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CANADA 1947

THE OFFICIAL HANDBOOK OF PRESENT CONDITIONS AND RECENT PROGRESS

CANADA

Message to the People of Canada from His Excellency the Governor General

NEW YEAR, 1947

On the occasion of my first year of office as Governor General, I wish to convey my warm greetings to all the people of Canada.

I have come to know well, from close experience, the courage and dash of the Canadian soldier in action. Since my arrival in Canada, I have travelled from the Atlantic to the Pacific and have been privileged to observe at first hand Canadians from all walks of life at work and at play.

The same qualities that have made you respected by both friend and foe and stood Canada in such good stead during all the hazards of war have now carried her far along the path of post-war reconstruction.

It is my confident hope that the New Year will bring further prosperity to the Canadian people and will add to the influence and prestige of this country among nations.

Alexander of Tunis

Courtesy, Karsh, Ottawa

His Excellency

FIELD MARSHAL THE RIGHT HONOURABLE

THE VISCOUNT ALEXANDER OF TUNIS

K.G., G.C.B., G.C.M.G., C.S.I., D.S.O., M.C., LL.D., A.D.C.

Governor General of Canada

Canada
1947

The Official Handbook
of Present Conditions
and Recent Progress

Published by Authority of

THE HON. JAMES A. MacKINNON, M.P.

Minister of Trade and Commerce

Prepared by

DOMINION BUREAU OF STATISTICS

Department of Trade and Commerce

OTTAWA, CANADA

OTTAWA
EDMOND CLOUTIER, C.M.G., B.A., L.Ph.,
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Foreword

THE "Canada" Series of Handbooks was designed seventeen years ago to supplement the field of the *Canada Year Book* by offering, mainly to Canadian citizens, a brief and attractive record of current economic conditions at a price within reach of all. The *Year Book* is primarily a reference work and is not designed to meet the need for a popular publication medium. Moreover, it is too expensive and bulky for wide distribution.

The growing popularity of the Handbook and the numerous editions and reprints that have been published over the period attest to the soundness of the original plan and to its value, especially in the schools across Canada and to business men.

The past seventeen years have seen a wide expansion in every direction of the national economy, but the Handbook has been limited in size during this entire period to approximately 200 pages. Since a considerable proportion of the space is allocated to illustrations, the editorial task of giving a well-balanced presentation of all fields in the space provided has become more difficult each year and a moderate expansion of the Handbook has lately appeared inevitable.

The decision to extend the scope of the book by the inclusion of a wider range of information was made as a result of conferences with officials of the Canadian Information Service. This Service felt that for distribution abroad the Canadian economy should be explained in greater detail and that more feature material should be included. It appeared that these two ends could be served most economically by expanding the "Canada" Series within reasonable limits and printing sufficient copies to serve all needs.

Jas. A. MacKinnon

Minister of Trade and Commerce.

Ottawa, January 1, 1947

72235—1½

Prefatory Note

THIS Handbook has been prepared and edited in the Year Book Branch of the Dominion Bureau of Statistics from material that has, in the main, been obtained from the different Branches of the Bureau. In certain special fields information has been kindly contributed by other branches of the Government Service.

The Handbook is planned to give a balanced picture of the general economic and social structure of Canada, the weight of emphasis being placed from year to year on those aspects that are currently of most importance, since there is not space to deal adequately with all. Special articles deal with "The Pulp and Paper Industry in Canada" and "Canada's Place in the British Commonwealth of Nations". These are the result of co-operative effort between the Editorial Staff and recognized authorities—Dominion, Provincial or private. The first has been worked up in conjunction with the various forestry authorities, the second in the Department of External Affairs. Special features that lend emphasis to certain current trends or achievements are included in several of the Chapters. Data for "Canada's Fur Trade and the London Market", which opens the Chapter on Furs, were supplied by the Hudson's Bay Company.

HERBERT MARSHALL,
Dominion Statistician.

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for Illustrative Material

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Introduction

Economic Conditions in Canada, 1946

Hon. James A. MacKinnon, M.P., Minister of Trade and Commerce.

