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THE PRIMARY TEXTILE INDUSTRY

THE manufacture of textiles is divided into two main branches, the primary and the secondary industries. The primary industry is engaged in preparing the raw materials for the production of yarn, in spinning or extruding the yarn, in weaving, finishing and dyeing yarn as fabrics, or in knitting the yarn and completing the manufacture of knitted articles. The work of the secondary industry is mainly that of cutting and sewing woven fabrics to produce garments or articles. A small proportion of flat knitted fabrics is sold to secondary textile plants for cutting and sewing into garments or articles, but it should be emphasized that almost all factory knitted goods are made in primary mills where production begins either with the manufacture of yarn or the knitting of yarn and carries through to the manufacture of the finished consumer product.

The primary textile industry is broadly classified according to types of raw materials processed, that is, natural products such as cotton, wool, jute, flax, real silk; and synthetics developed by chemical treatment of materials to produce rayon, nylon, casein, fibre-glass, etc. Cotton, wool, rayon and nylon are the textiles produced and sold to Canadian consumers in greatest volume, and we shall concern ourselves only with these divisions. Canadian production begins with a basic raw material, either of domestic origin or entirely imported. Cotton production begins with a material which is entirely imported, raw cotton. Wool production commences with raw wool of which the domestic wool clip is only a fraction of our requirements. Rayon production begins with either domestically produced wood pulp, or cotton linters which are entirely imported.

The Canadian primary textile industry has been built up with the aid of a heavy protective tariff. The first primary textile industry to be established in Canada was wool; it dates back to the period of French rule. But more than 125 years ago the factory system of production was introduced and it soon replaced manufacture of woollens in the home. Cotton production began as a factory operation; it has experienced a century of growth in this country. Canadians began silk weaving actively in 1922 and turned, in a few years, to the newer rayon fabrics. By 1932, rayon production exceeded that of silk. The rayon industry has grown steadily and rapidly since that year, while the manufacture of real silk has continued to decline and very nearly disappeared during the war. Canadian production of nylon textiles from imported yarns was commenced only in 1940. Almost immediately it was taken up entirely for parachute yarns, shroud lines and other military purposes.

A plant was built with government encouragement for the domestic manufacture of filament yarns. It came into operation in June, 1942, and worked on military contracts throughout the war years. Commercial production was commenced in September, 1945, and the plant was quickly adapted to civilian output.

The primary textile industry has for many years been among the principal manufacturing industries in Canada. In 1945, the net value of its products, totalling $182 million, led the field. Gross value of production is exceeded only by meat packers and pulp and paper producers. Some 90,000 men and women are employed in primary textiles (1947), the highest of any manufacturing group. Close to half the workers are women. In contrast with steel, paper-making, or meat-packing establishments, textile manufacturing is a light industry. A fairly high proportion of semi-skilled workers, male or female, are required for production lines in the primary mills.

Wage and salary levels in the primary textile industry have always been low. In evidence before the Special Committee on Prices, the union representatives spoke of the entire textile industry as a low-wage group. Mr. Baron, the Canadian Director of Textile Workers Union of America, quoted Dominion Bureau of Statistics figures of April, 1948, to show that, for the primary textile industry, wages were lower than in any other group except tobacco. The nature of work requirements and the high proportion of female labour offer a partial explanation. The extent to which plants are located in smaller centres is also a factor. Like other industrial workers, textile employees have had substantial wage increases since 1939. A Department of Labour survey covering half the primary mills and a larger portion of the production shows an increase in average wage rates between 1939 and 1947 of just over 90 per cent. The most recent earnings are shown in the following table.

TABLE 116

AVERAGE HOURLY EARNINGS, SELECTED INDUSTRIES, 1945-1948

(cents per hour)

	1945	1946	1947	November, 1948
Thread, Yarn and Cloth	48.9	53.2	61.4	77.2
Hosiery and Knit Goods	47.4	50.8	58.3	70.1
Garments and Furnishings	54.5	57.7	63.9	73.9
Manufacturing in General	69.4	70.0	80.3	95.5
Meat Products	67.9	72.9	84.1	103.4
Pulp and Paper	71.8	78.9	93.6	112.3
Iron and Steel Products	70.5	71.5	84.7	104.6

Source: Dominion Bureau of Statistics, Ottawa.

The general and intermediate duties on textiles entering Canada were increased in 1930 and preferential rates were adjusted downwards at the Imperial Conference of 1932. The net effect of these two adjustments was an improvement in the position of the industry. Competition from general and intermediate tariff countries was further excluded by the 1930 upward adjustment, while the later adjustment downward opened opportunities for export trade to Commonwealth markets. Small shipments of rayon fabrics to Australasia and of hosiery and some dresses to South Africa, were the principal pre-war exports. The war brought some expansion and greater diversity in exports of both primary and secondary products. The total export business, however, remains a comparatively slight percentage of production. As a result of these tariff changes a steady increase in production and employment occurred from 1933 onwards. These results are shown in the following table, where it will be seen that in 1933, employment in the primary textiles industry was on a level with 1930. This was in contrast to a substantial drop in employment in other manufacturing industries. By 1939, the employment level in the primary textiles field was 20 per cent above 1930, whereas other main manufacturing groups were only five per cent above the low point of the depression.

TABLE 117

EMPLOYMENT IN PRIMARY TEXTILES AND OTHER MANUFACTURING

(thousands of employees)

	1930	1933	1939	Per Cent Increase 1929–1939
Primary Textiles[a]	55	54	64	+20
Textiles, Total	104	96	121	−16
Other Manufacturing[b]	511	373	537	− 5
All Manufacturing	615	469	658	− 7

a) Includes production of cottons, woollens, silk, hosiery and knit goods and the dyeing and finishing of textiles.

b) Obtained by deducting Textiles from all manufacturing.

Source: Dominion Bureau of Statistics, Ottawa.

Latest 1945 Dominion Bureau of Statistics figures on the textile industries of Canada, both primary and secondary, show a total of 2,740 establishments employing 158,000 persons, an increase of 810,000 establishments and 37,000 employees over 1939. Both in net value of production and in total wage and salary payments, the primary sector of the industry accounted for just under 50 per cent of the total.

In 1947, there was a total of 653 primary textile outlets, more than half of the number, including some large producers, located in centres of less than 25,000 people. The industry is concentrated heavily throughout south-western Quebec and southern Ontario. A small number of plants are located in the Maritime provinces and Manitoba, while some firms are now opening up in British Columbia.

In its examination of the primary textile industry, the Special Committee on Prices decided not to cover the fields of knit goods or narrow fabrics. Questionnaires were addressed to all domestic producers of wool cloth and of cotton, rayon or nylon broadwoven fabrics as well as to all Canadian manufacturers of yarns going into these products.

The production of yarns and of fabrics in Canadian primary mills is shown in relation to imports in the following tables. Exports, where they are at all substantial, have been deducted to give the Canadian supply picture. The figures show the comparative importance of the main raw materials in the total textile supply.

TABLE 118

CANADIAN SUPPLY OF TEXTILE YARNS AND BROADWOVEN FABRICS

A. TEXTILE YARNS

(thousands of pounds)

1. COTTON, WOOL AND FILAMENT RAYON

	1936	1939	1942	1946	1947
Cotton					
Domestic Production	131,496	143,790	214,147	162,188	168,216
Imports	5,130	5,679	12,533	9,137	16,000
Canadian Supply	136,626	149,469	226,680	171,325	184,216
Wool					
Domestic Production	30,615	37,408	69,985	64,613	—a
Imports	3,434	3,004	2,681	4,298	—
Canadian Supply	34,049	40,412	72,666	68,911	
Filament Rayon					
Domestic Production	13,623	14,197	18,920	18,134	20,562
Imports	1,168	2,920	3,480	5,173	5,379
Canadian Supply	14,791	17,117	22,400	23,317	25,941

2. SPUN RAYON

	1943	1944	1945	1946	
Domestic Production	6,032	6,754	6,872	9,339	—a
Domestic Consumption	6,389	6,861	7,413	9,111	—

3. NYLON

	1942	1944	1945	1946	1947
Military Production	222	1,886	730		
Civilian Production			297	1,631	2,401

B. BROADWOVEN FABRICS
(thousands of yards)

COTTON, WOOL AND RAYON

	1936	1939	1942	1946	1947
Cotton					
Domestic Production	245,000	278,836	369,166	267,537	254,280
Imports	90,391	121,031	217,107	218,387	250,000[b]
Canadian Supply	344,391	397,367	568,473	473,124	552,132
Wool					
Domestic Production	17,542	17,190	27,796	29,270	28,000
Imports	12,021	11,414	13,209	10,919	14,196
Canadian Supply	29,563	28,604	41,005	40,189	42,196
Rayon					
Domestic Production	44,603	51,844	79,589	83,373	88,000
Imports	6,736	8,999	11,804	11,888	19,846
Canadian Supply	50,839	58,774	88,755	91,176	100,105

a) Advance compilation of these figures discontinued.

b) Unofficial conversion from pounds.

Source: Statistical Reports on the Primary Textile Industry in Canada, Wartime Prices and Trade Board. Figures for 1947 from the Primary Textiles Institute of Canada and Dominion Bureau of Statistics.

COTTON

Sources of Supply

Canada is entirely dependent on imports of raw cotton used in the production of yarns. The United States, which is now the principal import source, has been able to provide an ample supply, though further quantities and special types are obtained from Brazil, India, Egypt and other countries. From this raw cotton, Canadian mills spin about 95 per cent of the yarn used in Canadian production. But the deficiency of five per cent represents finer qualities which Canadian mills, lacking specialized machinery and skilled operators, are not equipped to turn out. They are required for thread and electrical wire insulation and as a component in the production of much knitted cotton hosiery and underwear and a few special woven fabrics.

Unlike the situation in yarns, Canada depends on substantial imports of broadwoven fabrics. Some of these are imported in the "grey", or unfinished state, for further finishing in primary mills. There is also one firm in Canada whose business is largely that of finishing grey goods of both domestic and import origin. This company was not included in the Committee's survey.

Table 119 indicates the extent of Canada's imports of broadwoven fabrics from the United States and the United Kingdom. Shipments from other than these two sources have been relatively unimportant. The table shows a marked shift in the source of these imports and an increase in the proportion of imports. Until 1941, domestic production accounted for about 70 per cent of the supply but thereafter imports were stepped up considerably to meet wartime requirements. Imports rose to 37 per cent of the total supply in 1942 and ranged between 41 and 45 per cent through to the end of 1946. Government bulk purchasing, subsidies and procurement assistance during 1947 succeeded

in bringing in a record volume of fabrics as a cushion against uncertainties of the early months following removal of price ceilings and the government's withdrawal from negotiations for supplies; in that year imports constituted almost 52 per cent of the total Canadian supply.

TABLE 119

APPARENT SUPPLY OF COTTON BROADWOVEN FABRICS
1936–1948

(millions of yards)

	Domestic Production	Imports from U.K.	Imports from U.S.	Domestic Production and Imports	Exports
1936	245	74	16	335	1
1937	266	76	21	363	1
1938	236	64	26	326	1
1939	279	76	45	400	3
1940	327	29	94	450	10
1941	366	44	110	520	17
1942	369	39	178	586	18
1943	318	27	195	540	11
1944	296	10	225	531	7
1945	277	8	196	481	11
1946	268	5	213	486	13
1947	265	8	276	549	16
1st quarter	73	2	82	157	2
2nd quarter	72	2	73	147	6
3rd quarter	59	1	62	122	3
4th quarter	61	3	59	123	5
1948					
1st quarter	67	4	30	101	3

Source: Dominion Bureau of Statistics, and The Wartime Prices and Trade Board.

While Canada has built up a substantial cotton manufacturing industry, it is nevertheless subject to heavy pressures resulting from world production problems and price changes. The supply of raw cotton has not been threatened at any time recently and spinners have been able to secure prompt deliveries and to maintain the required level of inventories in relation to the flow of imports and the rate of production. But price changes of raw cotton can have a telling effect on Canadian prices of cotton products.

The need for imported specialty yarns is greatest among knitters. Uncertainty of supply is likely to be a greater cause for concern than price because of the blending of these yarns with domestic yarns in manufacturing processes. Yet this in turn contributes further to the vulnerability of Canadian producers since the imported yarns are essential types which today cannot be spun in Canadian mills.

The main need for imported fabrics has been for types which could be turned out in Canadian mills if productive capacity were enlarged. True, Canada imported large quantities of English shirtings and other fine fabrics before the war, but acceptable substitute fabrics, using yarns

of reduced fineness, have been obtained from the United States and most such fabrics come within the capabilities of our domestic mills. We do, however, completely rely on the United Kingdom for certain small yardages of technical cloths such as tracing and typewriter ribbon cloth not obtainable elsewhere.

If Canadian primary cotton mills were to supply the entire domestic market needs of yarns and fabrics, reducing dependence on outside sources to a small quantity of specialties, an uninterrupted flow from all present mills amounting to close to double shift capacity would be needed. With war production at its peak, the mills did achieve an output of perhaps 160 per cent of single shift capacity. But this record depended on the utilization of labour on two or three shift operations. Even with top incentives it would appear to be most difficult to duplicate this in peacetime. Therefore, we think domestic production will continue to fall short of total requirements in the years ahead by at least 15 per cent and more probably 25 to 40 per cent.

A fairly large proportion of imported fabrics normally enters Canada in the grey state for finishing in Canadian mills. Trade statistics show an average of 11.5 per cent of total fabric imports imported in this form over the years 1939 to 1947.

Organization of the Industry

The cotton yarn and cloth industry is concentrated heavily in the province of Quebec, which accounts for perhaps two-thirds of the total volume of production, and in Ontario with about 25 per cent. There are only three mills of any significance outside the central provinces, all located in the Maritimes. They are owned and operated by Ontario companies.

The Special Committee on Prices selected five major organizations for special examination, the Dominion Textile Company Limited with its two subsidiaries, Montreal Cottons Limited and Drummondville Cotton Company Limited; Canadian Cottons Limited, and Wabasso Cottons Limited. This group of companies, on the basis of sales, accounts for close to three-quarters of Canadian production. All of them work from raw cotton, while many smaller producers merely weave yarn; therefore, the big five in fact carry out a larger share of total productive operations than indicated by the comparison of dollar sales.

Three additional firms, subsidiaries of Canadian tire and rubber manufacturers selling their output to the parent plants, were analyzed separately. Among the remaining manufacturers, the Hamilton Cotton Company Limited and Cosmos Imperial Mills Limited, stand out as large producers. The investigation covered in all, 23 companies operating a total of 39 mills.

The majority of the Canadian cotton mills are located outside the large cities. This enables the mills to recruit labour at a slightly lower average wage but it may on occasion create a problem when additions to the total labour force are being sought.

The capital requirements for primary cotton mills are fairly substantial, and are gradually increasing. Capital supplied to the industry is almost entirely Canadian with profits and dividends remaining largely in this country. Although the relationship between total capital investment and net value of production varies because of the wider fluctuations in production than in investment, a rough ratio is informative. The total capital investment required by the industry stands above 1½ times annual net product. Fixed capital—land, buildings and machinery—is substantially larger than working capital. The five companies examined employed in 1947 a total capital investment of close to $50 million. The 11 mills of Dominion Textiles and its subsidiaries accounted for 70 per cent of the capital investment.

Even amongst the five big companies, competition is limited by the fact that all do not turn out identical types of fabrics. The articles made by these firms and reported to the Special Committee on Prices give an indication of the tendency to specialize which is characteristic of the industry. The Dominion Textile Company concentrates on unbleached, bleached and printed goods. Drummondville specializes in tire cord and competes in the export market in fishing twine in which it occupies a monopoly position in Canada. Montreal Cottons predominates in piece-dyed fabrics. Work clothing materials are supplied primarily from Canadian Cottons Limited. Wabasso Cottons gives its main attention to fine yarn fabrics.

In the evidence, Mr. G. B. Gordon, President of Dominion Textile Co. Ltd., stated that his Company and its subsidiaries had slightly over 50 per cent of all the spindles in Canada and between 50 and 60 per cent of the Canadian market.[1] Aside from a special sales staff for the tire manufacturers and the fishing net trade operated by Drummondville Cotton, Dominion Textiles acts as sales agent for its two subsidiaries. In effect, therefore, there is no competition which would force reduction in selling prices. With all the limits on competition resulting from the corporate organization and partial specialization by individual mills it is clear that the level of tariffs and hence imports is a key factor in determining the degree to which competition could force lower prices for goods produced in Canada.

The index of wage rates in the cotton yarn and cloth industry has risen more sharply since 1939 than the average for all manufacturing industries. On a base of 100 in 1939, the average increase has been to 183.3 in 1947 while the figure for the cotton group reached 189.0 slightly below the average level achieved throughout all primary textile establishments (190.0). Nevertheless, according to Table 116 primary textiles generally, including the cotton group, appear to be a low wage industry. Evidence before the Special Committee indicates a generally disturbed state of labour relations in the industry, particularly in Dominion Textiles and more especially perhaps in Wabasso. In addition, the large proportion of female labour in which there is a heavier turn-

[1]Evidence, Special Committee on Prices, p. 3532.

over than in male labour means that the cotton industry suffers from a seasonal loss of workers. Furthermore, working conditions in the mills are adversely affected by dust, heat and heavy humidity.

Hours of work in cotton mills in 1944 averaged 49.8 hours per week for men, which was slightly above the average for 40 leading industries (49.2) and the general male average in industry (49.1). The working hours for women were exceeded only by aircraft plants. The female cotton workers' week of 47.1 hours compared with 43.6 hours as the general industrial average and 43.7, the figure for all reporting industries.[1] In the months just prior to the Special Committee's investigation, Dominion Textiles dropped from a 52½ hour work week to a 40 hour week; Canadian Cottons cut from 48 to 44 hours, while Wabasso effected some reduction by dropping the swing shift (from 3 p.m. to 11 p.m.) on Saturdays. According to the evidence, the method of adjusting hours and wage scales has not proven entirely satisfactory to the labour force.

Markets, Pricing and Selling Policies

Canadian cotton production is absorbed into the manufacture of many goods other than textiles. Automobiles, electrical appliances, shoes, furniture and a host of other products include cotton as a component. It has, as well, a variety of industrial uses, for example, paper-makers felts. However the bulk of all cotton fabrics made in Canada goes towards the various clothing items, as well as draperies, sheets, towelling, flannelette, dress materials and other dry goods for sale to the consumer.

Sales of broadwoven cottons are made directly by the primary mills to larger manufacturers and, either directly or through wholesalers, to industrial and other users. There is also a sale to wholesalers both for the retail counter trade and for marketing to very small producers who have no direct buying arrangements with the primary mills. Before the war, the primary producers required certain credentials as to credit risk and demonstrated volume.

Throughout the industry, selling prices are fixed by costing the various components entering into the manufacture of each type of fabric. Replacement prices of raw materials, labour cost at current wage and salary levels, and overhead are estimated and a price is set to permit an addition of profit on each line. It would appear that adjustments in fabric prices are made, as well, by reviewing the total operating picture in relation to individual fabric calculations. Dominion Textiles stated in evidence that their system of inventory valuation was "practically the so-called 'last in, first out' system".[2] Canadian Cottons Limited operates on the principle of 'first in, first out' coupled with writing down the value of inventory periodically.[3] It seems indicated also that the tariff has been quite important in determining what degree of profit the Canadian mills are able to take. Mr. Gordon stated that one organization among the Dominion group would not deliberately underprice another

[1]Canada Year Book, 1947, p. 550-1.
[2]Evidence, Special Committee on Prices, p. 3528.
[3]Ibid., p. 3569.

in order to shift sales from a type of fabric made by one outlet to a type produced by another of their mills. The implication is that the 11 mills in the Dominion-Montreal-Drummondville group do not compete. And this is supported by the fact that Montreal Cottons uses Dominion as its sales agency, while Drummondville sells only non-competitive products. Mr. Gordon stated and reiterated that the determining factor in setting prices was cost of manufacture. Yet a profit figure is included as part of this cost. From the evidence before the Committee, and in the earlier Turgeon report,[1] it would seem the Dominion Textiles group has for many years been the price leader for the field.

Factors in Price Changes since the Beginning of the War

The most serious wartime dislocation affecting primary cottons was the necessity of transferring the main procurement of imported fabrics from the United Kingdom to the United States. The change in import source was required by the serious situation in Atlantic shipping coupled with the emergency closing of a number of British cotton mills. In July, 1943, Canadian authorities reluctantly agreed that shipments of fabrics should be cut from an annual rate averaging 10½ million pounds through 1937-1939 to about 675,000 pounds. Negotiations for American fabrics were begun immediately with United States officials through the Combined Production and Resources Board in Washington. The change over had to be accomplished speedily. On January 1, 1944, Canada was given an allocation backed by shipment priorities. The allocation included military supplies such as bag cloths, canvas and tire cord, but also heavy quotas of work clothing fabrics, shirtings, print cloths, etc. The allocations which were on a quarterly basis, were revised and re-negotiated year by year to the end of 1946. In that year when shipment priorities were discontinued it became increasingly difficult to ensure full deliveries against the allocations, particularly following the break-down of United States price controls in July. It was quite evident too, that even the allocations would cease by the year end.

In order to meet what appeared at the time to be a serious potential shortage, bulk purchasing which had already been utilized in part to secure price advantages and to control subsidy payments, was extended to assist in picking up the backlog outstanding on fabric allocations and in building a reserve against the uncertainties of the free market. Through bulk purchase and government assistance to private procurement, Canada succeeded in bringing in a record volume of cotton fabrics during 1947 in spite of a partial withdrawal in mid-year of the government's active support of procurement through subsidies, etc. By mid-November, alarm at the shortage of United States dollars had dictated both a quota limitation on shipments from the United States and serious efforts to speed the re-establishment of the United Kingdom as the principal import source of fabrics.

