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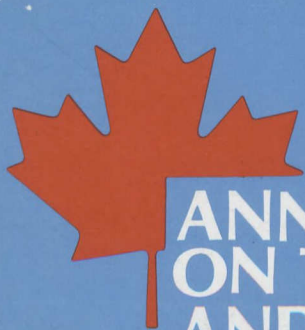


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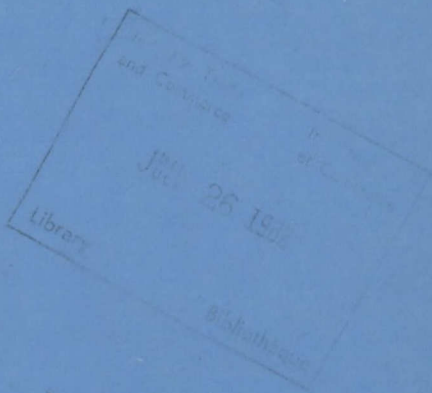
Gouvernement  
du Canada

Textile and  
Clothing Board

Commission du  
textile et du vêtement



# ANNUAL REPORT ON TEXTILES AND CLOTHING 1981



Canada 



Textile and  
Clothing Board

Commission du  
textile et du vêtement

Your file    Votre référence

Our file    Notre référence

September 30, 1981

The Honourable Herb Gray, P.C., M.P.  
Minister of Industry, Trade and Commerce  
Ottawa, Ontario  
K1A 0H5

Mr. Minister:

We have the honour and pleasure of presenting the first of a series of annual reports on the situation of the textile and clothing industries which the Board intends to publish from now on.

These annual reports will be an account of the efforts of the textile and clothing industries to improve their competitive ability. The first part of the reports will describe developments in the two industries during the preceding year. The second part will usually feature an in-depth study of a specific aspect of competitiveness. This year it contains results of two surveys carried out by the Board, the first one on the age and state of equipment in the textile and clothing industries, and the other, on the same points for clothing contractors.

The Board would be pleased to meet with you at your convenience, should you wish any additional information or explanations.

Yours sincerely

  
Jacques St-Laurent  
Member

  
Otto E. Thur  
Chairman

Ottawa, Canada  
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# Introduction

Since 1970, the Textile and Clothing Board has conducted fifty-eight inquiries. The results of these inquiries and relevant recommendations have been submitted to and subsequently made public by the Minister of Industry, Trade and Commerce, to whom the Board reports. In accordance with the Board's mandate, these inquiries were aimed at determining whether or not imports of textile products were causing or threatening to cause injury to Canadian production.

In its first years of operation, the Board carried out inquiries on individual products or small, homogeneous groups of products. This was in line with the nature of the special measures of protection internationally recognized at the time: restraints on cotton textile products were allowed, but only when serious injury or threat of serious injury could be demonstrated for these products. The major problem in the 1960's and the early 1970's was the exportation of large quantities of cotton yarns and fabrics from low-cost countries to developed countries.

After 1973, the make-up of international trade between developed and low-cost countries changed radically. The importance of trade in yarns and fabrics diminished rapidly and trade in clothing goods became increasingly dominant. In the mid-1960's, 70 per cent of the exports from low-cost to developed countries were made up of textile products, and 30 per cent of clothing. In the late 1970's the ratio was identical, but had been reversed. This new concentration on trade in clothing created a serious problem for developed countries; it rapidly became necessary for them to extend restraint coverage to most categories of textiles and clothing of all fibres to prevent a complete collapse of these two industries at the same time.

The Arrangement Regarding International Trade in Textiles, commonly known as the Multifibre Arrangement (MFA), which regulated international trade in textiles, had to be modified extensively to apply to almost all categories of textiles and clothing. From then on the number of signatory countries to the Arrangement increased. Whereas only sixteen countries negotiated and signed the 1961 Arrangement, fifty countries have signed the Arrangement currently in force, including all the major developed and exporting countries with the exception of the People's Republic of China.

At the same time that the number of restrained products and the number of potential exporting countries increased, the Board's inquiries and reports on specific products from specific exporting countries were replaced by reports of a more general nature, covering the greater part of the textile or the clothing industry, and even both together, as was the case for the 1980 "Textile and Clothing Inquiry". The reason for this change was that while the Board could easily identify the products or categories of products for which injury or threat of injury could be determined, it could not determine the one exporting country responsible for the injury. It is the cumulative total of imports of a particular product from all sources which causes or may cause injury, rather than specific quantities of the product from one exporting country, whatever the latter's importance.

Previous recommendations of the Board form the basis of the restraint system currently in force, as well as the restraints to be applied after 1981. These restraints, as well as any other special measure of protection recommended by the Board, carry special responsibilities for the industries which benefit from them, particularly that of improving their competitive ability as rapidly as possible through modernization, restructuring and consolidation. Under these conditions, the Textile and Clothing Board will naturally want to monitor closely the industry's efforts in that respect in order to make regular reports of its findings to the Minister of Industry, Trade and Commerce, and with his consent, to all other interested parties.

This report is the first of a series of annual reports which the Board intends to publish. These annual reports will differ from reports published as a result of inquiries: they will include an account of the textile and clothing industries' activities in the preceding year, and each year they will also include an in-depth discussion of a specific aspect of competitive ability, but will contain no recommendations.

The first part of this 1981 report deals with the situation of the textile and clothing industries in 1980. To better appreciate what the industry has accomplished or failed to accomplish, one must take into account the specific conditions under which the industry has had to operate. These conditions have a decisive influence on the rate at which improvements can be made. A good year, that is, a year of adequate capacity utilization and satisfactory profits, can help accelerate improvements if the outlook remains good. On the other hand, a bad year and poor prospects for the future will slow down the rate of improvement. The report on the general situation of the industry will be a regular feature of the annual reports.

The second part of this report contains the results of two surveys undertaken by the Board at the end of 1980, which were aimed at determining the average age of equipment installed in textile and clothing plants. The age of equipment, that is the degree to which it is

modern or obsolescent, can be an indicator of the dynamism, or lack of it, of the industry. One of the surveys of the equipment covered a sample of manufacturers and the other, a sample of clothing contractors. Contractors are an important element in the clothing manufacturing chain, particularly in Québec, and the condition of the contractors' equipment is a significant factor in the industry's ability to compete.



# **I — The Situation in the Textile and Clothing Industries in 1980**

## **1 — General Economic Situation**

The year 1980 produced conflicting results for the Canadian economy in general. The gross national product remained practically stagnant while employment increased appreciably. Real consumer expenditures barely increased while investments increased considerably, particularly investments in manufacturing industries. The trade balance showed a record surplus but prices and costs continued to increase at rapid rates. The gross national product per person employed decreased by more than two per cent while wages continued to rise rapidly, thus further increasing unit labour costs.

Overall lack of economic growth, levelling-off in consumer expenditures, strong inflationary pressures, and a major increase in interest rates in the last four months of 1980 were the economic factors which had a major impact on the situation of the textile and clothing industries. For these two industries 1980 was a difficult year.

## **2 — Final Demand for Textile Products**

With the exception of industrial textiles such as papermaker's felts and tire cord and fabrics, textile products in general are considered to a greater or lesser extent as semi-durable consumer goods. While carpets, curtains, upholstery fabrics and automotive fabrics have a relatively long wear life, the wear life of other products such as clothing or household fabrics is shorter.

Lacking extensive export markets, the Canadian textile and clothing industries are directly influenced by the variations in consumer expenditures.<sup>1</sup> When consumers have to contend with major price increases affecting different commodities their only recourse is to reduce expenditures on non-essential goods and services, particularly if these increases affect essential goods and services, as was the case in Canada for food, shelter and transportation. The data in Table 1 confirm that this is exactly what they did.

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<sup>1</sup> In the section on demand, clothing includes items made of both woven and knitted fabrics, while in the section on production and employment, clothing covers only those items made of woven fabrics because there are separate statistics for knitting.

Table 1

**PERSONAL EXPENDITURES FOR GOODS AND SERVICES**  
millions of current dollars and per cent distribution

Expenditure Category	1977		1978		1979		1980	
	\$	% of total	\$	% of total	\$	% of total	\$	% of total
Food, beverages and tobacco	24,756	20.2	27,655	20.4	30,782	20.4	34,381	20.5
Gross rent, fuel and power	21,850	17.8	24,374	18.0	27,235	18.1	31,046	18.5
Transportation and communication	17,957	14.7	19,606	14.5	22,395	14.9	24,846	14.8
Personal goods and services	19,308	15.8	21,636	16.0	24,390	16.2	27,569	16.4
Medical care and health services	3,829	3.1	4,272	3.2	4,755	3.1	5,266	3.1
Footwear	1,323	1.1	1,443	1.1	1,641	1.1	1,818	1.1
Recreation and education	12,691	10.3	13,854	10.2	15,383	10.2	17,055	10.1
Clothing	7,450	6.1	8,065	6.0	8,980	6.0	9,782	5.8
Furniture, furnishings and household operation	12,016	9.8	12,976	9.6	14,281	9.5	15,508	9.2
Net expenditures abroad	1,350	1.1	1,390	1.0	775	0.5	878	0.5
<b>TOTAL</b>	<b>122,530</b>	<b>100.0</b>	<b>135,271</b>	<b>100.0</b>	<b>150,617</b>	<b>100.0</b>	<b>168,149</b>	<b>100.0</b>

SOURCE: Statistics Canada, Cat. 13-201.

While the first four categories of expenditures in the table showed a definite increase in the proportion of total expenditures which they represented, the proportion represented by categories with a relatively high textile content, that is clothing, and upholstery and household fabrics, continued to decrease.

The same data expressed in 1971 dollars show a slightly different picture. The two categories of consumer expenditures with a high textile content maintained a relatively constant proportion of total expenditures. Such a result, particularly for clothing, can only be obtained by a slower rise in prices for this category than for overall expenditures. From 1977 to 1980, clothing expenditures in current dollars increased 10.4 per cent per annum while total consumer expenditures increased at a rate of 12.4 per cent. When expressed in constant dollars, the annual increases in expenditures were much less:

2.7 per cent for clothing and only 2.0 per cent for total consumer expenditures.

The slowdown in consumer expenditures became more pronounced in 1980. Real expenditures for clothing in constant dollars increased by only one quarter of one per cent compared to 2.7 per cent per annum from 1977 to 1980 and overall expenditures increased by one per cent compared to two per cent for the period 1977 to 1980. If the one per cent increase in population from 1979 to 1980 is taken into account, per capita expenditures in real terms for clothing have decreased, and total consumer expenditures have remained at the same level.

If final demand is examined in terms of retail sales levels, the evidence of a slowdown becomes even stronger. (Table 2).

**Table 2**

**RETAIL SALES OF CLOTHING**  
sales in million dollars and changes in per cent

Type of store	Sales			Change		
	1978	1979	1980	1978/77	1979/78	1980/79
Current dollars						
Department stores	2,338.2	2,593.1	2,809.4	10.7	10.9	8.3
Specialized clothing stores:						
— chain	1,399.2	1,606.2	1,822.0	12.7	14.8	13.4
— independent	1,621.4	1,803.6	1,915.6	9.7	11.2	6.2
<b>TOTAL</b>	<b>5,358.8</b>	<b>6,002.9</b>	<b>6,547.0</b>	<b>10.9</b>	<b>12.0</b>	<b>9.1</b>
1971 dollars						
Department stores	1,651.3	1,673.0	1,619.3	7.1	1.3	-3.2
Specialized clothing stores:						
— chain	988.1	1,036.3	1,050.1	9.0	4.9	1.3
— independent	1,145.1	1,163.6	1,104.1	6.1	1.6	-5.1
<b>TOTAL</b>	<b>3,784.5</b>	<b>3,872.9</b>	<b>3,773.5</b>	<b>7.3</b>	<b>2.3</b>	<b>-2.6</b>

NOTE: Statistical deflation using the consumer price index for clothing only.

SOURCE: Statistics Canada, Cat. 63-005, 63-014, 63-210.

From 1977 to 1980, retail sales of clothing increased by 11.8 per cent per annum in current dollars and by only 2.3 per cent in constant dollars. During 1980 alone, sales increased by 9.1 per cent in current dollars but went down by 2.6 per cent in constant dollars.<sup>1</sup>

The chain stores specialized in clothing sales best withstood the changing conditions of the last three years. While clothing sales increased considerably in 1978 and only slightly in 1979, and declined in 1980, the share held by chain stores specialized in clothing sales increased throughout the whole period. (Table 3).

**Table 3**

**DISTRIBUTION OF CLOTHING SALES BY TYPE OF STORE**  
per cent

Type of store	1977	1978	1979	1980
Department stores	43.7	43.6	43.2	42.9
Specialized clothing stores:				
— chain	25.7	26.1	26.8	27.8
— independent	30.6	30.3	30.0	29.3
<b>TOTAL</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

SOURCE: Table 2.

When sales fluctuate, as was the case for clothing sales during the last three years, stores make substantial adjustments in their inventories. These adjustments became much more important as interest rates climbed to record levels and inflicted severe financial penalties on those holding inventories out of proportion with their current sales. (Table 4).

In general, inventories held in the distribution chain constitute a variable balance between a relatively stable intake of purchased goods and constantly varying sales levels. In 1978, sales rose considerably while there were only very slight increases in inventories. However, in

<sup>1</sup> Differences in the results in Tables 1 and 2 are mainly attributable to the price indices used. The statistical deflation of consumer expenditures is obtained by using an implicit index of clothing prices whereas the deflation of sales is carried out with the consumer price index for clothing only. In theory, both series should be very close since the implicit price index for consumer expenditures is itself derived from the consumer price index. In fact there is a significant spread between the two series in 1979, and more so in 1980.

The differences in absolute totals shown in the two tables are due to the incomplete coverage of the statistical data on sales. The data available do not cover clothing sales of sporting goods stores, children's wear stores, fur stores, and general stores where clothing is only a minor portion of their total sales. In addition there is a minor difference because of differences in statistical treatment for sales taxes.



1979 stores increased their purchases as a result of high levels of sales reached in the previous year, but the actual sales in 1979 did not justify increasing inventories to that extent. As a result, inventories were reduced in 1980 not only because of high interest rates but also because of reduced retail sales.

**Table 4****AVERAGE MONTHLY INVENTORIES OF CLOTHING STORES**

inventories in million dollars and changes in per cent

Type of store	Inventories			Change		
	1978	1979	1980	1978/77	1979/78	1980/79
Current dollars						
Department stores	578.9	700.8	742.6	5.3	21.1	6.0
Specialized clothing stores:						
— chain	284.5	358.7	317.9	15.9	26.1	-11.4
— independent	337.1	407.2	431.2	4.0	20.8	5.9
<b>TOTAL</b>	<b>1,200.5</b>	<b>1,466.7</b>	<b>1,491.7</b>	<b>7.3</b>	<b>22.2</b>	<b>1.7</b>
1971 dollars						
Department stores	408.8	452.1	428.0	1.9	10.6	-5.3
Specialized clothing stores:						
— chain	200.9	231.4	183.2	12.1	15.2	-20.8
— independent	238.1	262.7	248.5	0.5	10.3	-5.4
<b>TOTAL</b>	<b>847.8</b>	<b>946.2</b>	<b>859.7</b>	<b>3.7</b>	<b>11.6</b>	<b>-9.1</b>

NOTE: Statistical deflation using the consumer price index for clothing only.

SOURCE: Statistics Canada, Cat. 63-005, 63-014, 63-210.

Once again those chain stores specialized in clothing adjusted most quickly to the 1978 increase and the 1980 decline. However, their adjustment to the slowdown in 1979 was not as great as that of other types of store. (Table 5).

No valid conclusion can be reached from a comparison of Tables 3 and 5. At first glance it appears that the specialized chain stores have been remarkably efficient. Indeed, from 1977 to 1980 they accounted for 26.6 per cent of total clothing sales while they held only 22.8 per cent of the inventories. It must be mentioned however, that the majority of these stores concentrate on women's wear which is more sensitive to fashion changes than men's or children's clothing and is therefore less likely to be kept in stock in large quantities.

This brief analysis of demand leads to the conclusion that final demand for textile products decreased considerably in 1980. With

consumers watching their expenditures carefully, sales of non-essential goods such as clothing declined. This decline in sales, coupled with high interest rates, was enough to initiate a major liquidation of inventories. In these circumstances 1980 could hardly have been a prosperous year for producers.

**Table 5**

**DISTRIBUTION OF AVERAGE MONTHLY INVENTORIES  
BY TYPE OF STORE**  
per cent

Type of store	1977	1978	1979	1980
Department stores	49.1	48.2	47.8	49.8
Specialized clothing stores:				
— chain	21.9	23.7	24.4	21.3
— independent	29.0	28.1	27.8	28.9
<b>TOTAL</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

SOURCE: Table 4.

Partial data for the beginning of 1981 indicate however that the decline in sales is ending and that a recovery is beginning to take shape.

### **3 — Production and Employment in the Textile and Clothing Industries**

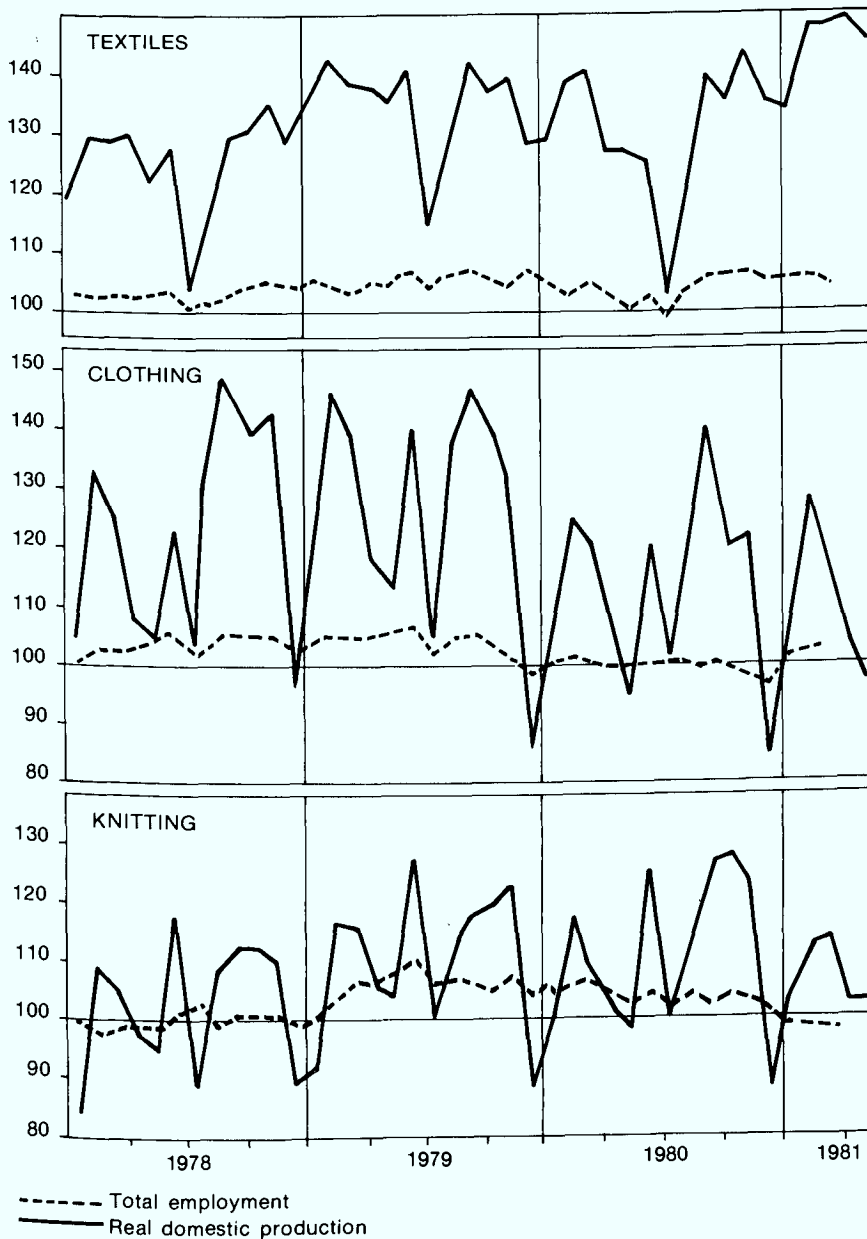
Based on the index of real domestic product, 1980 was a year of decline for textiles and clothing, while the knitting sector showed marginal growth.

The evolution of production and employment in the three sectors mentioned is illustrated in Chart I. The sectors do not follow the same path, as each is influenced by factors which are specific to the sector and are governed by varying demand for each type of product.

During the 1970's, production and employment reached their lowest points: in 1975 for textiles and in 1977 for clothing and knitting. These latter two sectors having been the most affected by the wave of imports in 1976, inventories of imported and domestic products were exceedingly high in 1977. The global quota which came into effect in November 1976, succeeded in preventing further deterioration of the situation but did nothing to resolve the problem caused by the considerable quantities of imports entering the country in 1976. Reduction of these inventories took time, resulting in 1977 being a poor year for clothing and knitting.

Chart I

**REAL DOMESTIC PRODUCT INDEX  
AND ESTIMATED TOTAL EMPLOYMENT**  
1971 = 100



SOURCE: Statistics Canada, Cat. 61-005, 61-213 and 72-002.

The recovery started in 1978 and involved all three textile sectors; textiles, clothing and knitting. This recovery was exceptionally strong for clothing which had been the most seriously affected by previous imports, but was more moderate for textiles and knitting. In 1979 however, growth in clothing slowed down considerably while it strengthened in the other two sectors. These two years of growth corresponded, as was mentioned previously, to a substantial increase in retail sales in 1978 and a somewhat too optimistic demand by distributors in 1979 to build up their inventories.

The decline in production in 1980 seriously affected the clothing sector but did not touch the textile producers as severely. The knitting sector fared better and maintained its level of production. (Table 6).

**Table 6**

**ANNUAL VARIATIONS IN PRODUCTION AND EMPLOYMENT  
IN TEXTILE, CLOTHING AND KNITTING SECTORS**  
per cent, compared to previous year

Industry Sector	Real Domestic Product				Employment <sup>1</sup>							
					Statistics Canada				Department of Industry, Trade and Commerce			
	1978	1979	1980	1981 (5 months)	1978	1979	1980	1981 (3 months)	1978	1979	1980	
Textile	4.2	7.8	-3.7	8.7	3.0	2.0	-1.5	1.8	3.3	2.0	-1.7	
Clothing	7.6	3.7	-9.8	0.2	3.7	0.5	-4.2	1.7	5.0	1.5	-4.1	
Knitting	3.8	7.9	0.7	1.3	0	6.2	-2.0	-6.5	-3.0	8.0	-3.2	

<sup>1</sup> Employment statistics from Statistics Canada cover firms employing 20 or more workers. Those from the Department of Industry, Trade and Commerce estimate employment of all firms, but exclude carpet producers in the textile sector, as well as fur, and hat and cap producers in the clothing sector.

SOURCE: Statistics Canada, Cat. 61-213, 61-005, 72-002 and Department of Industry, Trade and Commerce.

For the first months of 1981 there is an indication of appreciable recovery for textiles, but a more uncertain trend for clothing and knitting. Nevertheless, future prospects appear to be better, even if the current improvement eventually proves to be more modest as the year advances.

