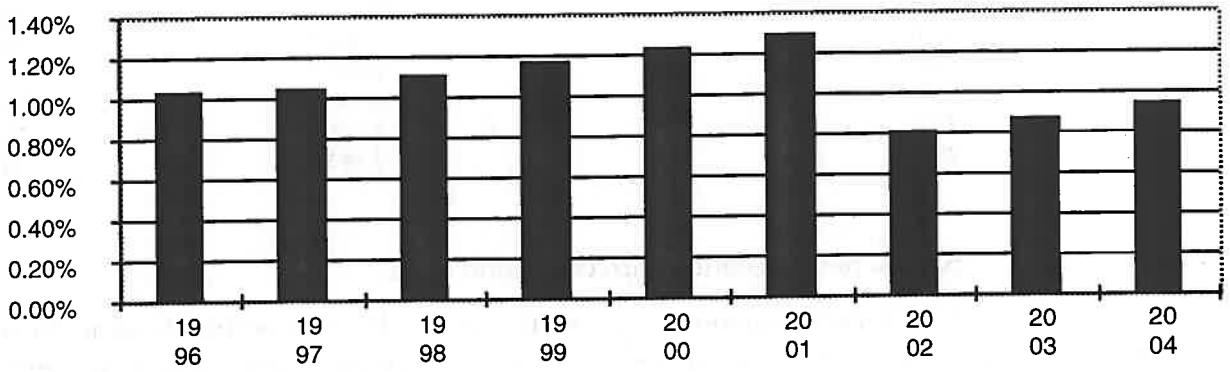
1. Market demand was projected on the basis of actual demand trends from 1987–96 (as reported by the Bureau of the Census in various *Current Industrial Report* issues for cotton yarns). The cotton yarn market (the volume of production less exports plus imports) grew at an average annual rate of 4.8 per cent over this period.

2. Cotton quota includes 100 per cent of quota that will be available in all 200-series yarn categories (cotton and man-made fibres combined). It thus assumes that all available quota in these categories is used to export cotton yarn to the United States. Potentially, this is possible; however, it is more likely that this quota will be shared with man-made fibre yarns.

Other Fibre Yarn Market



Other Fibre Yarn Quota Relative to Other Fibre Yarn Market



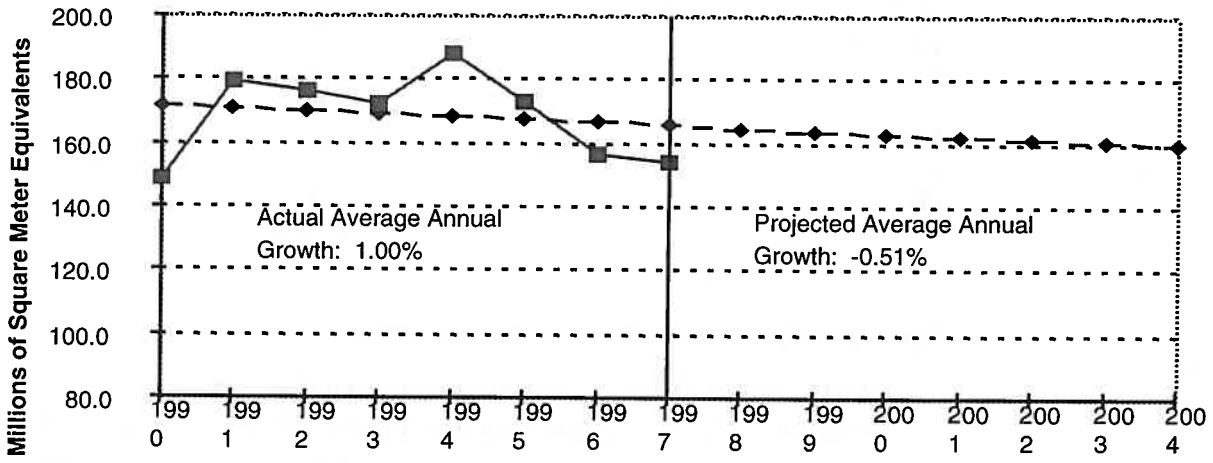
Other fibre yarn: projected market demand and quota (Millions of kilograms)