Receipts of yarns from the United Kingdom continued throughout the war under the highest priorities, together with the small shipments

[1]The Royal Commission on the Textile Industry, 1938.

of special fabrics previously mentioned. But supplies of yarns from the United States grew apace from the beginning of the war. Knitting yarns were included in United States allocations set up for Canada from 1944. These yarns could, it is true, have been produced on Canadian spindles, but with the problem of maintaining skilled operators it was more advantageous to concentrate on volume production of coarser counts and to bring in some knitting and weaving yarns of medium fineness from the United States to swell the total supply. By mid-1946, the yarn outlook had become much more favourable than the position on fabrics. Knitters had restored working inventories and their production was rapidly catching up with consumer demand. Retail orders were beginning to taper off. The pressure of yarn shortages had almost disappeared by the date of decontrol and for more than a year have not been a factor in the supply position of cotton knitted items.

As a result of Canada's deficiency in United States exchange, the Emergency Exchange Conservation Act was introduced in November, 1947. As applied to cotton fabrics the provisions of this Act placed a quota limitation on the yardage that could be imported from "hard currency" areas. A subsidiary effect was to force a switch to "soft currency" areas, particularly the United Kingdom, as the principal import source.

At the time the import control regulations were imposed, negotiations had been entered into with the United Kingdom authorities which resulted in the setting of a delivery target by the United Kingdom of 80,000,000 yards of cotton fabrics for Canada in 1948.[1] While shipments from the United Kingdom have increased considerably since the controls were imposed, it is clear from Table 120 that the result for the year will fall far short of the announced target.

TABLE 120

QUARTERLY SHIPMENTS OF COTTON PIECE GOODS TO CANADA FROM UNITED KINGDOM

(thousands of yards)

Quarter	Amount	Quarter	Amount
1st quarter, 1947	2,058	1st quarter, 1948	3,956
2nd quarter	1,893	2nd quarter	6,608
3rd quarter	1,646	3rd quarter	11,259
4th quarter	2,359	4th quarter	11,862

Source: Dominion Bureau of Statistics, Ottawa. Trade statistics record in pounds converted to yards at the rate of 4.5 yards per pound.

[1]House of Commons Debates, May 18, 1948.

The evidence before the Special Committee made it plain that Canada is not receiving anything like the quantities required as a result of the curtailment of United States shipments. Two reasons given for small imports from the United Kingdom are the price factor and the lack of aggressive competition amongst British exporters to recapture the Canadian market.[1] Canadian consumers of cotton fabrics have been living in part off the substantial imports in 1947 and the opinions in the evidence seem to be that there is no solid assurance the United Kingdom can step up shipments to the point of providing ample supplies before the supporting inventories are cut away.

The second key supply factor contributing to the price problem today is the reduced level of domestic production. Fabric output in 1942 reached a peak of 369 million linear yards, an increase of 32 per cent over 1939 or 47 per cent over the 1935-1939 average. Moreover, production in wartime was of weights of cloth which undoubtedly would have yielded a considerably lower yardage per pound than in peacetime. The steady decline in production from 1942 throughout the remainder of the war reflected a sharp drop in direct war orders and a transfer of labour to other industries on more vital war work or to the armed forces. Based on incomplete estimates, war orders slipped off from 127 million yards in 1942 to 104 million in 1943, and in 1944 and 1945 were but a third of this quantity. By the fourth quarter of 1945, military orders had been cut to a negligible amount.

Domestic production in 1946 was off about three per cent from 1945 and fractionally lower in 1947. Moreover, fabric output in the first quarter of 1948 did not equal the yardage produced in the corresponding period of 1947. This situation in broadwoven cottons was not paralleled in other branches of the primary industry nor in manufacturing establishments generally. It is true that yarn output in 1946 was roughly equal to 1945 and rose nearly four per cent in 1947 and continued to climb in the first three months of 1948. Moreover, the mills were converting a larger yardage of imported grey goods. But fabric output has barely recaptured even the immediate pre-war position and is still some 25 per cent below the wartime maximum.

Two of the five companies operate on a year ending March 31; the other three on a calendar year. The variation in products also makes comparison difficult. However, we think the figures in Table 121 on bale openings and on yarn and fabric output measure fairly the relative performance of the several companies.

[1]Evidence, Special Committee on Prices, p. 3494.

TABLE 121

CHANGES IN YEARLY DOMESTIC PRODUCTION OF PRIMARY COTTON

(five companies)

	Pre-War[a]	War Peak	War End[b]	Current[b]
A. Bale Openings (hundreds of bales)				
Total for Canada	3,409	4,961	3,627	3,633
Dominion Textiles	830	1,756	1,294	1,184
Drummondville	104	350	302	285
Montreal	191	268	228	240
Canadian	351	525	365	427
Wabasso	385	479	295	251
B. Yarn Production (millions of pounds)				
Total for Canada	141.0	210.9	163.0	168.2
Dominion Textiles	40.3	84.7	64.2	58.8
Drummondville	4.7	16.6	14.5	13.6
Montreal	11.5	16.1	13.0	13.8
Canadian	16.6	25.6	20.0	22.7
Wabasso	3.8	4.8	3.7	3.1
C. Fabric Production (millions of linear yards)				
Total for Canada	264	351	245	254
Dominion Textiles	108	201	140	120
Drummondville	2.4	6.6	5.0	5.7
Montreal	36.2	43.2	35.2	36.9
Canadian	37.1	54.2	45.2	47.8
Wabasso	50.4	59.1	31.5	27.0

a) In the case of Dominion Textiles and Drummondville Cotton, production figures are for years ending March 31. Otherwise, returns cover the calendar year shown. For the pre-war period, the calendar year 1939 has been used or the earlier production year ending March 31, 1939.

b) Similarly, production at war's end covers either 1945 or 1944-1945 because the war ended in mid-1945. In viewing current production the last available full year has been taken, either the calendar year 1947 or the later production year ending March 31, 1948.

Source: Evidence, Special Committee on Prices, p. 3507, etc.

Decreased production was attributed by all witnesses to labour difficulties. At Wabasso mills, where the production drop has been greatest, both plant capacity and technological efficiency of machines has been increased somewhat since 1941. Although replacing of some machinery had brought a slight decrease in plant capacity at Dominion Textiles, yet, neither in their case nor in any other was the limitation on plant given as the cause of current difficulties. Mr. Gordon, in his evidence, stated that the chief cause of lower production was the problem of securing labour to build up the second shifts in the mills. In his testimony, he indicated that the work week during the war had run to 48 hours for the day shift and close to 60 hours on the night shift. After the war, a 40 hour week was introduced with overtime shifts operating on Saturdays. Because Quebec law requires a half-hour break during each shift, the possibility of operating three shifts a day was ruled out and the company had tried to build a full production for the shorter work periods. But this aim has not been realized by Dominion Textiles. Mr. Gordon estimated that his own company was operating on not much over 60 man-hours per week owing to difficulties in manning the shifts, particularly the night shifts. Magog and Montmorency mills were better off than mills located in Montreal. At the Merchants branch in Montreal, for example, the day shift in June numbered 645 hands; yet, in spite of continuous efforts to recruit additional workers, only 166 signed up for the second shift.

Added to the problems of recruiting labour, absenteeism was stated by almost all witnesses to be a severe handicap. Figures for the first five months of 1948 for seven Dominion Textiles mills showed absenteeism running at perhaps four per cent through the week on the first shift and in the neighbourhood of seven per cent on the second shift, but rising to some seven per cent on the Saturday morning and close to 12 per cent on the late Saturday shift. Throughout the summer the average is higher. Canadian Cottons stated that they were beginning to find help much easier to obtain except at their Hamilton plant. While a rough figure of six per cent absenteeism was given by Canadian Cottons, production is nonetheless being brought up considerably.

In Wabasso, as we have already noted, production declines appear to be the most serious of the five companies considered. Absenteeism was stated to be much heavier in their Three Rivers mill where no union exists than in Shawinigan Falls.

With regard to absenteeism generally Mr. Gordon indicated that higher wage rates coupled with present income tax levels were responsible to a certain extent. The validity of his opinion gained backing by the amount of absenteeism, without reason, throughout the week. But regarding failure to report on Saturdays Mr. Ledoux, the Catholic union president, contended that workers absented themselves on weekends to take more remunerative part-time employment. He also thought the schedule of hours adopted by Dominion Textile and Wabasso Limited did not encourage a full turnout at the end of the week.

Mr. Baron, the Canadian director of the Textile Workers Union of America, went further and denied categorically that "workers on incentive will work up to a certain point and then stop because they do not earn a sufficient amount of money".[1] He added that absenteeism is greater in the lower-paid industries but is also high generally, due to a post-war let-down following heavy hours of work during the war. Mr. Baron felt that the most important condition governing absenteeism was labour relations. He reminded the Special Committee that they had not the same complaint from Canadian Cottons as the other companies and pointed to Wabasso as in an even less satisfactory position than the Dominion Textiles group.

Operations under Price Control and Problem of Decontrol[2]

Shortly after the over-all price ceiling was adopted, the Prices Board established weaving yarn and fabric prices at the level of February, 1941. In the face of sharply rising raw cotton prices, an agreement was entered into with the primary mills for the payment of subsidies on their purchases of raw cotton. The agreement limited subsidy payments to the amount needed to reduce the cost of raw cotton to levels appropriate to fabric and yarn prices in February, 1941. But three factors had combined to eliminate any substantial payments before 1944. First, with government encouragement the trade accumulated large inventories of raw cotton during November, and December, 1941, at advantageous prices. Second, the "raw cotton agreement" as it came to be known, limited profits on over-all operations of the company to 116-2/3 per cent of "standard profits".[3] Finally, the heavy military orders were ex-ceiling and balanced the profit limitations on civilian production. By 1944, however, direct war orders were much reduced and it was necessary to pay heavy subsidies on raw cotton which now cost about 25 per cent more than in December, 1941. The subsidy for raw cotton brought the cost down to 11.4 cents per pound for 15/16 middling, the staple and grade on which standard quotations are usually based. Effective March 1, 1946, in view of the tremendous subsidy bill, and as a step towards decontrol, the subsidized price was raised to 15.4 cents per pound. Eleven months later, the United States support price of 24.4 cents was adopted and effective four months after, June 2, 1947, it was again increased slightly, to 27.2 cents per pound. At the time of decontrol, the price was running at about 32 cents per pound.

A fairly similar subsidy arrangement governed the importation of cotton fabrics. It differed from the raw cotton subsidy in that it did not include the limitation on profits, though subsidy payments depended on prior approval for proposed importations. Bulk purchasing by the Commodity Prices Stabilization Corporation, a Crown company, was another special feature. In 1943, about 37 per cent of total fabric imports from the United States was secured by bulk purchase. The list of fabrics eligible for subsidy, which was always carefully scrutinized,

[1]Evidence, Special Committee on Prices, p. 3881.
[2]Cf. the Annual Reports of the Wartime Prices and Trade Board.
[3]See Chapter 3, Vol. II. Price Control and Rationing.

was narrowed down very substantially through 1947 coincident with the selective removal of these goods from price control.

On September 15, 1947, when price controls ended, the Prices Board agreed to continue paying subsidies on raw cotton on the understanding and to the extent that the primary mills filled all outstanding orders for fabrics at ceiling prices. Subsidies were also continued on imported fabrics where arrangements had been completed for importation under subsidy before decontrol. Moreover, subsidies were not recovered on fabric inventories, again on the understanding that ceiling prices obtaining at decontrol would be observed in the sale of these inventories.

This informal price decontrol arrangement coupled with the accumulation of fabric imports throughout 1947 must, we think, have lessened the shock of government withdrawal from controls over cotton textiles. But nevertheless, a number of significant shortages had arisen, and some persisted well towards the time of decontrol. Because of this, the mills for some time after decontrol continued to allocate deliveries to their customers on the basis of 1941 shipments. In many cases, the cotton mills have continued these allocations in order to satisfy current demands as equitably as possible.[1]

Table 122 shows the operating income as a component of the sales dollar of the five companies, from quarter to quarter. In balance, the operating income of the group in the first quarter of 1948, was about double the proportion of the sales dollar in the final quarter of 1947, but still only about half the proportion in the second and third quarters of 1947. Therefore, although primary cotton manufacturers might have been able to get along with less operating profits, their actions can hardly be said to have contributed to unwarranted price increases in relation to accepted controlled prices. The operating income for each dollar sale for the five quarters ended March 31, 1948, is shown hereunder.

TABLE 122

OPERATING INCOME AS A PROPORTION OF ONE DOLLAR OF SALES, FIVE COTTON MANUFACTURERS, CANADA, 1947 AND 1948

(dollars)

	1947				1948
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	First Quarter
Dominion Textile Co., Ltd.	.097	.166	.158	.007	.009
Drummondville Cotton Co., Ltd.	.078	.113	−.003	.047	.033
The Montreal Cottons Ltd.	.069	.066	.072	.089	.166
Canadian Cottons Limited	−.003	.031	.121	.016	.106
The Wabasso Cotton Co., Ltd.	.123	.114	.098	.101	.094

Source: Evidence, Special Committee on Prices.

[1]Evidence, Royal Commission on Prices, p. 1801.

Related to their capital employed, the net profit before inventory reserves adjustments but after taxes on income would be as shown in Table 123 for the years 1946 and 1947 for each of the companies.

TABLE 123

NET PROFIT AS A PERCENTAGE OF CAPITAL EMPLOYED, FIVE COTTON MANUFACTURERS, CANADA, 1946 AND 1947

	1946		1947	
	Net Profit Amount (dollars)	Per cent of Capital Employed	Net Profit Amount (dollars)	Per cent of Capital Employed
Dominion Textile Co., Ltd.	2,497	7.3	2,675	7.6
Drummond Cotton Co., Ltd.	344	7.9	321	5.8
Montreal Cottons Limited	518	5.8	596	6.5
Canadian Cottons Limited	759	5.4	790	5.4
The Wabasso Cotton Co., Ltd.	341	6.1	386	6.7

Source: Evidence, Special Committee on Prices.

The primary cotton industry has experienced a sharp rise in the cost of its imported raw material since February, 1947, the time of the first reduction of the raw cotton subsidy. The price of imported grey goods for conversion has also risen subtantially—even more than the cost of raw cotton. Finished fabrics have gone up more still, so that the pressures on the secondary industry are greater than on the primary. The removal of the tariff on cotton fabrics coming from the United Kingdom and the reduction by a similar amount in the United States tariff may lessen the effect somewhat.

The percentage of imported fabrics is high enough to influence the domestic level of prices. While Canadian primary mills have contributed to the shortage by their inability to maintain production, it is equally noteworthy that they were able to maintain prices in most cases well below the cost of laying down comparable United States fabrics in Canada. The spread between domestic mill prices and the landed cost of United Kingdom materials was even more marked. For example, prior to the tariff changes in May, 1947, higher grade combed white shirting fabrics of Canadian manufacture were selling for 40½ cents per yard. The Canadian cost of United States fabrics ranged between 60 and 66 cents, while United Kingdom fabric was quoted at 72 cents. Other differentials were less striking but in all examples cited before the Special Committee on Prices, United States fabrics cost more in Canada than comparable goods of our own make, while the additional cost of United Kingdom goods was generally more than double the Canadian-United States differential.[1]

[1]Evidence, Special Committee on Prices, p. 3494.

In its report to the House of Commons in June, 1948, the Special Committee on Prices "found no evidence of hoarding",[1] and, moreover, stated that "on the whole, price increases had not been unreasonably out of line with increased costs".[2] While these views are supportable from the evidence, we think it doubtful that the industry is, as the Committee went on to say, "highly competitive".[2] The Turgeon report certainly denies that view. But any suggestion of monopolistic tendencies which can be made about the primary cotton industry is largely outside the scope of our inquiry which specifically relates to the cause of high prices following decontrol. And in this connection we are inclined to agree with the Special Committee.

Wool

The primary wool industry in Canada must obtain nearly 95 per cent of its raw wool from import sources. Not only is our wool clip very small, but the quality is not suitable for the yarns and fabrics in greatest demand. Commonwealth sources supply the bulk of Canadian requirements. Normally, these are purchased through wool auctions, but during the war the British government brought raw wool under its control and procurement became a matter of government negotiation.

Yarns for both knitting and weaving are of two main types—spun either on the "woollen" or the "worsted" system. For worsted yarns, the raw wool must undergo a special mechanical process. Fibres of good length and fineness are combed and straightened and drawn off the rollers as a continuous sliver known as wool "tops". These tops can be spun into a finer quality of yarn since the wool fibres lie parallel in the strands. Canada produces about 40 per cent of the wool tops used in worsted yarns and imports the balance. The preference for worsted clothing is growing and has, no doubt, been stimulated by continuing prosperity and the developing domestic production of worsted cloth. Canada's primary industry produces between 90 and 95 per cent of the yarns used for weaving and knitting. The imports are entirely worsted yarns and these make up some 25 per cent of our total worsted yarn supply. Woollen and worsted yarns both go into woven and knitted products. The proportion of woollens to worsteds made in Canada recently has averaged about four to one.

The knitting industry absorbs a heavier proportion of worsted yarns than the cloth industry; thus while its total use of raw wool is considerably less, knitters do not fall far behind the weavers in total consumption of the worsted type yarns. For hand knitting yarns, worsteds are much preferred and more than two-thirds of the supply are of this type.

Frequently in the manufacture of woven suitings, dress goods, overcoatings and cloaking fabrics, worsted and woollen yarns are used together to produce mixture fabrics. Throughout the war, output of mixture fabrics rose well above the total yardage of worsteds. But the preference

[1] Evidence, Special Committee on Prices, p. 3945
[2] Ibid., p. 3944.

for worsted cloth has led to renewed concentration on this type as the supply of worsted yarns has improved.

While the only yarns Canada imports are worsted yarns, domestic fabric production is supplemented by imports of both woollens and worsteds. Table 124 shows the extent of imports in the total supply including shipments of worsteds from Great Britain. Before the war, fabric imports were running well over 40 per cent. While the quantities were actually increased in war years, domestic production rose still higher. At present, about one-third of the Canadian fabric supply comes from abroad. The main source of these goods has always been the United Kingdom.

TABLE 124

CANADIAN SUPPLY OF WOOL FABRICS

(thousands of yards)

Calendar Year	Domestic Production	Imports from Great Britain		Total Imports	Total Supply
		Worsteds	Total[a]		
1937	18,088	4,672	13,171	13,674	31,762
1938	14,346	3,977	10,480	10,780	25,126
1939	17,190	4,826	11,131	11,414	28,604
1940	26,394	7,446	14,244	14,788	41,182
1941	26,770	5,697	14,030	14,159	40,929
1942	27,796	4,790	12,835	13,209	41,005
1943	26,363	4,556	11,873	12,930	39,293
1944	24,225	3,003	8,639	8,937	33,162
1945	27,567	3,393	8,194	8,316	35,883
1946	29,270	3,890	10,656	10,919	40,189
1947[b]	28,000	3,278	10,256	14,196	42,196

a) In addition to woven woollens and worsteds, includes small yardage of knitted fabrics.
b) Estimated.
Source: Evidence, Special Committee on Prices, p. 8765.

A comparison of the dependence on outside supplies at each level, the raw product, yarn, and woven fabric, would seem to suggest that the primary wool industry is very nearly as vulnerable to the price and supply uncertainties of the world market as the cotton industry. The Canadian textile industry is almost as dependent on import sources for raw wool as for raw cotton and, while the world supply of both has been ample, raw wool has not always been fully available in the better qualities sought by Canadian spinners. As in cotton, the yarn deficiency is slight, but its importance is out of proportion to its size—being entirely in worsted yarns. Moreover, about 60 per cent of the worsted yarns we do spin must use imported wool tops. And finally at the fabric level, Canada imports almost as large a proportion of total supply of woollens as of cottons.

But between these two branches of primary textiles, there are important differences. The demand for worsteds at the time of the

enquiry was continuing to outrun supply. And worsteds, in general, are not absolutely essential; it is well-established consumer preference which dictates a heavy proportion of worsteds and if this demand cannot be filled, the alternative of woollen cloth is, after all, available. Again, the Canadian industry apparently can more easily expand output of wool fabrics than of cotton fabrics. The wool industry is subject to the fluctuations in prices of a world market and, like prices of raw cotton, raw wool and tops have substantially increased in price through the war years. But there are differences. The increases in wool prices have been less extreme in the low and medium grades, while worsteds have gone up much more substantially than woollens.

Organization of the Industry

In March, 1948, there were 169 establishments in the wool textile industry but less than half were engaged in production of wool cloth. The Special Committee on Prices secured and summarized returns from three larger companies and 51 smaller establishments. On the basis of dollar volume of sales, the three firms selected for special examination accounted for 22 per cent of the total business from January 1, 1946 to March 31, 1948. Dominion Woollens and Worsteds Limited, with mills at Peterborough, Hespeler and Orillia, Ontario, was first with well over 10 per cent; Ayers Limited at Lachute Mills, P.Q. made up seven per cent of dollar sales, while Paton Manufacturing Company Limited, Montreal, accounted for 4.4 per cent. Other significant producers are Barrymore Cloth Company Limited in Toronto; Collins and Aikman of Canada Limited, Farnham, P.Q.; Montrose Worsted Mills Incorporated, Montreal; and Slingsby Manufacturing Company Limited located in Brantford. While these and some other firms have a substantial output, most of the business is split up among several producers. Geographically, too, the wool industry is less concentrated than cotton. Among the companies circularized, four are located in the Maritimes, two in British Columbia, one in Manitoba, and the remainder in Ontario and Quebec. Toronto has a few plants, Montreal a smaller group, but the bulk of the mills are scattered through Ontario and some Quebec towns. Other minor operators, not covered by the questionnaire, are located both east and west and in the central provinces. It can be seen that the concentration of business in the primary wool industry is less than in primary cottons.