Variations in employment follow variations in production, but the magnitude of the changes is much less for employment than for produc-

tion. Labour activity is adjusted to variations in production first by changes in the number of hours worked, then by changes in the number of employees. When production decreases overtime hours are the first to be reduced. Regular time is then cut down, either by means of shorter work weeks or by temporary shut downs. Only as a last resort will producers effect lay-offs of indefinite duration, for fear of losing their skilled workers after a prolonged lay-off.

Data provided to the Board on a regular basis by the Parity and Joint Committees of Québec and Ontario confirm the preceding findings. These Committees do not cover all clothing industry sectors, but they cover sectors which are both important and sensitive. Table 7 illustrates clearly that from 1979 to 1980 there was a drastic reduction in overtime hours, followed by cuts in regular hours and then by reductions in the numbers of employees.

Table 7

**AVERAGE NUMBER OF EMPLOYEES AND HOURS WORKED IN THE  
MEN'S AND WOMEN'S CLOTHING SECTORS (QUEBEC, ONTARIO)  
AND IN THE SHIRT SECTOR (QUEBEC)  
1979-1980**

Industry Sector	Year	Average number of employees	Hours worked		
			Regular	Overtime	Total
Québec					
Men's and boys' clothing, women's and girls' clothing, and shirts	1979	42,891	63,322,624	1,503,262	64,825,886
	1980	38,180	52,754,919	726,743	53,481,662
	1980/ 1979	- 11.0%	- 16.7%	- 51.7%	- 17.5%
Ontario					
Men's and boys' clothing, women's and girls' clothing	1979	7,391	11,666,537	507,751	12,174,288
	1980	7,054	10,813,148	393,869	11,207,017
	1980/ 1979	- 4.6%	- 7.3%	- 22.4%	- 8.0%
Total, Québec, and Ontario	1979	50,282	74,989,161	2,011,013	77,000,174
	1980	45,234	63,568,067	1,120,612	64,688,679
	1980/ 1979	- 10.0%	- 15.2%	- 44.3%	- 16.0%

SOURCE: Parity and Joint Committees for Québec and Ontario.

An examination of the variations in domestic shipments and in employment by sub-sectors shows that the relationship between the two is very close for textiles. (Table 8). It is unfortunate that the same comparison cannot be made for the clothing sector because of the inconsistency of statistical subdivisions. It is likely however, that the conclusion would be the same for clothing as for textile sub-sectors.

Table 8

**TEXTILE SUB-SECTORS**  
**VARIATIONS IN DOMESTIC SHIPMENTS AND EMPLOYMENT**  
**FROM 1979 TO 1980**  
 per cent

<b>Sub-sectors</b>	<b>Domestic Shipments</b>	<b>Employment</b>
<i>Yarns</i>		
Worsted spun acrylic yarns	6	1.6
Cotton and polyester-cotton yarns	10	8.9
Synthetic yarns (rayon, nylon, polyester, and blends)	-13	-7.8
<i>Fabrics</i>		
Worsted fabrics	-16	-20.0
Woollen fabrics	-27	-19.2
Cotton and polyester-cotton fabrics, corduroys and denims	-1	-3.3
Coated fabrics	-12	-5.2
Synthetic fabrics (rayon, nylon and polyester fabrics, pile fabrics and blended fabrics)	-12.5	-14.6
<i>Products</i>		
Towels and washcloths	10	13.8
Sheets and pillowcases	0.2	3.3
Handbags (of textiles)	5	7.7
Hosiery	4	-0.3
Cordage and twine	3	6.5
Work gloves	-17	-15.8

SOURCE: Textile and Clothing Board.

To examine the evolution of production and employment over a longer term one needs to compare statistics for 1980 with those for 1977, the year when employment was at its minimum of the 1970's, and with those of 1973 when employment reached its post-war peak. (Table 9).

From 1977 to 1980 there was a significant increase in production accompanied by a modest rise in employment in the textile and knitting

sectors. However, the change from 1973 to 1980 was much more important. During that period only the textile sector increased its production, while clothing and knitting production remained stagnant. On the other hand, employment declined considerably, almost 20 per cent for knitting, more than 12 per cent for textiles and 7 per cent for clothing. Overall this represents a loss of more than 21,000 jobs out of about 200,000 which these three industry sectors employed in 1973, or a loss of 10.7 per cent.

Table 9

**TOTAL VARIATIONS IN REAL DOMESTIC PRODUCT AND IN  
EMPLOYMENT IN THE TEXTILE, CLOTHING AND KNITTING  
SECTORS BETWEEN 1977 AND 1980 AND BETWEEN  
1973 AND 1980**  
per cent

Industry sector	1977-1980		1973-1980	
	RDP	Employment	RDP	Employment
Textile	8.2	3.6	8.9	-12.8
Clothing	0.7	2.2	-0.5	-7.0
Knitting	12.8	1.3	0.3	-19.3

SOURCE: Statistics Canada, Cat. 61-213, 31-203 and Department of Industry, Trade and Commerce.

#### 4 — Capacity Utilization and Productivity

The degree of annual utilization of production capacity will usually vary in parallel with changes in real production in the same year. Deviations between these two series are due to additions or subtractions to production capacity during the year. Unfortunately, published statistics do not permit tracing changes in production capacity directly. They only show the changes in capacity utilization.

Table 10 provides a direct comparison between capacity utilization and real domestic product for the textile, clothing and knitting sectors.

The ratio between the change in real domestic product and in capacity utilization gives a rough approximation of newly installed capacity. For example in 1980, the production index for textiles was 108.2 while the index of capacity utilization was 101.9. Dividing the former by the latter shows an increase in production capacity of about six per cent compared to 1977. For clothing, in the same year a similar calculation shows an increase of seven per cent. For knitting, the perfect

parallel between the production index and the index of capacity utilization indicates no change at all in production capacity since 1977.<sup>1</sup>

**Table 10**

**CAPACITY UTILIZATION AND REAL DOMESTIC PRODUCT FOR  
THE TEXTILE, CLOTHING AND KNITTING SECTORS**

	1977	1978	1979	1980
<i>Textiles</i>				
Capacity utilization in per cent	90.9	93.0	98.2	92.6
Index of capacity utilization 1977=100	100.0	102.3	108.0	101.9
Index of real domestic product 1977=100	100.0	104.2	112.4	108.2
<i>Clothing</i>				
Capacity utilization in per cent	87.8	92.2	93.8	82.5
Index of capacity utilization 1977=100	100.0	105.0	106.8	94.0
Index of real domestic product 1977=100	100.0	107.6	111.6	100.7
<i>Knitting (Fabrics and clothing)</i>				
Capacity utilization in per cent	84.6	87.8	94.9	95.6
Index of capacity utilization 1977=100	100.0	103.8	112.2	113.0
Index of real domestic product 1977=100	100.0	103.8	112.0	112.8

SOURCE: Department of Industry, Trade and Commerce and Statistics Canada, Cat. 61-213.

Results for the first quarter of 1981 confirm the recovery in textiles, and the somewhat more uncertain situation in the clothing and knitting sectors. Capacity utilization during the first quarter of 1981, when compared with that during the same period in 1980, increased 2.5

<sup>1</sup> A problem of consistency arises because of the fact that there are three statistical sources in Canada providing data on capacity utilization: The Department of Industry, Trade and Commerce; Statistics Canada; and the Bank of Canada. If data from Statistics Canada and the Bank of Canada are used, production capacities for textiles appear to have decreased slightly (0.5 and 0.8 per cent respectively) instead of increasing by 6 per cent. For clothing, capacity increases in all cases: 5 per cent with Statistics Canada; 6.7 per cent with the Bank of Canada; and 7 per cent with the Department. Finally, knitting capacity decreased 1.6 per cent according to data from Statistics Canada, and 4.3 per cent with data from the Bank of Canada.



per cent for textiles, decreased 1.1 per cent for clothing and remained exactly the same for knitting.

With regard to productivity, as measured by the index of real value added per hour worked, 1980 could not have been a good year because production levels were declining in two out of three sectors. Productivity did not change for the textile sector while production decreased 3.7 per cent. In the clothing sector production decreased 9.8 per cent and productivity declined 3.6 per cent. The marginal increase in knitting production made it possible to consolidate in terms of productivity the previous gains in production. Indeed, as can be seen in Table 11, the substantial increase in knitting production in 1979 did not immediately translate into higher productivity. This happened only a year later.

Table 11

**INDEX OF REAL DOMESTIC PRODUCT AND VALUE ADDED PER  
MAN-HOUR WORKED IN THE TEXTILE, CLOTHING AND KNITTING  
SECTORS**  
1977=100

Sector	1977		1978		1979		1980	
	VA		VA		VA		VA	
	RDP	M-HR.	RDP	M-HR.	RDP	M-HR.	RDP	M-HR.
Textiles	100.0	100.0	104.2	99.7	112.4	105.6	108.2	105.8
Clothing <sup>1</sup>	100.0	100.0	107.6	103.8	111.6	107.1	100.7	103.2
Knitting	100.0	100.0	103.8	105.2	112.0	104.9	112.8	112.5

<sup>1</sup> The real value added per man-hour worked for the clothing sector covers only three sub-sectors: women's; men's; and children's clothing.

SOURCE: Statistics Canada, Cat. 61-213 and 72-002.

Even if 1980 was not conducive to growth in productivity, the performance of the three sectors compared favorably with that of all manufacturing in Canada. Comparisons for the last four years (1977-1980 inclusive) are presented in Table 12.

There are inherent productivity problems in the women's clothing sub-sector. The numerous style changes required every season because of the dictates of fashion are not compatible with the high degree of standardization which is essential to achieve significant gains in productivity.

**Table 12**

**GROWTH IN REAL VALUE ADDED PER MAN-HOUR WORKED IN THE  
TEXTILE, CLOTHING AND KNITTING SECTORS AND IN ALL  
MANUFACTURING, 1977 TO 1980**  
average annual growth rates in per cent

<b>Sector</b>	<b>Growth Rate</b>
Textiles	1.9
Clothing (3 sub-sectors)	1.8
Women's clothing	0.13
Men's clothing	1.4
Children's clothing	6.1
Knitting	4.2
All manufacturing	1.6

SOURCE: Statistics Canada, Cat. 61-213 and 72-002.

## **5 — Wages and Prices in the Textile, Clothing and Knitting Sectors**

Any industrial structure made up of numerous and varied sectors calls for a corresponding hierarchy of wages. This hierarchy is due to such factors as the degree of skill required, the availability or scarcity of labour possessing such skills, the risks inherent in the job, the responsibility attached to running more or less expensive equipment, the relative remoteness of the job from traditional population centres, and finally, demand for products of the sector.

In addition to those specific factors which determine wage scales in a particular industry sector there are also overall factors which influence wage movements generally. These factors include changes in consumer prices, in tax rates and in social contributions (which determine the take home pay corresponding to any given level of gross wages), and in average productivity of economic activity in general.

In recent years, inflationary pressures were the single most important factor influencing wage rates. Not one industry sector could have limited wage increases to the rate of increase in productivity. As a result unit wage costs per unit of output rose in all sectors, forcing general increases in industry selling prices.

The textile, clothing and knitting sectors have always been classed among those industries paying wages below the average for all manufacturing industries. For most jobs in the three sectors, the training period required is relatively short, investment per job is relatively small,

demand for the product varies substantially, and the proportion of female workers, particularly in the clothing sector, is very high.<sup>1</sup>

In addition the textile sector, which is the most capital intensive and can thus afford to pay higher wages than the clothing and knitting sectors, is for the most part located in small urban centres where average wages are below the national average. Nevertheless the textile sector is the one which pays the highest wages, followed by the clothing sector and the knitting sector in that order. It is probable that the differences in wages paid by the three sectors are mainly due to the different proportions of women employed respectively by each sector.<sup>2</sup>

The data in Table 13 indicate that the textile sector had no great difficulty in consistently maintaining its wages at 80 per cent of the wages for all manufacturing. On the other hand the clothing and knitting sectors, adversely affected by the decline in demand for their products and by the pressure of imports from low-cost sources, continued to register generally lower wage increases than those of the textile sector and of all manufacturing. In the clothing sector the decline in demand since 1979 appears to have been the dominating factor affecting wages. Wages in the knitting sector have been held back mainly because of the drop in employment in the sector over the last seven years (-20 per cent as shown in Table 9). Just recently, demand for knitted products has recovered somewhat and employment has stabilized, with the result that the relative decline in wages has stopped.

At any rate, it must be noted that wages paid in the clothing and knitting sectors are substantially above the minimum wage levels imposed anywhere in Canada. If workers in these sectors were to see their jobs disappear, any alternative employment available to them would rarely be above their present wages. The reason is that this is often a labour force with a relatively low level of schooling and with no specific skills other than those acquired during the short training periods given to new workers in these industry sectors.

Wages in the textile sector are well above the provincial minimum wages. Traditionally, the textile industry in Canada has been located in small towns in Québec and Ontario where there is at present very little alternative employment. If the jobs in this sector were to disappear, alternative employment for the workers involved would require moving numerous firms of other industrial sectors into the affected regions.

<sup>1</sup> Historically, female workers have been considered as secondary wage earners whose income level was less important than that of the chief wage earner in the family. This tradition persists in all occupations where women represent a high proportion of the labour force, including those in the textile industry sectors.

<sup>2</sup> It is also probable that the wages of women employed in other manufacturing industries are no higher than those in the textile industry sectors. Average wages paid by other industries will be higher than in the textile, clothing and knitting sectors because the proportion of women employed by other industries is in general substantially lower.

Table 13

**AVERAGE HOURLY EARNINGS IN CURRENT DOLLARS IN THE  
TEXTILE, CLOTHING AND KNITTING SECTORS AND IN ALL  
MANUFACTURING, AND PERCENTAGE INCREASE OVER THE  
SAME PERIOD IN THE PRECEDING YEAR**

Period	Textiles		Clothing		Knitting		All Manufacturing	
	\$	%	\$	%	\$	%	\$	%
1977								
Quarter								
I	4.83		4.12		3.90		6.16	
II	5.02		4.24		3.97		6.34	
III	5.15		4.32		4.04		6.44	
IV	5.21		4.39		4.08		6.57	
Year 1977	5.05		4.27		4.00		6.38	
1978								
Quarter								
I	5.27	9.1	4.52	9.7	4.19	7.4	6.67	8.3
II	5.37	7.0	4.56	7.5	4.34	9.3	6.77	6.8
III	5.48	6.4	4.65	7.6	4.37	8.2	6.87	6.7
IV	5.59	7.3	4.74	8.0	4.39	7.6	7.03	7.0
Year 1978	5.43	7.5	4.62	8.2	4.32	8.0	6.84	7.2
1979								
Quarter								
I	5.70	8.2	4.84	7.1	4.54	8.4	7.19	7.8
II	5.94	10.6	4.95	8.6	4.58	5.5	7.37	8.9
III	6.01	9.7	5.04	8.4	4.67	6.9	7.50	9.2
IV	6.09	8.9	5.10	7.6	4.68	6.6	7.68	9.2
Year 1979	5.94	9.4	4.98	7.8	4.62	6.9	7.44	8.8
1980								
Quarter								
I	6.33	11.1	5.23	8.1	4.92	8.4	7.90	9.9
II	6.38	7.4	5.31	7.3	4.92	7.4	8.06	9.4
III	6.60	9.8	5.38	6.7	5.11	9.4	8.25	10.0
IV	6.76	11.0	5.41	6.1	5.32	13.7	8.54	11.2
Year 1980	6.52	9.8	5.33	7.0	5.07	9.7	8.19	10.1
1981 I	6.96	10.0	5.61	7.3	5.40	9.8	8.78	11.1
In per cent of wages for all manufacturing.								
1977	79.2		66.9		62.7		100.0	
1978	79.4		67.5		63.2		100.0	
1979	79.8		66.9		62.1		100.0	
1980	79.6		65.1		61.9		100.0	
1980 1st Quarter	80.1		66.2		62.3		100.0	
1981 1st Quarter	79.3		63.9		61.5		100.0	

SOURCE: Statistics Canada, Cat. 72-002.

Prices of manufactured products are determined by a combination of cost and demand factors. In periods of acute inflationary pressures, all prices will tend to increase and the only detectable changes will be in the rates at which these increases will take place. All price fluctuations then become relative only.

Prices of natural raw materials are determined by supply and demand on the world markets and are thus subject to considerable variations. However, in a longer term perspective there have been major price increases for natural fibres: by early 1981 world prices for cotton as well as for wool had about tripled since 1971. Prices of synthetic fibres remained remarkably stable for a long time, but like the prices of other petrochemical products, they have been increasing regularly since 1974. Even if prices of synthetic fibres have doubled in the last ten years, synthetic fibres continue to have a moderating effect on prices of primary textile products.

In textiles, the first major stage in the manufacturing process is that of yarn production. Since this is only the first stage in the transformation of raw materials, yarn prices will very rapidly reflect fluctuations in raw material prices. The second manufacturing stage, fabric weaving, dyeing and finishing, contains more value added, and prices of raw materials have less effect on fabric prices. In the third stage of production, that of clothing manufacturing, other elements of cost such as wages, equipment costs and interest rates become the dominant factors.

It must be mentioned also that the textile, clothing and knitting industry sectors operate on a price quotation basis, with prices for yarns and fabrics varying in step-wise fashion, each step representing two to three months for yarns and two to six months for fabrics. Prices quoted are therefore a balance between past and projected cost increases, the whole process moderating the effects of any increase occurring initially in world market prices for raw materials.

To the above factors must be added those of the final demand, itself consisting of two parts, final demand of consumers and final demand for inventory accumulation by the retail network. When there is a serious decline in demand for the products of a specific sub-sector, prices tend to remain stable or increase only very slightly as producers strive to maintain capacity utilization at the highest possible level. Table 14 illustrates the situation for wool fabrics. Wool weavers experienced a particularly difficult year in 1980, and prices of wool fabrics barely increased while there were substantial price increases for wool yarns and synthetic yarns. If the situation could be looked at separately for some sectors of synthetic fibres, the same conclusion could be drawn that prices suffered in order to maintain adequate production levels.

Table 14

**INCREASE IN INDUSTRY SELLING PRICES OF TEXTILE PRODUCTS**  
per cent per annum

Product	1979	1980	First Quarter 1981/1980
Cotton yarns	12.5	10.2	16.1
Polyester/cotton yarns	10.1	15.0	20.2
Wool yarns	19.1	10.8	11.5
Synthetic yarns	14.3	18.7	11.3
Cotton fabrics (for apparel)	9.9	8.2	8.6
Cotton and synthetic fibre blend sheets	15.2	15.2	15.6
All wool worsted fabrics (for apparel)	13.6	3.0	12.9
Wool/polyester blend fabric	10.6	2.8	15.1
Synthetic fabrics	n.a <sup>1</sup>	13.9	10.3
Hosiery	7.1	9.9	6.9
Knitted fabrics	12.9	6.9	7.1
Knitted garments	9.4	9.6	9.4
Men's clothing	10.0	11.8	9.6

<sup>1</sup> Not available.

SOURCE: Statistics Canada, Cat. 62-011.

Table 14 also illustrates the extent to which price increases are held back in a sector more seriously affected than others. Since 1973, production in the knitting sector has more or less stagnated and employment has declined by about 20 per cent. It is not surprising therefore to see selling price increases of less than 10 per cent in each of the last three years while yarn prices have risen much faster.

Finally, there is a considerable time lag, of at least one year, before changes in industry selling prices of fabrics are reflected in consumer prices for clothing. There is nothing unusual in this, since clothing collections are planned and presented several months in advance. Evidently the relatively moderate rise in fabric prices in 1980 has been showing up in consumer prices for clothing since the Fall of 1980 and has continued to do so in the first eight months of 1981. (Table 15). However, one should also take into consideration the effects on consumer prices of clearance sales in a period of extremely high interest rates and resultant prohibitive costs of holding inventory.

Whatever the reasons for the slower rise in consumer prices for textile products, the fact remains that relatively lower clothing prices are at present acting as a brake on the rise in the overall consumer price index. However, higher fabric prices in early 1981 do not augur well for prices of clothing for the end of this year and the beginning of 1982.

Table 15

**CONSUMER PRICE INDICES**  
annual increases in per cent

Product Groups	1979	1980	First Eight Months 1981/1980
Apparel only (excluding footwear, accessories and services)	9.3	12.0	5.7
Women's clothing <sup>1</sup>	10.3	13.3	5.3
Girls' clothing <sup>1</sup>	8.8	10.4	5.5
Men's clothing <sup>1</sup>	8.5	10.8	6.1
Boys' clothing <sup>1</sup>	7.8	9.8	6.7

<sup>1</sup> Clothing includes footwear and accessories, and excludes services.

SOURCE: Statistics Canada, Cat. 62-010 and Department of Industry, Trade and Commerce.

## 6 — Investments in the Textile Industry Sectors

Even if 1980 was not a particularly prosperous year for the textile, clothing and knitting sectors, capital expenditures made in these sectors showed significant increases. From 1979 to 1980, total capital expenditures in current dollars increased 34.2 per cent: investments in new buildings increased 25.5 per cent, and purchases of new machinery and equipment went up 35.8 per cent.<sup>1</sup> Nominal increases of these magnitudes represent a considerable increase in investments in real terms: it amounted to 21.5 per cent overall; 15.4 per cent for new buildings, and 22.6 per cent for new machinery and equipment. (Tables 16 and 17).

Capital expenditures have continued to be of a capital deepening nature: the spending ratio for new buildings has gone down slightly from 19.5 per cent in 1978 to 15.1 per cent in 1979 and 14.3 per cent in 1980. New machinery and equipment have therefore increased their share of total capital spending from 80.5 per cent in 1978 to 84.9 per cent in 1979 and 85.7 per cent in 1980. The primary objective of new investments remains that of improved quality and productivity; they are not aimed at effecting major expansions in capacity, as seen in chapter 4.

<sup>1</sup> Capital expenditures for all manufacturing industries increased between 1979 and 1980 at substantially lower rates than those in the textile, clothing and knitting sectors: 23.9 per cent compared to 34.2 per cent for total capital expenditures: 9.4 per cent compared to 25.5 per cent for new buildings; and 28.2 per cent compared to 35.8 per cent for new machinery and equipment. The growth rates in 1971 dollars were 12.4, 0.7 and 15.7 per cent respectively for all manufacturing industries, compared to 21.5, 15.4 and 22.6 per cent for the three textile sectors together.

Table 16

**CAPITAL EXPENDITURES BY THE TEXTILE, CLOTHING AND  
KNITTING SECTORS<sup>1</sup>**  
 expenditures in million current dollars and indices based on 1978=100

	Capital Expenditures				Indices			
	1978	1979	1980	1981	1978	1979	1980	1981
<b>TEXTILES</b>								
Capital expenditures on new buildings	17.3	15.4	19.2	19.8	100	89	111	114
Capital expenditures on new machinery and equipment	77.7	93.9	134.2	158.8	100	121	173	204
Total capital expenditures on buildings	28.4	26.0	34.3	39.6	100	92	121	139
Total capital expenditures on machinery and equipment	133.5	161.3	213.4	245.4	100	121	160	184
<b>CLOTHING</b>								
Capital expenditures on new buildings	8.9	5.9	7.6	22.9	100	66	85	257
Capital expenditures on new machinery and equipment	17.2	20.2	21.9	27.3	100	117	127	159
Total capital expenditures on buildings	11.0	8.5	10.4	25.3	100	77	95	230
Total capital expenditures on machinery and equipment	26.3	27.6	30.4	35.8	100	105	116	136
<b>KNITTING</b>								
Capital expenditures on new buildings	1.2	2.6	3.2	3.2	100	217	267	267
Capital expenditures on new machinery and equipment	10.1	13.1	16.7	15.0	100	130	165	149
Total capital expenditures on buildings	2.3	4.2	5.3	5.3	100	183	230	230
Total capital expenditures on machinery and equipment	15.3	18.7	23.2	20.8	100	122	152	136
<b>TOTAL, ALL THREE SECTORS</b>								
Capital expenditures on new buildings	27.4	23.9	30.0	45.9	100	87	109	168
Capital expenditures on new machinery and equipment	105.0	127.2	172.8	201.1	100	121	165	192
Total capital expenditures on buildings	41.7	38.7	50.0	70.2	100	93	120	168
Total capital expenditures on machinery and equipment	175.1	207.6	267.0	302.0	100	119	152	172

<sup>1</sup> 1978 and 1979, actual; 1980, preliminary actual; 1981, intentions as of July 29, 1981.  
 SOURCE: Statistics Canada, Cat. 61-205 and 61-206.