	Market	*Quota*
1996	2 968.2	30.8
1997	3 072.8	32.5
1998	3 114.6	34.6
1999	3 156.4	36.9
2000	3 198.3	39.4
2001	3 240.1	42.2
2002	3 281.9	26.7
2003	3 323.7	29.2
2004	3 365.5	31.9

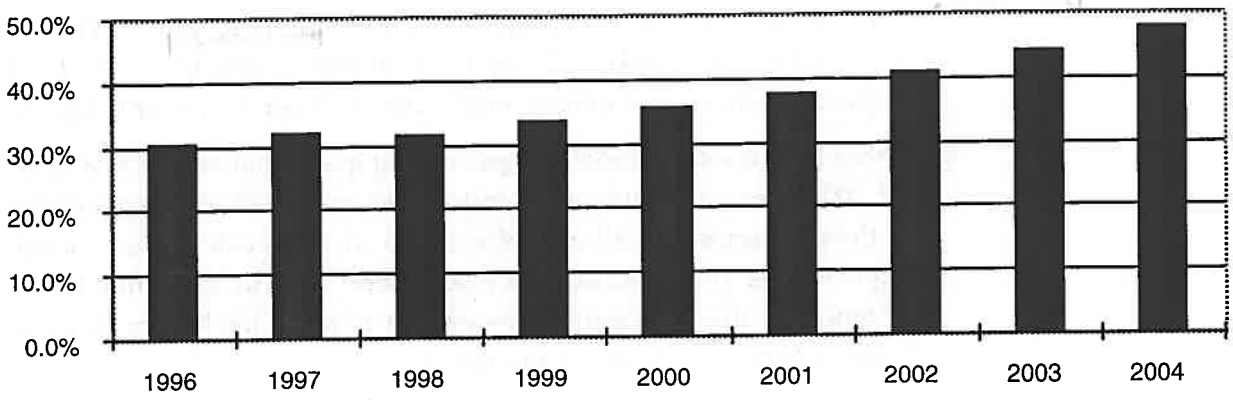
Special notes to other fibre yarns charts and table.

3. Market demand was projected on the basis of actual demand trends from 1987–96 (as reported by the Bureau of the Census in various *Current Industrial Report* issues for man-made fibre yarns). The man-made fibre yarn market (the volumes of production less exports plus imports) grew at an average annual rate of 1.5 per cent over this period.
4. Other fibre quota includes 100 per cent of quota that will be available in all 200-series yarn categories (cotton and man-made fibres combined). It thus assumes that all available quota in these categories is used to export other (non-cotton, non-wool) fibre yarn to the United States. Potentially, this is possible; however, it is more likely that this quota will be shared with cotton fibre yarns.
5. The drop in quota in 2002 is due to the integration in that year of US quotas on 'other man-made fibre staple yarns' (Category 607).