The production undertakings of even the big three plants differ markedly. Dominion Woollens is engaged first in wool combing (to produce tops) for their own use and also does some commission combing for other mills. They spin worsted yarns, sell part to other weavers and knitters, part as hand knitting yarns, and keep a large part for their own weaving operations. They dye and finish their own fabric for sale to the cutting-up trade. The operations of Paton Manufacturing are similar except that they do not undertake wool combing. Ayers Ltd. testified to sales of over 45 per cent producers' goods, principally paper-

makers' felts. Their output of fabrics is heavily concentrated on woollens rather than worsteds, and they manufacture woollen blankets in large volume.

Although the three major firms are not fully competitive in their products, there is competition in the main products of the woollen cloth group. Canadian Wool Combing Ltd. at Acton, Ontario, which was set up in 1942 with government encouragement, is competing with Dominion Woollens in the production of wool tops. It is financed entirely with private capital and has affiliated companies in the knit goods industry.

In relation to the net value of production, the wool cloth industry uses less capital than the producers of cotton yarn and cloth. The difference lies not in working capital but in the amount which must be tied up in plant and machinery. It offers a partial explanation of the greater number of firms engaged in wool than in cotton cloth production.

Women constitute more than 40 per cent of the working force in the wool cloth trade, about the same proportion as in the cotton group. The regular working hours of both male and female employees have been shorter. Wage and salary levels of the total working force have also been above primary cotton employees and hold a position mid-way between cottons and rayons. Since 1939, increases in wage rates in the wool yarn and cloth branches topped the record in all other sections of the textile industry and placed third amongst all manufacturing industries. From an index of 100 for 1939, the figure rose to 209.8 in 1947, compared with 190.1 as the primary textiles average and 183.3 the average for all manufacturing groups. This rate of increase may have contributed to higher prices but has also probably aided the level of production.

Factors in Price Changes Since the Beginning of the War

At the outbreak of war, the United Kingdom entered into an agreement, to end one year after the war, to purchase the entire Australian and New Zealand wool clips. Bulk purchase from the United Kingdom soon was introduced in Canada with crown corporations purchasing our small domestic clip and buying all our imports of raw wool, tops, and yarns from the United Kingdom in addition to a considerable portion of fabric requirements. Shipping problems called for heavy stockpiling of raw wool by the Canadian Wool Board, a crown corporation controlled by the Prices Board.

These steps, which were taken before price controls were introduced, enabled the government to hold ceilings when they were imposed without serious difficulties by selling supplies at prices appropriate to established ceilings and absorbing the trading losses. Rapid expansion took place in the operations of the mills on war orders which were negotiated ex-price ceiling. In the two peak years, 1942 and 1943, government requirements actually exceeded one-third of the total yardage used in Canada. In 1944, when requirements for the services dropped off, Canadian mills utilized their enlarged productive capacity on orders for U.N.R.R.A.

Direct war work required close control and licensing of the whole production turned out by this branch of the primary industry. To encourage greater output of worsteds in view of sharper cost increases in this field, domestic subsidies were paid to worsted spinners and to weavers of worsted fabrics.

Towards the end of the war, the licensing control was relaxed and replaced by a scheme of production directives on garment manufacturers. These were designed to ensure a full flow of fabrics to basic garments before cutters-up turned to less essential types of garments. About the same time, the Prices Board negotiated with the United Kingdom for a substantial additional fabric allocation to be used for production of men's suits for sale on priority to persons released from the armed forces.

The protection of supply channels through bulk purchase, and the high volume of war contracts which boosted cloth output, permitted comparatively early decontrol of wool. The first step was the lifting of subsidies from raw wool and tops in February, 1946. The domestic subsidy on worsted yarns was cancelled on March 1st of the same year and on worsted fabrics one month later. At the same time upward adjustments in fabric ceilings reduced the need for import subsidies, though a rise in the prices of imports themselves partly offset this benefit.

Although the supply of worsteds was still considerably short of demand, the position in woollens was much improved when all remaining subsidies were ended early in 1947 and final decontrol took place April 1. At the time ceilings came off, the position was very different from cotton. The shortage was confined to tops and to worsted yarns and fabrics and it was based on a well-marked and growing consumer preference for the worsted type of garment.[1]

Pricing and Selling Policies

Like the manufacturers of cotton cloth, the larger wool firms sell fabric directly to the cutters-up. There are, however, a number of smaller companies which market part of their goods through jobbers. Sales to the hand tailoring group may be direct or through wholesalers.

Canadian manufacturers have not held an assured share of the Canadian market. Changes in the tariff reducing the degree of protection from United Kingdom importers, their principal competitors, have given rise to uncertainty among the domestic cloth mills in the past.

In discussing prices, none of the witnesses of the three special companies mentioned competition as a factor in determining their selling prices. Ayers operates on a system of estimating costs ahead and adjusting selling prices to actual costs at the end of the fiscal period. Paton Manufacturing has been using replacement price to determine the cost of raw materials in fixing the selling price. As a part of overhead, they have included provision for bond interest and dividends on preferred and common stock.

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[1]Evidence, Special Committee on Prices, p. 3764.

The company whose operations stand out because of increases in operating income, in the relation of total operating income to sales, and in increased net profits after taxes, is Dominion Woollens and Worsteds. Their president stated in evidence that they operated on the principle of replacement cost of raw materials prior to and following the control period. Moreover he contended that they followed the policy of setting aside an inventory reserve in a rising market "when the opportunity occurs". Yet from 1936 until the year 1947, no such reserve was set up other than the special reserves authorized under the Excess Profits Tax Act—in spite of earned profits in a rising raw wool market. The actions of this firm in the months following decontrol are interesting. In 1947 the company set aside some $463,000 as an inventory reserve, took additional depreciation of $60,500 not allowed under the Income Tax Act and ended up with a net profit after taxes and all other financial charges of $268,500, or more than 2½ times the figure for 1946. The Special Committee on Prices, in its report to the House, cast some doubts on the necessity of adopting the replacement price of raw materials as the basis for determining the selling price. They went on to contrast the pricing policy of Dominion Woollens with that of the cotton industry.

> "In the case of Dominion Woollens, selling prices have been increased immediately to reflect advancing raw material prices, while in the case of cottons the manufacturers have disposed of their low-priced inventories before increasing the selling prices of their products. In this way Dominion Woollens has obtained protection against subsequent price declines out of the increased prices paid by consumers in recent months, whereas the cotton industry has not taken this benefit and the consumers have accordingly obtained relatively lower prices."[1]

At the time of decontrol, Dominion Woollens' selling price for yarn dyed worsted coating provided for an estimated operating income of 16 cents per yard with raw materials costed at replacement value. One year later, on the same basis, the operating income adopted in arriving at the selling price was 46 cents. Similarly, the estimated operating loss at April 1, 1947, of three cents per yard on yarn dyed worsted fancy suiting, was altered by April, 1948, to a profit of 46 cents per yard. Tweeds, where supply was free, were cut back from an income of 12 cents per yard to a loss of five cents per yard, but overcoating was raised from 13 cents to 37 cents. The extent of these changes following right after decontrol of prices seems to us extraordinary, and we have difficulty accepting the necessity for it.

Table 125 shows the total sales, operating income and percentage of operating income to sales of the three special companies and of the fifty-one other companies which reported their main business as being the manufacture of wool yarn and cloth for the years 1936 to 1947.

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[1]Special Committee on Prices, Report to the House, p. 3950.

TABLE 125

COMPARISON OF SALES AND OPERATING INCOME, FIFTY-FOUR CANADIAN WOOL MANUFACTURERS
(thousands of dollars)

	Total Sales	Operating Income	Percentage of Operating Income to Sales
Dominion Woollens and Worsteds, Ltd.			
Pre-War 1936–1939 (average)	3,323	81	2.4
Pre-control 1940–1941 (average)	5,596	733	13.1
Control 1942–1946 (average)	5,513	468	8.5
Post-control 1947	7,476	1,115	14.9
Paton Manufacturing Company Ltd.			
Pre-War	1,401	148	10.6
Pre-control	2,591	557	21.5
Control	3,741	452	12.1
Post-control	2,528	148	5.9
Ayers Limited			
Pre-War	1,944	304	15.6
Pre-control	3,609	927	25.7
Control	3,509	480	13.7
Post-control	4,542	579	12.7
51 other companies			
Pre-war	17,637	1,026	5.8
Pre-control	31,847	3,580	11.2
Control	41,662	3,809	9.1
Post-control	50,157	5,710	11.4

Source: Evidence, Special Committee on Prices, p. 8832 et. seq.
The amounts (in thousands of dollars) of earnings before inventory reserves adjustment but after taxes on income of the three special companies and their percentage to capital employed for the years 1945, 1946 and 1947, are summarized in Table 126.

Both Paton Manufacturing and Ayers, in contrast with Dominion Woollens showed decreased operating income in relation to gross sales in the first year following decontrol. The 51 smaller firms had average operating income amounting to 11.4 per cent of sales in 1947, in contrast with 10.5 per cent in 1946, the final year under price control. This additional income, however, was not subjected to detailed examination by the Special Committee.

TABLE 126

NET PROFIT AS A PERCENTAGE OF CAPITAL EMPLOYED THREE WOOL MANUFACTURERS, CANADA—1945, 1946, 1947

	1945		1946		1947	
	Amount (thousands of dollars)	Percent of Capital Employed	Amount (thousands of dollars)	Percent of Capital Employed	Amount (thousands of dollars)	Percent of Capital Employed
Dominion Woollens and Worsted Ltd.	232	10.4	101	4.5	731	25.5
Paton Mfg. Co. Ltd.	152	7.0	156	7.2	73	4.2
Ayers, Ltd.[a]	296	7.2	274	18.7	277	16.5

a) Ayers Limited reported no inventory reserve etc.
Source: Evidence, Special Committee on Prices, p. 8852 et seq.

RAYON AND NYLON

Nature of the Products, Sources of Supply and Organization of the Industry

Canadian dependence on import sources for the raw materials used in domestic production of rayon and nylon is less significant than in the case of cotton or of wool.

As a relatively new textile, rayon production and imports were both expanding rapidly prior to the war. Larger use of rayon textiles has to an extent relieved the strain on cotton requirements. In addition, the Canadian industry is comparatively more self-sufficient, though there are certain clear deficiencies.

Domestic production of filament yarns is carried out by two large companies, Courtaulds (Canada) Limited, with mills at Cornwall, Ontario, and Canadian Celanese Limited, at Drummondville, P.Q. Courtaulds, the larger yarn producer, has been making a viscose yarn from domestic wood pulp, and Canadian Celanese a cellulose acetate type from imported cotton linters. More recently, Celanese has been using a substantial and growing proportion of wood pulp, but this change has been balanced by Courtaulds' shift to linters for a new product, high-tenacity viscose yarn for tire cord. The supply of these relatively cheap raw materials has never been a problem. But expensive chemicals are required to convert the raw product into yarn and these have, on occasion, been in short supply.

Before the war, the Canadian manufacturers produced the bulk of our filament yarn requirements and imports were competitive in an expanding market. During the war, however, a substantial part of Courtaulds' production was turned to tire cord used on all heavy military vehicles. This necessitated heavy importations of acetate yarn from the United States and of viscose yarn from the United Kingdom. One product, bemberg yarn for hosiery and sheers, is entirely imported. Roughly 80 per cent of filament yarns consumed is made in Canada.

In addition to filament yarns, the rayon industry employs yarns spun from "staple fibre" which give a softer and spongier knitted or woven fabric. As with filament yarns, the cellulose is extruded through jets, or spinnerettes, but it is then cut into short lengths instead of being left in continuous thread. This "staple fibre" can then be spun in the same way as cotton and wool fibres, to make what is known as "spun yarn". The staple fibre is sometimes blended with cotton or wool fibres in the spinning process.

Until 1947, the entire supply of staple fibre was imported. In that year, Canadian Celanese Ltd. began production of acetate staple in a new plant at Sorel, P.Q. Since the beginning of 1948, their output has been sufficient to meet the entire Canadian demand for staple of this type. Courtaulds has also constructed a staple fibre plant in Cornwall which is expected to be in full production early in 1949. It will supply virtually all requirements for viscose staple in this country.

Although the development of rayon staple is the more recent and though the quality and adaptability of the product are being steadily improved, the production of continuous filament is several times the volume of spun yarn. The main reason is that there is a consumer preference for the silk-like filament fabrics.

In 1947, imports of rayon broadwoven fabrics reached a figure of approximately 20 million yards accounting for about one-fifth of our total supply. There has been no great dependence on fabric imports. Table 127 summarizes the position.

TABLE 127

APPARENT SUPPLY OF RAYON BROADWOVEN FABRICS

1935–1947

(millions of yards)

	Production	Imports from U.K.	Imports from U.S.	Total Imports	Exports	Total Supply
1935	37	2	1	3	–	40
1936	45	3	1	7	–	51
1937	46	5	1	9	1	54
1938	40	4	1	8	2	46
1939	52	5	2	9	2	59
1940	58	2	2	7	3	62
1941	83	7	3	11	4	90
1942	80	7	4	12	3	89
1943	80	5	5	10	2	88
1944	79	4	7	12	2	89
1945	81	4	8	13	3	91
1946	83	5	6	12	4	91
1947	83[a]	7	12	20	8	100

a) Estimated.

Source: Evidence, Special Committee on Prices, p. 3645.

During the war, some real shortages developed especially in filament fabrics required for overcoat, suit and cap linings, but these disappeared about a year after the war.

Commercial manufacture of nylon textiles was commenced only in the late thirties. Canadian Industries Limited, through its close relationship with the Du Pont Company in the United States and Imperial Chemical Industries in Great Britain, received the Canadian rights relating to nylon. It began by importing yarn for sale to hosiery knitters and then built a plant to produce the yarn in Canada. From the commencement of operations in June, 1942, until August, 1945, the entire output of this Canadian plant was sold for war purposes. Then the production was opened up to civilian purchasers and the plant has continued to furnish yarn to Canadian manufacturers of hosiery and other products.

Nylon is a plastic derived from benzene, ammonia and other chemicals. The materials are extruded through spinnerettes and stretched to form a continuous filament or cut in short lengths and spun as staple fibre as in rayon. At first C.I.L's production depended upon a partially manufactured import, nylon flake polymer, secured from the Du Pont Company in the United States. At the time civilian production was commenced, C.I.L. constructed facilities to produce the flake in Canada from nylon salt, also an import from its American associate. The flake polymer unit came into operation in August, 1947. Early in 1948, C.I.L. began production of nylon staple fibre. Before then, only the continuous filament yarns had been manufactured. Through an expansion of its Kingston, Ontario, plant, the Company is now aiming at a further 25 per cent capacity for filament yarns and hopes to treble its output of nylon staple.[1]

A noteworthy feature of nylon is that only a small fraction of the filament yarn goes to weavers. The first commercial use for nylon yarn was ladies' knitted hosiery and this use continues to absorb some 80 per cent of C.I.L's output.

Primary domestic producers of broadwoven synthetic fabrics rely very extensively on these three Canadian yarn plants to supply them with rayon or nylon filament or staple fibre. In addition to their weaving operations, a number of the cloth mills also spin the staple fibre to make the yarn for their spun fabric production. The Royal Commission on Textiles in its 1938 report showed that Canadian Celanese and Courtaulds began production of synthetic yarns under the protection of patents on their respective manufacturing processes. Similarly, C.I.L. has had the benefit of the sole Canadian rights to make nylon yarn and fibre. In evidence before the Special Committee, the representative of Canadian Celanese pointed out that most of the basic patents for their product have now expired.[2] But the fact remains, that in practice, these three companies all hold a monopoly position both as filament yarn producers and in the manufacture of staple fibre.

Well before the war Canadian Celanese went into the production of woven knitted fabrics and they have continued and expanded this part of their production until now they are a vertically integrated concern selling substantial yardages of fully finished fabrics in a wide range of spuns and filament types. This is in addition to the yarn and staple fibre which they produce for sale to other manufacturers. At the time of the hearings of the Special Committee on Prices this company was also turning out ladies' hosiery but this part of their operations is being discontinued.

Besides Canadian Celanese, some 25 companies are engaged primarily in the manufacture of broadwoven synthetic fabrics and a number of these firms have their own spinning equipment for converting staple fibre into yarn. Quebec Province, particularly the Montreal area, is the centre of this industry. Several cloth manufacturers are also

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[1]From "Textiles" publication of the Primary Textiles Institute of Canada, July 1948.
[2]Evidence, Special Committee on Prices, p. 3694.

located in Ontario but there are no mills of significance outside these two provinces.

Because of its dominant position among the rayon weavers, Bruck Mills Limited, along with the three filament yarn firms was sent a special questionnaire.[1] The survey of the Special Committee on Prices dealt with returns from 18 other rayon fabric manufacturers. However, witnesses were not called by the Committee from Bruck or any of the smaller mills.

During the thirties, the larger cotton companies, Dominion Textiles, Ltd., Montreal Cottons Ltd., and Canadian Cottons Ltd. built up a substantial rayon fabric production. Recently, however, these firms have not attempted to keep pace with the growth in the rayon industry. Dominion Textiles has moved out of rayon production altogether but has a half interest in a rayon cloth company formed in 1945, Dominion Burlington Mills Limited.

Canadian Celanese, Courtaulds and C.I.L. in that order, have by far the largest capital investment in the silk and synthetic industry. Bruck Mills Ltd. is capitalized at something over half the investment in the C.I.L. nylon textile division. In 1942, the first three accounted for over 60 per cent of the total capital of the entire primary industry, with a heavy share tied up as fixed capital in plant and machinery.

The capital requirements of the silk and synthetic group are the heaviest of the three main branches of the primary industry. But this position is attributable to yarn rather than fabric, where capital requirements are much less.

There appears to be considerable variation in the wages of the working force in the synthetic branch of the textile industry. Two of the larger firms were mentioned in the evidence by the labour witnesses as paying top wages, C.I.L. with an average of $1.05 per hour and Courtaulds fractionally above that figure. On the other hand, one cloth firm was said by both labour spokesmen to be paying a goodly number of its female help close to the Quebec minimum of 24 cents per hour.[1] One factor entering into this comparison is the higher proportion of female workers in the yarn mills. Nevertheless, the contrast is striking, and is underlined by the fact that, according to Dominion Bureau of Statistics returns, female help in the whole silk primary group has been receiving a lower hourly average wage than in either the wool cloth or even the cotton yarn and cloth industries.

Operations during the War and the Position on Decontrol

At the beginning of the control period, because of price increases at the primary level which, at the time basic period prices were established had not carried through to retail, mill prices had to be "rolled back" to a point appropriate to the retail level. Hence, import subsidies were needed for cotton linters, filament yarns and viscose staple fibre and, somewhat later, fabrics. However, the total subsidy

[1]Evidence, Special Committee on Prices, pp. 3847, 3883.

bill for rayon was only a small fraction of the sums paid out to stabilize cottons and it was possible to eliminate rayon subsidies in February, 1947, several months ahead of final removal of cotton subsidies. Import procurement, in some instances, involved government bulk purchasing and supervised distribution of supplies, but again, the job was much smaller than in the case of cotton.

Supplies of viscose yarns for civilian purposes were cut back sharply in 1944, by the diversion of a substantial part of Courtaulds' production to rayon tire cord. In 1944, more than five million pounds of yarn went into tires for military vehicles, or close to 20 per cent of the total available supply of filament yarns. In 1945, the figure was in excess of 6.5 million pounds, while a further 4.8 million pounds were used for civilian truck tires. The domestic supply for other uses was maintained through subsidized imports of acetate and viscose yarns from the United States and Great Britain and increased domestic production of acetate yarns. Silk and nylon also went into war uses. Quite early in the war, silk largely disappeared from the civilian market, but it was already being rapidly displaced by rayon and its military value in parachutes and other items merely speeded a well-marked trend. While some nylon hosiery had been sold at the beginning of the war, as we have said, nylon soon became strictly a war product. The industry was able to reach a substantial rate of yarn production when it turned back to peacetime production. In the field of knitted garments, it did much when the war was over to alleviate shortages in knit goods.

Rayon products in the earlier war years were in short supply as were textiles generally. Because cotton garments were short, additional demand turned to rayon. Restrictions on garment production and simplification of garment constructions were applied to rayon products as well as to cottons and wools, and in the late control period, the more direct technique of actually specifying the volume and types of garment production was introduced. In late 1946, rayon fabric manufacturers began to concentrate an increasing amount of production in higher priced lines. About this time, the termination of United States yarn allocations created a new supply uncertainty. When, in addition, industrial disputes stopped the production of one fabric mill and created a shortage of chemicals needed for filament yarn production, the combined result was an unexpected lack of fabrics during 1946, and some shortage of lingerie and linings through 1947. These shortages, all of a transient nature, had practically disappeared at the time of the investigation.

Pricing and Selling Policies and Problems

The combined figures for the synthetic primary industry, setting out operating income as a percentage of sales, give an amount of 20.2 per cent for 1947, when decontrolled prices operated for part of the year, as against 17.6 per cent for 1946, a year when prices were wholly controlled, and 19.6 per cent in 1941, the year immediately preceding imposition of controls. Among the 18 companies filing the ordinary

questionnaire, the returns show that the percentage obtained by the 18 companies remained constant between 1946 and 1947 at 12.7 per cent as did the position of Bruck Mills Limited, at 12.1 per cent. A sharp increase was recorded for Courtaulds from 6.9 per cent in 1946, to 21.3 per cent in 1947, Canadian Celanese returns rose from 27.5 per cent to 32.7 per cent, while Canadian Industries Limited registered a decrease from 34.5 to 25.2 per cent in the same year. Insufficient evidence was presented on which to draw any conclusions regarding the smaller fabric mills, especially as returns were not summarized covering any portion of 1948.

Bruck Mills Limited for the first quarter of 1948, had an operating income of 19.8 per cent, and this covered an increased dollar volume of sales. In 1946 and 1947, this company had shown an operating income varying widely, but averaging over the period 12.1 per cent.