Table 17

# **CAPITAL EXPENDITURES BY THE TEXTILE, CLOTHING AND KNITTING SECTORS<sup>1</sup>**

expenditures in million 1971 dollars and indices based on 1978=100

	Capital Expenditures				Indices			
	1978	1979	1980	1981	1978	1979	1980	1981
<b>TEXTILES</b>								
Capital expenditures on new buildings	9.2	7.5	8.7	8.1	100	82	95	88
Capital expenditures on new machinery and equipment	44.5	48.7	62.8	68.8	100	109	141	155
Total capital expenditures on buildings	15.2	12.7	15.5	16.2	100	84	102	107
Total capital expenditures on machinery and equipment	76.5	83.7	99.9	106.4	100	109	131	139
<b>CLOTHING</b>								
Capital expenditures on new buildings	4.8	2.9	3.4	9.4	100	60	71	196
Capital expenditures on new machinery and equipment	9.9	10.5	10.3	11.8	100	106	104	119
Total capital expenditures on buildings	5.9	4.2	4.7	10.4	100	71	80	176
Total capital expenditures on machinery and equipment	15.1	14.3	14.2	15.5	100	95	94	103
<b>KNITTING</b>								
Capital expenditures on new buildings	0.6	1.3	1.4	1.3	100	217	233	217
Capital expenditures on new machinery and equipment	5.8	6.8	7.8	6.5	100	117	134	112
Total capital expenditures on buildings	1.2	2.1	2.4	2.2	100	175	200	183
Total capital expenditures on machinery and equipment	8.8	9.7	10.9	9.0	100	110	124	102
<b>TOTAL, ALL THREE SECTORS</b>								
Capital expenditures on new buildings	14.6	11.7	13.5	18.8	100	80	92	129
Capital expenditures on new machinery and equipment	60.2	66.0	80.9	87.1	100	110	134	145
Total capital expenditures on buildings	22.3	19.0	22.6	28.8	100	85	101	129
Total capital expenditures on machinery and equipment	100.4	107.7	125.0	130.9	100	107	125	130

<sup>1</sup> 1978 and 1979, actual; 1980, preliminary actual; 1981, intentions as of July 29, 1981.

Deflation to 1971 dollars was obtained by using the implicit price deflator for the Gross National Expenditures. For buildings, the price deflator for non-residential constructions has been utilized, and for machinery and equipment, the specific price deflator for machinery and equipment. Probable increases are forecast for 1981 at 10 per cent for buildings and 8 per cent for machinery and equipment. The 10 per cent forecast is slightly above previous years whereas 8 per cent is slightly less than for previous years, to take into account the rise in value of the Canadian dollar against currencies other than the U.S. dollar. A significant proportion of the imported machinery comes either from Europe or Japan.

SOURCE: Table 16.

Technical progress in the textile, clothing and knitting sectors is generally fairly regular and moderate. In the last ten years there have been numerous important improvements in production techniques as well as in products, but none of these innovations could be called revolutionary. In these circumstances, which are the same for a great majority of manufacturing industries (e.g. mechanical equipment, transportation equipment, electrical equipment, and food products) innovations are introduced not only by purchasing new equipment but also by modifying and rebuilding existing equipment. These modifications will often be counted as expenditures for repair and maintenance. Therefore, total investments in the three sectors, including both new capital expenditures and expenditures for repair and maintenance, are also indicative of the progress accomplished.

In 1980, total investments amounted to 317.0 million current dollars, an increase of 28.7 per cent compared to 246.3 million dollars in 1979. The corresponding increase in 1971 dollars amounted to 16.5 per cent.

Spending intentions for 1981, as revised in July of 1981, indicate that new investments in the textile, clothing and knitting sectors will continue to experience growth. In current dollars, total investments should increase by 21.8 per cent, expenditures for new buildings by 53.0 per cent, and purchases of new equipment by 16.4 per cent. In constant dollars, the respective growth rates should be about 12.2 per cent, 39.3 per cent and 7.7 per cent (compared to growth rates in constant dollars of 23.0 per cent, 27.7 per cent and 21.8 per cent for all manufacturing industries).

The somewhat irregular behavior of new investments in 1981 (very pronounced growth in expenditures for new buildings, more moderate growth in spending for new machinery and equipment) is entirely attributable to the clothing sector, as shown in Tables 16 and 17. Because of projects undertaken by some of the large firms, capital expenditures for new buildings in the clothing sector should triple compared to 1980. Four major individual projects represent 36 per cent of total expenditures for new buildings.

Investment activity by the textile, clothing and knitting sectors is also reflected in data on imports of machinery and equipment for these industry sectors. This is due to the fact that the three industry sectors cannot count on domestically produced machinery and equipment to supply their needs since there is only marginal domestic production in this area. Therefore they must import most of their machinery and equipment.

Table 18 confirms the findings from Tables 16 and 17. Between 1979 and 1980 the textile sector had the highest growth rate in expenditures for machinery and equipment. Similarly imports of machinery

Table 18

**IMPORTS OF TEXTILE, CLOTHING AND KNITTING MACHINERY AND EQUIPMENT**  
quarterly and annual data in thousand dollars

	1979					1980					1981
	I	II	III	IV	YEAR	I	II	III	IV	YEAR	I
<b>TEXTILE AND KNITTING SECTORS</b>											
Spinning machinery and parts	5,756	4,051	5,340	4,389	19,536	5,372	6,213	7,493	6,647	25,725	5,957
Weaving machinery and parts	4,499	3,658	5,467	5,741	19,365	9,355	7,065	5,620	8,020	30,060	9,309
Knitting machinery, needles and parts	7,177	5,364	5,353	5,647	23,541	6,935	5,127	4,365	6,022	22,449	5,812
Bleaching, dyeing, printing and finishing equipment and parts	2,609	2,274	3,376	2,388	10,647	2,687	4,040	4,174	3,309	14,210	5,505
Textile machinery equipment and parts not elsewhere specified	14,768	15,782	16,897	15,258	62,705	16,877	14,849	13,491	16,622	61,839	14,054
<b>TOTAL, textile and knitting sectors</b>	<b>34,809</b>	<b>31,129</b>	<b>36,433</b>	<b>33,423</b>	<b>135,794</b>	<b>41,226</b>	<b>37,294</b>	<b>35,143</b>	<b>40,620</b>	<b>154,283</b>	<b>40,637</b>
<b>CLOTHING SECTOR</b>											
Industrial sewing machines, accessories and parts (including those for the leather and footwear industry)	7,145	7,509	6,997	6,709	28,360	6,860	7,488	5,585	8,321	28,254	7,603

SOURCE: Statistics Canada, Cat. 65-002.

for spinning, weaving, dyeing and finishing were the ones which increased most rapidly. The same trend continued in the first quarter of 1981.

Capital expenditures made by the textile, clothing and knitting sectors indicate that these sectors are aware of the need to improve their competitive capacity. But competitiveness is not limited to buildings and machinery. Modern production facilities help create a climate for efficient production at quality levels equal to or superior to those of competitors, but they do not guarantee success, because of comparable or identical facilities which may exist in several developed or developing countries. However, modern facilities help to offset to some extent the advantages of low wages in developing countries.

In addition to modern facilities, competitiveness also requires creativity in fashion design, as well as sound management and a solid financial structure. All these factors are just as important as the technological level of production. Investments have been emphasized in connection with competitiveness because it is the only area on which statistical data are available.

## **7 — External Trade in Textile Products**

### **a) Imports, exports and balance of trade**

The weakening final demand in Canada in 1980 has had two consequences: firstly, as we have seen, textile production declined significantly, and secondly, imports of textile products declined, moderately in terms of value, but substantially on a volume basis. As shown in Table 19, the value of imports of textiles during that year declined 5.2 per cent, and of clothing, 2.3 per cent. The decline was much more pronounced for imports from developed countries than from low-cost countries.

An estimate of the quantities imported can be obtained by using the wholesale price index for imported textiles and clothing published by Statistics Canada. The results in Table 20 should only be considered as approximations. They do not distinguish between import sources and do not cover the prices for all products included in the table.

In 1971 dollars, the decline in imports in 1980 was substantial. It exceeded 10 per cent for textiles as well as for clothing, while domestic production volumes decreased at more moderate rates, with only the decrease in clothing production approaching 10 per cent.

On the other hand it is interesting to note that clothing imports from developed countries have decreased steadily since 1978, presumably because of the weakness of the Canadian dollar in relation to developed country currencies. The situation was different for the textile sector, where imports depend only on the demand for yarns and

fabrics, the Canadian textile industry having rationalized its production long ago and some fabrics being imported because they are no longer produced in Canada.

Table 19

# **VALUE OF TEXTILE AND CLOTHING IMPORTS FROM DEVELOPED COUNTRIES AND LOW-COST COUNTRIES**

values in million current dollars and changes in per cent

	Value of imports			Percentage change from previous year		
	Developed Countries	Low-Cost Countries	Total	Developed Countries	Low-Cost Countries	Total
TEXTILES <sup>1</sup>						
1978	1,146.6	217.6	1,364.2	15.7	21.2	16.6
1979	1,447.9	284.4	1,732.3	26.3	30.7	27.0
1980	1,364.0	278.8	1,642.8	-5.8	-2.0	-5.2
CLOTHING <sup>2</sup>						
1978	205.3	449.6	654.9	0.2	12.9	8.6
1979	227.8	566.9	794.7	11.0	26.1	21.3
1980	214.2	562.5	776.7	-6.0	-0.8	-2.3

<sup>1</sup> Includes floor coverings, hosiery and knitted fabrics.

<sup>2</sup> Includes fur goods, hats and caps, gloves, and miscellaneous clothing and accessories.

SOURCE: Department of Industry, Trade and Commerce.

Table 20

# **VALUE OF TEXTILE AND CLOTHING IMPORTS FROM DEVELOPED COUNTRIES AND LOW-COST COUNTRIES**

values in million 1971 dollars and changes in per cent

	Value of imports			Percentage change from previous year		
	Developed Countries	Low-Cost Countries	Total	Developed Countries	Low-Cost Countries	Total
TEXTILES						
1978	673.3	127.8	801.1	-0.4	4.2	0.3
1979	754.5	148.2	902.7	12.1	16.0	12.7
1980	647.7	132.4	780.1	-14.2	-10.7	-13.6
CLOTHING						
1978	88.5	193.9	282.4	-12.1	-1.0	-4.8
1979	84.8	211.1	295.9	-4.2	8.9	4.8
1980	71.2	187.7	258.3	-16.0	-11.1	-12.7

SOURCE: Table 19 and Statistics Canada, Cat. 65-001.

The trade balance in textiles and clothing improved significantly in 1980. The trade deficit decreased as a result of both an increase in Canadian exports of textiles and clothing and a drop in imports. It should be noted, however, that data in Tables 19 and 20 are not strictly comparable to those in Table 21.<sup>1</sup>

The reduction in the trade deficit from 1.9 billion dollars in 1979 to 1.65 billion dollars in 1980 appears to be rather temporary. In fact, the resurgence in imports (in current dollars) during the first five months of 1981 again resulted in an increase of close to 10 per cent in the trade deficit in textile products. This increase in the value of imports during the first five months of 1981 is largely nominal; the 7.3 per cent increase in textile imports was less than the increase in the import price (12.1 per cent for first quarter of 1981) while the 13.7 per cent increase in clothing imports barely if at all exceeded the increase in the import price (12.5 per cent for first quarter 1981).

Table 21 also shows that Canadian exports of textiles and clothing have been rising steadily since 1978. Textile exports rose 19.7 per cent in 1979 and 30.6 per cent in 1980, or substantially more than price increases for the same years.

Table 21

**IMPORTS, EXPORTS AND TRADE BALANCE OF TEXTILE  
PRODUCTS AND CLOTHING**  
in million dollars

Period	Textiles			Clothing		
	Imports	Exports	Balance	Imports	Exports	Balance
1978	1,074.2	148.5	-925.7	734.4	151.4	-583.0
1979	1,390.9	177.7	-1,213.2	883.8	193.3	-690.5
1980	1,269.6	232.0	-1,037.6	854.6	233.6	-621.0
1980, 1st quarter	329.7	56.9	-272.8	242.7	45.2	-197.5
1980, 1st 5 months	559.7	97.2	-462.5	351.6	83.2	-268.4
1981, 1st quarter	331.9	65.9	-266.0	257.5	50.9	-206.6
1981, 1st 5 months	600.7	106.7	-494.0	399.7	92.6	-307.1

SOURCE: Statistics Canada, Cat. 65-001.

<sup>1</sup> Differences in data from the Department of Industry, Trade and Commerce and from Statistics Canada are due to the fact that data from the Department include certain types of floor coverings which are not textile products and that the division of product categories between the textile and clothing industries is not the same for both sources. Data from the Department has been used because they provide a breakdown of imports between developed and low-cost countries.

Clothing exports increased 27.7 per cent in 1979 and 20.8 per cent in 1980, that is, an increase of more than 10 per cent in real terms. However, about half of clothing exports consist of fur goods which are not textile products in the strict sense of the word. The growth in exports of textiles and clothing at the beginning of 1981 appears to be closer to the rate of increase in prices and therefore does probably not represent real growth.

#### **b) Rates of utilization of restraints**

An examination of data on imports from countries with which Canada has bilateral export restraint agreements shows clearly that one of the fears of Canadian producers did not materialize, that is, that imports from low-cost countries would substantially increase their share of the Canadian market if final demand weakened. Canadian clothing manufacturers fear the automatic increases in restraint levels in accordance with the Multifibre Arrangement governing international trade in textiles. They would prefer an agreement which would tie any increase in restraint levels to the growth of the domestic market, which would more or less guarantee them a more stable share of the market.<sup>1</sup>

A study of Tables 22, 23 and 24 leads to the conclusion that imports from low-cost countries have declined in practically identical proportion to the decrease in domestic production. While bilateral import restraint levels in units (weight or number) increased from 1979 to 1980, actual imports from countries subject to restraints showed a decline. The total increase in restraint levels amounted to 12.9 per cent for textiles, 15.4 per cent for certain special products (work gloves, handbags and hosiery) and 11.5 per cent for clothing.<sup>2</sup>

From 1979 to 1980, based on permits issued, imports declined 8.3 per cent for textiles, 22.5 per cent for special products and 11.2 per cent for clothing.

<sup>1</sup> Clothing manufacturers in all developed countries would be in favour of tying overall increases in restraint levels to market growth. The Canadian producers are therefore not alone in making this request. However, there would be major practical problems in implementing such a system, because it would mean determining at least one year in advance what the final demand would be for the various clothing categories. This would be necessary since import orders have to be placed at least six to nine months prior to delivery. Disaggregated forecasts of final demand are still very inexact and accurate knowledge of demand becomes available only six months after the fact and not one year in advance. All that could be done is to tie the growth of restraints to that of the domestic market for several years, using medium term forecasts.

<sup>2</sup> The aggregate level of restraints has increased at a rapid rate, higher than that provided for in the Multifibre Arrangement. This is due to negotiations during the period of new bilateral agreements which resulted in restraints on countries which were not restrained during the previous year and were not listed among restrained countries. This does not mean that there were no imports from these countries in 1979. It means instead that they appeared on the restraint list starting in 1980 or for part of 1979 only, according to the dates of implementation of the restraint agreements.

Table 22

**RESTRAINT LEVELS AND UTILIZATION RATES,  
TEXTILE PRODUCTS**  
levels in tonnes

Product	1979			1980			1981
	Restraint level	Permits issued against restraint	Restraint utilization rate per cent	Restraint level	Permits issued against restraint	Restraint utilization rate per cent	Restraint level
Yarns	2,064	1,606	78	2,308	1,420	62	2,477
Fabrics	8,456	6,562	78	9,597	5,326	55	10,287
Sheets and Pillow-cases	2,861	1,151	40	3,130	1,266	40	—
Towels	3,913	2,270	58	4,687	2,485	53	5,475
Cordage and twine	1,567	1,250	80	1,571	1,274	81	1,740
<b>TOTAL</b>	<b>18,861</b>	<b>12,839</b>	<b>68</b>	<b>21,293</b>	<b>11,771</b>	<b>55</b>	

SOURCE: Department of Industry, Trade and Commerce, Office of Special Trade Relations.

Table 23

**RESTRAINT LEVELS AND UTILIZATION RATES  
WORK GLOVES, HANDBAGS AND HOSIERY**  
levels in thousand units

Product	1979			1980			1981
	Restraint level	Permits issued against restraint	Restraint utilization rate per cent	Restraint level	Permits issued against restraint	Restraints utilization rate per cent	Restraint level
Work Gloves	20,892	20,788	100	25,635	16,226	63	27,394
Hand-bags (of textiles)	5,353	3,023	56	5,778	2,898	50	6,043
Hosiery	9,667	9,779	101	10,043	6,908	68	10,256
<b>TOTAL</b>	<b>35,912</b>	<b>33,590</b>	<b>94</b>	<b>41,456</b>	<b>26,032</b>	<b>63</b>	<b>43,693</b>

SOURCE: Department of Industry, Trade and Commerce, Office of Special Trade Relations.



Table 24

**RESTRAINT LEVELS AND UTILIZATION RATES BY COUNTRY  
CLOTHING**  
levels in thousand units

Country of Origin	1979			1980		
	Restraint level	Permits issued against restraint	Restraint utilization rate per cent	Restraint level	Permits issued against restraint	Restraint utilization rate per cent
Taiwan	49,884	43,536	87	54,432	37,234	68
Hong Kong	37,230	34,164	92	39,328	32,459	83
Republic of Korea	33,601	24,345	72	33,980	18,421	54
People's Republic of China	18,060	18,052	100	15,890	14,374	90
India	—	—	—	4,775	3,705	77
Philippines	4,160	3,697	89	4,450	2,809	63
Romania	2,625	2,342	89	2,745	1,460	53
Singapore	972	488	50	1,031	820	79
Thailand	50	35	70	1,663	903	54
Poland	1,515	1,267	83	1,567	598	38
Malaysia	—	—	—	1,425	613	43
Macao	924	693	75	997	741	74
Bulgaria	915	353	38	961	218	23
Sri Lanka	—	—	—	924	484	52
Hungary	40	68	169	40	23	57
<b>Total</b>	<b>149,946</b>	<b>129,040</b>	<b>86</b>	<b>164,208</b>	<b>114,862</b>	<b>70</b>

SOURCE: Department of Industry, Trade and Commerce, Office of Special Trade Relations.

Percentage utilization of the restraints decreased accordingly: for textiles it dropped from 68 per cent in 1979 to 55 per cent in 1980; for special products from 94 per cent to 63 per cent; and for clothing from 86 per cent to 70 per cent.

These utilization rates indicate that in 1980 approximately one third of the quantities which could have been imported into Canada from restrained countries was not imported because of a lack of sufficient demand for the goods in question.

It would no doubt be tempting to conclude from this that the threat to Canadian production represented by imports from low-cost countries is fading away and that in 1980 Canadian producers were obviously better able than before to face import competition. Such a conclusion would be risky, as other factors were also involved.

There was considerable uncertainty about developments in final demand ever since the end of 1979. In addition, interest rates remained

very high in 1980, even if they fluctuated. Under these conditions, importers had to be extremely cautious. Any imports in quantities too large to be sold immediately would have meant maintaining inventories at prohibitive costs, resulting in losses and possible bankruptcy because of liquidity squeeze.

The overall rate of restraint utilization covering all products without regard to their unit values or to their relative position in the manufacturing sequence, is too coarse a measurement to support firm conclusions. It becomes necessary therefore to carry out a more detailed analysis by product groups and individual products.

Finally, results for one year cannot be extrapolated. Only after it has been established that for several years imports from these countries are evolving at a rate similar to that of Canadian production can the above conclusion be reached with certainty.

#### *i) Utilization of restraints for textile products*

The utilization of restraints for textile products declined noticeably from 12,839 tonnes in 1979 to 11,771 tonnes in 1980. This decline applied to all major product groups with the exception of cordage and twine. (Table 22).

In 1980, imports of yarns decreased 11.6 per cent, and imports of fabrics, 18.8 per cent, compared to 1979. As a consequence restraint utilization rates have also gone down. A breakdown of import statistics by individual products and by country of origin shows that restraint levels which had been fully utilized and even exceeded in 1979 were much less utilized in 1980. For example, the restraint utilization rate for acrylic yarns was 102 per cent in 1979 but dropped to 86 per cent in 1980. Similarly, the utilization rate for nylon fabrics dropped from 105 per cent to 40 per cent. However, it must be noted that for sensitive products the utilization rates of restraints remained at high levels, up to 86 per cent for acrylic yarns, 81 per cent for polyester fabrics and 80 per cent for worsted fabrics.

The Republic of Korea fully utilized its restraint levels on sensitive products. For acrylic yarns it was 115 per cent utilized in 1979, and 103 per cent in 1980; for nylon fabrics the utilization rates were 108 and 102 per cent respectively; for polyester fabrics, 89 and 96 per cent; and for worsted fabrics, 83 and 99 per cent.

Taiwan restraint utilization rates were also generally high: 86 and 99 per cent respectively for acrylic yarns; 152 and 99 per cent for nylon fabrics; but 40 and 23 per cent only for polyester fabrics.

In the case of work gloves, handbags of textiles and hosiery, the substantial increase of 15.4 per cent in aggregate restraint levels from 1979 to 1980 is attributable to the new bilateral agreements negotiated in 1979 with Macao and Thailand.

Table 23 shows that in 1979 the rate of restraint utilization was very high for two of the three product groups. The decrease in 1980 was substantial but it cannot be concluded firmly that import pressures are starting to drop, because a one year decrease does not yet represent a trend. Should the rate of restraint utilization continue to hover in the future around the 1980 level, it would then be in order to conclude that the competitive ability of these sub-sectors has improved.

*ii) Utilization of restraints for clothing*

In general restraint utilization for clothing has been similar to that for textiles. The 1980 decline in demand was reflected in the overall decrease in rates of quota utilization, whether by country of origin or by product. Tables 24 and 25 are based on "adjusted" restraint levels, that is, restraint levels which take into account the use by exporting countries of the flexibility provisions of bilateral agreements. Every exporting country can, within limits, apply the following provisions: carry over (utilizing in the current year a portion of the restraint not used in the preceding year); carry forward (using in the current year a portion of the following year's restraint, with an equivalent decrease in the latter); and then finally, substitution or swing (within a product group, exporting more than the restraint for one product when the restraint for another product in the group has not been fully utilized). Adjustment in restraint levels is therefore a continuous process. In addition certain countries have bilateral agreements for which the period of implementation does not coincide with the calendar year, but covers part of two years. With all these changes, reconciling the adjusted restraint levels and the import permits issued, by country of origin and by product, becomes a very complex operation. The two tables confirm that this is so. Although the totals of restraint levels and permits issued should be identical, there are minor discrepancies which fortunately do not exceed two tenths of one per cent.