STIMULATED by an effective market demand, production in Canada was maintained during 1946 at a higher level than in any other peacetime year. Economic conditions had all the earmarks of prosperity. The prosperous conditions generated by the War were extended as productive enterprise concentrated upon the meeting of civilian requirements. However, while goods were produced in large volume, it was impossible to satisfy the extraordinary demand of post-war markets. Through the savings campaigns, individuals have stored up the means to acquire necessities and luxuries as they become available, but production of ordinary peacetime necessities is still far short of filling everyday requirements. Under such circumstances there is no doubt that industry, now that the reconversion has been largely completed, will be favoured with a fairly protracted period of active operations.

The year 1946 was a testing time for Canadian business and the Canadian people. The challenge was met and a surprising effort was made to take advantage of the exceptional market opportunities that offered. The pattern of commercial relations at home and abroad was set during the year, and it is of the utmost importance that Canadian producers, by the maintenance of price and quality, continue to build around this pattern.

The net value of commodity production in 1946 was approximately $6,000,000,000 but an anticipated recession was shown from the historical maximum of wartime; production during the later years of the War established a high point which obviously has not been equalled in Canadian industrial history. The

Ewes and Lambs on an Alberta range in springtime. Hay is distributed for feed until the range grass starts to grow.

Cod, Haddock and Sole are hauled in from the Atlantic. The catch is dressed down and stowed on ice immediately.

termination of war contracts in 1945 was the main factor in this recession and the continued rise in prices was doubtless insufficient to offset the decline in volume. However, the value of production was at least 70 p.c. greater in 1946 than in any other peacetime year.

The unbalanced condition between demand and the production of goods and services points to the continuance of economic prosperity for some time to come.

Primary Production

The abundant crops harvested in 1946 will make a contribution toward the maintenance of economic conditions in the first half of 1947. While the wheat crop of 418·8 million bushels was reduced by adverse weather conditions during the threshing season, the output was greater than in any other year since 1942, when a maximum of 557 million bushels was produced. The crop of oats was 18 million bushels greater at 399 million, while the harvests of barley, rye and flaxseed were at somewhat higher levels. The ample elevator space and the open quota for wheat assures heavy grain marketings from western farms during the present crop year. The wheat agreement with Britain provides for the sale of 160 million bushels during the year. It is possible that the wheat in the form of grain and flour available for shipment to countries other than Britain will not exceed 70 million bushels.

The decline in the numbers of live stock farms indicates that provision is not being made for the continuance of the heavy production of meats and

dairy products reached during the war period. Contracts with the United Kingdom for 1947 include a minimum of 350 million lb. of bacon, 120 million lb. of beef, 150 million doz. eggs. The cheese contract for the year ending March, 1947, is for 125 million lb. but production levels indicate that deliveries will fall short of that amount.

The food situation in the United Kingdom during 1946 remained of the utmost gravity, necessitating the continuance of rationing. Taking into consideration the United Kingdom harvest of wheat, which was reduced by adverse weather, together with Canada's commitment, the United Kingdom was still one-quarter short of total requirements if pledges to other hard-pressed peoples are also taken into account. There is no immediate indication of the termination of food rationing. So far as Canada is concerned, it is estimated that at least $400,000,000 will be required to continue during 1947 Canada's relief supply of food and farm materials for the war devastated countries of Europe.

A general measure of the prosperity of Canadian agriculture is provided by cash income obtained from the sale of farm products. The annual total has exceeded $1,000,000,000 since 1942, the standing in 1946 having been two or three times greater than in 1938. Increased supplies of labour resulting from the return of men from the Armed Forces combined with the greater availability of farm machinery assisted in the maintenance of agricultural production at a high level.

The fisheries play an important part in the world food situation since the annual output of Canada's fishermen is far beyond the consuming capacity of the domestic population. The value of fisheries production has maintained an upward trend since 1939.

The increasing importance of Canada's forest resources was reflected in an outstanding increase in the production of newsprint, the output being greater in 1946 than in any other year. The newsprint industry has contended with many problems in the past (*see* pp. 24-26) including difficulties resulting from excess capacity and heavy competition from other suppliers. The industry is now striving to meet a widespread demand which, for a considerable period will exceed world production. The removal of price controls in November, 1946, brought a full and unrestricted market in the United States for Canadian newsprint and pulp. No further advance over the ceiling prices previously established is anticipated for the foreseeable future and the construction of additional mills by new interests is now being discouraged.