More detailed evidence was obtained on the operations of yarn producers. Of these, Canadian Industries Limited's position was unique in that the company has made no increases in price and, on the contrary, has reduced prices. A ceiling for Canadian Industries Limited was authorized when it entered the civilian market in late 1945, equal to the prices of imported nylon yarns in the basic period. In marketing a domestic product the company was able to fix prices ranging from 20 to 30 per cent below the ceiling. In December, 1946, this firm cut its prices by about eight per cent and in June, 1947, by a further 9½ per cent.

The Special Committee on Prices commended Canadian Industries Limited for these moves, but questioned whether the company had reduced prices far enough and fast enough in the public interest. Aided by assured war contracts, Canadian Industries Limited had been able to achieve a capacity of almost 1½ million pounds of yarn annually before turning to the civilian market. Upon surveying the peacetime possibilities, the company had undertaken expansion and, with the exception of temporary difficulties with nylon for weaving (a small portion of their total business), had operated up to full capacity ever since.

Under government contract, Canadian Industries Limited, agreed to operate on a guaranteed return of five per cent profit before taxes, leaving them with a net return ranging between 2½ and 3½ per cent. The company's vice-president pointed out to the Special Committee on Prices that their selling prices would not prove economically possible over a more extended period.[1] It is noteworthy that profits after taxes in 1946, amounted to 17.2 per cent of net capital employed. These profits were in excess of the total wage bill and the operating income was more than double total wages paid. Operating income also rose slightly over 1947 in the first quarter of 1948.

Because of the difference in operations between the two rayon yarn producers, no close comparison of their operations is possible. However, the evidence reveals some marked contrasts in the positions.

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[1]Evidence, Special Committee on Prices, p. 3650.

With a net return on capital in 1947 of 7.6 per cent, and a continuing high operating income in the first quarter of 1948, Courtaulds raised yarn prices by five cents per pound on April 1, 1948.

Canadian Celanese Limited, also raised prices on its products in April, 1948, when the net profit had amounted in 1947 to a return on capital of 15.5 per cent. For the first quarter of 1948, the rate of net profit was almost exactly 24 per cent. Discussing these increases the representative of Canadian Celanese stated that inventories of fabric were reduced by one million yards in the first quarter, so that the high profit was to an extent fortuitous. Also, new products were being marketed from the Sorel plant, and part of this production was said to be unsatisfactory. The best goods had been sold first and the less satisfactory items would in all probability, have to be marked at a sacrifice later in the year. The company's representative also stated that he did not want to drop his company's prices "below prices which are established,—too far below anyway".[1] He went on to say that their sales staff had been asked to check with the firms's 1,500 customers to make sure their prices were not acting as an umbrella to raise the standard of prices for rayons in Canada. But the price increases were adopted nonetheless. The claim was that goods were already selling below the market and it was unlikely that such reductions would have any effect on the price to the ultimate consumer.

Summary and Conclusions

The primary textile industry is divided into three main branches classified according to the raw material used, that is cotton, wool and synthetic fibres. The industry is dominated in each branch of production by a small group of companies. Their leadership is most marked in the manufacture of yarns and is based to a considerable degree on the heavy capital investment in plant and machinery which is needed for efficient production. The heaviest investment is required for synthetic yarn and staple fibre production. The cotton industry, too, calls for large amounts of capital, especially if a diversified production of yarns and fabrics is to be carried on under one management. Wool combing operations also require heavy investment and, as with cotton, it takes a large organization to engage in a full range of woollen and worsted yarn and cloth output. In general, the dominant firms with extended operations have been able to achieve a better profit position than the smaller operators who very often deal only in one or a few segments of primary textile manufacturing.

The industry operates under high tariff protection. The evidence has shown that, in the period under review, full advantage of protection to raise prices has stopped short of the point where buyer resistance might make itself felt. This has been true of all groups, but especially so of cotton. In spite of the fact that domestic production has been unable to meet all present demands for domestic types, the Canadian cotton industry has marketed both fabrics and yarns at prices well below the landed cost of similar goods of United States or United Kingdom origin.

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[1]Evidence, Special Committee on Prices, p. 3713.

Cotton prices have risen most sharply among the group of textiles under review and world prices appear to have been the most important cause. The price of raw cotton is more than three times the pre-war price and prices of yarns and fabrics have risen correspondingly. The bulk of this increase did not affect the consumer directly because of import subsidies on yarns and fabrics which were continued at a high level until the date of final decontrol, September 15, 1947. At that time under voluntary agreements with the mills, subsidies were not reclaimed and the mills undertook instead to continue subsidized prices for several months.

A special factor entering into the cotton situation has been the failure of cotton mills to maintain production at close to wartime peaks. Output has even dropped below pre-war levels in some mills. This decline was attributed, by most witnesses appearing for the companies, to labour difficulties. The cotton mills did not expand production facilities through the war but relied on lengthened operating shifts. From the evidence it has appeared that where wages were lowest and working conditions least satisfactory, the greatest drop in output has occurred. It seems to us essential that the industry face the necessity of an early improvement in labour relations. There was a steady decline in production from 1942 throughout the remainder of the war, a decline which can be related to the sharp drop in war orders and the transfer of labour to more vital activities.

In these circumstances the reduced total production in late war years is perhaps not surprising. But we find it hard to understand why an industry which had a negligible post-war reconversion problem and which faced a civilian demand so exceptionally strong should have been unable to reverse this trend when the war was over. It is inconceivable to us that the difficulties should have been much greater for this industry than for many others which arranged the transfer from war production to capacity output of civilian goods smoothly and efficiently. Over one hundred years ago a distinguished writer expressed an opinion which we think is peculiary appropriate to the circumstances we have been discussing. "Manufacturing industry depends solely on itself, competition is its life. Protect it and it goes to sleep; it dies from monopoly as well as from the tariff."[1]

There has been a large number of small producers in the wool yarn and cloth industry for a number of years. The industry expanded rapidly throughout the war, due largely to heavy military and civilian requirements. Except in the types of cloth which are in greatest demand, fine worsteds, total supply is fully adequate today. Contributing to the shortage of worsteds is a deficiency in wool combing capacity in Canada. In addition, the raw wool required for combing as well as the combed wool tops must be bought in a world market where prices have risen substantially.

In spite of the greater number of wool firms compared with cotton, and the relatively easier supply position, the three largest woollen and worsted producers were able to fix selling prices on the basis of replace-

[1]Honoré de Balzac "The Country Doctor".

ment costs of inventories, a practice which the cotton group has not adopted. The three wool firms all sold their goods on this calculation of costs and none gave any indication that competition was forcing any modification in this method of setting prices. One possible explanation is that although, as we have said, the wool industry is made up of a greater number of firms, among the large units in particular there is little similarity in actual fabrics produced.

No detailed examination of the position of most synthetic fabric producers was conducted, but the yarn manufacturers' operations were studied in detail. The one manufacturer of cellulose acetate rayon yarn also produces and sells a wide variety of fabrics. On its total operations in the post-war period this firm has shown heavy profits. The company's representative stated with reference to these profits his opinion that in a rising market it was better to hold ample profits as a hedge against depression, than to pass along price benefits which might never reach the final consumer.

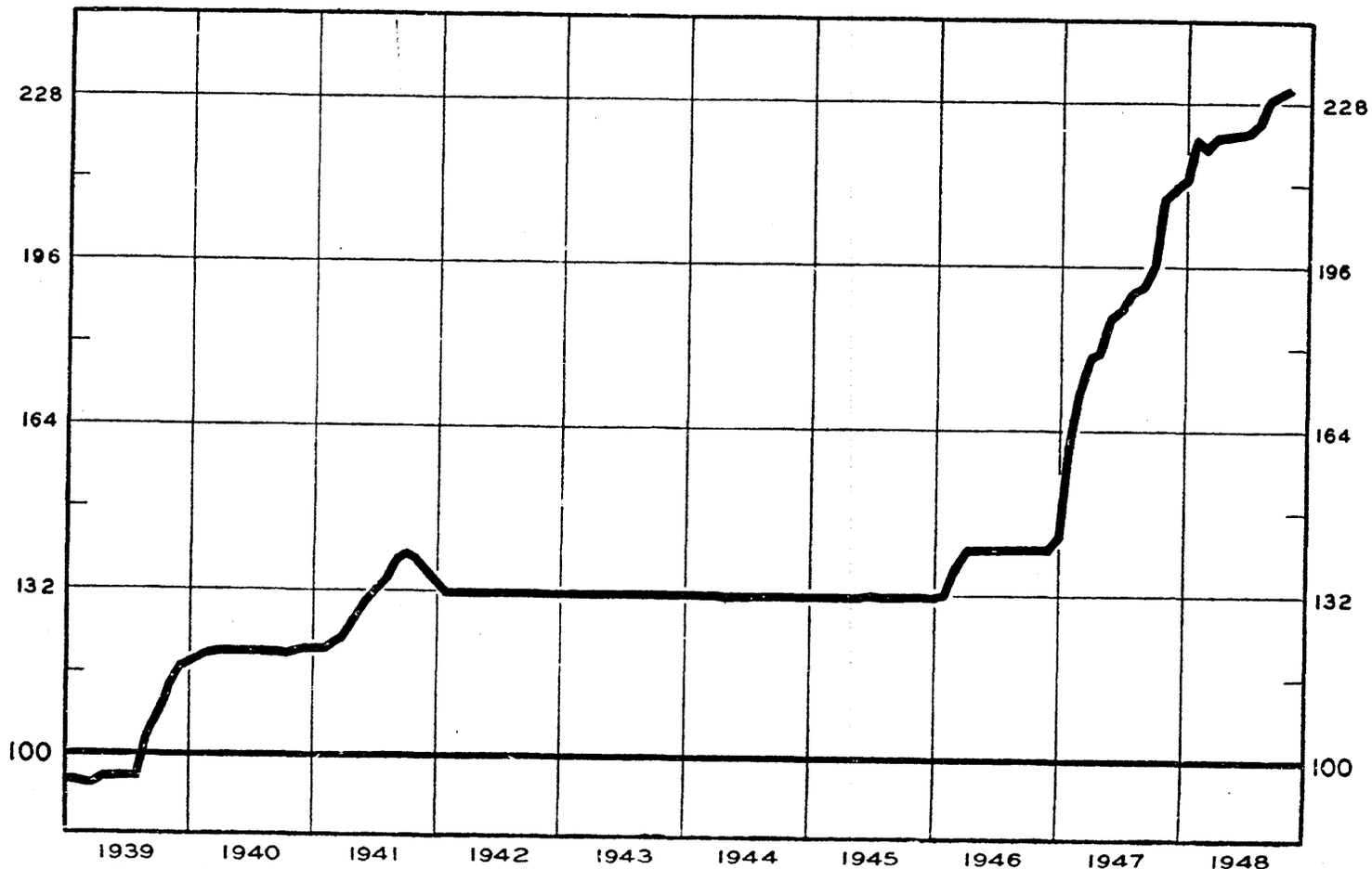
Nylon yarn has gone into civilian channels only since the war. The producer began selling this yarn well below the ceiling price which was fixed some years earlier for imported yarns. Since turning to civilian sales, the nylon company has put two further price reductions into effect. This has, however, left them with very large profits which they contend are necessary for pioneering in a few field. The company became well established under a wartime contract with a guaranteed rate of return. It would appear that the financing of expansion into new processes and operations out of the consumer's dollar is an important determinant of the price level not only for nylon but for other primary textiles operations.

The three producers of synthetic yarns all occupy monopoly positions in their respective fields though there may be, it is fair to say, some competition in the end-products. In addition to tariff protection all three of them established their businesses with complete patent protection. Some of these patents, it is true, have expired, but the heavy capital requirements of the industry have, notwithstanding this, enabled the companies to maintain their monopoly positions. In the circumstances, the returns on capital, certainly for Canadian Industries Limited and Canadian Celanese were by any standard very high indeed. And it is noteworthy that these companies were not among those that suffered unduly during depression years; their monopoly position safeguarded them from the vicissitudes of hard times. There is, we think, therefore not quite the same need here for high profits to cushion the effect of deflationary conditions as there may be for companies which face the rigours and disciplines of competition.

CHART XIV

TEXTILE WHOLESALE PRICE INDEX

(1935-39 = 100)



Source: Dominion Bureau of Statistics, Ottawa.

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THE CHEMICAL FERTILIZER INDUSTRY

IN comparison with the pre-war period, domestic prices of mixed fertilizers and fertilizer materials have both advanced much less than the average of all prices. An index of mixed fertilizers on a base 1935-1939 = 100 advanced to 123.8 in 1942, subsequently fell back to 114.0, at which level it remained until August, 1946 when it advanced to 117.2. Since that time there have been two further increases, to 122.1 in January 1947 and to 133.2 in January, 1948. The drop in prices which occurred in 1943 was due partly to the elimination of some cross-hauling of freight with the introduction of a zoning system for the sale of fertilizer under price control, and partly to the elimination of certain selling costs during the war period. This will be discussed in a later paragraph. The reduction was made voluntarily by the companies in consultation with the Wartime Prices and Trade Board. The movement of the wholesale price index of fertilizer materials has been very similar to that of mixed fertilizer prices. The index on a base 1935-1939 = 100 advanced to 112.9 in 1942, dropped back to 109.2 in 1943 and had advanced again to 112.2 at the time price control was dropped on fertilizers in June 1947. Since then there have been further price increases and in July 1948 the index was 129.7. This latter index, however, does not contain prices for ammonium nitrate or ammonium phosphate. In eastern Canada the price of ammonium nitrate has increased by 32 per cent since June 1, 1947, whereas the wholesale index of all materials increased only 15.6 per cent during this period. On the other hand, since 1939, the price of ammonium phosphate to the farmer has increased by only 22 per cent for one grade, and about 17 per cent for another grade.

Before attempting to evaluate the various factors that have contributed to these price rises, it will be useful to outline the nature of the fertilizer industry, its special characteristics and its pricing and selling policies.

Technical Nature of the Product

Chemical fertilizers are used extensively by farmers and market gardeners to supplement or replace materials in the soil that are essential to plant growth. The three most important plant foods supplied in this way are—nitrogen, phosphoric acid and potash. The industry producing these fertilizers falls into two main divisions, firms producing fertilizer materials and firms producing mixed fertilizers. Fertilizer materials are materials which supply one or more plant foods while mixed fertilizers are mixtures of these materials which have been designed to combine these plant foods in proportions most suitable for the different soils and

crops of the various provinces. Before any mixture can be sold it must be registered with the Department of Agriculture in Ottawa and it must meet certain legal requirements. Thus, the Fertilizer Act provides that all fertilizers sold in Canada must contain at least 20 per cent in plant food and must contain a minimum either of six per cent in nitrogen or five per cent in phosphoric acid or four per cent in potash. Until 1947 the over-all plant food requirement was only 14 per cent. Most of the mixtures registered and sold are those recommended by provincial fertilizer advisory boards and councils. During recent years there has been a pronounced trend towards the use of a larger proportion of mixed fertilizers, and in the year ended June 30, 1947, 85.5 per cent of all fertilizers sold were of this type. This compares with only 69.7 per cent in 1939 and 48.3 per cent in 1929. Some of this decline in the purchase of fertilizer materials by users is due to a decrease in the mixing of materials at the farm. An exception to the trend is found in the Prairie provinces where 91.5 per cent of all fertilizers sold consists of ammonium phosphate, a fertilizer material which contains both nitrogen and phosphoric acid.

The relative importance of fertilizer materials and mixed fertilizers in the various parts of Canada is shown by the following table.

TABLE 128

SALES IN CANADA TO FINAL USERS, EXPORTS AND IMPORTS OF MIXED FERTILIZERS AND FERTILIZER MATERIALS, YEAR ENDED JUNE 30, 1947

(thousands of short tons)

	Mixed Fertilizers			Fertilizer Materials		
	Two leading brands		Total	Super-phosphate	Ammonium phosphate	Total
	2-12-6	4-8-10				
Maritimes	24.4	95.0	158.8	8.3	—	14.5
Quebec	57.2	48.4	135.3	7.7	—	9.9
Ontario	96.5	21.7	252.1	9.9	2.5	20.4
Prairie Provinces	.03	.02	.7	.02	38.0	40.8
British Columbia	—	—	17.9	1.4	4.3	10.3
Total Sales in Canada	178.1	165.1	564.8	27.3	44.8	95.9
Exports	.8	3.1	43.7	—	—	--
Imports	—	—	—	124.0	—	639.9

Source: Dominion Bureau of Statistics, Ottawa.

Mixed fertilizers are usually identified by a number code such as 2-12-6, or 4-8-10 in which the various digits indicate the percentage of nitrogen, phosphoric acid and potash contained in the mixture. Thus 2-12-6 contains two per cent by weight of nitrogen, 12 per cent by weight of phosphoric acid and six per cent by weight of potash. In most cases,

the fertilizer material used to supply one of these three plant foods contains a larger percentage of the food than required by the formula, and therefore, certain amounts of material called filler are added to bring the mixture to the correct percentage. This filler usually consists of sand or dolomitic limestone; of these two the latter is more desirable since it contains both magnesium and calcium which are valuable for certain types of acid soils.

In addition to the three basic plant foods, nitrogen, phosphoric acid and potash, a number of lesser plant foods have been added to mixed fertilizers in recent years. This is especially true where there are proven soil deficiencies of such minerals as sulphur, manganese, boron, copper and magnesium.

The basic plant foods are supplied by a variety of materials. Nitrogen comes chiefly from ammonium sulphate, ammonium nitrate, cyanamid and ammonium phosphate, with a small amount being obtained from packing house by-products, and from nitrogen solutions and anhydrous ammonia. Phosphoric acid is supplied by superphosphate and ammonium phosphate, and potash is supplied chiefly by muriate of potash and from small amounts of sulphate of potash.

Sources of Supply and Structure of the Industry

Canada is dependent for the supply of these materials either on imports or on a relatively small number of domestic producers. For both phosphoric acid and potash, Canada is almost entirely dependent on imports. All the supply of potash is imported, while for phosphoric acid, phosphate rock is imported from United States and North Africa and treated to produce superphosphate and ammonium phosphate. Superphosphate is produced by Canadian Industries Limited in plants at Belœil, Quebec, Hamilton, Ontario and New Westminster, B.C. C.I.L's total production in 1947 was about 240,000 tons and in addition to this about 142,000 tons were imported into eastern Canada from the United States. Ammonium phosphate is produced by the Consolidated Mining and Smelting Company at Trail, B.C. Total production in 1947 was about 210,000 tons and of this 66,000 tons were used in Canada and the remainder was exported.

Eastern Canada obtains her supply of nitrogen materials from ammonium nitrate and cyanamid produced by North American Cyanamid Ltd. and from ammonium sulphate which is produced by five coke plants. In addition about 5,000 tons of nitrogen solutions and anhydrous ammonia were imported from United States during 1947 and a small quantity of ammonium phosphate is shipped down from western Canada. North American Cyanamid Ltd. sold over 93,000 tons of ammonium nitrate during 1947 and about 27,000 tons of this were used in Canada. The company's cyanamid sales amounted to 163,000 tons and somewhat less than 12,000 tons of this were used in Canada. The remainder of both its ammonium nitrate and cyanamid production was exported to the United States. In western Canada the Consolidated Mining and Smelt-

ing Company is the only important producer of nitrogen materials and it produces three, ammonium sulphate, ammonium nitrate and ammonium phosphate. The company's production of ammonium sulphate in 1947 was 164,000 tons of which all but about 7,000 tons was exported; its output of ammonium nitrate which is produced in two plants, one at Calgary and one at Warfield B.C., amounted to 115,000 tons at the Calgary plant. The output at Warfield is not known. Almost all of the Company's output was exported.

The following table sets out in some detail the production, imports and exports of fertilizer materials in Canada during 1947:

TABLE 129

CANADIAN PRODUCTION, IMPORTS AND EXPORTS OF FERTILIZER MATERIAL DURING 1947[a]

(thousands of short tons)

	Production	Imports	Exports
NITROGEN MATERIALS			
(a) Ammonium sulphate			
Consolidated Mining and Smelting Co.	164	—	159
Five coke plants, Eastern Canada	33	—	—
Total Ammonium Sulphate	197	—	159
(b) Ammonium nitrate			
Consolidated Mining and Smelting Co.	157	—	205
North American Cyanamid Ltd.	93	—	66
Total Ammonium Nitrate	250	—	271
(c) Cyanamid			
North American Cyanamid Ltd.	163	—	152
(d) Anhydrous ammonia and nitrogen solutions	—	5	—
PHOSPHATE MATERIALS			
(a) Ammonium phosphate			
Consolidated Mining and Smelting Co.	210	—	163
(b) Superphosphate			
Canadian Industries Ltd.	240	—	—
	—	142	—
Total Superphosphate	240	142	
(c) Phosphate rock	-	485	—
POTASH MATERIALS	—	[illegible]	—

a) Data for North American Cyanamid Ltd. are sales rather than production. In some instances data are approximate only.

Source: Evidence, Royal Commission on Prices.

Of the various sources of nitrogen, ammonium sulphate has certain advantages over ammonium nitrate and cyanamid in that it mixes more readily with other materials and gives a better mechanical condition to the mixed fertilizer. Cyanamid can only be used at the rate of 50 pounds to the ton because of its toxic action on plants. Use of ammonium nitrate is also limited because it is hygroscopic, that is, it absorbs moisture from the air and causes a soggy condition in the fertilizer if used to excess. Use of ammonium sulphate in eastern Canada is limited by the shortage of supply and this further restricts the degree of competition in this field.