The rate of restraint utilization by country shows a decrease of 16 points, from 86 per cent in 1979 to 70 per cent in 1980. For the major exporting countries, the declines vary from 9 and 10 points for Hong Kong and the People's Republic of China, to 18 and 19 points for the Republic of Korea and Taiwan. In terms of clothing units, the decreases are 5 per cent for Hong Kong, 15 per cent for Taiwan, 20 per cent for the People's Republic of China, and 25 per cent for the Republic of Korea.

Restraint utilization rates by product show declines for the most part. The only exceptions are underwear and swimwear which maintained the same high rates in both years (105 per cent and 97 per cent respectively). Among the other products for which restraint utilization rates were high in 1979, that is, structured suits and jackets, shirts with tailored collars and infants' and children's clothing, the

Table 25

# **RESTRAINT LEVELS AND UTILIZATION RATES BY PRODUCT CLOTHING**

levels in thousand units

	1979			1980		
	Restraint level	Permits issued against restraint	Restraint utilization rate per cent	Restraint level	Permits issued against restraint	Restraint utilization rate per cent
Outerwear	3,106	2,894	93	3,056	2,429	79
Pants, shorts, overalls	19,213	14,617	76	20,463	12,777	62
Unstructured suits and sport jackets	1,270	146	11	1,344	70	5
Men's shirts, tailored collar	12,410	13,066	105	13,521	11,872	88
Other shirts	4,229	2,275	54	4,316	1,423	33
Ladies' blouses and shirts	20,002	18,714	94	21,047	12,429	59
T-shirts and sweatshirts	23,468	22,442	96	28,170	22,908	81
Pyjamas and sleepwear	4,646	4,036	87	4,361	2,555	59
Raincoats	701	659	94	811	615	76
Women's sports-wear, dresses, skirts and co-ordinates	4,863	3,410	70	6,913	3,921	57
Foundation garments	2,003	1,597	80	2,205	700	32
Swimwear	1,972	1,908	97	2,183	2,107	97
Underwear	8,525	8,983	105	8,981	9,514	105
Jackets, overcoats and topcoats	4,748	3,476	73	6,273	3,256	52
Structured suits and jackets	516	556	108	482	345	72
Leather coats and jackets	2	0.5	25	2	0.4	20
Sweaters, cardigans and pullovers	26,820	18,816	70	26,482	17,887	68
Infants' and children's clothing	11,292	11,309	100	13,267	9,428	71
<b>TOTAL</b>	<b>149,736</b>	<b>128,904</b>	<b>86</b>	<b>163,877</b>	<b>114,571</b>	<b>70</b>

SOURCE: Department of Industry, Trade and Commerce, Office of Special Trade Relations.

restraint utilization has declined appreciably. It went down from 108 per cent in 1979 to 72 per cent in 1980 for structured suits and jackets, from 105 to 88 per cent for shirts with tailored collars, and from 100 to 71 per cent for infants' and children's clothing.

The magnitude of fluctuations in restraint utilization rates shows that they are much more attributable to a temporary weakening in Canadian final demand than to an improvement in the competitive ability of Canadian producers. To assume that such a radical change in competitive ability took place in only one year would be unrealistic. Nevertheless, as pointed out before, the fact that shipments by Canadian producers have not decreased more than imports as a result of the decline in demand must be viewed as a positive development.

### **c) Structural characteristics of the external trade in textiles**

In addition to the description of the present situation and prospects for the immediate future which have just been presented, it would be useful now to summarize briefly some of the main features of the structure of external trade.

#### *i) Structure of imports*

It is well known that Canada imports large quantities of textile products. However, it must be pointed out that about 60 per cent of these imports are primary textile products while only 40 per cent are clothing imports. Imported textile products come for the most part from developed countries, the United States supplying 60 per cent of the total and the five major developed countries (United States, Japan, Italy, United Kingdom and France, in decreasing order of importance) accounting for more than 75 per cent of total imports. Consequently the share of imports supplied by developing countries is relatively small. The five major developing countries supplying textile products to Canada (People's Republic of China, Republic of Korea, Taiwan, India and Hong Kong) together account for less than 10 per cent of total imports.

In the clothing sector the ratios are almost reversed. The five developing countries mentioned above (Hong Kong, Taiwan, Republic of Korea, People's Republic of China and India, in decreasing order of importance for clothing imports) provide two thirds of all Canadian imports of clothing, while five major developed countries supply one fifth of all imports.

The proportion of textiles and clothing in the Canadian trade deficit is identical to their shares in total imports; 60 per cent of the deficit is accounted for by trade in primary textiles, and 40 per cent by clothing. Imports from low-cost countries do pose obvious problems, but they are not the main cause of our trade deficit in textiles and clothing.

*ii) International comparison of the "openness" of domestic markets*

When rating developed countries on their "openness" to imports from low-cost countries, Canada occupies a middle position. Among sixteen highly developed countries, members of the OECD, Canada ranks 8th in terms of value of textile imports from low-cost countries. It ranks 12th for imports of textiles and 7th for clothing. (Table 26).

**Table 26**

**VALUE OF TEXTILE IMPORTS BY HIGHLY DEVELOPED COUNTRIES  
FROM LOW-COST COUNTRIES**  
United States dollars per capita

Country	Primary Textile Products			Clothing			Total		
	1975	1978	1979	1975	1978	1979	1975	1978	1979
1. Netherlands	6.68	10.41	13.50	22.21	34.89	38.58	28.89	45.30	52.08
2. Sweden	8.67	9.14	12.07	20.84	28.42	38.05	29.51	37.56	50.12
3. West Germany	4.92	8.29	11.14	19.27	32.53	38.75	24.19	40.82	49.89
4. New Zealand	21.10	35.44	44.59	0.85	0.74	1.54	21.95	36.18	46.13
5. Denmark	7.70	11.88	15.66	13.22	23.03	27.89	20.92	34.91	43.55
6. Australia	12.40	21.26	26.65	10.50	16.23	15.79	22.90	37.49	42.44
7. Switzerland	3.49	5.39	6.81	12.81	27.43	31.33	16.30	32.82	38.14
8. Canada	4.88	7.25	9.47	11.74	16.25	21.74	16.62	23.50	31.21
9. Belgium-Luxembourg	7.76	11.72	17.79	6.86	11.36	13.39	14.62	23.08	31.18
10. United Kingdom	4.64	7.60	10.04	10.26	15.35	20.93	14.90	22.95	30.97
11. United States	2.28	4.12	4.33	9.30	22.65	24.01	11.58	26.77	28.34
12. Japan	4.05	8.69	11.58	3.17	7.13	12.03	7.22	15.82	23.61
13. Finland	4.88	5.96	10.06	4.17	5.74	9.81	9.05	11.70	19.87
14. France	3.04	5.03	7.29	4.32	7.07	10.85	7.36	12.10	18.14
15. Ireland	4.47	7.31	10.30	0.78	3.00	4.43	5.25	10.31	14.73
16. Italy	2.79	4.86	9.15	1.12	1.91	3.00	3.91	6.77	12.15

SOURCE: U.N. Trade Statistics (International Trade Data Bank).

Australia and New Zealand, which are geographically close to the main sources of imports, import large quantities of primary textiles and less clothing (New Zealand imports only marginal quantities of clothing from low-cost countries, less than Italy or Ireland). On the other hand, the United States imports mostly clothing and ranks last in primary textile imports.

In comparison with other countries at comparable levels of economic development, Canada cannot be considered as particularly "open" or "closed" to imports of textile products from developing countries. The most "open" countries are often those with small populations. On the other hand, the so-called "closed" countries are often

those with much larger populations than Canada. However, this is not an absolute truth, and there are exceptions both ways as Table 26 shows.

*iii) Importance of the Canadian market to countries exporting clothing*

It must also be realized that exports to Canada by the major supplying countries represent only a small fraction of their total exports. Canada takes 3.1 per cent of the textile exports from the Republic of Korea, 2.9 per cent of those from Hong Kong, 2 per cent of those from Brazil, and 1.4 per cent of those from the Philippines and from Singapore. There are no statistics available to determine the Canadian share of textile exports from Taiwan and the People's Republic of China, but it is likely of the same order of magnitude as for the countries mentioned above. Canada therefore absorbs only a small portion of textile exports from the major exporting countries. For the latter, Canada's share is no doubt significant, but not determinant.

In comparison, the United States and the European Economic Community represent, for most of the developing countries specializing in textile production, markets which absorb 50 to 65 per cent of their clothing exports. These two giant markets are of vital importance for exporting countries since a considerable part of their production is destined for these markets.

This disparity in shares of exports from low-cost countries explains why Canada sometimes experiences difficulties in its bilateral negotiations, while the United States and the European Economic Community succeed in negotiating bilateral agreements on their own terms. From this we can conclude that the Multifibre Arrangement is an important defensive system for relatively small importing countries and for exporting countries. For the major economic powers the Arrangement is not indispensable.

*iv) Share of different categories of importers in the imports of clothing*

It is of interest to know who are the actual importers in Canada. It is often thought that importation is the business of professional importers, either individuals or firms, for whom importing is their principal, if not only, economic activity.

For this year the Board could only carry out a limited study on this subject. The results therefore should be taken with great caution.

The study covered only the large importers bringing in 500,000 or more clothing units in one year. There are 82 large importers, who together account for more than half of all clothing imports. It is emphasized that this was not a sample survey, but a complete survey of all large importers. The results therefore cannot be extrapolated to the other importers, both small and medium size, about which there is no information at the present time.



Data on imports by large importers show that from 1976 to 1980 professional importers accounted for more than half of all imports (58 per cent), department stores and chain stores specializing in clothing for close to one quarter (23 per cent) and clothing producers themselves for close to one fifth (19 per cent). The pattern of imports by large importers has not remained constant over the last five years. (Table 27).

**Table 27**

**DISTRIBUTION OF CLOTHING IMPORTS OF LARGE IMPORTERS  
BY CATEGORY OF IMPORTERS**  
per cent

Category of Importers	1975	1976	1977	1978	1979	1980
Professional Importing Firms	56.0	54.5	57.5	59.0	56.5	53.0
Large Retail Stores	21.0	26.0	23.5	20.0	21.0	24.5
Clothing Manufacturers	23.0	19.5	19.0	21.0	22.5	22.5
<b>TOTAL</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

SOURCE: Textile and Clothing Board.

The initial pattern of imports for 1975 was completely upset in 1976 by massive imports by the large retail stores. Between 1975 and 1976, retail store imports in terms of units increased by some 30 per cent, those of importing firms by 15 per cent, while those of manufacturers decreased by 2 per cent. Consequently, the share of total imports accounted for by large retail stores increased five percentage points in only one year. Since 1976, the large retail stores decreased their share of total imports in both 1977 and 1978 and increased it again in the following two years. Professional importers increased their share up to 1978, but lost ground since then. Finally, the clothing manufacturers steadily increased their share of total imports each year since 1976. These rather divergent results were neither voluntary nor coincidental. In part at least they were a consequence of the quantitative restraint measures in place in 1977 and 1978, that is, the global quota administered by Canada (and not by the exporting countries) limiting imports to 1975 levels. Since professional importing firms were the largest importers in 1975 they also received the largest share of import quotas for 1977 and 1978.

Should some importance be attached to the relative shares of the various categories of large importers? Yes, if they reflect a tendency towards rationalized import transactions. The large professional importing firms are particularly efficient at bringing in large volumes of relatively standard products in which the fashion element is not of prime importance. The large retail stores on the other hand generally know



quite thoroughly the needs and tastes of the consumers they serve and this knowledge is put to use when they make their choice of imports. In this way the amount of risk is minimized for both professional importers and large retailers. The average unit value of goods brought in by professional importing firms is distinctly less than the average unit value of goods imported by large retail stores.

The increase since 1976 in the share of imports going to clothing manufacturers must also be considered as a positive development. Indeed, if these manufacturers intend to specialize further and concentrate on a less extensive range of products which they can produce efficiently, they would have every advantage in selecting the lines in which they would specialize, and importing the rest of their collections. In this way they could continue to offer comprehensive collections to their clients at competitive prices. Should they not make such choices themselves, they could very well have to specialize in product lines dictated to them by their clients who would already have made up their collections from a mix of domestic and import purchases. Specialization imposed in this way on the Canadian manufacturer would not necessarily be to his best advantage.

It must be reiterated that generalizations of the results presented should not be made. They are valid for the large importers and for a portion of total imports only, because the Board has no information on the pattern of imports by small and medium size importers. Such information, when added to the results already discussed above, could very well modify these drastically. In view of this the Board intends to review this matter again as soon as a complete study of the subject has been carried out.

## **8 — Apparent Canadian Markets for Textiles and Clothing**

The various elements of the economic situation of the textile and clothing industries can be summarized in tables establishing the apparent Canadian market for the various products. These market tables in effect measure apparent consumption of textile products of domestic or foreign origin. The apparent Canadian market for any one product is obtained by adding the quantities of the product which have been imported to those shipped by Canadian producers, and subtracting the export shipments of the latter.<sup>1</sup>

The statistics on apparent Canadian markets for the textile industry have been collected by the Textile and Consumer Products Branch of the Department of Industry, Trade and Commerce. The data on clothing have been developed on the basis of an annual survey of a sample of

<sup>1</sup> Sources and methodology for the data on apparent Canadian markets have been described in Volume 2 of the report of the "Textile and Clothing Inquiry" of the Board, published in 1980.

firms (290) carried out by the staff of the Textile and Clothing Board. This very detailed product-by-product information is not distributed by anyone else, and the Board has taken the responsibility of publishing it. In 1980, the data for 1979 was published as Volume 2 of the Inquiry Report. Starting this year, this data will be available in a separate document published at the same time as the Annual Report.

Indicators of the economic situation in the textile industry sectors (final demand, production, employment, and external trade) all point to decreased activity. Table 28 summarizes the overall picture in the form of percentage variations, from 1979 to 1980, in the apparent market, in domestic shipments (net of exports) and in imports.

Table 28

**VARIATIONS IN APPARENT MARKET, DOMESTIC SHIPMENTS AND  
IMPORTS OF PRIMARY TEXTILE PRODUCTS  
BETWEEN 1979 AND 1980**  
per cent

Products	Apparent Market	Domestic Shipments (net of exports)	Total Imports
Polyester-cotton yarns	34	27	59
Polyester fabrics	8	-7	21
Sheets	4	-1	20
Towels	3	10	-7
Acrylic yarns (cotton spun)	—	—	—
Acrylic yarns (worsted spun)	-1	6	-13
Blended fabrics	-6	2	-10
Pillowcases	-8	1	-23
Cotton yarns	-9	-6	-13
Rayon, polyester, nylon and blended yarns	-18	-13	-31
Coated fabrics	-18	-12	-24
Cotton and polyester-cotton fabrics, corduroys and denims	-20	-1	-32
Worsted fabrics	-20	-16	-28
Rayon yarns	-22	-26	-14
Nylon yarns <sup>1</sup>	-22	-18	-32
Polyester yarns <sup>1</sup>	-25	-16	-38
Nylon fabrics	-28	-27	-30
Wool and wool blend fabrics	-29	-27	-31
Pile fabrics	-31	-37	-26
Rayon fabrics	-34	-34	-35

<sup>1</sup> Data on apparent market cover only filament yarns. Imports include filament yarns as well as spun yarns. Nylon filament yarns account for 85 per cent of imports and polyester filament yarns, 90 per cent.

SOURCE: Department of Industry, Trade and Commerce, Textile and Consumer Products Branch.

For a rapid overall picture the products are listed in a negative order of variation in the apparent market from maximum positive change to maximum negative change. Negative changes are in the great majority and confirm that 1980 was a difficult year for numerous textile sub-sectors.

Table 28 also shows that in general domestic shipments have resisted better than imports the weakening in the market. Consequently the market share held by domestic shipments has increased and the share of imports has declined. (Table 29).

Table 29

**SHARES OF APPARENT MARKETS FOR PRIMARY TEXTILES  
HELD BY DOMESTIC SHIPMENTS AND IMPORTS**  
per cent

Products	1979		1980	
	Domestic Shipments	Imports	Domestic Shipments	Imports
All yarns	68	32	70	30
Acrylic yarns (worsted spun)	64	36	69	31
All fabrics	45	55	48	52
Cotton and polyester-cotton fabrics, corduroys and denims	38	62	47	53
Worsted fabrics	64	36	67	33
Polyester fabrics	45	55	39	61
Nylon fabrics	67	33	68	32
Sheets	78	22	75	25
Pillowcases	61	39	68	32
Towels	59	41	63	37

SOURCE: Department of Industry, Trade and Commerce, Textile and Consumer Products Branch.

The same situation was repeated for the special products listed. While the apparent market decreased in 1980 compared to 1979, domestic shipments increased in three out of four cases and imports have decreased more than the apparent market in three out of four cases also. (Table 30). The only exception was for work gloves where domestic shipments decreased more than imports. This latter sub-sector has been in serious difficulty for years and the developments in 1980 indicate no improvement.

Table 30

**VARIATIONS IN APPARENT MARKET, DOMESTIC SHIPMENTS  
AND IMPORTS OF SPECIAL TEXTILE PRODUCTS, AND MARKET  
SHARES OF DOMESTIC SHIPMENTS AND IMPORTS**  
per cent

Products	Apparent Market 1980/79	Domestic Shipments Net of exports 1980/79	Total Imports 1980/79
Hosiery	-7	4	-29
Cordage and twine	-8	3	-12
Handbags (of textiles)	-8	5	-16
Work gloves	-14	-17	-12

**SHARES OF APPARENT MARKET HELD BY  
DOMESTIC SHIPMENTS AND IMPORTS**  
per cent

Product	1979		1980	
	Domestic Shipments	Imports	Domestic Shipments	Imports
Hosiery	65	35	73	27
Cordage and twine	23	77	26	74
Handbags (of textiles)	40	60	46	54
Work gloves	42	58	41	59

SOURCE: Department of Industry, Trade and Commerce, Textile and Consumer Products Branch, and Textile and Clothing Board.

The overall situation in the apparent markets for primary textiles and special textile products also holds for the clothing sector. In terms of units the apparent markets for clothing have declined considerably.

It will be noted that data on apparent markets and on domestic shipments appear to indicate a more pronounced decline than production data. During a period of weak demand such as 1980, shipments will tend to drop more than production, the difference going to manufacturers' inventories. One of the weaknesses of the statistical information network available to the Board is the absence of data on finished product inventories held by manufacturers. Statistics Canada publishes series on inventories, but these series combine raw materials, materials

in process and finished products, with the result that no specific conclusion can be arrived at concerning inventories.<sup>1</sup>

Table 31 on the apparent Canadian market for clothing, domestic shipments (net of exports) and imports by category and in terms of units is similar to Table 28, listing the categories in negative order of variation in the apparent market, from maximum growth to maximum decline.

Table 31

**VARIATIONS IN APPARENT MARKET, DOMESTIC SHIPMENTS  
AND IMPORTS OF CLOTHING FROM 1979 TO 1980**  
per cent

Clothing Category	Apparent Market	Domestic Shipments Net of Exports	Total Imports	Imports from Restrained Countries
Leather coats and jackets	20	24	-16	0
Jackets, overcoats and topcoats	7	1	19	23
Women's sportswear, dresses, skirts and suits	2	9	-17	-16
Pants, shorts, overalls	1	5	-9	-2
Swimwear	-3	1	-7	-21
T-shirts and sweatshirts	-4	15	-21	-26
Outerwear	-5	15	-51	-50
Pyjamas and sleepwear	-6	0	-37	-36
Foundation garments	-6	-4	-23	-28
Underwear	-7	-7	-8	-13
Structured suits and jackets	-7	-2	-26	-30
Sweaters, pullovers and cardigans	-7	-14	0	1
Infants' and children's wear	-9	-3	-23	-27
Children's and infants' shirts, blouses, T-shirts and sweatshirts	-11	-6	-17	-28
Men's shirts with tailored collars	-11	-11	-10	-14
Other men's shirts	-14	-13	-15	-11
Raincoats	-15	-25	-7	-30
Women's blouses and shirts	-22	-9	-32	-31
Unstructured suits and sport jackets	-40	-15	-53	-62
All clothing categories	-9	-2	-23	-27

SOURCE: Textile and Clothing Board.

<sup>1</sup> In the textile and clothing industries judicious purchases of raw materials in anticipation of expected price changes can be an important factor affecting profitability. If the expected price rise exceeds the financial cost of the longer storage period, manufacturers will increase their inventories of raw materials beyond their immediate needs. Thus, when statistical series on inventories show an increase, it would be useful to know if this increase was in raw materials or in finished products. From an economic point of view such increases have completely opposite meanings.

In general, the contraction in the apparent markets for clothing have affected domestic shipments of clothing less than imports. Of the 19 categories listed in the table, only four show poorer performance for shipments by Canadian producers than for imports. These four categories are: men's shirts with tailored collars; raincoats; jackets, overcoats and topcoats; and sweaters, pullovers and cardigans. It will be noted that in two of these four cases the better performance of imports is attributable to imports from countries not subject to quantitative restrictions. Only in the case of jackets, overcoats and topcoats, and sweaters, pullovers and cardigans have imports from restrained countries shown better results.

The relatively stronger performance of domestic shipments compared to imports (relatively stronger only because in a declining market, domestic shipments have decreased less than imports) has resulted in increased shares of the apparent market held by domestic shipments in all categories except the four mentioned above. (Table 32).

**Table 32**

**SHARES OF APPARENT MARKETS FOR CLOTHING  
HELD BY DOMESTIC SHIPMENTS AND IMPORTS**  
per cent

Clothing Category	1979		1980	
	Domestic Shipments	Total imports	Domestic Shipments	Total imports
Leather coats and jackets	89	11	93	7
Jackets, overcoats and topcoats	66	34	62	38
Women's sportswear, dresses, skirts and suits	71	29	76	24
Pants, shorts, overalls	70	30	73	27
Swimwear	57	43	58	42
T-shirts and sweatshirts	47	53	57	43
Outerwear	69	31	72	28
Pyjamas and sleepwear	84	16	89	11
Foundation garments	89	11	91	9
Underwear	88	12	88	12
Structured suits and jackets	81	19	85	15
Sweaters, pullovers and cardigans	49	51	45	55
Infants' and children's wear	66	34	72	28
Children's and infants' shirts, blouses, T-shirts and sweatshirts	58	42	61	39
Men's shirts with tailored collars	57	43	56	44
Other men's shirts	74	26	75	25
Raincoats	47	53	42	58
Women's blouses and shirts	39	61	46	54
Unstructured suits and sports coats	33	67	48	52
All clothing categories	69	31	72	28

SOURCE: Textile and Clothing Board.

All the data on clothing shipments have been obtained in a survey of manufacturers and, as for all survey results, indicate an order of magnitude rather than an exact number. As the number of categories increases, the probability of errors in estimates also increases. For all clothing, the possibility of error is minimal, but for each of the 19 categories used in the table it is greater. For the 35 categories of clothing covered in the separate publication on markets the probability of error is even greater. However, such a possibility of error has to be accepted if we are to develop a minimum of information on clothing categories comparable to the categories on which quantitative restrictions are based in the bilateral agreements negotiated by Canada.