When consideration is given to the large area geologically favourable to the occurrence of the important minerals and the widespread needs of to-day, there is justification for the view that the Dominion will participate to an increasingly greater extent in the world's output of minerals and their products. An impetus was given to base-metal mining by the recent increases in the prices of copper, lead and zinc in the metal markets of the United States. The price of domestic copper was raised by 3½ cents to 17½ cents per pound, while the prices of lead and zinc were moved upward to 11⅝ cents and 10½ cents, respectively. The output of lead was considerably greater in 1946 than in the preceding year contrasting with declines in nickel, copper and zinc. The drop in copper production reflected the curtailment in nickel to adjust the supply of the latter to current demand. Base-metal mining has greatly expanded in operational scope both in the extension of existing mines and the development of new properties. The quantity of base metals and minerals needed for the

rehabilitation of the war-torn portions of Europe and Asia will tend to strengthen the demand. The outlook at the end of the War was none too favourable but within a few months world demand for most mine products was large enough to create a problem. Base-metal producers are engaged in building up reserves, an operation practically neglected in wartime.

Gold production, despite the handicap of the revaluation of the Canadian dollar in terms of United States currency, maintained its long-term position as the greatest single contributor to the mineral output. The rise in the price of silver to 90·5 cents per ounce created a revival of interest in Canadian silver production. The discovery of uranium in the Great Bear area about sixteen years ago was one of the significant events in Canadian mining history. Uranium ores have now become the source of atomic energy and several countries are searching for new deposits.

Heavy demands for building materials have resulted in an increase in the output of leading mineral products for this purpose.

Despite the marked expansion of the hydro-electric power industry during the war period, an expenditure of $110,000,000 in power development was recently approved by Ontario to cope with anticipated demand in that province alone. Elsewhere, where new developments had been delayed due to war restrictions and shortages, construction was commenced on a number of new power plants. The Dominion has climbed steadily among the countries of power users until to-day it is second only to highly industrialized Sweden in per capita consumption. Expansion in the production of electric power is continuing.

Secondary Production

The traditional forms of expenditures, that most affect the Canadian economy in general are construction, the purchase of durable goods and the export trade. To these may be added the outlay of the Dominion Government, the most important factor in the expansion of the war period.

The capital expenditure for industry was placed at about $1,000,000,000 for 1946. This outlay indirectly encourages production of consumer goods.

The standing of the durable and semi-durable goods industries greatly influences the activity of the economy as a whole. Production has been so limited in some instances that demand, through the influence of depreciation and obsolescence, has increased rather than decreased.

Manufactures.—A production program of the magnitude reached in Canada during the war years could not be curtailed drastically without creating strain in particular industries. The worst of the dislocation, however, was over by the end of the first quarter of 1946. By cutting off essential imports, the steel and coal strikes in the United States were a handicap to Canadian industry. Shortages caused by idleness of plants in strategic Canadian industries, particularly in primary steel, also had an adverse effect during the summer. However, substantial progress was made in converting war plants to peacetime use, only 10 p.c. remaining to be converted at the end of the year, and the flow of manufactured products from Canadian factories during 1946 met in large measure the more urgent part of the backlog of demand.

A large flour mill near the Manitoba boundary of Ontario. This mill has a capacity production of 9,500 bbl. per day.

Although transition to peace is now well advanced, war has revolutionized the industrial life of the Dominion and the tremendous manufacturing expansion has turned Canada into a predominantly industrial nation and has provided a foundation for stability and progress.

Construction.—The construction industry in 1946 operated at a markedly high level and the operations measured by records of employment were substantially higher than in 1945. The shortage of housing and other forms of construction will provide a stimulus for the industry over a considerable period.

Trade and Transportation

Exports.—To Canada, a large country with immense natural resources but with a comparatively small population that absorbs only a portion of the goods produced, the development of active export outlets is of great importance.

Canada's post-war position has afforded a unique opportunity to restore and extend export trade but, while a tremendous effort has been made to take advantage of the exceptional market opportunities, production has been inadequate to meet external requirements, handicapped as it has been by work stoppages, lack of skilled labour, the sluggish flow of raw materials and the intensity of domestic demand. It is impossible to estimate the value of the trade that different industries have been compelled to forego, or to measure the future ill effects of the delays that have occurred in getting Canadian products into external markets during the period when those markets were the most receptive. However, the outlook for the export supply position is now more encouraging.