Plants producing fertilizer materials in Canada are on a large scale and call for heavy capital investment. The original cost of the investment in plant and equipment by the Consolidated Mining and Smelting Company amounts to $26.9 million; the ammonium nitrate plant at Port Robinson was purchased by North American Cyanamid for $4.75 million and the investment of Canadian Industries Limited (including its mixed fertilizer operations) in its various plants amounts to about $3 million. In the production of superphosphate and ammonium phosphate the availability of a basic raw material, sulphuric acid, in the form of a by-product from other operations was a major consideration in leading to the commencement of production and is a continuing factor in making production possible at a relatively low cost. In the C.I.L. plant at Beloeil and the Consolidated Mining and Smelting plant in British Columbia, this sulphuric acid is made available to their fertilizer divisions at very small or no cost. Both the size of the plant and the importance of this low cost by-product are factors which make it difficult for new firms to enter the field. Three new plants were constructed during the war period to produce ammonia and ammonium nitrate for war purposes, at Calgary, Alberta, at Warfield, B.C., and at Port Robinson, Ontario. At the end of the war these were sold to firms that are already producing fertilizer materials, the first two being purchased by the Consolidated Mining and Smelting Company and the latter as already mentioned by the North American Cyanamid Limited.

The other stage of the fertilizer industry consists of the mixing of these primary materials. In Canada, at present, there are 28 plants manufacturing mixed fertilizers, eight in the Maritimes, four in Quebec, 12 in Ontario, and four in British Columbia. In addition, there are seven local mixing stations operated by the United Farmers Co-operative Company Ltd. at various points in the province of Ontario. The 28 plants are owned by just 18 different companies and there is a relatively small number of competing producers in each area. Transportation costs place a definite limit on competition between different areas. Competition is further restricted by the fact that the industry is dominated by a few large firms. Canadian Industries Limited with six plants, sold about 25 per cent of all mixed fertilizers sold in Canada during the year ended June 30, 1947, and the three largest firms, sold about 75 per cent of this same total.

Both small and large plants are engaged in mixing fertilizer, and no clear evidence was presented to indicate which was the most efficient. The representative of the United Farmers Co-operative Company expressed a belief that small scale mixing plants were not necessarily at a disadvantage. The United Farmers Co-operative Co. have a number of local affiliated co-operatives which run small mixing stations that are supplied with materials through the Toronto plant. During the 1930's, home mixing on the farm was fairly extensive.

The mixing operation varies in complexity depending on whether the fertilizer is to be used immediately or to be stored for some time. In the former instance the operation is very simple and can be carried on with a minimum of capital equipment. This is the basis on which the United Farmers Co-operative Company Limited operates its business. On the other hand, where the fertilizer is mixed several months in advance of sale, as is the case with the larger companies, a curing process is necessary which requires additional capital equipment. The need for storage facilities is also quite large in the industry because sales are very seasonal, whereas production is spread more evenly through the year. In general, the relatively simple nature of the mixing operation and the ease with which new plants can come into the industry, should check any important departure from a competitive rate of return.

Pricing And Selling Policies

In selling its product the mixed fertilizer industry uses a form of basing point pricing. Under the system as used in this industry one firm will absorb part of the freight on shipments of fertilizer into areas which are closer to a competitors plant. This additional freight charge, known as freight equalization, becomes part of the firm's cost of doing business and, except to the extent that competitive conditions in the industry are altered by this practice (see discussion below), this cost must be reflected in a higher market price for its product. The extra charge will presumably be borne equally by both near and distant points and will not alter the geographical pattern of prices.

The method used to achieve this result is for a firm to quote prices for its various products f.o.b. either its own plant or the plant of the competitor against whom it has decided to equalize freight charges. Thus Canadian Industries Limited, when selling in eastern Ontario, quotes prices f.o.b. Montreal, where its own plant is located, or Port Hope, where a plant of Agricultural Chemicals Limited is located. Similarly Agricultural Chemicals will quote a price f.o.b its own plant at Port Hope or f.o.b. Montreal from their Chambly plant. This means that the customer in buying from each firm has the alternative of paying the quoted price plus the freight from either Montreal or Port Hope, whichever is the lowest. In the case of Canadian Industries Limited when a customer or dealer buys at the quoted price f.ob. Port Hope, C.I.L. will invoice him at the f.o.b. plant price plus the entire freight from Montreal, less the amount of rebate

necessary to equalize the freight charge with the cost of shipment from Port Hope. Thus the fertilizer will be shipped prepaid Montreal but the customer will only be charged with the freight from Port Hope. Agricultural Chemicals Ltd. reporting a slight variation of this practice, indicated that it normally shipped its fertilizer freight collect but prepaid freight on the shipment to the amount of the freight equalization.

Both C.I.L. and Agricultural Chemicals indicated that certain limits were placed on the amount of freight equalization which they paid. Representatives of C.I.L. said that it was their firm's policy, at present, to limit the amount of freight equalization to $1.50 per ton although during 1947 to meet an emergency shortage in one area of Quebec, it paid up to $2.50 per ton.

The main objective seemed to be that of obtaining sufficient sales to operate its present plant at capacity. At the beginning of this year estimates were made of the company's potential sales by counties, first by calculating probable total sales for each county and then estimating the share which C.I.L. was likely to get. Using these estimates the sales manager then determines the area over which the company must sell to obtain its capacity sales objective and an estimate is made of the total freight equalization which will have to be paid. From these estimates a limit is set to the amount of freight equalization per ton which salesmen may grant when soliciting orders. Though salesmen are free to sell in any area within this limit, apparently some effort is made to reach the company's sales objective with a minimum payment of freight equalization. This is done by pressing sales more vigorously close to its own plant. Other than the above no indication was given as of the basis on which the company would decide that payment of freight equalization beyond a certain amount per ton was not worthwhile.

According to price theory a firm following this practice would continue to accept sales up to the point where the cost of the last sale including the freight equalization was just equal to the selling price. The firm's aim to reach capacity production would suggest that marginal costs are near or below average costs up to the point of capacity operation. While the concept of capacity is somewhat vague, a reasonable interpretation would be the point at or near which the firm can produce most efficiently, or in technical language the point of minimum average total costs. If this is true the maximum amount of freight equalization should approximate the average rate of profit. Data submitted by C.I.L. support this suggestion. The estimated average rate of profit per ton for an important type of mixed fertilizer, presumably based on capacity operation, was $1.66 per ton which is not far from the $1.50 allowed for freight equalization. Two other companies, Agricultural Chemicals and United Farmers of Ontario, were less explicit as to the distance they would go in paying freight equalization. They indicated that they would pay up to 90 cents or $1.00 and that it depended on how badly they needed the business. In their fiscal year ended June, 1948, Agricultural

Chemicals paid as high as $1.00 per ton from their Port Hope plant and $1.20 per ton from their plant at Chambly, Quebec.

A basing point price system leads to some departure from an economic allocation of resources. The loss to the economy consists in the unnecessary cross haulage of fertilizer with a resultant waste of transport facilities. During the war a system of zoning was adopted whereby each plant supplied the districts immediately surrounding it. These zones were designed to secure capacity operation of each plant throughout the year. This resulted in some reduction in cross haulage of fertilizer and was a factor in the voluntary reduction in prices that occurred at the time the zoning system was set up.

Some indication of the importance of freight equalization is given by data presented on the amount of freight equalization paid per ton. In 1947 Canadian Industries Limited paid a total of $40,710 in freight equalization, though of this total, $4,000 represented freight on shipments of fertilizer from the firm's Hamilton plant to customers who would ordinarily have been supplied from their Chatham plant. In Ontario and Quebec where over 95 per cent of this payment was made, 82,807 tons out of total sales on an f.o.b. basis of 150,117 tons were sold with the freight equalized. The average amount of freight equalization per ton of mixed fertilizer sold on an f.o.b. plant basis was 45 cents in Quebec and eastern Ontario, and nine cents for central and western Ontario. For Canada as a whole it amounted to an average of 23 cents per ton. However, during the first six months of 1947, the period when fertilizer sales were highest, the wartime system of zoning was still in effect so that the above data are not necessarily a good indication of the amount which will be paid now that the zoning system has been abandoned. Nevertheless, Agricultural Chemicals Limited which operates plants at Port Hope, Ontario, and Chambly, Quebec, shows only a slight change in the rate of freight equalization before and after the termination of zoning. It showed an average amount of freight equalization per ton of mixed fertilizer shipped on an f.o.b. basis of 33 cents and 36 cents for its fiscal years ended June, 1947 and June, 1948 respectively at Port Hope, and 39 cents and 40 cents respectively for Chambly. Some freight was absorbed on slightly over half of the fertilizer it sold on an f.o.b. plant basis in the year ended June, 1948. The above rates of freight equalization amount to only about one per cent or less, of the selling price to the farmer of the standard grades of mixed fertilizer.

The amount of freight equalization paid cannot be taken as a measure of the uneconomic use of transportation facilities because some of the shipments on which freight is absorbed might occur even if an f.o.b. plant price was in use. But the waste involved would not be larger than this amount and would probably be smaller.

Basing point price systems are often adopted where firms wish to foster a system of price leadership in an industry. Prices of different firms become more directly comparable under this setup because there is no freight differential in the prices of the various firms that equalize

freight in a given area. Representatives of Canadian Industries Limited specifically denied that there was a price leader in the field and said sometimes one firm would issue the first price list for a new season and sometimes another firm would do so. They said that while a rise in price would sometimes be followed by other firms, at other times it would not, and the firm making the original increase in price would be forced to reduce its price to its former level. On the other hand representatives of two of the smaller firms, Agricultural Chemicals and the United Farmers Co-operative Company, Ltd., both said that it was their practice to wait until one or two of the larger firms, namely C.I.L. or Canada Packers, issued their price lists before they prepared their own. Agricultural Chemicals Ltd. said that it invariably followed the price lists issued by these other firms even when they found the prices unfavourable to them. The representative of the United Farmers Co-operative Company, Ltd. said that the usual practice in the industry was for one of the larger firms to issue a price list which the smaller firms followed.

Current price lists filed by C.I.L., Agricultural Chemicals and the United Farmers Co-operative Company Ltd., show that the prices of each of these firms for plants in the same areas are almost identical. Individuals purchasing fertilizers through the United Farmers Co-operative Company Ltd. would, however, receive a dividend at the end of the year out of the profits of the organization. It was estimated that the dividend rate in 1947 would amount to about $1.30 per ton on fertilizer.

There was some contention that a system of freight equalization would tend to make the industry more competitive by increasing the number of firms selling in any given area. Under such a system no firm is in a position to exploit a monopoly of sales in the area immediately surrounding its own plant. But even though the number of firms selling in each area is increased there are still only a relatively small number of firms selling in each area. In judging the general merit of a basing-point system it is important to remember that they have sometimes been used by a large firm to undercut a smaller rival in one area while maintaining prices elsewhere. This, undoubtedly has often contributed to the squeezing out of smaller rivals though none of the evidence presented shows that this has occurred in the fertilizer industry.

Since freight equalization can only be an important factor in an industry where freight cost is substantial, any change which tends to reduce the relative importance of freight costs will diminish its influence. Some evidence was presented that attempts were being made to use higher strength fertilizers which would give a larger amount of plant food per ton, thus allowing farmers to use a smaller tonnage of fertilizer. This would also make freight costs a relatively smaller proportion of the total cost. There are technical difficulties in obtaining nitrogen and phosphate materials that contain a larger proportion of these foods and yet will still make a mix that can be handled without trouble. However, the following data on the proportion of plant food contained in mixed

fertilizers sold in Canada show only a small increase in the strength of fertilizers over the past 10 years.

TABLE 130

PERCENTAGE OF NITROGEN, PHOSPHORIC ACID, AND POTASH IN MIXED FERTILIZERS SOLD IN CANADA FOR YEARS ENDING JUNE 30

	Nitrogen per cent	Phosphoric Acid per cent	Potash per cent	Plant food per cent
1936	3.1	10.2	7.5	20.8
1937	3.0	10.0	7.8	20.8
1946	3.0	10.5	8.0	21.5
1947	3.0	10.5	8.0	21.5

Source: Dominion Bureau of Statistics, Ottawa.

One other factor affecting freight rates is the amount of filler that is required to bring fertilizers to the desired strength. Though data are not available to show the total amount of various types of filler used, Canadian Industries Limited reported that it used about equal quantities of sand and limestone as filler. The firm's representatives stated that sand was used exclusively at its Quebec plants. With respect both to the amount of filler used, and the strength of fertilizers manufactured, the question can be raised as to whether the industry might not find that desirable changes conflict with their policy of using freight equalization as a basis for selling their product.

In selling its product the mixed fertilizer industry makes use of a dealer organization. The dealer takes title to the fertilizer and sells it to the farmer at a price established by the manufacturer. The difference between the price to the dealer and the price to the farmer varies from province to province. In Ontario the dealer receives a discount of eight per cent on the farm selling price, in Quebec five per cent, in the Maritime provinces $2.50 per ton and in British Columbia $3.00 a ton on materials and $4.00 a ton on mixed fertilizers. In addition a substantial quantity of fertilizer in Quebec is sold to co-operatives who receive an additional discount of five per cent. Representatives of Canadian Industries Limited stated that its dealers were not required to sell at the price to the farmer which it established, but pointed out that the farmer could buy direct from the plant at this price. However, only about 3.6 per cent of their sales were direct to farmers. Dealers' selling prices to the farmer vary somewhat, because dealers often quoted a price delivered to the farmer. Thus evidence presented by Mr. Ritchie, of the Ritchie Feed and Seed Company of Ottawa, showed that his gross margin on different brands of mixed fertilizer sales varied from 9.8 to 10.71 per cent in 1947 and from 11.86 to 12.44 per cent in 1948. This margin represented the difference between his cost including freight and the selling price delivered to the farm.

In addition to their dealer organization, most companies maintain a staff of salaried salesmen. Thus as of August 1, 1948, Canadian Industries Limited employed a sales staff of 131 persons, of which 44 were technically trained male employees actively engaged in selling fertilizers. In 1947 total payments to this sales force amounted to $257,706. or about 2.3 per cent of their total sales of fertilizer. Cost of selling, administrative and technical services combined on one grade of mixed fertilizer 2-12-6, were estimated at about $2.59 per ton or about 8 per cent of the farm selling price. Agricultural Chemicals Ltd., also employs salaried salesmen and its selling expenses in the year ended June, 1948, amounted to about 7.5 per cent of its total sales. United Farmers Co-operative Co. Ltd., sells through its local affiliated co-operatives and it reported no separate selling expenses.

Evaluation of Factors Contributing to the Price Changes of the Past Few Years

General Conditions of Demand and Supply

Both the demand for and the production of mixed fertilizers and fertilizer materials have grown rapidly since 1939. Mixed fertilizers and fertilizer materials used in Canada during the year ended June, 1947, amounted to 661,000 tons, almost double the 334,000 tons used in 1939. Exports, mainly materials, have increased at a similar rate from 376,000 tons in 1939 to 791,000 tons in 1947. Higher farm incomes and the urgent demand for food during the war and post-war years have both contributed to the rise in domestic demand for fertilizers but a wider knowledge among farmers of the benefits to be derived from fertilizers is likely to result in a continuation of higher demand levels. Export demands have also been very keen as many areas are attempting to restore the soil deterioration that occurred during the war years.

Increased application of fertilizer is an essential element in achieving greater food production throughout the world. This is particularly true in areas such as western Europe where the land has been farmed for centuries and the level of crop production falls off quickly when plant foods such as fertilizers, animal manures and crop residues are not returned to the soil. Before the war western Europe used about one-half of all the commercial fertilizers applied throughout the world. The supply of fertilizer was drastically reduced during the war and with the decline in livestock numbers the supply of animal manures also fell off. As a result the soil has been starved for food. With the severe food shortage the world demand for fertilizer is at the highest level in its history. Nitrogen in particular is in short supply and western European countries plan to increase their production by two-thirds within the next three years. In the meantime Canada's fertilizer exports are making an important contribution towards increasing world food production.

Though all fertilizers have been scarce, the shortage of nitrogen materials has been most acute. Because of the shortage, the Inter-

national Emergency Food Council of the United Nations has continued to allocate total world production of nitrogen for fertilizer purposes. Canada's quota for the year ended June, 1949, has been set at 26,000 tons of nitrogen and this is considered to be ample to meet all our requirements.

Despite the large expansion in Canada's production of fertilizer there have been relatively few changes in the structure of the industry. The construction of three new plants to produce ammonia and ammonium nitrate for war purposes has made Canada an important producer of ammonium nitrate. In the domestic market this material has largely replaced imported nitrate of soda, but the major portion of Canada's output is exported. Another change has occurred in the phosphate field. As a result of a marked increase in output, Canadian Industries Limited is now supplying a larger proportion of Canada's supply of superphosphate than it was before the war. C.I.L.'s share has risen from something like one-half to about two-thirds, while imports which supply the remainder have fallen proportionately. For potash materials Canada is still entirely dependent on imports, and supplies have been scarce. In 1947 about 60 per cent of the potash imported to Canada was obtained from the United States and the remaining 40 per cent from French North Africa. Because of the scarcity, this was distributed among Canadian fertilizer manufacturers through a manufacturer's advisory committee.

Some measure of the relative importance of various costs in fertilizer production can be gained from the following breakdown of the gross value of production in the industry.

TABLE 131

COSTS IN THE FERTILIZER INDUSTRY[a]

CANADA, 1946

	Amount (thousands of dollars)	Per cent
Salaries and Wages	5,930	13.1
Materials used	18,065	40.0
Fuel and Electricity	3,232	7.1
Depreciation, other Expenses and Profits	17,965	39.8
Gross Value of Production	45,192	100.0

[a] In preparing this table $4 8 million was deducted from both materials used and gross value of production. This eliminates approximately a duplication which results from the fact that finished products at one stage of the industry become raw materials of a later stage.

Source: Dominion Bureau of Statistics, Ottawa.

The importance of profits, depreciation and other expenses in this industry is unusually great. This can be partially explained by the heavy capital investment in the primary stage of the industry which results in large depreciation allowances. Profits, particularly on export sales, may also be important.

The Relation of Export and Import Prices

Because Canada both exports and imports a substantial amount of fertilizer materials, prices in foreign markets have an important relation to prices here. For both of Canada's two chief exporters, North American Cyanamid Limited and the Consolidated Mining and Smelting Company, current prices in the export market are substantially above their Canadian prices. North American Cyanamid said its policy was to maintain prices in both countries at the same level and in accordance with this policy it had advanced its Canadian prices rapidly in the latter part of 1947 after price controls had been abandoned. These Canadian prices were subsequently reduced by order of the Wartime Prices and Trade Board, and as a result, in July, 1948, they were still well below the firm's United States prices. In contrast the Consolidated Mining and Smelting Company has maintained Canadian prices well below export prices and has shown a loss on Canadian fertilizer sales for some time. This firm's Canadian prices were advanced in July, 1948, in an attempt to put the Canadian business on a paying basis; the company's representatives did not feel that its substantial profits on export sales should be used to subsidize Canadian sales. The range of difference between the selling prices of these two companies in Canada and United States is shown in the following table.

TABLE 132

SELLING PRICES OF FERTILIZER MATERIALS, CANADA AND THE UNITED STATES OF AMERICA

(price per ton f.o.b. plant, July 1948)

	Canada (dollars)	U.S.A. (dollars)
North American Cyanamid Ltd.		
Ammonium nitrate	63.00	79.50
Cyanamid	51.50–53.50	58.25
Consolidated Mining and Smelting Co.		
Ammonium nitrate, etc.	55.00	58.00
Ammonium sulphate	35.00	40.00
Ammonium phosphate 11-48	60.00	77.50
Ammonium phosphate 16-20	42.50	53.50

Source: Evidence, Royal Commission on Prices, pp. 130, 152, 214, 216.

It will be noticed that the price spread varies all the way from about five per cent to 30 per cent. Particularly noticeable is the wide variation in the price of ammonium nitrate. The Consolidated Mining and Smelting Company reports a United States selling price of $58.00 per ton which is $5.00 per ton below the Canadian selling price of North American Cyanamid and $21.50 below the latter's United States selling price.

Comparative Canadian and United States prices for identical grades of mixed fertilizers in adjacent regions of the eastern part of the continent

show that Canadian prices have been about $4.00 per ton or more lower. Canadian Industries Limited's price of superphosphate to dealers and farmers was also below the United States price but by a much smaller amount. On the other hand the selling price of superphosphate in bulk to the manufacturer f.o.b. Baltimore is well below C.I.L.'s price, but the cost of freight makes the United States product more expensive to the Canadian mixer. Mr. Grose of the United Farmers Co-operative Co. Ltd., reported superphosphate from C.I.L. cost them 88 cents per unit as compared with $1.25 per unit from Baltimore.

Unit Costs and Selling Prices

Information on changes in unit costs and selling prices of fertilizer materials and mixed fertilizers provide a basis for judging what factors have contributed to the rise in fertilizer prices. In the following paragraphs data are presented on ammonium phosphate, ammonium sulphate, ammonium nitrate and on a standard grade of mixed fertilizer, 2-12-6.

The first table gives the changes in costs and selling prices for the two materials which are most important in the Canadian sales of the Consolidated Mining and Smelting Company.

TABLE 133

COSTS AND SELLING PRICES OF TWO FERTILIZER MATERIALS, CONSOLIDATED MINING AND SMELTING COMPANY (CANADIAN OPERATIONS)

(dollars per ton)

	1939	1947	Six months ended	
			June, 1947	June, 1948
Ammonium Phosphate 11-48				
Operating Costs	28.81	40.59	40.00	43.85
Bags, Bagging and Loading	2.47	3.73	3.58	4.21
Depreciation	14.95	4.78	4.78	5.20
Interest on Investment in Plant and Working Capital	4.52	1.64	1.64	1.76
Selling Expense	—	—	5.85	6.01
Total Cost	—	—	55.85	61.03
Profit or (Loss) per ton	—	—	(6.02)	(3.68)
Weighted Selling Price at Plant	—	—	49.83	57.35
Ammonium Sulphate				
Operating Costs	9.38	15.59	15.19	16.38
Bags, Bagging and Loading	2.47	3.73	3.58	4.21
Depreciation	7.23	3.85	3.85	3.80
Interest on Investment in Plant and Working Capital	2.70	1.51	1.51	1.51
Selling Expense	—	—	1.42	1.79
Total Cost	—	—	25.55	27.69
Profit or (Loss) per ton	—	—	5.55	5.37
Weighted Selling Price at Plant	—	—	31.10	33.06
Profit as Per Cent of Selling Price	—	—	17.8	16.2

Source: Evidence, Royal Commission on Prices, pp. 154, 156.