Wool Fabric Market



Wool Fabric Quota Relative to Wool Fabric Market



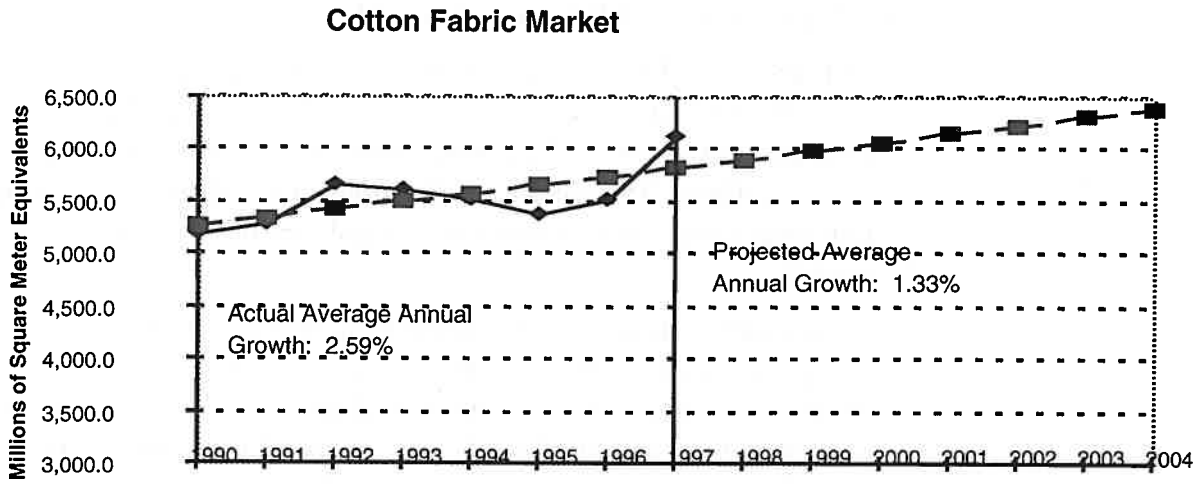
Wool fabric: projected market demand and quota (Millions of square meters)

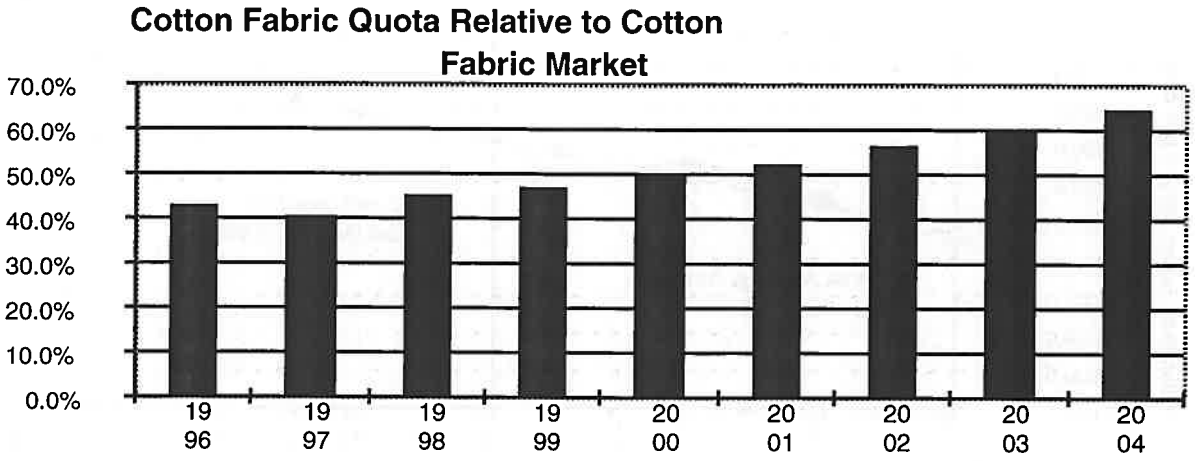
	Market	*Quota*
1996	156	48
1997	155	50
1998	165	53
1999	164	55
2000	163	58
2001	162	62
2002	162	66
2003	161	71
2004	160	77

Special notes to wool fabric charts and table.

1. Market demand was projected on the basis of actual demand trends from 1991–97 (as reported by the Bureau of the Census in various *Current Industrial Report* issues for wool fabric). This was the longest time series available that included US production of both chiefly-wool and wool blend fabrics. The wool fabric market (the volumes of production less exports plus imports) grew at an average annual rate of 1.5 per cent over this period.

6. Wool quota includes Categories 410 (woven fabrics of wool and wool-blends) and Category 624 (woven fabrics, 15-36 per cent wool).