Ultrashort-wave radio using frequency modulation, a new development used extensively during the War, is being converted to peacetime service. The possibilities of the use of this system in telegraph and voice transmission include: the elimination of all wires; dial radiophones in motor-vehicles; and handie-talkies that may be carried in the pocket. The illustrations show a radio-phone installed in a car and an engineer in a Montreal freight yard receiving orders by ultrashort-wave radio.

though production costs must be kept in check if Canada is to successfully meet competition from other countries where a large home market permits mass production on a vast scale.

Railways.—It has been shown during recent years that efficient rail transportation is a necessity. The prerequisite to the efficient distribution of goods throughout Canada as well as to the mutual exchange of commodities with the peoples of other countries is extensive regular freight transportation.

Reflecting the shift in emphasis from war goods and the transition to a peacetime economy, railway traffic showed only a slight increase in 1946 over the preceding year. The cars loaded in much greater volume carried coal, sand and stone, pulpwood, pulp and paper, lumber and petroleum products.

As traffic continues at high levels, additions to motive power and rolling-stock are required. Repair and overhaul were necessarily neglected to a certain extent during wartime: considerable expenditure is now needed for the purchase of locomotives, rolling-stock and the large-scale ballasting of roadbed. The role that the railways are playing in the work of readjustment is no less important or exacting than that so successfully performed during the War.

Survey of Production

IN the survey of production only those industries generally considered to have a direct connection with production are considered, the coverage being limited to agriculture, fishing, mining, forestry, trapping, electric power, manufactures, construction, and custom and repair. However, production in the economic sense includes much more than the contribution of these industries. Transportation, trade, banking and numerous other services also contribute to the nation's economy and should be taken into account when attempting a complete survey of Canada's productive capacity.

The gross value of production of commodities in Canada was greater during 1944 than in any other year: the increase over 1943, when a record had been established, was about 5 p.c. However, the demand for war supplies reached a turning-point in 1944 and a decline in production has subsequently developed.

The net value of production—the value left in producers' hands after the elimination of the cost of materials, fuel, and purchased electricity and supplies consumed in the process of production—was about two and one-third times greater in 1944 at $6,737,000,000 than in 1938 at $2,899,000,000, marking the transformation brought about by the urgent requirements for munitions and war supplies. As the index of wholesale prices advanced only 30·4 p.c. from 1938 to 1944 compared with an increase of 132·4 p.c. in the net value of production, it is evident that the gain in value was due largely to an increase in volume rather than in prices. The relationship of value and price advances in 1944 over the preceding year shows that the volume of production was slightly greater in the later year.

The termination of war contracts after the end of the War in 1945 resulted in reduced production of Canadian industry. The index of industrial production averaged over 14 p.c. less in 1945 than in 1944 and the receding trend continued in the first half of 1946. General employment was 4·3 p.c. less in 1945 than in 1944 and the showing in the first half of 1946 was progressively less favourable. The index of wholesale prices, on the other hand, was only fractionally greater in 1945 than in 1944, though the advance quickened somewhat during the first half of 1946. The rise in prices in 1945 and 1946 was insufficient to offset the decline in volume so that the record of production established in 1944 has obviously not been equalled during the subsequent period.

Spring ploughing on the Prairies.

Each of the nine industrial groups except mining and construction was more productive in 1944 than in 1943. The increase in agricultural production was outstanding, amounting to 23 p.c. Custom and repair increased 15 p.c. and the total for manufactures moved up more than 5 p.c. from the high level of the preceding year.

As four of the nine groups showed percentage increases greater than the gain in the Dominion total, their relative importance was enhanced in 1944 over the preceding year. The net value of agricultural production was 22·8 p.c. of the total for the nine groups as compared with 19·9 p.c. in 1943. Minor betterments in relative position were also shown in forestry, trapping, and custom and repair. In comparing the relative importance of the various industries in 1938 with their importance in 1944, manufactures, of course, showed the greatest change. The proportion of the net value of manufactured products to the grand total rose from 49·3 p.c. in the pre-war year to 59·7 p.c. during 1944, though this proportion had dropped from 61·0 p.c. in 1943. As a consequence, though agriculture and trapping showed minor betterment in this comparison, the other groups constituted smaller proportions of the total production.