## Conclusion

During 1980, the textile and clothing industries experienced some difficulties, not so much because of import competition generally, or of low-cost imports specifically but because of weakened final demand in Canada.

There were two reasons for this weakening in demand. First, consumers have been very cautious in making purchasing decisions. Second, inventories along the distribution network have been cut down substantially as a result of both poor consumer demand and high inventory costs. Since imports require advance payments and extended storage periods, it is not surprising that the slackening in demand has had more pronounced effects on imports than on domestic production.

The slackened demand has had a moderating influence on prices of fabrics and clothing. Price increases have been relatively modest at the consumer level. On the other hand, even if the year was poor there was a considerable increase of more than twenty per cent in constant dollars in capital expenditures, particularly for new machinery and equipment. It is evident that the textile and clothing industries are trying to improve their competitive capacity.





## **II — Results of the Survey on Age of Equipment in the Textile and Clothing Industries and in Contracting Firms**

One of the responsibilities of the Textile and Clothing Board is to monitor improvements in the competitive capacity of the textile and clothing industries. The Board has therefore decided to give itself the analytical means which would allow an assessment of the efforts of these industries in achieving such improvements. To this end the Board carried out an extensive survey during the first six months of 1981 which was designed to obtain information on the age and condition of production machinery and equipment in the two industries.

The Board has opted for a survey of equipment because it is an aspect of competitive ability which can be measured. As noted previously in the section on investments, the Board is fully aware that equipment is only one factor affecting competitive ability, and in at least some sectors of the industry, possibly not the most important. Quality of design, soundness of financial structure, innovations in marketing techniques, and forward-looking management are all factors which are just as important, but comparative measurement of these factors in a large number of firms is difficult.

Machinery and equipment installed in textile and clothing manufacturing plants are both numerous and varied, and undertaking a complete census of these was unthinkable. It was therefore necessary to exclude some sectors, some types of equipment, and to limit the number of firms surveyed by using a sampling procedure.

The Board has excluded from the survey those sectors for which there are no special measures of protection in force. If a sector is competitive and requires only the protection of tariffs, it can be reasonably assumed that it has no identifiable disadvantage in terms of equipment. The survey thus excluded the producers of knitted fabrics, carpets, curtains and drapes, and narrow fabrics.

The survey covered only those sectors protected by quantitative import restraints. Because of the number of firms involved it was necessary to use sampling techniques. In the case of the textile industry the sample was close to a complete census because in a number of sectors it covered 90 to 100 per cent of total production. In the clothing industry, the sample used included the same 290 firms also surveyed to

obtain an estimate of Canadian shipments of clothing and to determine market shares. Finally, given the great diversity of equipment, practical considerations have forced us to limit the survey to ten categories of equipment in each of the textile and clothing industries.

Limiting the number of categories narrows the scope of the survey to some extent for the textile industry, but for the clothing industry ten categories are sufficient for essentially complete coverage of all the machinery in use. For textiles, the types of machines omitted are opening and blending equipment, drawframes, roving frames, warpers and slashers. These machines precede or follow major textile production processes such as carding, spinning and weaving, which normally determine the production capacity of a plant. The decision to omit certain pieces of equipment was made on the basis that any improvement in machinery for the major production processes (spinning frames or looms for example) is matched by equivalent improvements in auxiliary equipment. In fact there would be little purpose in acquiring the most up-to-date spinning frame or rebuilding one to improve yarn quality in terms of strength and uniformity, if the drawframes and roving frames are not changed and thus prevent attaining the initial objective in spending money on spinning equipment.

Tables 1 and 2 specify the scope of the samples by indicating the number of firms surveyed in each sector and the shares of total shipments of each sector held by these firms.

The two samples are not completely random but are biased to some extent towards the larger producers. In this manner they cover a high proportion of total production. When making projections of apparent markets and of shares in the apparent markets, this bias can be corrected by appropriate weighting, but using a similar weighting method to correct the bias for equipment would be much more risky. Indeed, while shares in apparent market held by the firms in any one sector depend in part on the firms themselves and in part on external factors which tend to be similar for all firms, such as demand for the product, variations in prices and costs, and intensity of foreign competition, there are no such similar factors at work for equipment. The average age and condition of equipment can vary from one firm to another, particularly for the smaller firms. The production of a 10 per cent random selection of small firms makes it possible to project total production for remaining small firms. However, saying that the age distribution of equipment in the firms outside the sample is the same as for the firms in the sample may be a possibility but is by no means an established fact.

On the basis of the sample for the textile industry the results are probably close to the actual situation since the firms in the sample account for almost all the production. But a 290-firm sample out of a total of more than 1,400 establishments in the clothing industry raises

some problems since almost all the large firms are included in the sample while small firms are under-represented. Medium and large firms are more likely to have a more solid financial structure, more complete technical expertise and a greater volume of production to justify, better than small firms, the acquisition of sophisticated equipment. Consequently the survey results for the clothing industry are systematically biased in such a way that the overall picture of the age of equipment emerging from the survey indicates a somewhat better situation than is actually the case. It would not be far from the truth to say that the survey results reflect only the age of equipment of those firms which have the best chance of surviving in the long term.

Table 1

**SAMPLE USED IN THE SURVEY OF EQUIPMENT  
IN THE TEXTILE INDUSTRY**  
in number and per cent

Sector	Number of firms in sector	Number of firms in the sample	Share of total shipments held by sample firms
Acrylic Yarns (cotton spun)	4	4	100
Acrylic yarns (worsted spun)	7	6	98
Cotton and polyester-cotton yarns	3	3	100
Rayon, polyester, nylon and blended yarns	18	9	77
Cotton and polyester-cotton fabrics, corduroys and denims	4	2	83
Woollen fabrics	6	5	95
Worsted fabrics	6	5	95
Rayon, nylon, polyester, pile and blended fabrics	20	9	76
Coated fabrics	7	2	60
Sheets and pillowcases	2	2	100
Towels	3	3	100
Cordage and twine	20	7	91
Hosiery	45	14	58
Work Gloves	27	8	62
Handbags (of textiles)	22	10	90
<b>TOTAL</b>	<b>194</b>	<b>89</b>	
Firms producing in more than one sector	15	14	
<b>NET TOTAL</b>	<b>179</b>	<b>75</b>	

SOURCE: Textile and Clothing Board.

Table 2

**SAMPLE USED IN THE SURVEY OF EQUIPMENT  
IN THE CLOTHING INDUSTRY**  
in number and per cent

Sector	Number of firms in the sample	Share of total shipments held by sample firms
Outerwear	21	55
Pants, shorts, overalls	45	68
Unstructured suits and sport jackets <sup>1</sup>	—	90
Women's blouses and shirts, T-shirts and sweatshirts	26	72
Pyjamas and Sleepwear	23	51
Raincoats	4	54
Women's sportswear, dresses, skirts and suits	51	49
Foundation garments	7	81
Swimwear	6	69
Underwear	15	60
Jackets, overcoats and topcoats	18	49
Structured suits and jackets	14	54
Leather coats and jackets	8	27
Men's shirts	27	71
Sweaters, pullovers and cardigans	25	54
<b>TOTAL</b>	<b>290</b>	<b>62</b>

<sup>1</sup> Unstructured suits and sport jackets are the products of manufacturers whose main product is in another sector.

SOURCE: Textile and Clothing Board.

## 1 — Age of Equipment in the Textile Industry

Because of the varied production in the textile industry and the even more diversified equipment used, few general conclusions can be made about technological progress in the plants as a result of investments for equipment. Technological progress in this industry is a very gradual process, with no radical breaks with the past, and aimed at several objectives simultaneously. A first objective is to increase speed. There are numerous textile machines which have had their speed increased by factors of three, ten or more. A second objective is that of accuracy; accuracy in machinery operation for each process, including those of dyeing and finishing, to ensure optimum uniformity, the basis for good quality. A third objective is to introduce a greater degree of automation with the aim of reducing labor costs per unit of output. A fourth objective is to add to the versatility of equipment, that is, increase its capability to change over to new production with a

minimum of downtime. This is a particularly important objective for textile industries in relatively small countries where there are only limited markets for each type of product. The producers, when acquiring new equipment, must therefore weigh their decisions according to the importance they attach to a high degree of automation, maintenance of product quality, very high speeds, and more particularly, versatility. Depending on its range of products, a firm will usually have highly automated very high speed equipment for its standard high volume products, and less rapid but much more flexible equipment for the more varied products with shorter production runs.

Furthermore, gradual advances in technology, as opposed to advances of a revolutionary nature, can be introduced in the production process through constant modification of equipment in place. It is not always necessary, in order to increase efficiency, to discard older equipment and replace it with entirely new equipment. Machines can be modified and even completely rebuilt by adding some new parts and reconditioning others. Rebuilt 25- to 30-year old cards or spinning frames can attain efficiencies close to those of much newer machines. Conventional shuttle looms can be modified into water jet looms at relatively little cost.

Finally, it must also be emphasized that new generation machinery does not necessarily replace completely the older types. For example, open end or rotor spinning is several times more rapid than ring spinning but is limited as to yarn sizes and types of fibres which can be spun, while there are no such limitations for ring spinning.

The basis for the decision to modify or rebuild equipment is the same for all manufacturing industries; it is the cost of new equipment. Textile machinery is expensive and if it had to be amortized rapidly production costs would increase considerably. When domestic and international competition is based mainly on price, producers will hesitate to add unduly to their production costs.

Table 3 summarizes the data collected on the major pieces of equipment in place in the plants surveyed. In 1980 there were 18,827 major pieces of equipment in place, of which 28 per cent were 20 or more years old, 48 per cent 10 to 19 years old and 24 per cent less than 10 years old.

New processes introduced in the last 20 years include open end or rotor spinning, texturing, and shuttleless weaving. In rotor spinning 100 per cent of the machines in place are less than ten years old. Texturing has followed the development of synthetic fibres. The texturing operation consists of modifying continuous filament yarns to give them more or less the appearance of spun yarns and to make them bulkier. Of the texturing machines in place, 70 per cent were ten or more years old, and 30 per cent less than ten years old. Finally, 13 per cent of

Table 3

**AGE OF EQUIPMENT IN THE TEXTILE INDUSTRY**  
number and per cent

Types of equipment		More than	20-30	10-19	5-9	Less than	TOTAL	Installed in 1980	Installation planned for 1981
		30 years	years	years	years	5 years			
Extruders	<i>Number</i>	38	113	240	58	5	454	—	—
	<i>Per cent</i>	(8)	(25)	(53)	(13)	(1)	(100)		
Cards	<i>Number</i>	52	267	610	144	98	1,171	8	71
	<i>Per cent</i>	(5)	(23)	(52)	(12)	(8)	(100)		
Ring spinning frames	<i>Number</i>	231	629	1,243	208	93	2,404	5	19
	<i>Per cent</i>	(9)	(26)	(52)	(9)	(4)	(100)		
Rotor spinning frames	<i>Number</i>	—	—	—	46	82	128	23	13
	<i>Per cent</i>				(36)	(64)	(100)		
Total, spinning frames	<i>Number</i>	231	629	1,243	254	175	2,532	28	32
	<i>Per cent</i>	(9)	(25)	(49)	(10)	(7)	(100)		
Ring spinning as per cent of total		(100)	(100)	(100)	(82)	(53)	(95)	(18)	(59)
Rotor spinning as per cent of total		—	—	—	(18)	(47)	(5)	(82)	(41)
Winders	<i>Number</i>	—	11	219	171	36	437	17	51
	<i>Per cent</i>		(3)	(50)	(39)	(8)	(100)		
Twisters	<i>Number</i>	29	61	191	68	53	402	28	18
	<i>Per cent</i>	(7)	(15)	(48)	(17)	(13)	(100)		

Table 3, con't.

**AGE OF EQUIPMENT IN THE TEXTILE INDUSTRY**  
number and per cent

Types of equipment		More than 30 years	20-30 years	10-19 years	5-9 years	Less than 5 years	TOTAL	Installed in 1980	Installation planned for 1981
Texturing machines	<i>Number</i>	—	—	99	6	37	142	10	2
	<i>Per cent</i>			(70)	(4)	(26)	(100)		
Shuttle looms	<i>Number</i>	2,144	1,406	5,690	1,010	411	10,661	1	—
	<i>Per cent</i>	(20)	(13)	(53)	(10)	(4)	(100)		
Shuttleless looms	<i>Number</i>	—	—	224	1,067	358	1,649	197	311
	<i>Per cent</i>			(13)	(65)	(22)	(100)		
Total, looms	<i>Number</i>	2,144	1,406	5,914	2,077	769	12,310	198	311
	<i>Per cent</i>	(17)	(12)	(48)	(17)	(6)	(100)		
Shuttle looms as per cent of total		(100)	(100)	(96)	(46)	(53)	(87)	(1)	
Shuttleless looms as per cent of total				(4)	(51)	(47)	(13)	(99)	(100)
Dyeing and printing equipment	<i>Number</i>	46	135	232	126	44	583	24	21
	<i>Per cent</i>	(8)	(23)	(40)	(22)	(7)	(100)		
Other machines	<i>Number</i>	51	90	321	206	128	796	85	71
	<i>Per cent</i>	(7)	(11)	(40)	(26)	(16)	(100)		
<b>Total, all types</b>	<b><i>Number</i></b>	<b>2,591</b>	<b>2,712</b>	<b>9,069</b>	<b>3,110</b>	<b>1,345</b>	<b>18,827</b>	<b>398</b>	<b>577</b>
	<b><i>Per cent</i></b>	<b>(14)</b>	<b>(14)</b>	<b>(48)</b>	<b>(17)</b>	<b>(7)</b>	<b>(100)</b>		

SOURCE: Textile and Clothing Board.

the shuttleless looms were more than ten years old while 87 per cent of the total have been installed within the last ten years. In 1980, rotor spinning frames accounted for 5 per cent of all spinning frames, while 13 per cent of all looms in place were shuttleless looms. In the last five years the number of spinning frames and of looms of the two generations has been getting closer; there have been about as many machines of the new technology installed as there have been of the old.

Highly automated equipment has been developed for the winding process: only three per cent of the winders in place were more than 20 years old; 50 per cent were 10 to 19 years old; and 47 per cent, practically half, were less than ten years old.<sup>1</sup>

In the other categories of machinery, replacement evidently takes place at a slower pace. In the majority of cases there were 30 per cent or more machines twenty years old or more, some 50 per cent of the total were 10 to 19 years old, and 20 per cent were less than ten years old.

Another way in which equipment replacement can be assessed is to compare the number of machines installed in 1980 to the total number of machines in place.

As indicated in Table 3 no extrusion machinery was installed in 1980, and none is planned for installation in 1981. Units of other types of equipment installed in 1980 as a percentage of the total in place are as follows: 1 per cent for cards; 18 per cent for rotor spinning frames; 4 per cent for winders; 7 per cent for twiststers; 7 per cent for texturing machines; 12 per cent for shuttleless looms; 4 per cent for bleaching, dyeing and printing; 11 per cent for other machines<sup>2</sup>; and 2 per cent for all machines.

The information presented above can be used only as an approximation of the useful economic life of the various types of equipment. For example, if we find that 7 per cent of the twiststers have been added in the last year to the total number of twiststers, we cannot conclude that the useful economic life of twiststers is about 14 to 15 years. Such a conclusion would be valid only on the condition that the production capacity of a new machine would be the same as that of an old one. If the capacity were greater, the purchase of a single new machine could

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<sup>1</sup> This information is given only conditionally since winders were reported by manufacturers even though the questionnaires did not specifically mention them. Data on winders are therefore incomplete.

<sup>2</sup> The category "other machines" consists mainly of opening and blending equipment, drawframes, roving frames, warpers, slashers, and machines used in fabric finishing. Since the questionnaire made no mention of "other machines" and some firms reported them while others did not, the figures given are of only very limited significance and cannot be used as a basis for a valid interpretation.



replace several old ones. Generally new machines have significantly greater production capacities than old ones.

These differences in production capacity are partly reflected in prices of machinery. In 1980, the average price of a ring spinning frame installed in Canada was \$54,000, while the price for a rotor spinning frame was \$175,000. Similarly, the cost of a shuttle loom was about \$20,000, while on the average shuttleless looms cost \$60,000. The average price of all the machines installed in 1980 was \$102,000. (Table 4).

Table 4

**AVERAGE COST OF NEW INSTALLED EQUIPMENT  
IN THE TEXTILE INDUSTRY**  
thousand dollars

Type of machine	Average cost per unit in 1980
Cards	37.5
Ring spinning frames	54.0
Rotor spinning frames	175.0
Winders	120.0
Twisters	70.0
Texturing machines	91.0
Shuttle looms	10.0
Shuttleless looms	60.0
Dyeing and printing equipment	135.0
Other equipment	91.0
Weighted cost, all machines	102.0

SOURCE: Textile and Clothing Board.

Many could be surprised at the high proportion of more than 10-year old equipment maintained in operation in textile plants. (Table 5). There are three explanations for this situation. First, many of these machines have been rebuilt and their efficiency significantly improved even though some manufacturers, in their replies, still put them in the 20- to 30 or in the over 30-year categories. Second, part of the old equipment is retained for spare capacity to be activated during peak seasonal demands, or as reserve capacity in case of breakdown of the new equipment. Finally, some old machines are used for special purposes. In the woollen or worsted fabric sectors the marketing process requires the production of numerous samples from which the clients order their requirements. Sampling production means extremely short and diversified production runs, and a large number of the fabric constructions and colour combinations thus produced will not be selected for further production. Such sampling production is not usually

Table 5

**AGE OF ALL MACHINES SURVEYED IN  
THE TEXTILE AND SPECIAL PRODUCTS SECTORS**  
per cent

Sector	10 years and more	Less than 10 years	Less than 5 years
Acrylic yarns, worsted spun	49	51	3
Cotton and polyester-cotton yarns	85	15	7
Synthetic yarns and blends (rayon, nylon, polyester, cotton-spun acrylic)	64	36	13
Synthetic fabrics	73	27	11
Cotton and polyester-cotton fabrics, corduroys and denims	83	17	4
Worsted fabrics	72	28	5
Woollen fabrics	63	37	12
Towels	75	25	16
Sheets and pillowcases	83	17	—
Coated fabrics	90	10	—
Dyeing and printing	68	32	3
Miscellaneous textile products	70	30	5
Total, all textile machinery	76	24	7
Cordage and twine	55	45	25
Hosiery	72	28	15
Work gloves	38	62	31
Handbags (of textiles)	38	62	26

SOURCE: Textile and Clothing Board.

produced on modern high speed looms, but rather on older looms, at less cost. In the appendix tables giving the age of equipment by sector, it will thus be seen that worsted fabric producers have 162 looms more than 30 years old, and 12 which are 20 to 30 years old. On the other hand during the last 20 years they have added only 16 shuttle looms compared to 104 shuttleless looms. The situation is similar but more evident in the woollen fabric sector. In the latter there are 42 shuttle looms more than 30 years old, and no shuttle looms have been installed since then. The 147 new looms installed during the last 20 years, are all shuttleless.

Furthermore, in the textile industry as well as in other manufacturing industries, new machines do not necessarily render 20- or 30-year old machines obsolete for all uses. Many of these machines are in excellent running condition and can still be operated at very adequate efficiencies. It would be illogical to discard these machines when they still give good service.

The reasons for differences in the proportion of new machinery in the various sectors of the industry are technical in nature. For example, synthetic fabrics initially were better suited to production on shuttleless

looms. It was, therefore, in that sector that shuttleless looms were first installed. Consequently, the proportion of shuttleless looms is much higher for synthetic fabrics than for cotton fabrics. However, even in the latter sector, there were more shuttleless looms (90) than shuttle looms (50) installed in the last five years. (Appendices 1 to 12).

With regard to the sectors making special products, that is, cordage and twine, hosiery, work gloves and handbags, data on the age of machinery used are given in Appendices 13 to 16. Since these are special products, the equipment used in their manufacture is very different from that in the primary textile sector.

The cordage and twine sector has a very particular status. It receives only limited quantitative protection since bilateral restraint agreements have been negotiated by Canada with only two countries to cover cordage and twine. Moreover, its tariff protection is even more limited, since almost all cordage and twine for agricultural and commercial fishing purposes is duty free. Under such conditions the plants which have been able to survive are very competitive and their equipment is very much up to date. Of all the machines in place, one quarter is less than 5 years old and 45 per cent is less than ten years old. In 1980 and 1981 more than 13 per cent will have been added to the equipment in place at the end of 1979.

During the last ten years hosiery producers appear to have concentrated on the purchase of highly specialized equipment such as turning, boarding, and other specialized machines. In these three categories, machines less than ten years old represent 98, 57, and 46 per cent respectively of all machines in place. In addition, there are numerous producers who have implemented a medium term reconstruction program for their knitting machines.

The work glove sector has been subjected for a long time to considerable import pressures from low-cost countries. For the whole sector, 62 per cent of the equipment is less than ten years old, more than 30 per cent is less than five years old, and 10 per cent of all the equipment has been installed in 1980 alone. The largest number of new machines consists of sewing machines since these account for about three quarters of all the equipment used. However, the most significant developments are in other categories of equipment. In fact, the highly specialized turning and forming machines, as well as the production equipment for special plastic and dipped gloves have shown the most significant expansion. More than half the equipment for making specially coated gloves is less than five years old.

Finally, along with the hosiery and work glove producers, the handbag producers have also concentrated their efforts on specialized machinery. In this sector also 62 per cent of the equipment was installed in the last ten years, 14 per cent in 1980 alone. More than 30 per cent

of all the clicker die cutting machines, framing machines and fusing machines are less than five years old.

From the point of view of machinery replacement the four special sectors differ considerably from the primary textile sector. Their replacement rates are similar to those of the clothing industry.

## **2 — Age of Equipment in the Clothing Industry**

In the same manner as for the textile industry the Board's survey on the age of equipment in the clothing industry is concentrated on the major pieces of equipment both from the points of view of their cost and of their function in the production process. The Board has excluded from the survey the standard and relatively inexpensive pieces of equipment such as plain tables and tools used for pattern marking, grading and cutting, and conventional in-plant material handling equipment for work in process. The major consideration was to identify and survey those pieces of equipment which could involve technological improvements and thus could have an influence on the competitive ability of the various sectors of the clothing industry.

Clothing manufacturing consists essentially of three production operations: cutting; assembly or sewing; and shaping or pressing. In each of these operations there is a potential for technological improvement. In fact, there have been gradual improvements in technology, but no revolutionary advance.<sup>1</sup>

In this respect, there have been major advances in two main areas in the last twenty years. One is the increase in the speed of new machines, and the other is the increased computerization of equipment which results in more automated operations and lesser skill requirements for the operator. Automated specialized equipment can make buttonholes, or attach pockets, belt loops or buttons with the operator needing only to load and unload one or more of these machines and ensure that the equipment is running correctly.

In the preparatory operations for cutting, major developments have taken place in automatic marking, grading and reproduction of patterns. With the aid of computer equipment, these operations can now be completely automated, ensuring optimum fabric utilization at the

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<sup>1</sup> "Revolutionary advance" would be an advance involving radical change in the manufacturing process. In the clothing industry one such advance could be a chemical advance which would completely replace the sewing operation by a form of chemical fusion, provided of course that the chemical bond would be of comparable character and quality to that obtained by sewing.

same time. For the cutting operation there are air suction tables which can compress very large numbers of fabric layers to ensure their precise cutting in one operation. Automatic fabric spreading machines allow perfect superimposition of fabric layers with a minimum of time and effort. Finally, cutting can be completely automated with computer-controlled cutting machines.