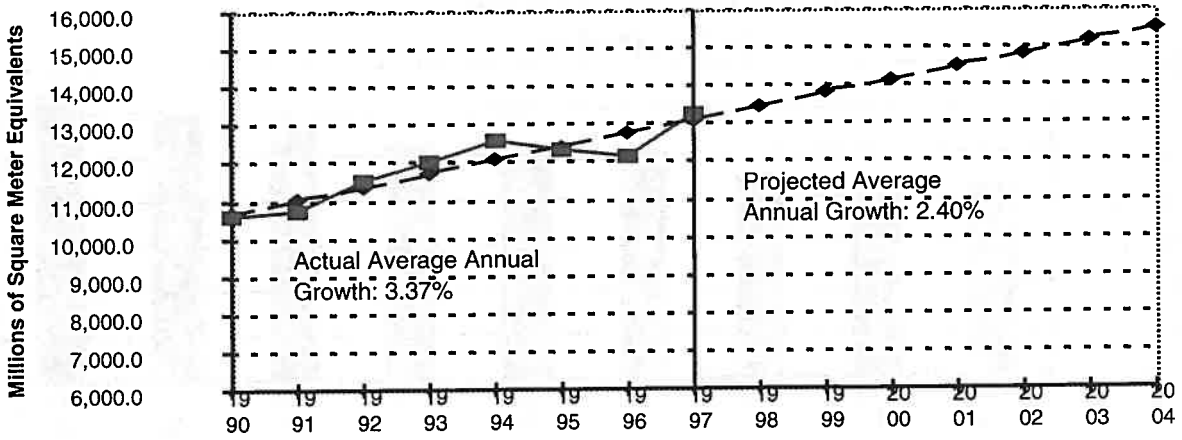
Cotton fabric: projected market demand and quota (Millions of square meters)

	Market	*Quota*
1996	5 530	2,371
1997	6 125	2,498
1998	5 902	2,657
1999	5 983	2,829
2000	6 064	3,019
2001	6 145	3,223
2002	6 226	3,498
2003	6 307	3,800
2004	6 388	4,137

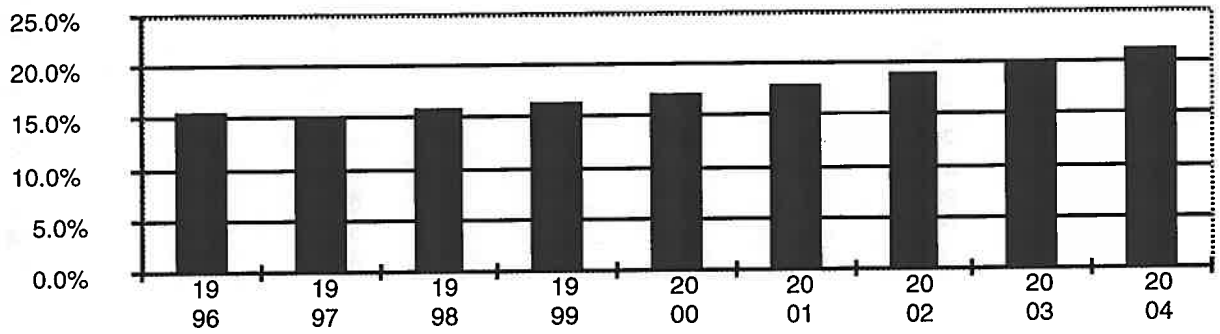
Special notes to cotton fabric charts and table.

1. Market demand was projected on the basis of actual demand trends from 1990–97 (as reported by the American Textile Manufacturers Institute, *Textile Hilights*, various issues). This was the longest time series available. The cotton fabric market (the volumes of production plus imports) grew at an average annual rate of 2.6 per cent over this period.
2. Cotton fabric quota includes 100 per cent of quota that will be available in all 200-series fabric categories (cotton and man-made fibres combined). It thus assumes that all available quota in these categories is used to export cotton fabric to the United States. Potentially, this is possible; however, it is more likely that this quota will be shared with man-made fibre fabric.