Ontario produced over 40 p.c. of the Canadian output of commodities, leading the other provinces by a considerable margin. Each of the nine provinces contributed to the industrial wartime expansion, though Canada's war industries were largely concentrated in the Provinces of Ontario and Quebec. As a consequence, Ontario's net production increased by $1,433,000,000 from 1938 to 1944, a percentage advance of 112·8 p.c., while Quebec's production increased by $1,173,000,000 or 161 p.c. in the same comparison. The Western Provinces showed substantial advances amounting to 116 p.c. for Manitoba, 99 p.c. for Alberta and 130 p.c. for British Columbia. Production in Saskatchewan was particularly heavy during 1944 due to favourable farming conditions and the higher price level, and the value of output in that Province was about three and two-thirds times greater in 1944 than in 1938. P.E.I., N.S., and N.B. showed gains of 123 p.c., 97 p.c., and 113 p.c., respectively.

Courtesy, Gypsum, Lime and Alabastine, Canada, Limited

NORANDA MINES ACROSS LAKE DUFAULT. This is the largest copper-gold development in Canada and also produces silver and other precious metals. It supports a community in northwestern Quebec of about 5,000 souls which, less than a quarter of a century ago, did not exist.

WINTER TRANSPORTATION IN THE FORESTS OF EASTERN CANADA

The relative position of Quebec as a producer of commodities rose from 25·1 p.c. to 28·2 p.c. in the six years from 1938 to 1944. The proportion of the total output attributable to Saskatchewan also increased considerably.

Gross and Net Values of Production in Canada, by Industries, 1943 and 1944

Industry	1943		1944	
	Gross	Net	Gross	Net
	$	$	$	$
Agriculture	1,524,379,000	1,245,843,000	1,873,825,000	1,533,206,000
Forestry	810,154,089	462,815,227	887,973,532	507,357,605
Fisheries	118,610,634	74,655,678	123,705,565	76,889,487
Trapping	21,579,615	21,579,615	23,988,773	23,988,773
Mining	974,414,921	475,529,364	897,407,212	454,022,468
Electric power	204,801,508	200,833,297	215,246,391	209,757,908
Less duplication in forest production[1]	*64,000,614*	*64,000,614*	*78,294,000*	*61,357,833*
Totals, Primary Production	3,589,939,153	2,417,255,567	3,943,852,473	2,743,864,408
Construction	572,426,551	293,538,167	449,838,059	249,037,017
Custom and repair	213,622,000	144,952,000	243,424,000	165,174,000
Manufactures	8,732,860,999	3,816,413,541	9,073,692,519	4,015,776,010
Totals, Secondary Production	9,518,909,550	4,254,903,708	9,766,954,578	4,429,987,027
Less duplication in manufactures[2]	*1,148,896,816*	*410,701,516*	*1,160,974,424*	*437,045,069*
Grand Totals	**11,959,951,887**	**6,261,457,759**	**12,549,832,627**	**6,736,806,366**

[1] Duplication eliminated between the agriculture and forestry totals; both items include the value of forest products obtained from farm lots. [2] This is the duplication eliminated under "Manufactures" which item includes sawmills, pulp and paper mills, etc., also included under other headings above.

Value of Production in Canada, by Provinces, 1943 and 1944

Province	1943		1944	
	Gross	Net	Gross	Net
	$	$	$	$
Prince Edward Island	31,793,365	19,428,160	32,315,329	18,706,736
Nova Scotia	328,455,624	183,565,443	340,164,225	191,414,946
New Brunswick	231,813,326	126,557,333	247,781,350	134,291,199
Quebec	3,595,389,788	1,817,829,691	3,678,758,531	1,900,732,337
Ontario	5,242,028,418	2,609,506,516	5,348,229,765	2,703,802,260
Manitoba	529,265,699	283,674,089	587,305,693	312,923,535
Saskatchewan	510,080,239	329,917,184	722,769,295	513,408,265
Alberta	525,950,131	319,209,886	651,550,857	409,154,352
British Columbia[1]	965,175,297	571,769,457	940,957,582	552,372,736
Totals	**11,959,951,887**	**6,261,457,759**	**12,549,832,627**	**6,736,806,366**

[1] Includes Yukon and the Northwest Territories.