In the sewing operation, which is by far the most important stage in the garment assembly process, technological advances have taken several forms. During the last twenty five years, sewing machine speeds have doubled in terms of stitches per minute. Sewing machines are now often equipped with automatic needle positioning and thread cutting mechanisms. There are programmable sewing machines which can vary stitch types and allow automatic execution of a series of sewing operations. There are also very specialized completely automated sewing machines, a few examples of which have been mentioned above. In addition, fusion techniques are increasingly used in the assembly operation instead of sewing, particularly for bonding fabrics where stiffness is required. Finally, there have been considerable advances in conveyor systems for moving materials to be assembled at various work stations.<sup>1</sup>

Shaping operations for garments essentially consist of pressing. This survey did not cover ordinary hand pressing equipment but was limited to steam pressing equipment, both manual and automated. The latter has been developed in recent years and is being increasingly used in Canada. In pressing as well as in other operations automation considerably speeds up the process while cutting down skill requirements for the operators.

Technological advances have opened several avenues for improvement in competitiveness. However, incorporating these advances into the actual manufacturing processes by the clothing industry involves economic considerations which it would be dangerous to ignore. As a rule, the more automated a piece of equipment is, the more specialized, expensive, and less versatile it will be. Such equipment is efficient and economically justifiable in large scale production of highly standardized products. However, there are relatively few standard products, particularly if the market is limited. Moreover, standardization runs counter to consumers' basic aspirations. In the circumstances the real

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<sup>1</sup> Advances in the area of material handling between work stations and in feeding of pieces to be assembled by sewing machine operators are of critical importance, since even now it takes three to four times longer for operators to load and unload machines than it takes for the actual sewing operation. Under these circumstances an increase in machine speed is meaningless unless loading and unloading operations can be speeded up at the same time.

challenge for the manufacturer lies less in getting the most sophisticated equipment than in finding a satisfactory solution to the dilemma of diversifying production with standardized assembly techniques. Because of this, even considerable improvements and investments by manufacturers do not resolve the problem of improving their competitiveness. However, this is only one aspect of the problem.

Table 6 on the age of equipment evidently reflects both the limitations on the choice of machine types surveyed and the systematic error resulting from the sample being biased towards the larger firms in each sector. The average age of equipment as well as its annual rate of replacement appear somewhat better than they actually are. It should be noted again that Table 6 reports on the equipment as it exists in the 290 firms in the sample, that the sample includes only 10 per cent of the small firms, and that it is not possible to attempt to extrapolate the results in such a way that they would be valid for the whole clothing industry.<sup>1</sup>

The data in Table 6 are interesting from several points of view. To begin with, they show that more than 70 per cent of the machines in the 290 clothing firms are less than 10 years old. The highest proportion of the equipment consists of sewing machines. In the case of plain sewing machines, 60 per cent are less than 10 years old, and more than one third are less than five years old. Regarding specialized sewing machines, four fifths are less than ten years old and close to half are less than five years old, with 10 per cent of the total having been installed in 1980 alone.

Among the types of equipment incorporating new technology: 82 per cent of the specialized pressing equipment is less than ten years old, (61 per cent less than five years old); 88 per cent of the marking and grading equipment is less than ten years old, (66 per cent less than five years old); and 90 per cent of the fusing equipment as well as the conveyor systems are less than ten years old (70 and 68 per cent respectively being less than five years old). In the respective totals, machines installed during 1980 alone represent 4 per cent for pressing, 12 per cent

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<sup>1</sup> It will be noted that there is a significant positive correlation between the fashion content of a product and the proportion of small firms in the sector making the product. This is particularly so for women's apparel from dresses through knitted clothing to coats. It applies also to a lesser extent to outerwear and in general to sweaters, pullovers and cardigans. When the fashion element is important, the large plant tends to be less efficient in making the product whereas a perfectly versatile small firm is better suited to this type of production. In such cases, design and quality of the product becomes more important in terms of competitiveness than the technology used in the manufacturing process.

for marking and grading, 15 per cent for fusing and 8 per cent for conveyor systems.

Equipment is being replaced at a substantially slower rate in the knitted clothing plants; 43 per cent and 57 per cent respectively of the circular knitting machines and flat knitting machines are less than ten years old. For both types of machines those that are less than five years old represent 18 per cent of the total.

A good idea of the cost of various types of equipment in the clothing industry can be obtained from an examination of the average costs of major pieces of machinery installed in 1980. For that year the manufacturers in the sample gave information in the questionnaire on the numbers of units installed as well as the total cost of these new installations. (Table 7).

Appendices 17 to 30 provide details of the age of the various types of equipment in the fourteen major sectors of the clothing industry. A rapid cross-sectional view can be obtained by dividing the equipment of the fourteen sectors into two groups of ten years old or more and of less than ten years old. (Table 8).

This is a simplified cross-section which is certainly not sufficient to present a complete picture of the situation. A more complete cross-section would first show the share of total equipment held by each sector, and then each sector's share of machinery incorporating the latest technological developments, such as pattern marking and grading equipment, cutting equipment, specialized sewing machines, fusing equipment, conveyor systems and specialized pressing equipment. Even in this case the technology specific to the sector should be taken into account. In certain sectors, for example, fusing equipment and specialized pressing equipment are of very limited usefulness and it would be hardly worthwhile for firms in these sectors to acquire such equipment.

These are only a few examples which are given to guard against drawing hasty conclusions. Direct comparisons can be made quickly but they can only be superficial. It is only after identification of the specific technologies which must be used in each specific sector that an assessment of the state of the equipment can be made.

Table 6

**AGE OF EQUIPMENT IN THE CLOTHING INDUSTRY**  
number and per cent

Type of equipment		More than 30 years	20-30 years	10-19 years	5-9 years	Less than 5 years	Less than 10 years	TOTAL	Installed in 1980
Marking and grading equipment	<i>Number</i>	—	1	20	39	114	153	174	21
	<i>Per cent</i>	—	—	(12)	(22)	(66)	(88)	(100)	(12)
Cutting equipment	<i>Number</i>	24	66	281	503	593	1,096	1,467	140
	<i>Per cent</i>	(2)	(5)	(19)	(34)	(40)	(74)	(100)	(10)
Plain sewing machines	<i>Number</i>	390	1,196	7,402	9,355	10,203	19,558	28,546	1,681
	<i>Per cent</i>	(1)	(4)	(26)	(33)	(36)	(69)	(100)	(6)
Specialized sewing machines	<i>Number</i>	38	170	1,716	3,102	4,677	7,779	9,703	983
	<i>Per cent</i>	—	(2)	(18)	(32)	(48)	(80)	(100)	(10)
Total sewing machines	<i>Number</i>	429	1,366	9,188	12,457	14,880	27,337	38,249	2,664
	<i>Per cent</i>	(1)	(3)	(24)	(33)	(39)	(72)	(100)	(7)
Plain sewing machines as per cent of total		(91)	(88)	(81)	(75)	(69)	(72)	(75)	(37)
Specialized sewing machines as per cent of total		(9)	(12)	(19)	(25)	(31)	(28)	(25)	(37)
Fusing equipment	<i>Number</i>	7	2	11	41	141	182	202	31
	<i>Per cent</i>	(3)	(1)	(6)	(20)	(70)	(90)	(100)	(15)
Conveyor systems	<i>Number</i>	1	3	40	97	296	393	437	37
	<i>Per cent</i>	—	(1)	(9)	(22)	(68)	(90)	(100)	(8)



Table 6, con't.

**AGE OF EQUIPMENT IN THE CLOTHING INDUSTRY**  
number and per cent

Type of equipment		More than 30 years	20-30 years	10-19 years	5-9 years	Less than 5 years	Less than 10 years	TOTAL	Installed in 1980
Plain steam pressing equipment	<i>Number</i>	22	50	412	604	490	1,094	1,578	84
	<i>Per cent</i>	(1)	(3)	(26)	(39)	(31)	(70)	(100)	(5)
Specialized steam pressing equipment	<i>Number</i>	—	9	168	212	621	833	1,010	40
	<i>Per cent</i>	—	(1)	(17)	(21)	(61)	(82)	(100)	(4)
Total pressing equipment	<i>Number</i>	22	59	580	816	1,111	1,927	2,588	124
	<i>Per cent</i>	(1)	(2)	(22)	(32)	(43)	(75)	(100)	(5)
Plain pressing equipment as per cent of total		(100)	(85)	(75)	(74)	(44)	(57)	(61)	(68)
Specialized pressing equipment as per cent of total		—	(15)	(28)	(26)	(56)	(43)	(39)	(32)
Circular knitting machines	<i>Number</i>	382	184	368	409	295	704	1,638	69
	<i>Per cent</i>	(23)	(11)	(23)	(25)	(18)	(43)	(100)	(4)
Flat knitting machines	<i>Number</i>	20	53	264	305	138	443	780	11
	<i>Per cent</i>	(2)	(7)	(34)	(39)	(18)	(57)	(100)	(1)
Total knitting machines	<i>Number</i>	402	237	632	714	433	1,147	2,418	80
	<i>Per cent</i>	(16)	(10)	(26)	(30)	(18)	(48)	(100)	(3)
Circular knitting machines as per cent of total		(95)	(78)	(58)	(57)	(68)	(61)	(68)	(86)
Flat knitting machines as per cent of total		(5)	(22)	(42)	(43)	(32)	(39)	(32)	(14)
<b>Total, all types</b>	<b><i>Number</i></b>	<b>884</b>	<b>1,734</b>	<b>10,682</b>	<b>14,667</b>	<b>17,568</b>	<b>32,235</b>	<b>45,535</b>	<b>3,097</b>
	<b><i>Per cent</i></b>	<b>(2)</b>	<b>(4)</b>	<b>(23)</b>	<b>(32)</b>	<b>(39)</b>	<b>(71)</b>	<b>(100)</b>	<b>(7)</b>

SOURCE: Textile and Clothing Board.

Table 7

**AVERAGE COST OF NEW INSTALLED EQUIPMENT  
IN THE CLOTHING INDUSTRY**  
thousand dollars

Type of equipment	Average cost per unit in 1980
Marking and grading equipment	80
Circular knitting machines	46
Conveyor systems	26
Flat knitting machines	25.5
Specialized steam pressing equipment	16
Fusing equipment	11
Ordinary steam pressing equipment	7.5
Cutting equipment	7
Specialized sewing machines	4.6
Ordinary sewing machines	2.8
Weighted average, circular knitting machines	43
Weighted average, knitting machines	10
Weighted average, pressing equipment	3.5
Weighted average, all machines	5.8

SOURCE: Textile and Clothing Board.

Table 8

**AGE OF ALL MACHINES SURVEYED  
IN THE VARIOUS SECTORS OF THE CLOTHING INDUSTRY**  
per cent

Sector	10 years old and more	Less than 10 years old	Less than 5 years old
Swimwear	19	81	41
Men's structured suits and jackets	20	80	39
Ladies' blouses, shirts, T-shirts and sweatshirts	23	77	49
Pants, shorts and overalls	23	77	45
Ladies' dresses, skirts and sportwear	24	76	36
Pyjamas and sleepwear	24	76	32
Sweaters, pullovers and cardigans	26	74	39
Outerwear	28	72	37
Jackets, overcoats and topcoats	28	72	36
Leather coats and jackets	35	65	23
Men's shirts	40	60	35
Underwear	46	54	31
Raincoats	49	51	24
Foundation garments	58	42	24
Weighted percentage, 14 sectors	29	71	39

SOURCE: Textile and Clothing Board.

### 3 — Age of Equipment of Contracting Firms

Contracting in the clothing industry is a relatively ancient tradition in all countries where the clothing industry has been of some importance. In Canada, contracting has always been concentrated in the province of Québec.

Contracting in clothing manufacturing is an ill-defined area of manufacturing activity, an area difficult to identify accurately. As a result little is known about contracting. The buyer or the consumer never comes in direct contact with contractors, cannot tell what they produce, and does not know their names or what they do. Yet, contractors can, and effectively do, play a significant role in several sectors of the clothing industry.

If an attempt is made to study this area of activity a major difficulty which immediately crops up is to determine the number of contracting firms. Lists of names and addresses which are available from several sources are not definitive and are often obsolete. Statistics Canada conducts a census of 459 contractors in the full knowledge that more, unidentified, contractors exist. Lists provided to the Board by the Parity and Joint Committees of Québec and Ontario, the Manitoba Fashion Institute and the clothing industry of British Columbia give a total of 742 contractors. The Québec Association of Clothing Contractors, an association grouping mainly the contractors in ladies' clothing, estimates that there are 1,100 contracting firms. There are evidently definitional problems regarding this sector.

There are several reasons for the uncertainties concerning the number of contracting firms. To begin with there are clothing manufacturers who, once in a while, will accept contract work when their order books are not sufficiently filled to maintain a satisfactory level of capacity utilization. On the other hand, when their order books are filled these manufacturers stop contracting and return to full time manufacturing activities. There are also clothing manufacturers who isolate a phase of the manufacturing operation, most often the sewing operation, and create a separate firm to carry out that operation exclusively. Since the new firm is owned by the clothing manufacturer and since it will often work exclusively for the parent company, it cannot be considered as a bona fide contractor. In fact, even though it is legally independent, the new firm still represents a phase of the manufacturing operation which is completely integrated with the activities of the parent company and cannot be considered as separate from the latter. There are numerous reasons which justify proceeding in this manner. Finally, there are contracting firms which could be considered as "seasonal". These operations are more closely identified with artisan work than with industrial production, and their life-span is particularly short. They last for a season or two, sometimes for a year or two, rarely more.

Under these conditions, selecting a sample becomes a difficult task, and it is in selecting such a sample that the Board found out that the lists contained names of firms which are not really contracting firms, or are artisan type, short-lived operations which cannot readily be classed as manufacturing activities. It appears that the total number of contracting firms lies somewhere between 500 and 600.

A contracting firm can be defined as an independent firm owning production equipment, which negotiates contracts with manufacturing firms to carry out part of the manufacturing operation. A contracting firm in the clothing industry does not own the raw materials, materials in process and finished products, buys only some findings such as sewing threads, and is not involved in selling.<sup>1</sup>

Contracting firms are for the most part, sewing firms. In some instances there are contractors who perform only the cutting operation. At any rate, the usual sequence of operations is as follows: the manufacturer buys the fabrics; selects the styles to be incorporated in his collection; cuts the fabrics according to the pattern, and sends the cut pieces to a contractor of his choice for sewing and pressing of the garment. Once these operations have been completed the assembled garment is returned to the manufacturer who places it in storage and eventually sells it.

In contrast to a large number of manufacturing firms, contracting firms are highly specialized both in terms of type of product assembled, and in terms of selling price levels for the finished product. In men's clothing, for example, there are no contractors assembling both jackets and pants; some contractors have specialized in jackets, others have specialized in pants, and the manufacturer matches components made by separate contractors. Also, depending on the selling price of the fabric and of the made-up garment, the manufacturer will know which contractor is capable of assembling a garment of the desired quality level.

Manufacturers who make regular use of contractors form a permanent association with their contractors. It has been traditional in this industry to do business extensively on a person's word, with no formal signed contract. Thus regular contracting is largely based on mutual trust. When contracting is done on a seasonal basis, that is, when contractors receive orders from manufacturers because limitations in the latter's production capacity prevents them from satisfying demand

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<sup>1</sup> In other industries such as mechanical construction or transportation equipment, sub-contracting normally involves the manufacture of components of the finished products. These components are then assembled or incorporated into the finished product by the manufacturer or the main contractor. In the clothing industry, contracting is always a phase of the assembly process, a specific operation carried out on order for the manufacturer.

completely, the relationship between the manufacturer and the contractor is less stable. Even then manufacturers will prefer to return to contractors with whom they have done business previously.

The more stable contracting firms are those which maintain a close association with one or more manufacturers. When a manufacturer operates a cutting room only, all sewing will have to be done by a contractor. If the manufacturer's sewing capacity is limited, he will produce a small range of garments himself and will contract out for sewing the remainder of his collection. Conversely, the least stable contracting firms are those which do not associate on a permanent basis with one or more manufacturers but try to survive solely on seasonal business.

In general, contractors have to contend with greater risks than manufacturers. When there is a close association between the two and the manufacturer disappears, the contractor is left with nothing, since none of the styles he was producing nor the brand or trademark he was using belonged to him. When a manufacturer, encouraged by the repeated success of his collections, decides to increase his own production capacity, he may jeopardize the survival of one or several contractors who have worked for him for years. Finally, when a contractor relies mainly on seasonal orders he lives a most precarious existence.

The sample of contracting firms surveyed by the Board includes 78 firms, or about 15 per cent of the total. In the same way as the sample of clothing manufacturers, this sample is probably slightly biased towards the more important contractors. Our sample includes 20 per cent of contractors employing less than 20 workers, 26 per cent from 20 to 49 workers, 31 per cent from 50 to 99 workers, 15 per cent from 100 to 199 workers, and 6 per cent 200 and more workers.

The sample is divided geographically as follows: New Brunswick, 1 per cent; Québec, 89 per cent; Ontario, 5 per cent; Manitoba, 4 per cent; and British Columbia, 1 per cent. The geographical distribution of the sample corresponds closely to contracting activity in each area. All observers agree that Québec accounts for 90 per cent of the contracting business.

Finally, the distribution of the sample by sector emphasizes those sectors where contracting has traditionally been strongest: ladies' dresses and skirts, 26 per cent; pants and jeans, 24 per cent; ladies' blouses and shirts, 18 per cent; men's jackets, 10 per cent; outerwear, 6 per cent; men's shirts, and overcoats and topcoats, 5 per cent each; pyjamas and sleepwear, 4 per cent; and swimwear, 1 per cent.

The age of contracting firms in the sample varies from 1 to 72 years, for a combined average age of 13 years.

More than half of the contracting firms in the sample are located in rural areas of the country (53 per cent) while 47 per cent are located in cities. In the latter case, close to three quarters are located in Montréal.

Since contracting firms specialize in sewing, most of their equipment consists of sewing machines (91 per cent of the total). Compared to clothing manufacturers, contractors generally have lighter equipment (contractors have little marking and grading equipment, cutting equipment or conveyor systems and they have no knitting machines).

The equipment in place is relatively new: 87 per cent of all the machines and 86 per cent of the sewing machines are less than 10 years old. (Table 9). Ten per cent of all the equipment in place in the 78 firms in the sample was installed in 1980. Within their particular sectors, contractors have at their disposal equipment equal to, or superior to, that of clothing manufacturing firms. In this respect some of these contracting firms are known for the quality of their work, particularly in men's jackets and shirts, and women's dresses, skirts, blouses and shirts. These firms are well organized, well equipped and efficient. They could replace to advantage the sewing operations of many manufacturers.

The place of contracting in the clothing industry must be considered within the context of an overall strategy for the industry. Some manufacturers whose strong points are in selecting fabrics and styles, or in cutting, or again in sale of the finished product, should ask themselves whether it would be more advantageous to concentrate on their strong points and let one of the efficient contractors take care of sewing operations.

Contractors are an integral part of the clothing industry, particularly in Québec. Therefore they have to be taken into consideration, and the best of them have to be included in the solution to the problem of improving competitiveness.

As part of the survey the Board requested information on the age and sex of production workers employed on December 31, 1980 by the 78 contractors and the 290 manufacturing firms. Because contractors concentrate mainly on sewing and are located in rural areas of Québec in greater proportion than manufacturers, the labour force of contractors has a higher proportion of women and is younger than that of manufacturers (Table 10). On December 31, 1980, total employment by survey manufacturers amounted to 41,057 production workers; there were 5,455 production employees in the contracting firms in the sample.

Contracting firms, with more than one third of their labour force consisting of younger workers and with only a small proportion of older workers, appear to provide one of the rare opportunities for employment of young and middle age women in rural areas.

Table 9

## AGE OF EQUIPMENT IN CONTRACTING FIRMS

Number and per cent

Type of equipment		More than 30 years	20-30 years	10-19 years	5-9 years	Less than 5 years	Less than 10 years	TOTAL	Installed in 1980
Marking and grading equipment	<i>Number</i>	—	—	—	3	7	10	10	1
	<i>Per cent</i>	(—)	(—)	(—)	(30)	(70)	(100)	(100)	(10)
Cutting equipment	<i>Number</i>	—	3	7	19	51	70	80	10
	<i>Per cent</i>	(—)	(4)	(9)	(24)	(63)	(87)	(100)	(13)
Plain sewing machines	<i>Number</i>	28	140	470	1,319	2,218	3,537	4,175	369
	<i>Per cent</i>	(1)	(3)	(11)	(32)	(53)	(85)	(100)	(19)
Specialized sewing machines	<i>Number</i>	3	11	109	384	1,099	1,483	1,606	225
	<i>Per cent</i>	(—)	(1)	(7)	(24)	(68)	(92)	(100)	(14)
Total, sewing machines	<i>Number</i>	31	151	579	1,703	3,317	5,020	5,781	594
	<i>Per cent</i>	(1)	(3)	(10)	(29)	(57)	(86)	(100)	(10)
Fusing equipment	<i>Number</i>	—	—	3	8	12	20	23	3
	<i>Per cent</i>	(—)	(—)	(13)	(35)	(52)	(87)	(100)	(13)
Conveyor systems	<i>Number</i>	—	—	—	—	2	2	2	—
	<i>Per cent</i>	(—)	(—)	(—)	(—)	(100)	(100)	(100)	(—)
Plain steam pressing equipment	<i>Number</i>	2	5	32	85	98	183	222	18
	<i>Per cent</i>	(1)	(2)	(15)	(38)	(44)	(82)	(100)	(8)
Specialized steam pressing equipment	<i>Number</i>	7	1	15	86	108	194	217	30
	<i>Per cent</i>	(3)	(—)	(7)	(40)	(50)	(90)	(100)	(14)
Total, pressing equipment	<i>Number</i>	9	6	47	171	206	377	439	48
	<i>Per cent</i>	(2)	(1)	(11)	(39)	(47)	(86)	(100)	(11)
Total, all types	<i>Number</i>	40	160	636	1,904	3,595	5,499	6,335	657
	<i>Per cent</i>	(—)	(3)	(10)	(30)	(57)	(87)	(100)	(10)

SOURCE: Textile and Clothing Board.

Table 10

**DISTRIBUTION BY AGE AND SEX OF PRODUCTION WORKERS  
EMPLOYED ON DECEMBER 31, 1980 BY THE CLOTHING  
MANUFACTURING FIRMS AND CONTRACTORS INCLUDED  
IN THE BOARD'S SAMPLES**

per cent

Age Group	Manufacturing firms			Contractors		
	Men	Women	Total	Men	Women	Total
Less than 25 years old	4.0	19.3	23.3	3.1	32.3	35.4
25 to 50 years old	10.0	51.4	61.4	4.6	49.3	53.9
More than 50 years old	3.6	11.4	15.3	1.2	9.5	10.7
<b>TOTAL</b>	<b>17.6</b>	<b>82.4</b>	<b>100.0</b>	<b>8.9</b>	<b>91.1</b>	<b>100.0</b>

SOURCE: Textile and Clothing Board.