Other Fibre Fabric Market



Other Fiber Fabric Quota Relative to Market



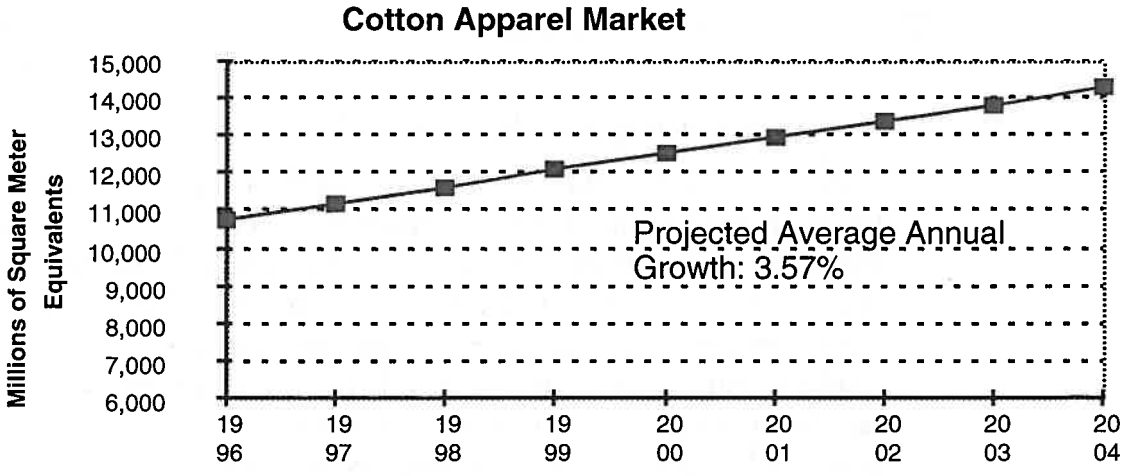
Other fibre fabric: projected market demand and quota (Millions of square meters)

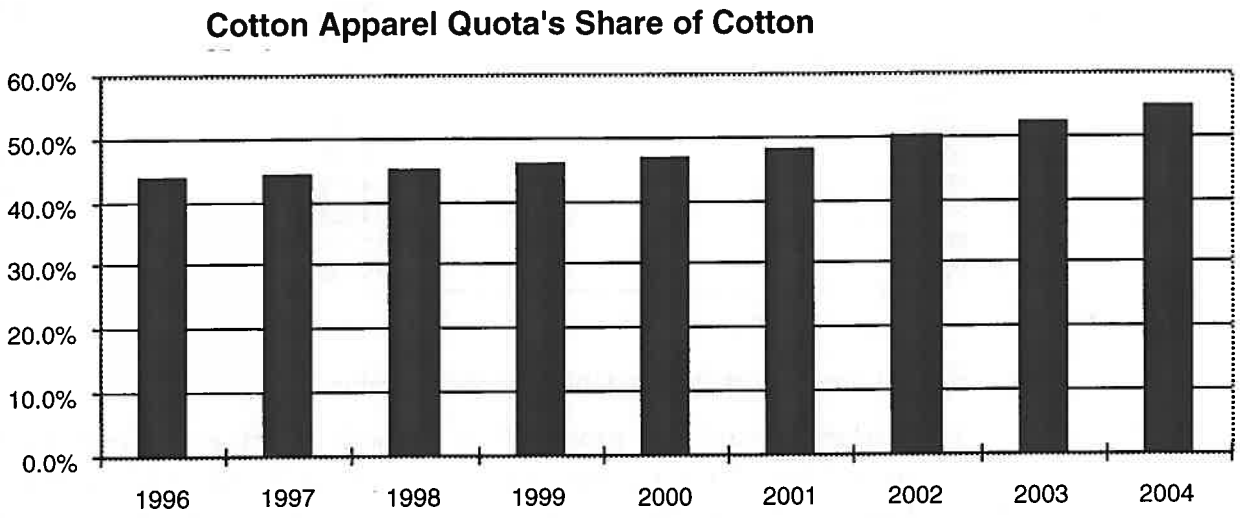
	Market	*Quota*
1996	12 141	1 898
1997	13 259	1 999
1998	13 450	2 129
1999	13 797	2 269
2000	14 143	2 422
2001	14 489	2 588
2002	14 836	2 813
2003	15 182	3 060
2004	15 529	3 335

Special notes to other fibre fabric charts and table.