The Pulp and Paper Industry in Canada

SPECIAL ARTICLE

PAPER manufacturing began in Canada early in the past century, but it was not until some years after Confederation, when wood-pulp superseded rags as a raw material, that the development of the pulp and paper industry began. Canada's extensive pulpwood and hydro-electric power resources have been chiefly responsible for the growth of this industry into what is now one of the world's major industrial enterprises.

To-day, with a newsprint capacity four times greater than that of any other country, Canada provides more than half the newsprint production of the world and is second only to the United States in the production of wood-pulp. In addition, the Dominion has a highly developed production of fine paper, wrapping paper, tissues, paperboard, and other cellulose products. From the standpoint of export values, net value of production, employment, total wages paid, and capital investment, the pulp and paper industry was in pre-war years the largest manufacturing industry in Canada, a position to which it has now returned.

There are 82 pulp and paper companies in Canada, operating 109 mills in six provinces. Their total capacity of products for sale embraces 6,800,000 tons per annum (4,300,000 tons of newsprint, 1,000,000 tons of other papers and paperboard, and 1,500,000 tons of pulp). With a capital investment of about $700,000,000, the industry affords employment for 220,000 Canadians, including woods workers. In 1945, pulp and paper production amounted to $398,805,000 in value, approximately 77 p.c. of which was exported. In normal times, pulp and paper exports account for from 14 to 24 p.c. of the value of the annual exports of Canada.

The advent of peace brought no major problems of reconversion to the pulp and paper industry which, throughout the War, had been largely engaged in expanding the manufacture of its peacetime products to meet war needs. Furthermore, its plants were, with the exception of some deferred maintenance, in good condition. Thus, the industry was able to turn immediately to the task of striving to meet a world demand for pulp and paper products which, it is probable, will exceed world production for some time to come.

★ *Natural Resources—The Foundation of the Industry*

Splendid forest and water-power resources in juxtaposition have made possible the huge pulp and paper development in Canada. Abundant water power in close proximity to the forest wealth and the low cost of transportation of logs to the mills provided by a broad network of rivers and streams, inland waterways and, in some instances, the ocean, have brought about the achievements that are now a matter of record.

Forest Resources.—The life-blood of any industry is the raw material from which its products are made. Hence, the existence of the pulp and paper industry is dependent upon assured, adequate, and continuous supplies of pulpwood harvested from the forests. Thirty-seven p.c. of the total land area of Canada is forested and 58 p.c. of the land area within provincial boundaries is under forest. Not all of this is accessible and, even though accessible, some is unproductive, being made up of timber growing on poor lands or under other adverse conditions.

The productive forests, covering more than 813,000 sq. miles, are considered to be capable of producing continuous crops of timber suitable for domestic and industrial purposes. About 435,000 sq. miles of productive forests are considered to be economically accessible at the present time. Forty-eight p.c. of the productive forest area bears trees large enough for use as sawlogs, pulpwood or fuel wood, and 52 p.c. is occupied by young growth of various ages, kinds and degrees of stocking.

The most extensive timber resources are in Quebec with accessible merchantable timber equal to 64,603,000,000 cubic feet; in Ontario with 58,384,000,000 cubic feet; and in British Columbia with 35,880,000,000 cubic feet. The total accessible timber resources for the entire country amount to 191,347,000,000 cubic feet, so that Quebec has about 34 p.c., Ontario about 30 p.c. and British Columbia about 19 p.c.

But as regards dimension material (trees large enough to produce the more valuable sawlogs), British Columbia holds 44 p.c. of the total, while Quebec and Ontario each have approximately only 22 p.c. Moreover, in Quebec over 74 p.c. of the forest wealth is made up of conifers or softwoods, which are the basis of pulp and paper operations; in Ontario the proportion is 79 p.c.; and in British Columbia 100 p.c., since in that Province there are practically no hardwood species in quantities that can be used commercially.

Nearly four-fifths of the accessible productive forests are owned by the Crown. This ownership is exercised through the Provincial Governments. The forest industries lease their timber limits from these Governments, paying stumpage dues or royalties on wood cut, as well as an annual ground rent.