## Conclusion

The textile and clothing industries are two different worlds in terms of the equipment they utilize. The primary textile industry utilizes equipment which is relatively expensive but also has a long wear life. In 1980 the average value of a piece of equipment in the textile industry exceeded \$100,000, while in the clothing industry the equivalent average value did not exceed \$6,000. (The industry sectors producing special textile products are closer in this respect to the clothing industry than to the primary textile industry). Heavier, more expensive equipment should have a longer useful life; equipment replacement therefore is considerably slower in the textile industry than in the clothing industry. It is not surprising therefore, that three quarters of the equipment in the primary textile industry is more than ten years old and only one quarter is less than ten years old, and that in clothing the ratio is almost reversed; equipment which is ten years old or more represents only 30 per cent of the total while equipment less than 10 years old accounts for 70 per cent. However, as noted before, results concerning equipment in the clothing industry incorporate a systematic error which optimizes somewhat the apparent degree of modernization of this industry.

The choice of 10 years as the major dividing line for the age of equipment takes into account the legislation on amortization rates allowed for taxation purposes. A very large proportion of textile and clothing machinery can be amortized in Canada at an annual rate of 20 per cent of the installation cost balance. In ten years therefore equipment is, to all intents and purposes, completely amortized. The amortization rate allowed by the legislation on corporate taxation does not take into account the actual useful life of equipment and represents



an advantage only on the condition that profits are sufficient to allow such an amortization rate. Thus it is common practice in these two industries, as in several other industries, to have accounting systems using two different amortization rates; the rate allowed for taxation purposes and an amortization rate which takes into account the useful economic life of the equipment. In addition, the savings realized by firms during a period of acute inflation must be well above the amount of amortization because the cost of acquiring new equipment has quickly and considerably surpassed that of identical equipment acquired five or ten years ago.

The age of equipment as determined in the survey corresponds closely to the average life span used by Revenue Canada, Customs and Excise in estimating the value of used equipment imported in Canada. The useful life of equipment in the textile industry is estimated to be from 15 to 40 years (opening equipment, 25 years; cards, 40 years; yarn manufacturing equipment, 20 to 30 years; ring spinning frames, 30 years; looms, 25 years; bleaching, dyeing and drying equipment, 15 to 25 years; printing, 30 years). The lighter equipment used in the clothing industry has a useful life generally estimated at 15 years.

In general, the equipment utilized by the textile and clothing industries is relatively modern. In this respect, no technological gap seems to exist relative to other countries. If there is a gap it is probably in Canada's favour. This, of course, does not mean there is no further room for improvement in equipment. Improvements are still possible and would contribute to strengthening the competitiveness of numerous textile and clothing sectors in Canada. It must be reiterated however, that technology by itself, be it ever so sophisticated, cannot resolve completely the problem of competition with low-cost countries. For this, all aspects of competitiveness should be taken into account, such as design, quality, marketing, delivery commitments, financial structure and management. And perhaps more than any other, there should be a constant search for those particular products whose quality, design, and trade mark or brand would be aimed at serving a specific, stable market removed from direct competition, both domestic and foreign. It means in fact satisfying a demand which is relatively independent from either tariff protection or special measures of protection.

A survey covering 75 firms and 107 plants out of a total of 179 firms and 215 plants in the textile industry, 290 firms with 343 establishments out of a total of more than 1,400 establishments in the clothing industry, and 78 contractors out of a total of 500 or 600, cannot be successfully carried out without the close co-operation of all these firms and plants. The industry co-operated fully and the management of each firm spent considerable time in accurately filling out the survey questionnaires. In many cases it was necessary to provide acquisition dates for equipment as well as dates of all major modifications to equipment in place,

and the nature of these modifications. The Board's staff not only remained in close contact with the survey firms, but also visited most of the plants to confirm and complete the data provided in the questionnaires.

The Board wishes to express its gratitude to all those who devoted time and effort to participate in the survey. For the largest firms this meant assigning several persons to this task for many weeks. The Board hopes that the approaches developed and the data gathered will not be limited in use to fulfilling the requirements of the surveys, but that they will also be of use to the participating firms by helping them to formulate renewal and modernization programs for their equipment.

## **Appendices**

### **Age of Equipment by Sector**



**AGE OF EQUIPMENT**  
**WORSTED SPUN ACRYLIC YARN**  
 Number of Machines

Type of Equipment	Over 30 years	20-30 years	10-19 years	5-9 years	Under 5 years	TOTAL
Cards	—	—	6	3	1	10
Ring Spinning	—	—	49	26	12	87
Rotor Spinning (including Repco)	—	—	—	—	47	47
Winders	—	—	22	20	10	52
Twisters	—	—	25	4	4	33
Dyeing and Printing	3	3	25	7	3	41
Other	—	—	14	—	16	30
<b>Total, all types</b>	<b>3</b>	<b>3</b>	<b>141</b>	<b>60</b>	<b>93</b>	<b>300</b>

## Appendix 2

**AGE OF EQUIPMENT**  
**COTTON AND POLYESTER-COTTON SPUN YARN**  
 Number of Machines

<b>Type of Equipment</b>	<b>Over 30 years</b>	<b>20-30 years</b>	<b>10-19 years</b>	<b>5-9 years</b>	<b>Under 5 years</b>	<b>TOTAL</b>
Cards	—	—	228	30	3	261
Ring Spinning	24	150	275	40	56	545
Rotor Spinning (including Repco)	—	—	—	1	1	2
Winders	—	—	4	3	—	7
Twisters	12	9	27	—	—	48
Dyeing and Printing	—	—	4	—	—	4
Other	—	5	29	1	3	38
<b>Total, all types</b>	<b>36</b>	<b>164</b>	<b>567</b>	<b>75</b>	<b>63</b>	<b>905</b>

**AGE OF EQUIPMENT**  
**MAN-MADE FIBRES, COTTON SPUN ACRYLIC, RAYON, NYLON,**  
**POLYESTER AND MIXED FIBRE YARNS**  
 Number of Machines

Type of Equipment	Over 30 years	20-30 years	10-19 years	5-9 years	Under 5 years	TOTAL
Extruders	38	113	240	58	5	454
Cards	—	24	35	59	36	154
Ring Spinning	38	24	122	78	24	286
Rotor Spinning (including Repco)	—	—	—	4	15	19
Winders	—	—	37	40	3	80
Twisters	14	36	38	40	30	158
Texturing	—	—	99	6	37	142
Dyeing and Printing	—	—	5	2	1	8
Other	4	6	40	25	40	115
<b>Total, all types</b>	<b>94</b>	<b>203</b>	<b>616</b>	<b>312</b>	<b>191</b>	<b>1,416</b>

**Appendix 4**

**AGE OF EQUIPMENT  
MAN-MADE FABRICS**  
Number of Machines

<b>Type of Equipment</b>	<b>Over 30 years</b>	<b>20-30 years</b>	<b>10-19 years</b>	<b>5-9 years</b>	<b>Under 5 years</b>	<b>TOTAL</b>
Cards	—	—	—	6	—	6
Rotor Spinning (including Repco)	—	—	—	4	—	4
Winders	—	—	—	3	—	3
Twisters	—	12	—	4	10	26
Shuttle Looms	1,589	403	1,315	17	266	3,590
Shuttleless Looms	—	—	145	628	226	999
Dyeing and Printing	24	56	85	47	18	230
Other	1	7	23	94	32	157
<b>Total, all types</b>	<b>1,614</b>	<b>478</b>	<b>1,568</b>	<b>803</b>	<b>552</b>	<b>5,015</b>



**AGE OF EQUIPMENT**  
**COTTON AND POLYESTER-COTTON FABRICS,**  
**CORDUROYs AND DENIMS**  
 Number of Machines

Type of Equipment	Over 30 years	20-30 years	10-19 years	5-9 years	Under 5 years	TOTAL
Cards	—	163	249	25	54	491
Ring Spinning	19	235	511	11	—	776
Rotor Spinning (including Repco)	—	—	—	5	17	22
Twisters	3	4	12	—	—	19
Shuttle Looms	—	309	3,351	770	50	4,480
Shuttleless Looms	—	—	—	—	90	90
Dyeing and Printing	—	1	—	1	1	3
<b>Total, all types</b>	<b>22</b>	<b>712</b>	<b>4,123</b>	<b>812</b>	<b>212</b>	<b>5,881</b>

## Appendix 6

**AGE OF EQUIPMENT  
WORSTED FABRICS**  
Number of Machines

<b>Type of Equipment</b>	<b>Over 30 years</b>	<b>20-30 years</b>	<b>10-19 years</b>	<b>5-9 years</b>	<b>Under 5 years</b>	<b>TOTAL</b>
Ring Spinning	—	—	48	—	—	48
Rotor Spinning (including Repco)	—	—	—	16	—	16
Winders	—	—	12	12	—	24
Twisters	—	—	20	3	4	27
Shuttle Looms	162	12	—	4	12	190
Shuttleless Looms	—	—	24	74	6	104
Dyeing and Printing	—	28	6	1	1	36
Other	—	—	66	13	4	83
<b>Total, all types</b>	<b>162</b>	<b>40</b>	<b>176</b>	<b>123</b>	<b>27</b>	<b>528</b>

## Appendix 7

**AGE OF EQUIPMENT  
WOOLLEN FABRICS**  
Number of Machines

<b>Type of Equipment</b>	<b>Over 30 years</b>	<b>20-30 years</b>	<b>10-19 years</b>	<b>5-9 years</b>	<b>Under 5 years</b>	<b>TOTAL</b>
Cards	13	29	—	9	—	51
Ring Spinning	6	14	45	30	1	96
Winders	—	1	2	7	4	14
Twisters	—	—	19	—	—	19
Shuttle Looms	42	—	—	—	—	42
Shuttleless Looms	—	—	54	58	35	147
Dyeing and Printing	1	13	18	8	11	51
Other	8	20	55	23	16	122
<b>Total, all types</b>	<b>70</b>	<b>77</b>	<b>193</b>	<b>135</b>	<b>67</b>	<b>542</b>

**AGE OF EQUIPMENT  
COATED FABRICS**  
Number of Machines

<b>Type of Equipment</b>	<b>Over 30 years</b>	<b>20-30 years</b>	<b>10-19 years</b>	<b>5-9 years</b>	<b>Under 5 years</b>	<b>TOTAL</b>
Dyeing and Printing	2	—	—	—	—	2
Other	29	2	4	4	—	39
<b>Total, all types</b>	<b>31</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>—</b>	<b>41</b>

## Appendix 9

**AGE OF EQUIPMENT  
DYEING AND PRINTING**  
Number of Machines

Type of Equipment	Over 30 years	20-30 years	10-19 years	5-9 years	Under 5 years	TOTAL
Winders	—	10	27	16	—	53
Dyeing and Printing	13	22	60	55	5	155
Other	4	38	63	28	6	139
<b>Total, all types</b>	<b>17</b>	<b>70</b>	<b>150</b>	<b>99</b>	<b>11</b>	<b>347</b>

## Appendix 10

**AGE OF EQUIPMENT  
SHEETS AND PILLOWCASES**  
Number of Machines

<b>Type of Equipment</b>	<b>Over 30 years</b>	<b>20-30 years</b>	<b>10-19 years</b>	<b>5-9 years</b>	<b>Under 5 years</b>	<b>TOTAL</b>
Cards	15	44	36	—	—	95
Ring Spinning	144	103	179	23	—	449
Rotor Spinning (including Repco)	—	—	—	16	—	16
Winders	—	—	—	4	—	4
Shuttle Looms	140	473	910	172	—	1,695
Shuttleless Looms	—	—	—	218	—	218
Dyeing and Printing	—	5	4	1	—	10
<b>Total, all types</b>	<b>299</b>	<b>625</b>	<b>1,129</b>	<b>434</b>	<b>—</b>	<b>2,487</b>

## Appendix 11

**AGE OF EQUIPMENT  
TOWELS**  
Number of Machines

Type of Equipment	Over 30 years	20-30 years	10-19 years	5-9 years	Under 5 years	TOTAL
Winders	—	—	—	—	1	1
Shuttle Looms	211	64	114	47	83	519
Dyeing and Printing	—	7	5	4	1	17
Other	1	2	2	—	1	6
<b>Total, all types</b>	<b>212</b>	<b>73</b>	<b>121</b>	<b>51</b>	<b>86</b>	<b>543</b>

**AGE OF EQUIPMENT  
MISCELLANEOUS PRODUCTS**  
Number of Machines

<b>Type of Equipment</b>	<b>Over 30 years</b>	<b>20-30 years</b>	<b>10-19 years</b>	<b>5-9 years</b>	<b>Under 5 years</b>	<b>TOTAL</b>
Cards	24	7	56	12	4	103
Ring Spinning	—	103	14	—	—	117
Rotor Spinning (including Repco)	—	—	—	—	2	2
Winders	—	—	115	66	18	199
Twisters	—	—	50	17	5	72
Shuttle Looms	—	145	—	—	—	145
Shuttleless Looms	—	—	1	89	1	91
Dyeing and Printing	3	—	20	—	3	26
Other	4	10	25	18	10	67
<b>Total, all types</b>	<b>31</b>	<b>265</b>	<b>281</b>	<b>202</b>	<b>43</b>	<b>822</b>



## Appendix 13

**AGE OF EQUIPMENT  
CORDAGE, ROPE AND TWINE**  
Number of Machines

Type of Equipment		Over	20-30	10-19	5-9	Under	TOTAL
		30 years	years	years	years	5 years	
Extrusion Units	<i>Number</i>	—	—	3	11	3	17
	<i>Per cent</i>	—	—	(18)	(64)	(18)	(100)
Twisters	<i>Number</i>	7	32	18	20	44	121
	<i>Per cent</i>	(6)	(26)	(15)	(17)	(36)	(100)
Braiders	<i>Number</i>	194	—	—	62	104	360
	<i>Per cent</i>	(54)	—	—	(17)	(29)	(100)
Winders	<i>Number</i>	34	13	13	42	5	107
	<i>Per cent</i>	(32)	(12)	(12)	(39)	(5)	(100)
Rope Systems	<i>Number</i>	—	15	17	5	21	58
	<i>Per cent</i>	—	(26)	(29)	(9)	(36)	(100)
Others	<i>Number</i>	30	32	8	9	16	95
	<i>Per cent</i>	(32)	(34)	(8)	(9)	(17)	(100)
<b>Total, all types</b>	<b><i>Number</i></b>	<b>265</b>	<b>92</b>	<b>59</b>	<b>149</b>	<b>193</b>	<b>758</b>
	<b><i>Per cent</i></b>	<b>(35)</b>	<b>(12)</b>	<b>(8)</b>	<b>(20)</b>	<b>(25)</b>	<b>(100)</b>

**AGE OF EQUIPMENT  
HOSIERY**  
Number of Machines

Type of Equipment		Over 30 years	20-30 years	10-19 years	5-9 years	Under 5 years	TOTAL
Knitting	<i>Number</i>	414	1,116	905	433	488	3,356
	<i>Per cent</i>	(12)	(33)	(27)	(13)	(15)	(100)
Seaming	<i>Number</i>	—	14	253	28	17	312
	<i>Per cent</i>	—	(5)	(81)	(9)	(5)	(100)
Turning	<i>Number</i>	—	1	—	9	17	27
	<i>Per cent</i>	—	(4)	—	(33)	(63)	(100)
Boarding	<i>Number</i>	—	6	23	18	20	67
	<i>Per cent</i>	—	(9)	(34)	(27)	(30)	(100)
Other	<i>Number</i>	22	33	53	43	47	198
	<i>Per cent</i>	(11)	(16)	(27)	(22)	(24)	(100)
<b>Total, all types</b>	<b><i>Number</i></b>	<b>436</b>	<b>1,170</b>	<b>1,234</b>	<b>531</b>	<b>589</b>	<b>3,960</b>
	<b><i>Per cent</i></b>	<b>(11)</b>	<b>(30)</b>	<b>(31)</b>	<b>(13)</b>	<b>(15)</b>	<b>(100)</b>

## Appendix 15

**AGE OF EQUIPMENT  
WORK GLOVES**  
Number of Machines

Type of Equipment		Over 30 years	20-30 years	10-19 years	5-9 years	Under 5 years	TOTAL
Clickers, beam presses	<i>Number</i>	—	13	36	18	17	84
	<i>Per cent</i>	—	(16)	(43)	(21)	(20)	(100)
Sewing	<i>Number</i>	—	87	112	236	223	658
	<i>Per cent</i>	—	(13)	(17)	(36)	(34)	(100)
Turners, Formers, Blockers	<i>Number</i>	—	6	23	13	27	69
	<i>Per cent</i>	—	(9)	(33)	(19)	(39)	(100)
Knitting	<i>Number</i>	—	29	10	2	1	42
	<i>Per cent</i>	—	(69)	(24)	(5)	(2)	(100)
Other	<i>Number</i>	—	4	7	6	6	23
	<i>Per cent</i>	—	(17)	(31)	(26)	(26)	(100)
<b>Total, all types</b>	<b><i>Number</i></b>	—	<b>139</b>	<b>188</b>	<b>275</b>	<b>274</b>	<b>876</b>
	<b><i>Per cent</i></b>	—	<b>(16)</b>	<b>(22)</b>	<b>(31)</b>	<b>(31)</b>	<b>(100)</b>

**AGE OF EQUIPMENT  
HANDBAGS**  
Number of Machines

Type of Equipment		Over 30 years	20-30 years	10-19 years	5-9 years	Under 5 years	TOTAL
Clickers	<i>Number</i>	—	—	22	16	17	55
	<i>Per cent</i>	—	—	(40)	(29)	(31)	(100)
Sewing	<i>Number</i>	—	23	135	182	85	425
	<i>Per cent</i>	—	(5)	(32)	(43)	(20)	(100)
Framing	<i>Number</i>	—	—	15	9	12	36
	<i>Per cent</i>	—	—	(42)	(25)	(33)	(100)
Fusing, Cementing	<i>Number</i>	—	5	29	21	30	85
	<i>Per cent</i>	—	(6)	(34)	(25)	(35)	(100)
Other	<i>Number</i>	—	2	11	7	22	42
	<i>Per cent</i>	—	(5)	(26)	(17)	(52)	(100)
<b>Total, all types</b>	<b><i>Number</i></b>	—	<b>30</b>	<b>212</b>	<b>235</b>	<b>166</b>	<b>643</b>
	<b><i>Per cent</i></b>	—	<b>(5)</b>	<b>(33)</b>	<b>(36)</b>	<b>(26)</b>	<b>(100)</b>

## Appendix 17

**AGE OF EQUIPMENT  
OUTERWEAR**  
Number of Machines

Type of Equipment		Over 30 years	20-30 years	10-19 years	5-9 years	Under 5 years	TOTAL
Pattern marking and grading	<i>Number</i>	—	—	—	2	12	14
	<i>Per cent</i>	—	—	—	(14)	(86)	(100)
Cutting room	<i>Number</i>	—	4	37	27	83	151
	<i>Per cent</i>	—	(3)	(24)	(18)	(55)	(100)
Sewing	<i>Number</i>	9	136	428	743	684	2,000
	<i>Per cent</i>	(neg)	(7)	(22)	(37)	(34)	(100)
— Plain	<i>Number</i>	8	129	292	471	476	1,376
	<i>Per cent</i>	(1)	(9)	(21)	(34)	(35)	(100)
— Specialized	<i>Number</i>	1	7	136	272	208	624
	<i>Per cent</i>	(neg)	(1)	(22)	(44)	(33)	(100)
Fusing	<i>Number</i>	—	—	—	1	9	10
	<i>Per cent</i>	—	—	—	(10)	(90)	(100)
Material handling	<i>Number</i>	—	—	—	3	16	19
	<i>Per cent</i>	—	—	—	(16)	(84)	(100)
Steam pressing	<i>Number</i>	—	—	26	17	15	58
	<i>Per cent</i>	—	—	(45)	(29)	(26)	(100)
— Plain	<i>Number</i>	—	—	20	13	15	48
	<i>Per cent</i>	—	—	(42)	(27)	(31)	(100)
— Specialized	<i>Number</i>	—	—	6	4	—	10
	<i>Per cent</i>	—	—	(60)	(40)	—	(100)
Total, all types	<i>Number</i>	9	140	491	793	819	2,252
	<i>Per cent</i>	(neg)	(6)	(22)	(35)	(37)	(100)

**AGE OF EQUIPMENT**  
**PANTS, SLACKS, SHORTS, OVERALLS**  
 Number of Machines

<b>Type of Equipment</b>		<b>Over 30 years</b>	<b>20-30 years</b>	<b>10-19 years</b>	<b>5-9 years</b>	<b>Under 5 years</b>	<b>TOTAL</b>
Pattern marking and grading	<i>Number</i>	—	—	4	11	25	40
	<i>Per cent</i>	—	—	(10)	(28)	(62)	(100)
Cutting room	<i>Number</i>	4	5	70	131	174	384
	<i>Per cent</i>	(1)	(1)	(19)	(34)	(45)	(100)
Sewing	<i>Number</i>	18	283	2,257	3,283	4,630	10,471
	<i>Per cent</i>	(neg)	(3)	(22)	(31)	(44)	(100)
— Plain	<i>Number</i>	18	248	1,766	2,874	3,293	8,199
	<i>Per cent</i>	(neg)	(3)	(22)	(35)	(40)	(100)
— Specialized	<i>Number</i>	—	35	491	409	1,337	2,272
	<i>Per cent</i>	—	(1)	(22)	(18)	(59)	(100)
Fusing	<i>Number</i>	—	—	1	9	18	28
	<i>Per cent</i>	—	—	(4)	(32)	(64)	(100)
Material handling	<i>Number</i>	—	—	1	7	32	40
	<i>Per cent</i>	—	—	(2)	(18)	(80)	(100)
Steam pressing	<i>Number</i>	—	—	120	238	296	654
	<i>Per cent</i>	—	—	(18)	(37)	(45)	(100)
— Plain	<i>Number</i>	—	—	112	190	148	450
	<i>Per cent</i>	—	—	(25)	(42)	(33)	(100)
— Specialized	<i>Number</i>	—	—	8	48	148	204
	<i>Per cent</i>	—	—	(4)	(23)	(73)	(100)
<b>Total, all types</b>	<b><i>Number</i></b>	<b>22</b>	<b>288</b>	<b>2,453</b>	<b>3,679</b>	<b>5,175</b>	<b>11,617</b>
	<b><i>Per cent</i></b>	<b>(neg)</b>	<b>(2)</b>	<b>(21)</b>	<b>(32)</b>	<b>(45)</b>	<b>(100)</b>