1. Market demand was projected on the basis of actual demand trends from 1990–97 (as reported by the American Textile Manufacturers Institute, *Textile Hilights*, various issues). This was the longest time series available. The other fabric market (the volumes of production plus imports) grew at an average annual rate of 3.4 per cent over this period.

2. Other fibre fabric quota includes 100 per cent of quota that will be available in all 200-series fabric categories (cotton and man-made fibres combined). It thus assumes that all available quota in these categories is used to export man-made fibre fabric to the United States. Potentially, this is possible; however, it is more likely that this quota will be shared with cotton fibre fabric.





Cotton apparel: projected market demand and quota (Millions of square meters)

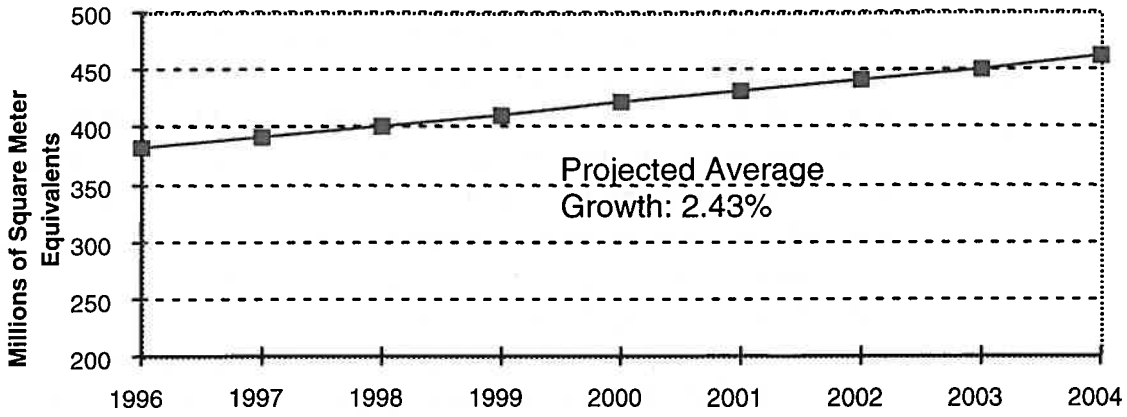
	Market	*Quota*
1996	10 778	4 737
1997	11 186	4 963
1998	11 610	5 247
1999	12 060	5 553
2000	12 499	5 888
2001	12 940	6 248
2002	13 382	6 736
2003	13 827	7 273
2004	14 274	7 836

Special notes to cotton apparel charts and table.