This statement shows that operating costs for these two materials have increased by about 50 and 75 per cent respectively since 1939. However, this increase is counteracted to a substantial extent by the reduction in the unit cost of depreciation and interest on plant and working capital, thus enabling the company to keep the increase in its selling prices well below the increase in material costs. The selling prices in the Prairie provinces of ammonium phosphate 11-48 increased by only $5.00 per ton between July 1, 1939, and July 1, 1947, and the prices of ammonium sulphate increased by only $6.00 per ton. A further price increase of about $9.00 per ton for the 11-48 and $5.50 per ton for ammonium sulphate became effective on July 1, 1948. Part of this price increase would be absorbed by the increase in freight rates, but despite this, the price increase on ammonium phosphate is larger than the loss shown in the first half of 1948, and should establish some margin of profit. The price increase on ammonium sulphate should further increase its profit margin; in the first half of 1948 the profit on this product amounted to 16.2 per cent of the factory selling price. However, Canadian sales of this product in 1947 amounted to less than 7,000 tons.

The next table presents data on unit costs and selling prices of ammonium nitrate for North American Cyanamid Ltd. The company commenced operations in 1947, having purchased a war plant from the government in December, 1946.

TABLE 134

COSTS AND SELLING PRICES OF AEROPRILLS, AN AMMONIUM NITRATE FERTILIZER, NORTH AMERICAN CYANAMID LTD. (CANADIAN OPERATIONS)

(dollars per ton)

	1947	June 1948	July 1948
Manufacturing Cost before Depreciation	41.70	43.75	46.35
Estimated Selling, Administrative and General expense[a]	.60	.60	.60
Cost of Sales before Depreciation	42.30	44.35	46.95
Depreciation	6.93	7.14	7.80
Net Operating Income	4.50	6.32	8.25
Selling Price f.o.b. Plant[b]	53.73	57.80	63.00
Depreciation plus Operating Income	11.43	13.46	16.05
Depreciation plus Operating Income as Per Cent of Selling Price	21.3	23.2	25.5

a) Estimate based on annual statement.
b) Prices for June, and July, 1948, are delivered prices less average cost of delivery of $7.00.
Source: Evidence, Royal Commission on Prices, p. 124.

The above table indicates that manufacturing costs increased about 11 per cent between 1947 and July, 1948. Realized selling prices, however, have increased much more than this and as a result the margin between cost and selling price, depreciation plus operating income, has increased by about 40 per cent. If the Wartime Prices and Trade Board had not intervened this company would have shown a much higher margin of profit, for the company increased its f.o.b. plant selling price to $70.25 per ton in September, 1947. The price was subsequently reduced at the Board's direction. The high rate of depreciation per ton is partly due to the fact that the company was granted permission to charge depreciation on its plant at double the normal rate. Because the annual amount of depreciation charged is distributed uniformly throughout the year the monthly variation in depreciation is not significant; accordingly when comparing the months of June and July with other periods a comparison of depreciation plus operating income is more accurate than for either total separately. It can be concluded that about one half of the price increase that occurred between 1947 (average) and 1948 is due to an increase in the firm's net operating income plus depreciation.

Data on the costs per unit of producing mixed fertilizers were submitted by three firms and this is summarized in the following table.

TABLE 135

COSTS AND SELLING PRICES OF MIXED FERTILIZER 2-12-6

(dollars per ton)

	Canadian Industries Ltd. Beloeil, Que.		Agricultural Chemicals, Ltd. Port Hope, Ont.	United Farmers Co-operative Co. Ltd. Ontario
	1947[a]	1948[b]	1948[b]	1948[b]
Cost of Materials	17.04	18.49	20.06	22.00
Mixing Loss	.09	.09	.40	.43
Bags and Bagging	1.71	1.92	3.36	2.15
Manufacturing Expense	4.24	5.20	3.25	5.00
Selling, Admin., and Technical Services	2.59	2.59	3.28	
Freight Equalization	.35	.50	.29	
Total Cost	26.03	28.79	30.64	29.58
Manufacturer's Profit	4.42	1.66	(19)	.87
Dealer's commission	2.25	2.25	2.65	2.65
Selling Price f.o.b. Plant	32.70	32.70	33.10	33.10

a) Estimated costs as of December, 1947, used in setting price of $32.70 per ton.
b) Estimated costs, August, 1948.
Source: Evidence, Royal Commission on Prices, pp. 59-65, 243, 1840.

Profit Margins and Selling Prices

In attempting to evaluate the relation of profits to the rise in prices two criteria will be used—(1) profit as a percentage of total sales, and (2) profit as a rate of return on the company's investment. Wherever possible comparison will be made between the pre-war and post-war situation. In the fertilizer industry, data from five companies are available, two producers of fertilizer materials, two producers of mixed fertilizers, and one company which produces both. These will each be

considered in turn. Data for the two producers of fertilizer materials follow.

TABLE 136

STATEMENT OF INCOME AND EXPENDITURE, FERTILIZER DIVISION, CANADIAN SALES, CONSOLIDATED MINING AND SMELTING CO. LTD.

(thousands of dollars)

	1939		1947		January 1, June 30, 1948	
	Amount	Per cent of Sales	Amount	Per cent of Sales	Amount	Per cent of Sales
Gross Value of Sales	544.6	100.0	3,684.8	100.0	2,125.9	100.0
Sales Expense	122.6	22.5	388.6	10.5	203.2	9.4
Operating Cost	342.2	62.8	2,951.5	79.0	1,720.4	81.0
Depreciation	168.7	31.0	340.4	9.3	197.3	9.3
Interest on Investment in Plant and Working Capital	52 9	9.7	119.7	3.2	69.1	3.2
Loss	141.9	26.4	115.5	3.2	64.0	3.0

Source: Evidence, Royal Commission on Prices, p. 153.

The Consolidated Mining and Smelting Company has shown a loss on its Canadian fertilizer sales in all years for which data were presented. While showing an over-all loss it has been able to make some provision for depreciation of its plant and equipment. The price increases which became effective July 1, 1948, should allow the Company to show a profit during the coming year on its Canadian sales.

TABLE 137

STATEMENT OF INCOME AND EXPENDITURE, FERTILIZER DIVISION, CANADIAN SALES, NORTH AMERICAN CYANAMID LTD.

(thousands of dollars)

	1939		1946		1947		January 1, June 30, 1948	
	Amount	Per cent of Sales	Amount	Per cent of Sales	Amount	Per cent of Sales	Amount	Per cent of Sales
Net Sales	254	100.0	638	100.0	2,041	100.0	1,328	100.0
Cost of Sales	241	94.9	563	88.1	1,852	90.8	1,112	83.8
Selling Expenses, Pension Plan and Admin. Expenses	23	9.2	20	3.1	51	2.5	32	2.4
Net Income before Tax	10[a]	4.1[a]	56	8.8	137	6.7	183	13.8
Dominion and Provincial Taxes	—	—	26	4.1	62	3.0	72	5.4
Net Income	10	4.1	30	4.7	75	3.7	111	8.4

a) Loss.

Source: Evidence, Royal Commission on Prices, p. 214.

Separate information is available on the Port Robinson plant which was constructed by the Dominion government for the production of nitrogen during the war and was subsequently sold to North American Cyanamid Ltd., in 1946. The following statement reflects profits obtained from the sale of all products of which the most important are ammonium nitrate and sulphuric acid.

TABLE 138

RELATION OF INCOME, SALES AND CAPITAL EMPLOYED, WELLAND WORKS NORTH AMERICAN CYANAMID LTD., PORT ROBINSON, ONTARIO.

(per cent)

	Percentage of Sales, six months ended June, 1948			Percentage of Capital Employed	
	Total	Domestic	Export	1947	Six months ended June, 1948
Net Income before Tax	24.6	17.2	26.2	13.0	19.0
Net Income after Tax	15.7	11.0	17.3	7.1	12.1
Depreciation plus Net Income after Tax	24.3	20.2	25.7	19.2	18.8

Source: Evidence, Royal Commission on Prices, pp. 1833, 1836, 1837.

These data indicate that the high rate of profit as a percentage of sales earned by this company during the first half of 1948 was due in substantial part to the company's export sales. Nevertheless the company's earnings after tax from its domestic sales amounted to 11 per cent of these sales. In comparison with total sales domestic sales were 26.3 per cent and contributed 18.5 per cent of the company's total net income after tax. The high rate of depreciation which has been charged is the result of special permission granted by the Dominion government. The company defended it on the ground that the plant is a high cost producer and will have difficulty competing when normal supply conditions return to the industry. The sharp increase in the company's earnings in 1948 is reflected in the last two columns of the above table. Net income after tax increased from 7.1 per cent of capital employed in 1947 to an annual rate of about 24 per cent in the first half of 1948. If this level of earnings continues the company will recover during 1948 in the form of depreciation and net income after tax an amount equal to 37.6 per cent of the total capital employed in the plant.

A third important producer of fertilizers is Canadian Industries Ltd. Data on the sales and profits of this company are shown in the following table.

TABLE 139

STATEMENT OF INCOME AND EXPENDITURE, AGRICULTURAL CHEMICALS DIVISION, CANADIAN SALES, CANADIAN INDUSTRIES LTD.

(thousands of dollars)

	1939		1946		1947		Six months ended June, 1947	Six months ended June, 1948
	Amount	Per cent of Sales	Amount	Per cent of Sales	Amount	Per cent of Sales	Per cent of Sales	Per cent of Sales
Sales	3,888	100.0	10,191	100.0	11,082	100.0	100.0	100.0
Cost of Sales	3.135	81.7	8.729	85.7	9.568	86.3	81.7	81.6
Expenses	443	11.5	725	7.1	929	8.4	6.7	7.0
Operating Income	260	6.8	737	7.2	584	5.3	11.6	11.4
Income Taxes	50	1.3	361	3.5	258	2.3	5.1	4.3
Net Income	210	5.5	375	3.7	326	3.0	6.5	7.1
Investment	4,066		6,618		8,219			
Return on Investment		5.2		5.7		4.0		

Source: Evidence, Royal Commission on Prices, p. 93.

In the statement filed before us the above company showed an inventory reserve of $125,562 in 1947 and reported its net income as lower than shown above by this same amount. In making up the above table this item was added back to net income in order to make the statement more comparable with those of other companies. The company contends, however, that this is not a profit from its viewpoint, but is a legitimate cost. It will be noted that because of the seasonal nature of the company's operations the rate of net income shown during the first half of the year (which is the last half of the fertilizer year) is much higher than the income finally realized for the year. From the above statement it is evident that up to the end of 1947 this company has been receiving a progressively lower rate of return on its investment and a lower profit margin on its sales. However, price controls were in effect until June 30, 1947. Since then, there is evidence of a small increase in net income.

The above statement includes income earned both from sales of superphosphate and mixed fertilizers. A breakdown of the company's operations between these two main products shows that the company incurred an operating loss on its sales of superphosphate in 1939 and 1947 and showed only a small profit in 1946. Net profits on its sales

of mixed fertilizers were accordingly somewhat higher than the percentages shown in the above table. This is shown in the following table.

TABLE 140

NET INCOME AFTER TAX (BUT BEFORE INVENTORY RESERVE) AS A PERCENTAGE OF SALES, AGRICULTURAL CHEMICALS DIVISION, CANADIAN INDUSTRIES LTD.

(per cent)

	Mixed Fertilizer	Superphosphate	Total
1939	9.3	6.5[a]	5.5
1946	4.2	2.1	3.7
1947	4.5	.3[a]	3.0

a) Loss.
Source: Evidence, Royal Commission on Prices, p. 1696.

For the two remaining companies appearing before us, Agricultural Chemicals Limited and the United Farmers Co-operative Co. Limited, production is confined to mixed fertilizers. Both companies also sell some fertilizer materials without mixing and the latter company sells some insecticides, fungicides and weed killers. The relation of income to sales for these companies is shown by the following table.

TABLE 141

NET INCOME AS A PERCENTAGE OF SALES, AGRICULTURAL CHEMICALS LTD. AND UNITED FARMERS CO-OPERATIVE COMPANY LTD.

(per cent)

Fiscal year ended in	Agricultural Chemicals Ltd.	United Farmers Co-operative Co. Ltd.
1939	4.8[a]	—
1946	—	4.6
1947	4.2	4.6
1948	5.4	6.2[b]

a) Loss.
b) Data are for nine months only.
Source: Evidence, Royal Commission on Prices, pp. 228, 1839.

SUMMARY AND CONCLUSIONS

Higher costs for imported materials, higher manufacturing costs and in one instance a high rate of profit have all contributed to the rise in fertilizer prices. Reductions in the supply of materials available from pre-war sources in Europe together with the urgent world demand for fertilizers to help restore food production levels have resulted in

prices in world markets which are well above domestic levels. Domestic price levels have been kept somewhat below world levels by a combination of export and price controls.

In Canada production of fertilizer materials is concentrated in the hands of a relatively small number of firms and in many instances one firm has a virtual monopoly in a particular area. We have found that plants producing fertilizer materials in Canada are on a large scale and call for heavy capital investment. Waste by-products from other operations have been a major consideration in leading to the commencement of production and are a factor in cost of production. Thus both the size of the plant, the large capital required, the limited availability of a low cost waste by-product from some other operation, make it difficult for new firms to enter the field. Because of this, competition cannot be relied upon to keep prices at reasonable levels under present circumstances. During the war three new plants were constructed by the Dominion government for the production of nitrogen materials but since, at the end of the war, these were sold to existing fertilizer producers, the degree of monopoly in the field has not changed to any extent.

Where competition is limited in this way, reliance must be placed on the restraint of individual producers if undue rises in prices are to be avoided. Generally, we found this restraint had been forthcoming. Prevailing higher prices in the export market tempted one firm to raise domestic prices to the level of export prices, but the Wartime Prices and Trade Board, by rolling back prices and re-establishing controls, placed the prices for the products of this firm on a level with those of other producers. Even so, higher profits accounted for a large part of the price increase that was allowed.

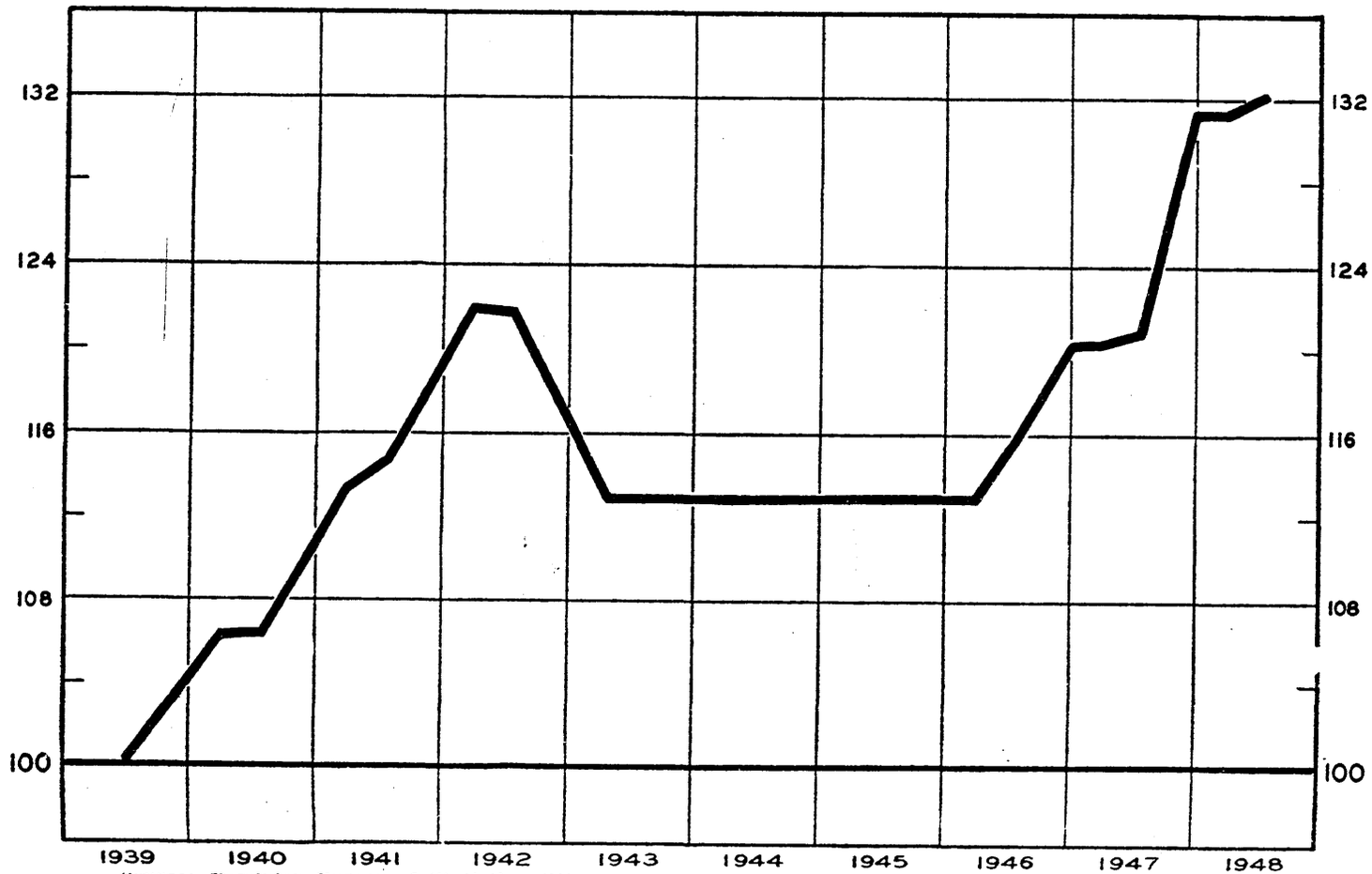
One of the fertilizer firms appearing before us stated that in requesting the Wartime Prices and Trade Board for an increase in its ceiling prices it had estimated its costs on the basis of costs which had already risen, cost increases of which they had some intimation, and cost increases which they expected because they knew that their suppliers were faced with rising costs. If all firms showed this much foresight in anticipating price rises during an inflationary period the result might well be an almost vertical upward movement in prices.

In the production of mixed fertilizers higher costs have been a major factor in contributing to higher prices. While many of these cost increases have been unavoidable there is evidence that some of the industry's costs are not entirely necessary. Early in the war, by reducing certain selling costs and eliminating the cross haulage of fertilizer through a system of zoning, it was possible for the industry to grant a substantial reduction in prices. It would be extremely desirable to have this benefit retained as part of the industry's normal cost structure. Profits do not seem to have been of any importance in causing a rise in the prices of mixed fertilizers.

CHART XV

FARM FERTILIZER PRICE INDEX

(1935-39=100)



Source: Dominion Bureau of Statistics, Ottawa.

8

THE HIDES AND LEATHER INDUSTRY

THE major increase in the price of hides and skins, leather, and leather products, occurred in the fall of 1947 at the time when price controls were abandoned in this field. This final price jump had been preceded by an upward adjustment of about 20 per cent in January, 1947. Following final decontrol the wholesale price index of hides and skins, which in August, 1947, was about 50 per cent above its 1939 level, jumped a further 50 per cent to reach a point about 125 per cent higher than it had been in 1939. The index of leather prices rose by an almost equal amount. Since that time there has been a sharp recession in hide prices and a partial recovery. Leather prices have also fallen off about 10 per cent, somewhat less than the drop in hide prices. The explanation of these price changes requires some elaboration of the nature and competitive structure of the hides and leather industry.

Description of the Industry

The hides and leather industry falls into two distinct stages, the production and curing of the hide and the actual tanning process. The first stage, the hide production, occurs at the time the animal is killed and is carried on by the different groups in the slaughtering business. These consist of the large and small packers, the city abattoirs which comprise numerous small independent abattoirs throughout the country, and what is known as country slaughter, animals killed by farmers and small town butchers. Considerable variation in the quality of hides arises as a result of the skill and care used by these different groups in removing and curing the hide. The best quality hides come from the large packing plants where experienced workmen, each working on part of the hide, remove the hide with a minimum of knife marks and trim it to a specific pattern. Small packers also produce a good quality hide but one that is slightly inferior to those produced by the large packers. Hides produced in the city abattoirs are known as city or butcher hides and their quality is much inferior. Hides from the third source, animals killed by farmers, are of still lower quality for it is common to find the hide scarred with knife marks and cuts which will be reflected in the finished leather. Both of these last groups are usually collected by dealers who cure the hides and sell them.

Curing of hides is necessary because bacterial action sets in once the hide or skin is removed and will soon spoil it. The three methods

that are used in curing are the wet salted, dry, and dry salted. In wet salting, hides are spread out on a hide cellar floor, liberally covered with clean coarse salt and built into packs. For heavy hides, such as cattle hides, these packs are allowed to sit or cure for 30 days. For the lighter skins, such as calfskins, only a few days of curing are needed to preserve them. In the dry process, hides are cured by simply stretching them and exposing them to sun and air, and the dry salt process is the same, except the hides are first salted. As a rule, Canadian tanners will accept only wet salted hides for their methods are adapted to that type of cure and other types require a change in processing. Skins, on the other hand, are received in all types of cure. The most important of these, calfskins, are imported in substantial quantities wet salted, and packed in casks.

Leathers are produced from three types of pelt, namely hides, kips and skins. The larger animals, such as steer, cow, bull and horse, produce hides which in the wet salted state weigh from 25 to 55 pounds or more. Kips are skins of younger animals of the same type but with skins which usually weigh from 15 to 25 pounds. Finally, skins are produced from the lighter animals such as calves, sheep, goat and deer, and in the case of calves the top weight is 15 pounds.