**AGE OF EQUIPMENT**  
**BLOUSES, T-SHIRTS, SWEATSHIRTS**  
 Number of Machines

Type of Equipment		Over 30 years	20-30 years	10-19 years	5-9 years	Under 5 years	TOTAL
Pattern marking and grading	<i>Number</i>	—	—	3	3	9	15
	<i>Per cent</i>	—	—	(20)	(20)	(60)	(100)
Cutting room	<i>Number</i>	6	13	20	61	51	151
	<i>Per cent</i>	(4)	(9)	(13)	(40)	(34)	(100)
Sewing	<i>Number</i>	13	36	627	1,142	1,867	3,685
	<i>Per cent</i>	(neg)	(1)	(17)	(31)	(51)	(100)
— Plain	<i>Number</i>	13	36	467	640	926	2,082
	<i>Per cent</i>	(1)	(2)	(22)	(31)	(44)	(100)
— Specialized	<i>Number</i>	—	—	160	502	941	1,603
	<i>Per cent</i>	—	—	(10)	(31)	(59)	(100)
Fusing	<i>Number</i>	—	—	—	3	14	17
	<i>Per cent</i>	—	—	—	(18)	(82)	(100)
Material handling	<i>Number</i>	—	—	4	4	10	18
	<i>Per cent</i>	—	—	(22)	(22)	(56)	(100)
Steam pressing	<i>Number</i>	—	—	6	49	391	446
	<i>Per cent</i>	—	—	(1)	(11)	(88)	(100)
— Plain	<i>Number</i>	—	—	1	27	51	79
	<i>Per cent</i>	—	—	(1)	(34)	(65)	(100)
— Specialized	<i>Number</i>	—	—	5	22	340	367
	<i>Per cent</i>	—	—	(1)	(6)	(93)	(100)
Knitting	<i>Number</i>	305	28	44	128	76	581
	<i>Per cent</i>	(52)	(5)	(8)	(22)	(13)	(100)
— Circular	<i>Number</i>	305	28	21	93	61	508
	<i>Per cent</i>	(60)	(6)	(4)	(18)	(12)	(100)
— Flat	<i>Number</i>	—	—	23	35	15	73
	<i>Per cent</i>	—	—	(32)	(48)	(20)	(100)
Total, all types	<i>Number</i>	324	77	704	1,390	2,418	4,913
	<i>Per cent</i>	(7)	(2)	(14)	(28)	(49)	(100)

**AGE OF EQUIPMENT  
PYJAMAS AND SLEEPWEAR**  
Number of Machines

Type of Equipment		Over 30 years	20-30 years	10-29 years	5-9 years	Under 5 years	TOTAL
Pattern marking and grading	Number	—	—	—	4	5	9
	Per cent	—	—	—	(44)	(56)	(100)
Cutting room	Number	—	—	23	29	23	75
	Per cent	—	—	(31)	(38)	(31)	(100)
Sewing	Number	—	24	452	1,004	672	2,152
	Per cent	—	(1)	(21)	(47)	(31)	(100)
— Plain	Number	—	24	349	521	421	1,315
	Per cent	—	(2)	(27)	(39)	(32)	(100)
— Specialized	Number	—	—	103	483	251	837
	Per cent	—	—	(12)	(58)	(30)	(100)
Fusing	Number	—	—	—	1	4	5
	Per cent	—	—	—	(20)	(80)	(100)
Material handling	Number	—	—	—	1	52	53
	Per cent	—	—	—	(2)	(98)	(100)
Steam pressing	Number	—	—	4	11	10	25
	Per cent	—	—	(16)	(44)	(40)	(100)
— Plain	Number	—	—	4	3	3	10
	Per cent	—	—	(40)	(30)	(30)	(100)
— Specialized	Number	—	—	—	8	7	15
	Per cent	—	—	—	(53)	(47)	(100)
Knitting	Number	—	6	55	—	—	61
	Per cent	—	(10)	(90)	—	—	(100)
— Circular	Number	—	6	49	—	—	55
	Per cent	—	(11)	(89)	—	—	(100)
— Flat	Number	—	—	6	—	—	6
	Per cent	—	—	(100)	—	—	(100)
Total, all types	Number	—	30	534	1,050	766	2,380
	Per cent	—	(1)	(23)	(44)	(32)	(100)



## Appendix 21

## AGE OF EQUIPMENT

## RAINCOATS

Number of Machines

Type of Equipment		Over 30 years	20-30 years	10-19 years	5-9 years	Under 5 years	TOTAL
Pattern marking and grading	<i>Number</i>	—	—	1	—	1	2
	<i>Per cent</i>	—	—	(50)	—	(50)	(100)
Cutting room	<i>Number</i>	—	—	3	7	4	14
	<i>Per cent</i>	—	—	(21)	(50)	(29)	(100)
Sewing	<i>Number</i>	—	17	100	60	46	223
	<i>Per cent</i>	—	(7)	(45)	(27)	(21)	(100)
— Plain	<i>Number</i>	—	9	85	45	26	165
	<i>Per cent</i>	—	(5)	(52)	(27)	(16)	(100)
— Specialized	<i>Number</i>	—	8	15	15	20	58
	<i>Per cent</i>	—	(14)	(26)	(26)	(34)	(100)
Fusing	<i>Number</i>	—	—	—	2	2	4
	<i>Per cent</i>	—	—	—	(50)	(50)	(100)
Material handling	<i>Number</i>	—	—	1	1	7	9
	<i>Per cent</i>	—	—	(11)	(11)	(78)	(100)
Steam pressing	<i>Number</i>	—	—	19	7	9	35
	<i>Per cent</i>	—	—	(54)	(20)	(26)	(100)
— Plain	<i>Number</i>	—	—	—	2	1	3
	<i>Per cent</i>	—	—	—	(67)	(33)	(100)
— Specialized	<i>Number</i>	—	—	19	5	8	32
	<i>Per cent</i>	—	—	(59)	(16)	(25)	(100)
Total, all types	<i>Number</i>	—	17	124	77	69	287
	<i>Per cent</i>	—	(6)	(43)	(27)	(24)	(100)

## Appendix 22

**AGE OF EQUIPMENT**  
**WOMEN'S SPORTSWEAR, DRESSES, SKIRTS AND SUITS**  
 Number of Machines

Type of Equipment		Over 30 years	20-30 years	10-19 years	5-9 years	Under 5 years	TOTAL
Pattern marking and grading	<i>Number</i>	—	1	4	11	22	38
	<i>Per cent</i>	—	(3)	(10)	(29)	(58)	(100)
Cutting room	<i>Number</i>	—	3	35	107	75	220
	<i>Per cent</i>	—	(1)	(16)	(49)	(34)	(100)
Sewing	<i>Number</i>	65	220	693	1,651	1,392	4,021
	<i>Per cent</i>	(2)	(5)	(17)	(41)	(35)	(100)
— Plain	<i>Number</i>	50	172	453	1,179	993	2,847
	<i>Per cent</i>	(2)	(6)	(16)	(41)	(35)	(100)
— Specialized	<i>Number</i>	15	48	240	472	399	1,174
	<i>Per cent</i>	(1)	(4)	(21)	(40)	(34)	(100)
Fusing	<i>Number</i>	—	—	—	4	22	26
	<i>Per cent</i>	—	—	—	(15)	(85)	(100)
Material handling	<i>Number</i>	—	2	5	8	120	135
	<i>Per cent</i>	—	(1)	(4)	(6)	(89)	(100)
Steam pressing	<i>Number</i>	—	6	63	100	88	257
	<i>Per cent</i>	—	(2)	(25)	(39)	(34)	(100)
— Plain	<i>Number</i>	—	1	44	52	47	144
	<i>Per cent</i>	—	(neg)	(31)	(36)	(33)	(100)
— Specialized	<i>Number</i>	—	5	19	48	41	113
	<i>Per cent</i>	—	(4)	(17)	(43)	(36)	(100)
Knitting	<i>Number</i>	—	21	75	94	44	234
	<i>Per cent</i>	—	(9)	(32)	(40)	(19)	(100)
— Circular	<i>Number</i>	—	21	50	48	42	161
	<i>Per cent</i>	—	(13)	(31)	(30)	(26)	(100)
— Flat	<i>Number</i>	—	—	25	46	2	73
	<i>Per cent</i>	—	—	(34)	(63)	(3)	(100)
Total, all types	<i>Number</i>	65	253	875	1,975	1,763	4,931
	<i>Per cent</i>	(1)	(5)	(18)	(40)	(36)	(100)

## Appendix 23

**AGE OF EQUIPMENT  
FOUNDATION GARMENTS**  
Number of Machines

Type of Equipment		Over 30 years	20-30 years	10-19 years	5-9 years	Under 5 years	TOTAL
Pattern marking and grading	<i>Number</i>	—	—	—	—	1	1
	<i>Per cent</i>	—	—	—	—	(100)	(100)
Cutting room	<i>Number</i>	—	7	3	6	10	26
	<i>Per cent</i>	—	(27)	(12)	(23)	(38)	(100)
Sewing	<i>Number</i>	156	195	1,130	460	577	2,518
	<i>Per cent</i>	(6)	(8)	(45)	(18)	(23)	(100)
— Plain	<i>Number</i>	149	172	1,030	266	245	1,862
	<i>Per cent</i>	(8)	(9)	(56)	(14)	(13)	(100)
— Specialized	<i>Number</i>	7	23	100	194	332	656
	<i>Per cent</i>	(1)	(4)	(15)	(29)	(51)	(100)
Fusing	<i>Number</i>	—	—	—	2	16	18
	<i>Per cent</i>	—	—	—	(11)	(89)	(100)
Material handling	<i>Number</i>	—	—	12	6	4	22
	<i>Per cent</i>	—	—	(55)	(27)	(18)	(100)
Steam pressing	<i>Number</i>	—	—	1	—	2	3
	<i>Per cent</i>	—	—	(33)	—	(67)	(100)
— Plain	<i>Number</i>	—	—	—	—	2	2
	<i>Per cent</i>	—	—	—	—	(100)	(100)
— Specialized	<i>Number</i>	—	—	1	—	—	1
	<i>Per cent</i>	—	—	(100)	—	—	(100)
Total, all types	<i>Number</i>	156	202	1,146	474	610	2,588
	<i>Per cent</i>	(6)	(8)	(44)	(18)	(24)	(100)

**AGE OF EQUIPMENT  
SWIMWEAR**  
Number of machines

Type of Equipment		Over 30 years	20-30 years	10-19 years	5-9 years	Under 5 years	TOTAL
Pattern marking and grading	<i>Number</i>	—	—	—	1	—	1
	<i>Per cent</i>	—	—	—	(100)	—	(100)
Cutting room	<i>Number</i>	—	4	—	9	15	28
	<i>Per cent</i>	—	(14)	—	(32)	(54)	(100)
Sewing	<i>Number</i>	15	20	106	293	286	720
	<i>Per cent</i>	(2)	(3)	(15)	(40)	(40)	(100)
— Plain	<i>Number</i>	15	20	106	293	274	708
	<i>Per cent</i>	(2)	(3)	(15)	(41)	(39)	(100)
— Specialized	<i>Number</i>	—	—	—	—	12	12
	<i>Per cent</i>	—	—	—	—	(100)	(100)
Fusing	<i>Number</i>	—	—	—	—	4	4
	<i>Per cent</i>	—	—	—	—	(100)	(100)
Material handling	<i>Number</i>	—	—	—	3	8	11
	<i>Per cent</i>	—	—	—	(27)	(73)	(100)
Steam pressing	<i>Number</i>	1	—	2	4	9	16
	<i>Per cent</i>	(6)	—	(13)	(25)	(56)	(100)
— Plain	<i>Number</i>	1	—	2	4	9	16
	<i>Per cent</i>	(6)	—	(13)	(25)	(56)	(100)
Total, all types	<i>Number</i>	16	24	108	310	322	780
	<i>Per cent</i>	(2)	(3)	(14)	(40)	(41)	(100)

## Appendix 25

**AGE OF EQUIPMENT  
UNDERWEAR**  
Number of Machines

Type of Equipment		Over 30 years	20-30 years	10-19 years	5-9 years	Under 5 years	TOTAL
Pattern marking and grading	<i>Number</i>	—	—	3	—	2	5
	<i>Per cent</i>	—	—	(60)	—	(40)	(100)
Cutting room	<i>Number</i>	—	2	16	18	8	44
	<i>Per cent</i>	—	(5)	(36)	(41)	(18)	(100)
Sewing	<i>Number</i>	63	118	1,069	690	964	2,904
	<i>Per cent</i>	(2)	(4)	(37)	(24)	(33)	(100)
— Plain	<i>Number</i>	63	114	968	580	708	2,433
	<i>Per cent</i>	(2)	(5)	(40)	(24)	(29)	(100)
— Specialized	<i>Number</i>	—	4	101	110	256	471
	<i>Per cent</i>	—	(1)	(22)	(23)	(54)	(100)
Fusing	<i>Number</i>	—	—	1	1	2	4
	<i>Per cent</i>	—	—	(25)	(25)	(50)	(100)
Material handling	<i>Number</i>	—	—	7	20	15	42
	<i>Per cent</i>	—	—	(17)	(47)	(36)	(100)
Steam pressing	<i>Number</i>	—	—	7	2	16	25
	<i>Per cent</i>	—	—	(28)	(8)	(64)	(100)
— Plain	<i>Number</i>	—	—	7	1	13	21
	<i>Per cent</i>	—	—	(33)	(5)	(62)	(100)
— Specialized	<i>Number</i>	—	—	—	1	3	4
	<i>Per cent</i>	—	—	—	(25)	(75)	(100)
Knitting	<i>Number</i>	69	76	115	31	51	342
	<i>Per cent</i>	(20)	(22)	(34)	(9)	(15)	(100)
— Circular	<i>Number</i>	69	76	115	31	51	342
	<i>Per cent</i>	(20)	(22)	(34)	(9)	(15)	(100)
Total, all types	<i>Number</i>	132	196	1,218	762	1,058	3,366
	<i>Per cent</i>	(4)	(6)	(36)	(23)	(31)	(100)

**AGE OF EQUIPMENT**  
**JACKETS, OVERCOATS AND TOPCOATS**  
 Number of Machines

<b>Type of Equipment</b>		<b>Over 30 years</b>	<b>20-30 years</b>	<b>10-19 years</b>	<b>5-9 years</b>	<b>Under 5 years</b>	<b>TOTAL</b>
Pattern marking and grading	<i>Number</i>	—	—	1	3	19	23
	<i>Per cent</i>	—	—	(4)	(13)	(83)	(100)
Cutting room	<i>Number</i>	—	—	12	29	29	70
	<i>Per cent</i>	—	—	(18)	(41)	(41)	(100)
Sewing	<i>Number</i>	—	—	531	640	663	1,834
	<i>Per cent</i>	—	—	(29)	(35)	(36)	(100)
— Plain	<i>Number</i>	—	—	395	482	487	1,364
	<i>Per cent</i>	—	—	(29)	(35)	(36)	(100)
— Specialized	<i>Number</i>	—	—	136	158	176	470
	<i>Per cent</i>	—	—	(29)	(34)	(37)	(100)
Fusing	<i>Number</i>	—	—	—	4	16	20
	<i>Per cent</i>	—	—	—	(20)	(80)	(100)
Material handling	<i>Number</i>	—	—	1	—	2	3
	<i>Per cent</i>	—	—	(33)	—	(67)	(100)
Steam pressing	<i>Number</i>	—	—	38	80	44	162
	<i>Per cent</i>	—	—	(24)	(49)	(27)	(100)
— Plain	<i>Number</i>	—	—	12	37	18	67
	<i>Per cent</i>	—	—	(18)	(55)	(27)	(100)
— Specialized	<i>Number</i>	—	—	26	43	26	95
	<i>Per cent</i>	—	—	(27)	(45)	(28)	(100)
<b>Total, all types</b>	<i>Number</i>	—	—	<b>583</b>	<b>756</b>	<b>773</b>	<b>2,112</b>
	<i>Per cent</i>	—	—	<b>(28)</b>	<b>(36)</b>	<b>(36)</b>	<b>(100)</b>

**AGE OF EQUIPMENT**  
**STRUCTURED SUITS AND JACKETS**  
 Number of Machines

Type of Equipment		Over 30 years	20-30 years	10-19 years	5-9 years	Under 5 years	TOTAL
Pattern marking and grading	<i>Number</i>	—	—	—	3	7	10
	<i>Per cent</i>	—	—	—	(30)	(70)	(100)
Cutting room	<i>Number</i>	—	—	—	—	30	30
	<i>Per cent</i>	—	—	—	—	(100)	(100)
Sewing	<i>Number</i>	—	14	353	893	890	2,150
	<i>Per cent</i>	—	(1)	(16)	(42)	(41)	(100)
— Plain	<i>Number</i>	—	14	301	767	824	1,906
	<i>Per cent</i>	—	(1)	(16)	(40)	(43)	(100)
— Specialized	<i>Number</i>	—	—	52	126	66	244
	<i>Per cent</i>	—	—	(21)	(52)	(27)	(100)
Fusing	<i>Number</i>	—	—	2	5	10	17
	<i>Per cent</i>	—	—	(12)	(29)	(59)	(100)
Material handling	<i>Number</i>	—	—	1	5	4	10
	<i>Per cent</i>	—	—	(10)	(50)	(40)	(100)
Steam pressing	<i>Number</i>	—	—	159	214	131	504
	<i>Per cent</i>	—	—	(32)	(42)	(26)	(100)
— Plain	<i>Number</i>	—	—	113	184	103	400
	<i>Per cent</i>	—	—	(28)	(46)	(26)	(100)
— Specialized	<i>Number</i>	—	—	46	30	28	104
	<i>Per cent</i>	—	—	(44)	(29)	(27)	(100)
Total, all types	<i>Number</i>	—	14	515	1,120	1,072	2,721
	<i>Per cent</i>	—	(1)	(19)	(41)	(39)	(100)

**AGE OF EQUIPMENT**  
**LEATHER COATS AND JACKETS**  
 Number of Machines

Type of Equipment		Over 30 yrs.	20-30 years	10-19 years	5-9 years	Under 5 years	TOTAL
Pattern marking and grading	<i>Number</i>	—	—	—	—	1	1
	<i>Per cent</i>	—	—	—	—	(100)	(100)
Cutting room	<i>Number</i>	—	—	1	1	1	3
	<i>Per cent</i>	—	—	(33)	(33)	(33)	(100)
Sewing	<i>Number</i>	—	1	166	202	106	475
	<i>Per cent</i>	—	(neg)	(35)	(43)	(22)	(100)
— Plain	<i>Number</i>	—	1	136	176	80	393
	<i>Per cent</i>	—	(neg)	(35)	(45)	(20)	(100)
— Specialized	<i>Number</i>	—	—	30	26	26	82
	<i>Per cent</i>	—	—	(36)	(32)	(32)	(100)
Fusing	<i>Number</i>	—	—	—	—	2	2
	<i>Per cent</i>	—	—	—	—	(100)	(100)
Material handling	<i>Number</i>	—	—	1	1	—	2
	<i>Per cent</i>	—	—	(50)	(50)	—	(100)
Steam pressing	<i>Number</i>	—	1	8	4	5	18
	<i>Per cent</i>	—	(6)	(44)	(22)	(28)	(100)
— Plain	<i>Number</i>	—	1	7	3	4	15
	<i>Per cent</i>	—	(6)	(47)	(20)	(27)	(100)
— Specialized	<i>Number</i>	—	—	1	1	1	3
	<i>Per cent</i>	—	—	(33)	(33)	(33)	(100)
Total, all types	<i>Number</i>	—	2	176	208	115	501
	<i>Per cent</i>	—	(neg)	(35)	(42)	(23)	(100)



## AGE OF EQUIPMENT

## MEN'S SHIRTS

Number of Machines

Type of Equipment		Over 30 years	20-30 years	10-19 years	5-9 years	Under 5 years	TOTAL
Pattern marking and grading	<i>Number</i>	—	—	4	—	9	13
	<i>Per cent</i>	—	—	(31)	—	(69)	(100)
Cutting room	<i>Number</i>	13	24	48	64	72	221
	<i>Per cent</i>	(6)	(11)	(22)	(29)	(32)	(100)
Sewing	<i>Number</i>	81	278	966	802	1,279	3,406
	<i>Per cent</i>	(2)	(8)	(28)	(24)	(38)	(100)
— Plain	<i>Number</i>	70	244	894	613	829	2,650
	<i>Per cent</i>	(3)	(9)	(34)	(23)	(31)	(100)
— Specialized	<i>Number</i>	11	34	72	189	450	756
	<i>Per cent</i>	(1)	(4)	(10)	(25)	(60)	(100)
Fusing	<i>Number</i>	7	2	7	9	18	43
	<i>Per cent</i>	(16)	(5)	(16)	(21)	(42)	(100)
Material handling	<i>Number</i>	1	1	7	33	17	59
	<i>Per cent</i>	(2)	(2)	(11)	(56)	(29)	(100)
Steam pressing	<i>Number</i>	21	46	110	43	29	249
	<i>Per cent</i>	(8)	(19)	(44)	(17)	(12)	(100)
— Plain	<i>Number</i>	21	42	75	41	24	203
	<i>Per cent</i>	(10)	(21)	(37)	(20)	(12)	(100)
— Specialized	<i>Number</i>	—	4	35	2	5	46
	<i>Per cent</i>	—	(9)	(76)	(4)	(11)	(100)
Knitting	<i>Number</i>	—	—	11	71	15	97
	<i>Per cent</i>	—	—	(11)	(73)	(16)	(100)
— Circular	<i>Number</i>	—	—	5	29	10	44
	<i>Per cent</i>	—	—	(11)	(66)	(23)	(100)
— Flat	<i>Number</i>	—	—	6	42	5	53
	<i>Per cent</i>	—	—	(11)	(79)	(10)	(100)
Total, all types	<i>Number</i>	123	351	1,153	1,022	1,439	4,088
	<i>Per cent</i>	(3)	(9)	(28)	(25)	(35)	(100)

**AGE OF EQUIPMENT**  
**SWEATERS, PULLOVERS AND CARDIGANS**  
 Number of Machines

Type of Equipment		Over 30 years	20-30 years	10-19 years	5-9 years	Under 5 years	TOTAL
Pattern marking and grading	<i>Number</i>	—	—	—	1	1	2
	<i>Per cent</i>	—	—	—	(50)	(50)	(100)
Cutting room	<i>Number</i>	1	4	13	14	18	50
	<i>Per cent</i>	(2)	(8)	(26)	(28)	(36)	(100)
Sewing	<i>Number</i>	8	24	240	594	824	1,690
	<i>Per cent</i>	(neg)	(2)	(14)	(35)	(49)	(100)
— Plain	<i>Number</i>	4	13	160	448	621	1,246
	<i>Per cent</i>	(neg)	(1)	(13)	(36)	(50)	(100)
— Specialized	<i>Number</i>	4	11	80	146	203	444
	<i>Per cent</i>	(1)	(2)	(18)	(33)	(46)	(100)
Fusing	<i>Number</i>	—	—	—	—	4	4
	<i>Per cent</i>	—	—	—	—	(100)	(100)
Material handling	<i>Number</i>	—	—	—	5	9	14
	<i>Per cent</i>	—	—	—	(36)	(64)	(100)
Steam pressing	<i>Number</i>	—	6	17	47	66	136
	<i>Per cent</i>	—	(4)	(13)	(35)	(48)	(100)
— Plain	<i>Number</i>	—	6	15	47	52	120
	<i>Per cent</i>	—	(5)	(13)	(39)	(43)	(100)
— Specialized	<i>Number</i>	—	—	2	—	14	16
	<i>Per cent</i>	—	—	(13)	—	(87)	(100)
Knitting	<i>Number</i>	28	106	332	390	247	1,103
	<i>Per cent</i>	(3)	(10)	(30)	(35)	(22)	(100)
— Circular	<i>Number</i>	8	53	128	208	131	528
	<i>Per cent</i>	(2)	(10)	(24)	(39)	(25)	(100)
— Flat	<i>Number</i>	20	53	204	182	116	575
	<i>Per cent</i>	(3)	(9)	(36)	(32)	(20)	(100)
Total, all types	<i>Number</i>	37	140	602	1,051	1,169	2,999
	<i>Per cent</i>	(1)	(5)	(20)	(35)	(39)	(100)

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