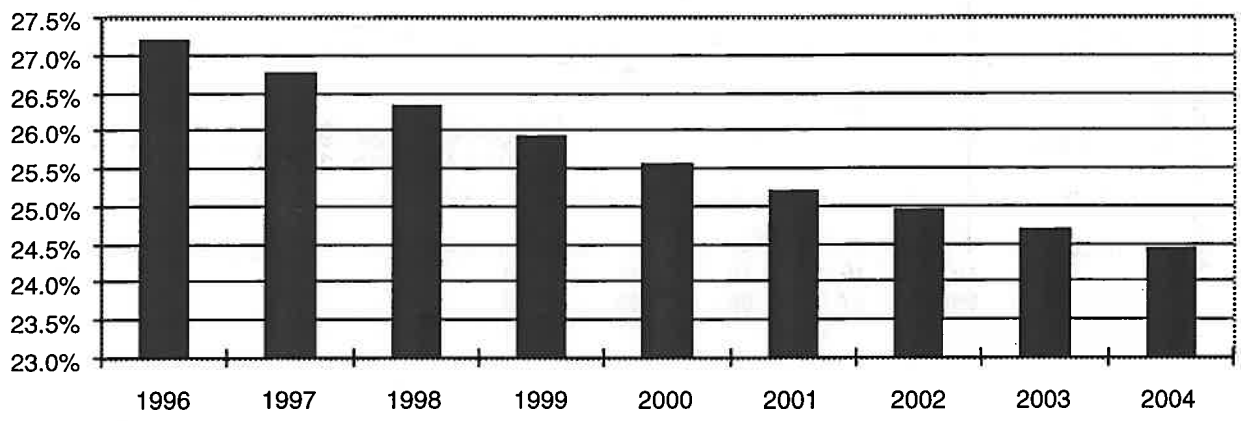
1. Market demand for cotton apparel was projected largely on the basis of trends in the volume of US consumption of these products between 1987 and 1995, adjusted as necessary by expected changes in US demographics over the 1995–2005 period. A linear 'least squares fit' regression trend line was projected through the year 2005 for each product, and future annual demand levels and growth rates were calculated using an equation derived from the trend line. As many individual cotton apparel product projections as possible were aggregated. Year-to-year growth of the resulting aggregations was computed. These growth rates were applied to the base market data for 1996, projecting future market demand through 2005.

2. Cotton apparel quota includes 100 per cent of quota that will be available in all 200-series fabric categories (cotton and man-made fibres combined). It thus assumes that all available quota in these categories is used to export cotton apparel to the United States. Potentially, this is possible; however, it is more likely that this quota will be shared with man-made fibre fabric.