Domestically produced hides and skins may be purchased directly by the tanner from the packer or the dealer who buys country and butcher hides, but more frequently tanners will hire the services of a broker to act as an agent in this transaction. Hide brokers maintain connections with numerous packers and dealers and have a specialized knowledge of the hide market. They act as agents for the tanners, advising them as to current market conditions and hides that are available, seeking out sources for special requirements and purchasing on the tanners' behalf. They maintain a full time staff of experienced hide inspectors who grade and weigh the hides after a purchase has been made. One tanner who formerly employed his own inspectors explained to us that he found the use of a broker more economical because he was unable to keep his inspectors employed steadily. In Canada there are five hide brokerage firms, one in Montreal, three in Toronto and one in the West. These firms maintain inspectors in different cities across the country. It was estimated by one broker that from 80 to 90 per cent of all hides purchases by tanners in Canada are made through the agency of brokers. This same broker said his charge was nine cents per hide in Canada and 10 cents per hide for purchases on behalf of customers in the Untied States. Because of rising costs it had been increased from seven cents per hide at the beginning of the year. Brokerage fees in the United States are materially higher—one estimate placed them in a range of 12½ cents to 30 cents per hide.

At the tannery, hides are prepared for tanning by a series of processes known as wetting or soaking (to wash out dirt and salt), liming

(to loosen the hair), dehairing and fleshing. After completion of these operations hides are tanned either by a vegetable or chrome process. In Canada, most heavy leathers, such as sole, belting, and harness leather, are vegetable tanned, a process that requires from six to nine months. In this process the hides are first hung on frames and placed in rocker vats for a period of 10 to 15 days. Following this, the hides are transferred to lay-away vats, spread out flat and sprinkled with vegetable extract. A liquor solution is then added and the hides remain undisturbed for from three to six months, although the liquor may be changed several times during this period. After the tanning is finished, a rather elaborate finishing process follows in which oils are restored, and dyeing, glazing or buffing operations take place. In chrome tanning, which is much quicker, the hides or skins are placed in large tanning drums containing chrome chemicals. After being removed from the drums the hides may be split on a belt knife to produce leather of the required thickness. In this operation the portion next to the hair side is known as the grain and the remainder or flesh side is called the split. The grain and split are then tumbled in revolving drums containing a combination of water, soap and oils known as fat liquor. Dyes are sometimes added in a subsequent drumming operation to produce a variety of coloured leathers. The finishing operation follows. Chrome tanning is used chiefly for the lighter leathers, upper leather or calfskins.

The quality of the finished leather depends largely on the inherent quality of the hide that is used for tanning. Most tanners said that there had been no change in their tanning methods since before the war and that all their leather was subjected to the same tanning process. One firm reported the introduction of a new process resulting in an improved sole leather and another firm reported a change in tanning methods which was resulting in a better product. But in general the view expressed was that leather quality today was just the same as it had been before the war. Any deterioration in the quality of the manufactured leather products was attributed to the use of substitute materials or the use of inferior parts of the hide for a given purpose, such as the use of belly leathers instead of bend leather for shoe soles.

The Canadian tanning industry can be divided into four main groups, the sole leather tanners, upper leather tanners, the sheep, kid and goat skin tanners and the group which manufactures garments from horse hides, the leather garment section. Each of these groups has its own section in the Tanners Association of Canada. While some tanners manufacture leathers which would fall into more than one of these groups, the production of many firms would fall largely or entirely into one of these divisions. In judging the degree of competition within the industry, these subdivisions must be considered.

Location of Industry

The industry is located primarily in Ontario where, in 1946, the value of production amounted to 86 per cent of the total for all Canada. Quebec, with 12 per cent of the total in 1946, is the only other important source. The value of production for the main types of leather in Ontario, Quebec and the rest of the country is indicated in the following table.

TABLE 142

LEATHER PRODUCTION, CANADA, 1946

(millions of dollars)

	Ontario	Quebec	All other provinces	Canada
Sole Leather	14.3	.1	.1	14.5
Upper Leather[a]	16.8	3.7	.3	20.8
All Other	18.1	2.9	.7	21.7

a) Upper leather made only from cattle and horse hides and calf skin. Does not include patent leather or splits, both of which are grouped under "all other".

Source: Dominion Bureau of Statistics, Ottawa.

Competitive Structure and Size of Firms

In the industry as a whole there were, in 1946, 78 plants largely owned by separate firms; several of the larger firms own or control a number of plants. Of these plants six are primarily sole leather tanners, and the rest are distributed throughout the remainder of the industry. In 1946 there were 26 firms with a production over $500,000 and they produced 89.5 per cent of the industry's total product. Of the firms in the sole leather group, the five largest in 1946 accounted for about 96 per cent of the total sole leather production. For upper leather the five largest plants produced 52 per cent of the total upper leather in 1946. Evidence produced before us indicated that two large firms produced most of the calfskin upper and patent leather, but there would be some competition with this product from other types of upper leather. While no detailed information is available on the rest of the leather industry, it is evident that a few large firms tend to dominate the production of sole leathers, patent leathers and, to a lesser extent, upper leathers.

Nature of Investment in the Industry

Because of the long period required to tan leather, the leather tanning industry is characterized by a heavy investment in inventories relative to

its investment in plant and equipment. This is shown by the following table which gives data for nine of the larger tanning companies.

TABLE 143

COMPOSITE BALANCE SHEET, FIVE SOLE LEATHER TANNERS AND FOUR UPPER LEATHER TANNERS, FISCAL YEAR END NEAREST DECEMBER 31, 1947

(thousands of dollars)

	Five Sole Leather Tanners	Four Upper Leather Tanners	Total for Nine Firms
Cash and Marketable Securities	730	4,750	5,480
Accounts Receivable and Prepaid Expenses	2,041	1,514	3,555
Inventories, Gross	8,076	4,919	12,995
Total Current Assets	10,847	11,183	22,030
Less Current Liabilities	3,616	3,297	6,913
Total Working Capital	7,231	7,886	15,117
Fixed Assets less Reserves for Depreciation	2,610	998	3,608
less Long Term Indebtedness	30	3	33
	2,580	995	3,575
Other Assets	1,227	277	1,504
Shareholders' Equity	11,038	9,158	20,196

Source: Evidence, Royal Commission on Prices, pp. 1726, 1727.

The ratio of investment in inventories to investment in fixed assets (after deduction of depreciation reserves) was about three to one in the case of the five sole leather tanners and five to one for the four upper leather tanners. The possibility of sudden price declines makes the carrying of large inventories extremely risky and the financial structure of the larger tanners has been adapted to meet such risks. This is shown by their large current ratio, more than three to one and by the extremely small proportion of long term indebtedness.

The production period in the tanning industry varies considerably, depending on the type of tanner. Heavy leathers such as sole, belting and harness leather, require six months or more if, as is generally the case, they are vegetable tanned, whereas calfskins, which are chrome tanned, may require as little as six to eight hours. One large sole leather tanner reported that his average tanning period was about six months, while an important tanner of calfskins reported his average processing time at two months. In addition to this, tanners must wait for about two months from the date of purchase of their hides until actual receipt. In the interim the hides are inspected and cured. Some manufacturers reported that another factor affecting their inventory was the necessity of building up a stock of hides, which were only available

at certain seasons of the year, in order that they might maintain a uniform rate of production. In addition to increasing the risk of loss from price changes in the industry the large inventory required makes inventory movements and the basis on which they are valued an extremely important factor in the pricing policies of the industry.

In discussing the way in which prices are determined in the industry and the price changes over the last few years, it is convenient to begin with the prices of the industry's principal raw material, hides and skins, and tanning materials, and then proceed with the finished leathers. For each the various demand and supply factors affecting prices will be considered. The following table provides a basis for judging the relative importance of various cost factors in the tanning industry.

TABLE 144

PRODUCTION COSTS, LEATHER TANNING INDUSTRY, CANADA, 1946

	Amount (thousands of dollars)	Per cent
Hides and Skins	28,732	50.4
Tanning Materials	6,926	12.1
Salaries and Wages	9,224	16.2
Fuel and Electricity	939	1.7
Depreciation, All Other Expenses and Profit	11,178	19.6
Total Value of Product	56,999	100.0

Source: Dominion Bureau of Statistics, Ottawa.

Hides and Skins

Though the price of hides and skins is affected by both demand and supply considerations the relationship is somewhat unusual. Hides and skins are produced only at the time that the animal is slaughtered, usually for meat purposes. But since the value of the hide or skin is only a small proportion of the value of the whole animal, 10 per cent or less, it can be considered a by-product of meat production. Even a large variation in the price of hides will have only a small effect on the value of the whole animal and because of that the supply of hides is peculiarly unresponsive to changes in their selling price. In consequence, the supply of hides will depend largely on the volume of meat production. When cattle slaughterings are heavy as they were in Canada during 1945, the supply of hides will be increased; when slaughterings fall off as they did during 1946 and 1947, the supply of hides will also decline.

And because the supply of hides is so unresponsive to changes in their selling price the variation in hide prices is usually great. An increased demand for leather products at a time when meat production

and therefore hide production is steady will result in a rise in hide prices and a decline in stocks on hand. Since under a general condition of expansion the demands for both meat and leather products, to some extent, rise and fall together there will usually be some increase in both meat and hide production during a period of rising demand. But the demand for leather products usually fluctuates more widely than the demand for meats and as a result very low hide prices with a piling up of stocks usually occurs during a depression and sharp rises in prices and a drawing down of stocks during a period of prosperity.

This relative inelasticity in the production of hides and skins also made it much easier to maintain price ceilings on them. As long as the domestic supply of hides was adequate, the retention of price ceilings along with export controls made it possible to keep the price of hides and leather well below their prices in world markets. Yet this low price did not result in any falling off in the hide supplies except in so far as it may have encouraged hoarding. On the other hand it did encourage an increase in the consumption of leather products and in 1947, prior to decontrol, some imports of hides and skins under a subsidy arrangement were necessary to meet the domestic demand. Nor did the retention of controls interfere unduly with Canada's leather exports. Under a special arrangement introduced in 1947, exports were allowed provided there was an equivalent import of unsubsidized hides and skins.

For cattle hides which made up about 65 per cent by value of all the hides used in Canada's tanning industry during 1946 Canada has for long produced just about enough to satisfy domestic requirements. There has been considerable year to year variation in this; some years Canada has been a net importer of cattle hides and other years a net exporter; but over the period from 1930 to 1939 exports and imports were just about equal. Though supply has been sufficient in over-all amount the tanning industry had up until recently used a substantial percentage of imported hides while an almost equal amount of our own hides were exported. Foreign hides averaged about 50 per cent of the cattle hides used during the period from 1925 to 1929 and around 30 per cent in the years 1935 to 1939. That heavier hides were obtainable in the United States and the Argentine was the chief reason for these imports. Under the restrictions imposed during the war, greater use was made of domestic hides and by 1946 the use of imported cattle hides had fallen to only one per cent of the total. However, with the decline in cattle slaughterings in 1947, there was a sharp increase in imports though the use of foreign hides was still estimated at only 15 per cent of the total, only half the proportion of imported hides used in the period 1935 to 1939.

For calfskins the supply situation is somewhat similar to that of cattle hides though Canada has always been slightly more dependent on imported skins. This is balanced on the demand side by the fact that, as compared with cattle hide leather, a larger proportion of our

calf and kip skin leather has been exported. Imports of calfskins have always exceeded exports. In the period from 1930 to 1934 this excess averaged about one-third and from 1935 to 1939 it was about 10 per cent of our calfskin exports. As is true of cattle hides, imported calf and kip skins form an important part of our domestic supply. In the period from 1935 to 1939 they made up 35 per cent of the total used by the tanning industry, though in the latter part of the war this proportion had fallen to 15 per cent. During 1947 in the face of declining domestic supplies and an increased export demand for calfskin leathers, imports of calfskins increased sharply and contributed 42 per cent of our total supply. Exports in contrast were negligible. These heavy imports have continued during the first half of 1948 but exports of calfskins have also increased as the industry began to move back to its pre-war supply pattern. Our major sources of calfskin imports in the past have been the United States and New Zealand.

When price controls were taken off hides and skins, leathers and leather products in September, 1947, consumption of leather products had increased substantially over pre-war levels. The domestic supply of sole leathers in 1946 was up about 75 per cent over 1939 and the supply of upper leather had increased by 70 per cent. At the same time the spread between the Canadian and the United States price for hides and leather was much greater than the spread between the general price levels of these two countries. Accordingly there was some reason to expect a marked rise in the prices as soon as the ceiling was removed. Even though controls were still retained on exports this was not sufficient to prevent competition for the available supply of hides from forcing a rise in price, particularly since tanners had been importing higher priced hides under a subsidy arrangement during the year.

The domestic supply of cattle hides and calfskins consists of three major packers, a substantial number of small packers and over 100 hide dealers. It has been estimated that in 1947 the large packers produced about one-half of all the cattle hides and somewhat more than a third of the calfskins. Because there was some diversion of slaughterings out of their usual channels during the meat packing strike these percentages would probably be higher in other years. The structure of the leather tanning industry which provides the entire domestic demand for hides was discussed above. In buying hides the sole leather tanners restrict themselves almost entirely to the large packer hides whereas the upper leather tanners may use a substantial proportion of small packer, city and country hides.

At decontrol, prices of light native cowhides actually rose from 18 cents to 29 cents a pound and remained at that price until March 1948. The amount of the price rise and its steadiness during the ensuing six months seem to have the result of an informal agreement among the tanners to refrain from offering any higher price, an agreement which had the tacit consent of the major packers. Such an informal agreement was suggested by the Chairman of the Wartime Prices and Trade Board

but at a price level midway between the last ceiling price, 18 cents, and what was, at that time, the United States price of 29 cents a pound. Apparently the packers were unwilling to accept a price as low as 22 or 23 cents but they subsequently concurred in the maintenance of the 29 cent price. During the following six months prices in the United States at first continued to rise reaching a peak in November of 37.5 cents per pound but thereafter it declined until in the middle of February it was actually two cents per pound below the Canadian price. In March, however, the Canadian price was reduced five cents a pound and since that time up to the date of this report has remained somewhat below the United States level.

Since the removal of price ceilings in September a decline in finished leather sales and an accumulation of stocks has occurred; as a consequence fewer hides are being used in the industry. Wettings of cattle hides during the first five months of 1948 are almost 25 per cent below last year's level. Export sales of upper leather have fallen sharply, but sole leather exports in contrast have risen to higher levels. With fewer hides being used and with a higher level of cattle slaughterings early in the year there was some accumulation of cattle hides up to the end of March, 1948. At that date stocks of cattle hides were 55,000 or about nine per cent above their level a year earlier. But since the removal of export controls at the end of March, stocks have declined rapidly and at the end of June, 1948, they were 188,000 below their level in June, 1947. Effective January 1, 1948, the United States import duty on hides and skins was reduced from 10 per cent to five per cent thus further encouraging export sales.

These data point to the conclusion that the export price has a very strong influence on the domestic price, and as long as it remains at a high level, a falling off of the domestic price is very unlikely. If export controls had been retained there is reason to believe that the sharp decline in hide consumption in this country and the rising stocks, which had begun to appear, would have forced a greater decline in domestic price levels. This was, of course, less likely to occur as long as there was any anticipation that export controls might be removed. On the other hand the fact that prices of packer hides have continued below the United States price levels even though export controls have ended is an indication that the packers have shown some restraint in their domestic prices. This is not true of country hides and the spread between the price of packer and butcher hides has narrowed substantially since the removal of export controls at the end of March, 1948. However, prices during the summer months are somewhat nominal because of the small volume of slaughter.

The recent removal of restrictions on the export of live cattle to the United States will further deplete the Canadian supply of hides. The quota of cattle which can be exported at minimum rates of duty is now 400,000, almost 20 per cent of the number of hides produced in Canada during 1947. Though Canada's exports of cattle hides have

exceeded her imports by a substantial amount thus far in 1948, if shipments of live cattle to the United States are heavy, the resulting decline in domestic hide production may cause this trend to be reversed.

Tanning Materials

By August, 1947, the wholesale price index of tanning materials had advanced about 79 per cent over its level in the period 1935 to 1939. In May, 1948, a further jump in prices occurred and these materials now cost more than double their pre-war amount. Most of our tanning materials are imported, chiefly from South America.

Salaries, Wages and Productivity

Wage rates in the tanning industry have advanced substantially over their 1939 level. An index of straight hourly wage rates increased by 115.7 per cent between 1939 and 1947. Since then there has been some further increase as shown by the fact that average hourly earnings of hourly rated wage earners in this industry increased about 12.5 per cent between July 1, 1947, and July 1, 1948. Several tanning firms reported that their wage agreements contained a cost-of-living bonus which results in an automatic increase in wage rates as the cost-of-living index rises.

Because there is relatively little variation in the quality of the product in this industry it has been possible to make an estimate of the change in productivity that has occurred since 1939. An index of output per wage-earner increased from 100 in 1939 to 108.4 in 1945 and then declined slightly to 107.1 in 1946. Data on the number of hours worked by wage-earners in each of these periods are very inadequate but what data are available indicate that there may have been some decline in the number of hours worked. If this is true, output per man-hour will be up more than output per man-day.

Finished Leather

Production of finished leather varies more or less directly with the number of hides and skins that are available. Thus the factors which were outlined above as governing the supply of hides also influences the output of leather. The dependence is not complete, however, for leather production may fall off at a time when the output of hides is maintained, the result being an accumulation of hides; or, again, leather production may for a time increase by drawing down available hide stocks. When the domestic market alone is considered, the availability of hides in other world markets adds to the degree of independence in the movement of leather production. Even though hide production does not respond readily to an increased demand for leather, if this increased demand is confined to a few countries, leather production there can increase a good deal by importing hides from other countries.

The demand for leather depends on the demand for those finished products containing leather and as such it is a derived demand. In Canada, it has been estimated that 80 to 85 per cent of all cattle hide and calfskin leather is used in the production of boots and shoes. The remainder is used chiefly for such articles as harness, belting, luggage, pocketbooks, handbags, gloves, and leather garments. Some indication of the relative importance of these industries is given in the following table on production of leather goods in Canada for 1946.

TABLE 145

PRODUCTION OF LEATHER GOODS, CANADA, 1946

	Amount (thousands of dollars)	Per cent
Boots and Shoes, Leather	96,435	72.8
Gloves and Mittens, Leather	10,767	8.2
Handbags, Purses, Pocketbooks, etc.	8,686	6.6
Trunks, Luggage, Brief Cases, etc.	4,526	3.4
Harness and Saddles	2,526	1.9
Belting, Leather	1,919	1.4
Miscellaneous Leather Goods	7,510	5.7
Total	132,369	100.0

Source: Dominion Bureau of Statistics, Ottawa.

With the exception of a few industrial and farm materials, like belting and harness, the market for leather goods is largely a consumer's market.

Both imports and exports of leather are of some importance as is indicated in the following table.

TABLE 146

PRODUCTION, EXPORTS AND IMPORTS OF LEATHER, CANADA, 1938-1940 and 1944-1946

Year	Value of Production, Leather Tanning (thousands of dollars)	Exports of Leather (thousands of dollars)	Imports of Leather (thousands of dollars)	Domestic Supply[a] (thousands of dollars)	Exports as Percentage of Total Production (per cent)	Imports as Percentage of Domestic Supply (per cent)
1938	19,661	4,217	2,612	18,056	21.4	14.5
1939	25,585	6,856	3,218	21,947	26.8	14.7
1940	28,474	6,521	3,167	25,120	22.8	12.6
1944	45,011	2,910	2,976	45,077	6.5	6.6
1945	47,339	4,004	3,510	46,845	8.5	7.5
1946	56,999	7,656	4,182	53,525	13.4	7.8

a) Domestic Supply equals total production plus imports minus exports.

Source: Dominion Bureau of Statistics, Ottawa.

This shows that before the war well over 20 per cent of our domestic leather production was exported while imports supplied from 12 to 15 per cent of the leather used in Canada. By 1946 neither exports nor imports had reached their pre-war relative importance in the domestic market. Our leather exports in 1947 were predominantly upper leather ($10.2 millions) but there was also a small export of patent leather ($1.0 millions) and sole leather ($1.0 millions). Our imports are chiefly of the finer type such as calf, goat, kid, lamb, and sheep skin leathers, which are used to a large extent in the glove and garment industry or for making miscellaneous leather products. At the present time shortages of dollar exchange in our export markets, are restricting Canada's exports of finished leathers. A reduction in the United States import duty on sole leather from 12.5 per cent to 10 per cent, occurred on January 1, but this is still substantially more than the five per cent duty on cattle hides. Despite this apparent disadvantage our sole leather exports to the United States are up sharply in 1948.

At the time controls were removed from hides and skins, the leather tanners almost immediately readjusted their selling prices. In setting these prices, the heavy inventory carried by the industry, and the nature and extent of outstanding orders were important considerations. Inventories were particularly important in the case of the sole leather tanners who carry the finished leather equivalent of from six to nine months shipments in stock. But for all tanners, the impact of the rise in hide prices was more rapid than usual because of a special agreement with the packers. Under this agreement all hides which then had been purchased by the tanners but which were still in the hands of the packer at the time controls were lifted were subject to renegotiation as to price. This meant that the packers gained the benefit of higher prices on all hides in their possession at the time of decontrol, whereas tanners had to pay the higher prices at once on that part of their stocks, normally one to two months purchases, which were still in the packers' hands.