Wool Apparel Market



Wool Apparel Quota Relative to Wool Apparel Market

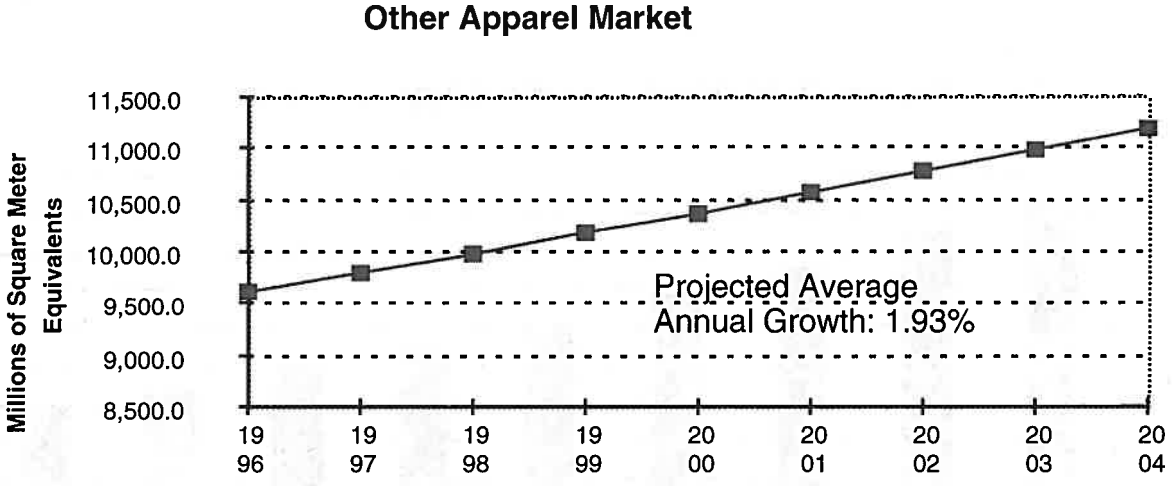


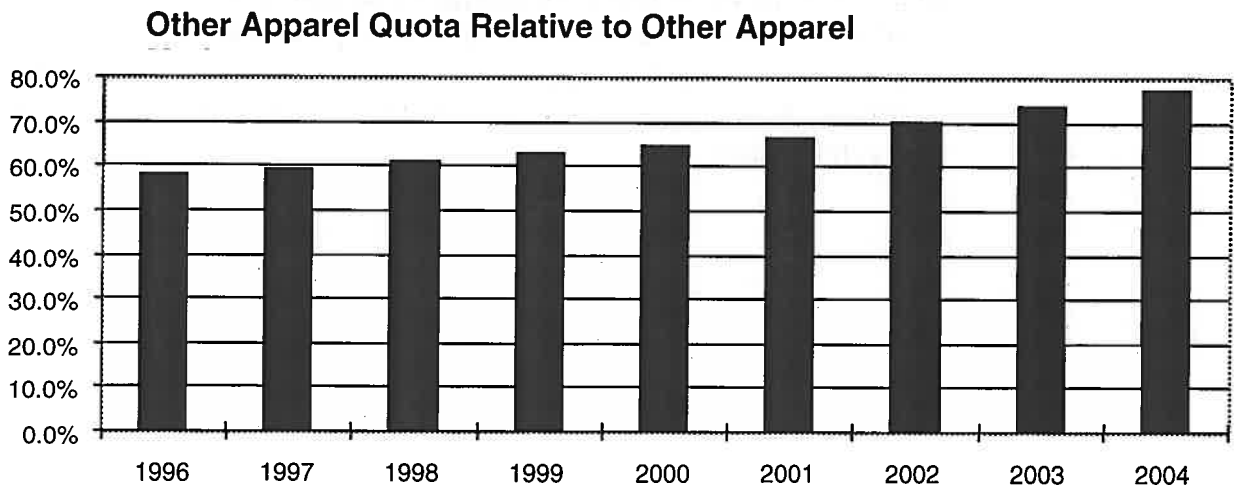
4.3 **Wool apparel: projected market demand and quota** (Millions of square meter equivalents)

	Market	*Quota*
1996	380.9	103.6
1997	390.7	104.6
1998	400.7	105.6
1999	410.8	106.6
2000	420.9	107.7
2001	431.1	108.7
2002	441.3	110.1
2003	451.4	111.5
2004	461.7	112.9

Special note to wool apparel charts and table.

1. Market demand for wool apparel was projected largely on the basis of trends in the volume of US consumption of these products between 1987 and 1995, adjusted as necessary by expected changes in US demographics over the 1995–2005 period. A linear 'least squares fit' regression trend line was projected through the year 2005 for each product, and future annual demand levels and growth rates were calculated using an equation derived from the trend line. As many individual wool apparel product projections as possible were aggregated. Year-to-year growth of the resulting aggregations was computed. These growth rates were applied to the base market data for 1996, projecting future market demand through 2005.





4.4 **Other fibre apparel: projected market demand and quota** (Millions of square meters)

	Market	*Quota*
1996	9 603	5 592
1997	9 783	5 815
1998	9 967	6 096
1999	10 176	6 399
2000	10 374	6 731
2001	10 575	7 086
2002	10 777	7 568
2003	10 981	8 097
2004	11 187	8 652

Special notes to other fibre apparel charts and table.

1. Market demand for other fibre apparel was projected largely on the basis of trends in the volume of US consumption of these products between 1987 and 1995, adjusted as necessary by expected changes in US demographics over the 1995–2005 period. A linear 'least squares fit' regression trend line was projected through the year 2005 for each product, and future annual demand levels and growth rates were calculated using an equation derived from the trend line. As many individual other fibre apparel product projections as possible were aggregated. Year-to-year growth of the resulting aggregations was computed. These growth rates were applied to the base market data for 1996, projecting future market demand through 2005.

2. Other fibre apparel quota includes 100 per cent of quota that will be available in all 200-series fabric categories (cotton and man-made fibres combined). It thus assumes that all available quota in these categories is used to export other fibre apparel to the United States. Potentially, this is possible; however, it is more likely that this quota will be shared with cotton fibre fabric.