The choices before the tanners were to set their selling prices on the basis of current replacement costs, or to make some allowance for the fact that a substantial part of their inventory had been purchased at lower prices. In the evidence before the Commission, one of the three largest sole leather tanners, the Anglo-Canadian Leather Company, indicated that since decontrol its costs on a replacement basis had advanced more than its selling prices, but because its inventory was not yet on a replacement basis, an equivalent reduction in profit had not yet been evident. This firm expressed a hope that hide prices would fall sufficiently before it reached a replacement basis to enable it to maintain its present prices without incurring a loss. In general this company said, because of its eight months inventory, it was not its policy to advance prices as soon as hides advance, nor to decrease them at once when hide prices decline. On the other hand, one of the smaller sole leather tanners, the North American Leather Company,

said that when the hide market falls, tanners have to sell their product almost entirely at the replacement value.

Upper leather tanners usually have a much smaller inventory relative to their sales than do the sole leather tanners and for that reason there may be more of a tendency to set prices on a replacement cost basis. While the evidence is not specific on this point, in describing the methods used to set their selling prices after decontrol all three upper leather tanners who appeared before the Commission seemed to indicate that they had based them on the current replacement cost of hides and skins.

Another important consideration in setting a new selling price is the existence of outstanding orders. If the firm must continue for some time to fill orders on hand at prices ruling before the advance in hide prices its new price list will only become effective on new orders. Under these circumstances an inventory method which allowed the industry to charge earlier purchases against sales would seem to be most appropriate, enabling firms to purchase hides against orders received. On the other hand because of the predominance of small firms in the leather footwear industry it is unlikely that the tanners are able to shift forward the risk of price declines by means of sales under binding orders. If orders are not considered binding by the footwear manufacturer when prices decline, the leather tanner may suffer a considerable loss through being forced to sell his high priced inventory at lower prices.

Information presented on the extent of outstanding orders in the leather industry was somewhat varied. The Anglo-Canadian Leather Company said that it did not like to accept orders beyond two months in advance of the date of delivery because of the risk of a rise in hide prices. A. R. Clarke and Co., upper leather tanners, said that it did not usually book orders more than six months ahead and that it did not like to go that far. No exact information is available as to the size of orders on hand at the time of decontrol or as to the length of time before shipments were made at the higher prices. However, for a number of companies some shipments, at least, were being made at the higher price levels within two weeks. Two companies stated definitely that orders on hand were filled at the old price. It is possible that orders had been kept to a minimum at that time in anticipation of the removal of price ceilings and the situation might not be representative of the normal course of events in the industry. Several companies said that while orders were considered binding at a time of price advance, this was not true in a period of price decline. At a time of a decline in hide prices leather purchasers expected a reduction in leather prices even on previously outstanding orders. All companies appearing before us stated they had made some reduction in their selling prices early in March shortly following the sharp decline in hide prices, but the reduction was considerably less than the fall in hide prices.

In setting their price on leather, the most important factor in the tanners' cost calculations is the cost of hides and skins. Ordinarily,

however, tanners do not like to change their prices too frequently, because of the trouble of getting out new price lists and because of the upsetting influence of frequent price changes on their chief customer, the boot and shoe industry. Consequently, they tend to ignore minor fluctuations in hide prices and only change their prices for leather when a substantial change in hide prices occurs. At such a time they will also adjust their selling prices for any changes that have occurred in their other costs. Thus, following decontrol of hides and leather prices in September, 1947, tanners increased their prices sufficiently to cover both the rise in hide prices and other changes in costs that had accumulated.

In setting these new prices the tanners were in the position of having to help in determining the price of both hides and leather. What they could afford to offer for hides would depend to some extent on what they could expect to sell their finished leather for. This in turn would require some estimate of how consumer demand would react to the higher priced leather goods. In arriving at these new price levels the most important factor seems to have been price levels prevailing in the United States. This was true even though at that time export controls were still retained on hides and skins. As long as these controls were retained the high price of leather cannot be attributed to the rise in hide costs. Since the supply of hides is relatively independent of price changes, their price level depends on the anticipated willingness of the consumer to buy that supply in the form of finished leather goods at prices which would maintain such a level of hide prices.

The nature of price competition in the tanning industry differs somewhat in the different sections of the industry. In the sole leather section, where there are five large firms, there is a condition of monopolistic competition. In this type of situation it is frequently alleged that firms will follow price cuts by their competitors but will refuse to follow price advances. The evidence presented before us would seem to show that the truth of this depends somewhat on the circumstances. In September, 1947, when the sudden rise in hide prices made some increase in leather prices necessary, the Anglo-Canadian Leather Company issued the new price list first and apparently the other firms in the industry followed it. In March, one of the firms reduced its prices and Anglo-Canadian met this reduction. The firm's manager said that he would not raise his price at the present time if another firm did because he did not think the situation warranted it. This would seem to indicate that in a dynamic situation firms in the industry will follow both price rises and price cuts if they think they are to their advantage. At the same time they seem more ready to follow price cuts than price rises.

In the upper leather section of the tanning industry, one firm denied any knowledge of its competitors' prices. The firm's representative stated that its price list was not published but issued only to its salesman who communicated it to customers. Competitors would obtain knowledge of it only through quotations left with a customer. He said that the firm judged the adequacy of its prices by its volume of sales. On the other

hand, another firm producing in the same field admitted a knowledge of other firms' prices and said that following decontrol the prices of the various firms were soon adjusted to a similar level. Some firms' initial prices were lowered and others were raised when it was learned what other firms were charging.

MANUFACTURERS' PROFITS—LEATHER TANNING

In order to assess properly the effect of manufacturer's profits upon prices it is necessary to consider the accounting methods used by the various firms in valuing their inventories. In a period of changing prices such as 1947 reported profits will differ substantially depending upon the particular accounting method used. This is especially true of an industry such as leather tanning which must carry large inventories.

Up until 1946 the most widely used methods throughout the tanning industry were average cost and "first in first out" (FIFO). During 1947, a year of rising hide prices, four of the largest tanning companies adopted the "last in first out" basis of inventory valuation. In making this change the firms were attempting to protect themselves from the consequences of a sudden decline in hide prices such as had occurred in 1920. Fear of a price decline has been increased because of the knowledge that there are large stocks of cattle hides being held in Argentina which, if placed on the market, would cause a sharp fall in prices.

Where a "first in first out" method is used the earliest purchases, and in a period of rising prices the lowest priced purchases, would be charged to sales first. Thus a leather tanning firm using this method would only be able to charge his higher cost hides of each type to sales after he had used up all of his lower cost hides. But if he had set his selling price on the basis of current replacement costs, and the evidence indicates this was the general practice, he would be showing a much larger profit than if he had based his selling price on his actual recorded cost. However all of this larger profit, often called inventory profit, would be required to finance the higher cost inventory. On the other hand even if the firm using a "first in first out" method had set its selling price on the basis of its actual recorded cost and hence did not make an inventory profit of this type, it would find it necessary to obtain funds to finance the higher priced inventory from other sources, such as bank loans or out of the firm's ordinary profits.

When an "average cost" method is used the effect is somewhat similar except for the fact that a longer time will elapse before the lower cost inventory will be charged out. Under this method firms are allowed to charge to sales an average of all their materials on hand so that the recent higher priced purchases become a part of the average.

When a firm uses a "last in first out" (LIFO) method it will charge the cost of its most recent purchases to its sales. This means, in effect, that the current replacement cost of materials during the accounting period are charged to sales. In a period of rising prices this will result

in the firm showing a much lower profit than if it had used one of the former methods and the value of its inventory will show little change. When prices fall again the firm using the LIFO method will show a larger profit (or smaller loss) than a firm using either an "average cost" or "first in first out" method. However, over a period of years during which prices rise and then fall again the total profit for the period will not vary appreciably with different accounting methods provided one method is used consistently throughout. The adoption of the LIFO method by a number of tanners in 1947 will help keep the higher hide prices from being reflected to any substantial extent in their inventory and will help protect them from showing heavy losses at a time when hide prices decline. In this way it will help to contribute to the stability of the industry.

Up to the present the Department of National Revenue has not officially approved the use of inventory accounting methods which involve the charging of current replacement costs to sales. However accountants generally accept in theory that one of these methods, the "last in first out" (LIFO) is appropriate in industries such as leather tanning where it is necessary to carry large inventories whose raw material content is subject to substantial price fluctuation. The LIFO method has been accepted for income tax purposes in the United States and has been recommended for certain industries by the American Institute of Accountants.

Information on the net profit of five sole leather tanners and four upper leather tanners provide a basis for judging the relation of profits to selling prices in the tanning industry. The sales of these nine firms have increased substantially since 1939 and in 1946 amounted to over 55 per cent of the total sales in the industry. Both increased volume and higher prices have contributed to this rise. Operating income, which is the income from the operations of the business (before provision for taxes on income) increased even more rapidly than sales from 1939 to 1946, with a slight recession in 1947. The following table shows sales and operating income as a percentage of sales in each year.

TABLE 147

SALES AND PERCENTAGE OF OPERATING INCOME TO SALES, NINE LEATHER TANNERS

Year	Nine Companies		Five Sole Leather Tanners		Four Upper Leather Tanners	
	Sales (thousands of dollars)	Percentage Operating Income to Sales (per cent)	Sales (thousands of dollars)	Percentage Operating Income to Sales (per cent)	Sales (thousands of dollars)	Percentage Operating Income to Sales (per cent)
1939	15,609	7.9	7,751	7.8	7,858	7.9
1946	31,821	13.7	19,826	11.8	11,995	16.9
1947	37,520	11.1	21,877	5.5	15,643	18.8

Source: Evidence, Royal Commission on Prices, p. 1722.

Some of the larger share of each sales dollar which went to cover the operating income of these firms in 1946 would go to pay taxes on income. Since it is not possible to determine whether a reduction in the amount of these taxes would have resulted in lower prices or a higher net profit to the firms no conclusion can be reached as to the effects of higher corporate income taxes upon prices.

As was pointed out above, during 1947 four of the companies adopted the "last in first out" (LIFO) basis of inventory valuation; a fifth company has followed this basis since 1939. These companies together handled 54 per cent of the total sales volume of the group in 1947, (42 per cent of the sole leather group and 69 per cent of the upper leather group). The use of such a basis excludes "inventory profits and losses" from operating income and, as 1947 was a year of increasing prices for hides, the profits of that year are lower for those companies which applied this method than they would have been had they followed the more usual "first in first out" or "average cost" basis which previously had been used by all but one of the companies. The change in basis of valuation by these four companies does not make it improper to compare their 1947 and 1946 results; for 1946 was a year of relatively steady prices and had these companies adopted a LIFO basis at the beginning of 1946 their operating results for that year would not have been materially different than those determined by applying "first in first out" or "average costs". However, when comparing profits in this industry with those in other industries some allowance should be made for the fact that inventory profits are partially excluded.

Net profit of the nine companies increased from 1939 to 1946 but in 1947, for the group as a whole, was less proportionately to sales than in 1939. This will be seen in the following summary.

TABLE 148

PERCENTAGE OF NET PROFIT TO SALES, NINE LEATHER TANNERS

(per cent)

Year	Nine Companies	Five Sole Leather Tanners	Four Upper Leather Tanners
1939	6.3	6.3	6.2
1946	7.0	6.7	8.6
1947	5.8	2.9	9.7

Source: Evidence, Royal Commission on Prices, p. 1723.

All of the decline in 1947 was due to the lower profits of sole leather tanners. For upper leather tanners, net profits as a percentage of sales increased further in 1947.

If all of the above firms had adopted a LIFO basis of inventory valuation in 1947, net profit as a percentage of sales for the year would have been lower than above.

While net profit remained relatively constant as a percentage of sales, it increased in amount very substantially with the higher sales volume. Capital employed was also larger, but it did not increase nearly

as much as sales, so that the net profit represented a larger return on the shareholders' investment. This will be seen from the following table.

TABLE 149

NET PROFITS AND PERCENTAGE OF NET PROFITS TO SHAREHOLDERS' EQUITY, NINE LEATHER TANNERS

Year	Nine Companies		Five Sole Leather Tanners		Four Upper Leather Tanners	
	Net Profit (thousands of dollars)	Percentage Net Profit to Shareholders' Equity (per cent)	Net Profit (thousands of dollars)	Percentage Net Profit to Shareholders' Equity (per cent)	Net Profit (thousands of dollars)	Percentage Net Profit to Shareholders' Equity (per cent)
1939	982	7.5	490	6.4	492	8.9
1946	2,242	11.7	1,204	10.6	1,038	13.2
1947	2,164	10.7	641	5.8	1,523	16.6

Source: Evidence, Royal Commission on Prices, p. 1723.

It will be noted that the combined net profit of the five sole leather tanners was less in 1947 than in the previous year but the four upper leather tanners, as a group, improved their profit position.

There was considerable variation in the amount of net profits obtained, both as a percentage of sales and as a percentage of the shareholders' equity. This is shown in the following table.

TABLE 150

NET PROFIT AS A PERCENTAGE OF SALES AND AS A PERCENTAGE OF THE SHAREHOLDERS' EQUITY, NINE LEATHER TANNERS[a]

(per cent)

	1947		1939	
	Per cent of Sales	Per cent of Equity	Per cent of Sales	Per cent of Equity
Upper Leather Tanners				
Company A	9.5	31.5	−7.9	−2.6
Company B	9.9	11.1	12.3	10.4
Company C	5.2	14.0	2.2	5.2
Company D	11.2	17.2	6.6	11.4
Average	9.7	16.6	6.2	8.9
Sole Leather Tanners				
Company E	2.2	4.2	−2.0	−1.5
Company F	2.2	6.0	.5	1.1
Company G	−2.5	−9.2	13.0	38.5
Company H	5.3	5.3	17.9	10.9
Company I	4.2	16.3	5.5	13.3
Average	2.9	5.8	6.3	6.4
Average for Nine Companies	5.8	10.7	6.3	7.5

a) Data in the above table are for the companies' fiscal year corresponding most closely to the calendar year. In calculating net profit all charges to reserves (except depreciation and bad debts) were excluded. Equity represents the shareholders' equity and consists of share capital, surplus, and reserves (other than bad debts and depreciation).

Source: Evidence, Royal Commission on Prices, p. 1793.

Some of these nine companies sold a substantial amount of their leather on the export market during 1947 and there is evidence that the profits obtained from these sales were much larger than profits on domestic sales. One company submitted the following data.

TABLE 151

NET PROFIT AS A PERCENTAGE OF SALES, UPPER LEATHER TANNING COMPANY A

(per cent)

Year	Per cent of Total Sales	Per cent of Domestic Sales	Per cent of Export Sales
1946	7.5	4.3	9.5
1947	9.5	6.2	12.5

For sole leather tanners it may be concluded that net profits in 1947 were not only a smaller percentage of sales but yielded a smaller rate of return on the shareholders' equity than in 1939. In contrast, for upper leather tanners, net profits in 1947 as compared with 1939 were a substantially larger percentage to sales and because of the larger volume of sales yielded almost twice as large a rate of return to the shareholders' equity. Part of this gain was due to the high rate of net profit obtained on export sales during 1947.

Because price controls were not removed until September 15, 1947, the above data do not indicate clearly the relation of net profits to sales since that date. Data for one upper leather tanner show a decline in net profits as a percentage of sales from 10.15 per cent in the first six months of 1947 to 5.83 per cent in the first six months of 1948. Though a substantial part of this decline may be due to a reduction in the margin of net profit on export sales, it does suggest that profit as a percentage of domestic sales for this firm has not increased during 1948.

SUMMARY AND CONCLUSIONS

The hides and leather industry was one in which price controls were applied with little detrimental effect on supply, due to the fact that its raw materials are a by-product of the meat industry and therefore are largely unaffected by price. However, as part of its general program of decontrol, the Canadian government removed price controls from this industry in September, 1947.

Once price controls were removed the industry had to establish new price levels for hides and leather which would equate the prospective demand for products containing finished leathers with the available supply of hides and skins. Since export controls were retained on hides, prices in world markets should not have directly affected domestic prices but the evidence indicates that they were taken as a guide when domestic

prices were set. At the time of decontrol the tanners and packers were asked by the Wartime Prices and Trade Board to show some restraint in setting prices and a price midway between the ceiling price and the United States price prevailing at that time was recommended. However the packers apparently insisted on advancing prices to the United States level but subsequently refrained from any further advances when the United States price level continued to rise. Evidence that prices were advanced further than was justified on the basis of the demand for leather in Canada is provided by the accumulation of hide stocks that followed the price rise. These accumulations ceased once export controls on hides were removed at the end of March, 1948, and the anticipation of such a removal may have influenced the prices that prevailed throughout the winter. Thus it is apparent that prices in world markets, and in the United States in particular, had a substantial influence on the prices that were established for hides and leather following decontrol in September 1947.

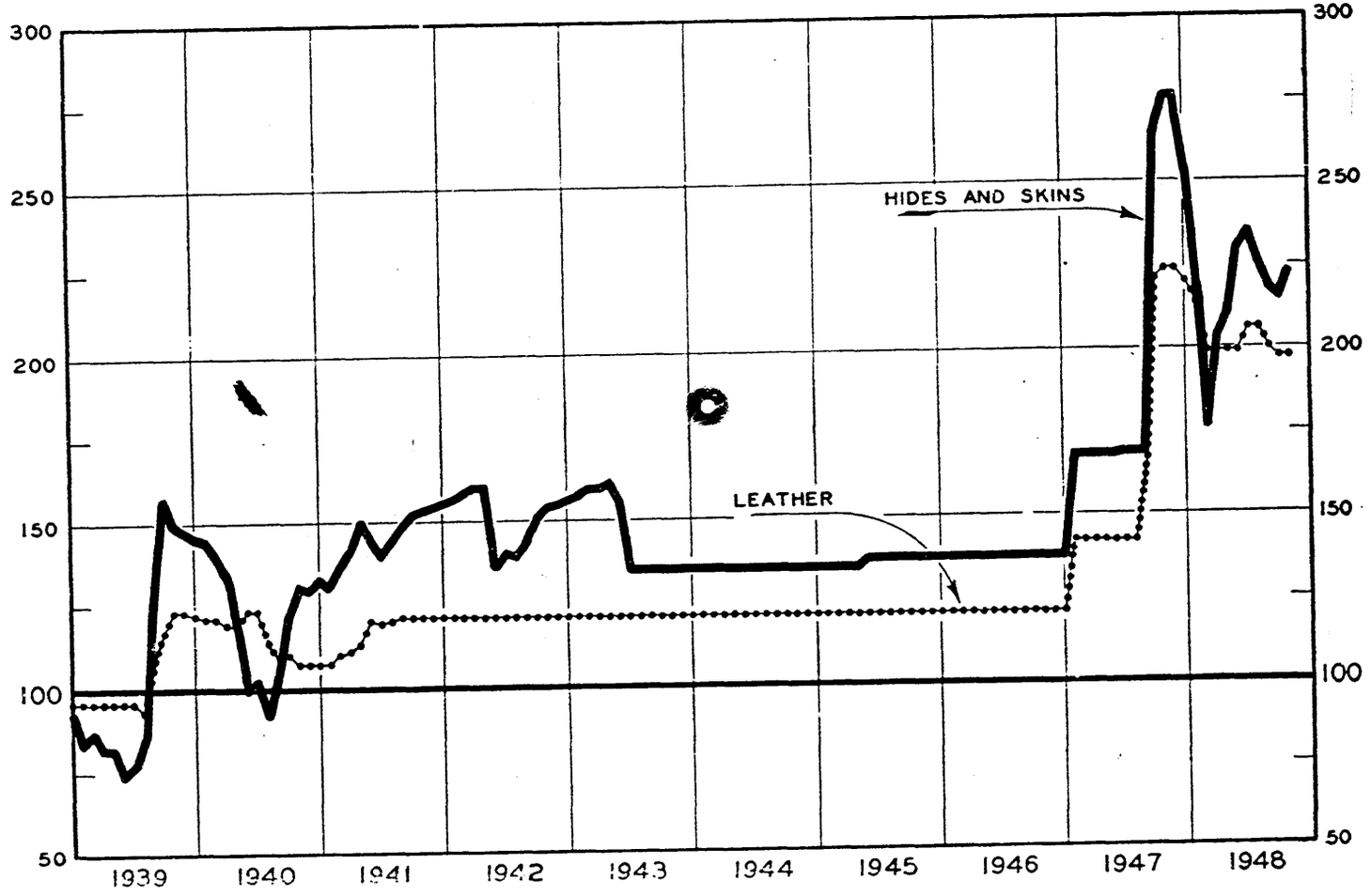
While prices of hides and skins are of fundamental importance in determining the price of finished leathers, the substantial advance in wage rates in the industry and in the price of tanning materials have contributed to the higher prices now prevailing. Even with respect to hides and skins the heavy inventory that is carried makes the immediate effect of changes in prices upon the price of finished leathers somewhat uncertain. In general most tanners seem to set their price on the basis of the replacement cost of hides though there was some evidence that sole leather tanners may base their prices to some extent on actual accounting cost. If all firms used a "last in first out" method for valuing their inventory, accounting cost would be almost identical with replacement cost. While this would result in changes in raw material prices being reflected more rapidly in the price of finished leathers it would result in fewer fluctuations in profits in the industry. Four of the tanners appearing before the Commission adopted the "last in first out" method in 1947 and as a result would show a smaller profit than firms using the more customary "average cost" or "first in first out" methods. If all firms were to adopt the same method it would make a comparison of their profit position much easier. When no information is available on the accounting method used it is impossible to interpret accurately a company's statement during periods of price change.

The advance in leather prices following decontrol cannot, we think, be attributed exclusively to the earning of higher profits. The volume of sales has declined since that time and a number of firms indicated that their profits in 1948 were much lower than in 1947. During 1947 the net profits of the upper leather tanners who appeared before us were substantially higher than in 1939 but an important part of this may have been due to profits on export sales. Net profits of sole leather tanners, on the other hand, though larger than 1939 in absolute amount were a smaller percentage of sales and yielded a lower rate of return on the shareholder's equity than in 1939.

CHART XVI

HIDES AND LEATHER WHOLESALE PRICE INDEX

(1935-39=100)



Source: Dominion Bureau of Statistics, Ottawa.