The pulp and paper industry is the largest tenant of the forests. It holds leases on nearly 130,000 sq. miles of forest area. The industry also owns some timber-lands outright, but these remain a minor factor in pulpwood supply.

72235—2½

THE STORY OF NEWSPRINT

During the fall and winter months, many hundred thousand cords of spruce and balsam are cut and hauled to the lakes and streams. With the spring thaw, they start on their way to the mills, are gathered into booms and towed many miles on large lakes and rivers.....

The following statement shows the present situation in relation to productive forest holdings:—

	Square Miles	*P.C. of Total*
Private holdings	100,176	23
Crown Lands—		
Leased by pulp and paper companies	129,189	30
Leased by others	36,161	8
Unoccupied	169,474	39
ACCESSIBLE PRODUCTIVE FORESTS	435,000	100

The annual harvest of pulpwood used by the pulp and paper industry accounts for only 16·7 p.c. of forest depletion. The largest commercial cut is made by the lumber industry, as the following statement, based on average figures for 1934-43, shows:—

	Cubic Feet of Merchantable Timber	*P.C. of Grand Total*	*P.C. of Utilized Total*
Logs and bolts	855,973,000	27·2	37·0
Pulpwood for domestic use	524,511,000	16·7	22·7
Pulpwood for export	130,049,000	4·1	5·6
Firewood	713,388,000	22·6	30·9
Ties, poles, posts, etc.	64,156,000	2·0	2·8
Miscellaneous products	24,071,000	0·8	1·0
TOTALS	2,312,148,000	—	100·0
Fires (337,888,000), insects and disease (500,000,000)	837,888,000	26·6	—
GRAND TOTALS	3,150,036,000	100·0	100·0

In 1945, the Canadian pulp and paper mills used almost 7,500,000 cords of pulpwood. Softwoods, mostly spruce, balsam, fir and hemlock, made up 92 p.c. of this total. Small quantities of birch and poplar are sometimes mixed with softwoods to manufacture chemical pulp. This usage of hardwood is a comparatively recent development. Research is under way to provide means of extending its field.

The Pulpwood Committee of the Canadian Pulp and Paper Association estimates that raw material used by the industry has the following origin:—

	P.C. of Total
Purchased—	
From farmers and other small holdings	20
Other purchases, including sawmill waste	10
TOTAL PURCHASED	30
Cut from owned or leased limits	70
GRAND TOTAL	100

An important factor in forest depletion is the destruction caused by fire, insects and disease, much of which is avoidable if proper measures are taken. This destruction is responsible for about 27 p.c. of total forest depletion. In the past decade, losses by fire have accounted for between 10 p.c. and 11 p.c. of the total depletion. To this must be added the losses caused by epidemic outbreaks of insect and tree diseases which have been estimated to average 500,000,000 cubic feet or 16 p.c. of the total. The Dominion and Provincial Governments have done much by well-organized publicity to bring to the

Arriving at the Mills, the logs are slashed into four-foot lengths, the bark is removed by tumbling and washing in huge revolving steel drums. . . . .

attention of the public and of operators the fact that they can assist materially in the reduction of fire losses that are the result of carelessness. The greater dangers from forest insects and tree diseases, however, operate unobtrusively and must be controlled scientifically.

While the administration of the forests falls under the jurisdiction of the Provincial Governments and control measures are normally their responsibilities, the problems have now reached a stage where national action is required. Not only governments but also the industry are thoroughly alive to the necessity for effective control. Forest entomology has been a special section of the Dominion Entomological Service of the Department of Agriculture since 1911 and laboratories for research work are maintained not only at Ottawa but at Sault Ste. Marie, Ont.; Fredericton, N.B.; Winnipeg, Man.; Indian Head, Sask.; Vernon, B.C.; and Victoria, B.C. Sub-laboratories, temporary field stations and camps serve other places. In 1945 the Forest Insect Control Board was set up under the Department of Reconstruction to further co-ordinate all effort—Dominion, Provincial and other—to control forest insect outbreaks.

By means of well-coördinated surveys, the timely discovery of incipient outbreaks is made and close co-operation is organized between all agencies, government and commercial, concerned with forest conservation or exploitation. Fundamental studies are directed to unravelling the mysterious maze of relationships that underlies the fluctuations in insect pests. Actual methods of control are devised from three angles: (1) the practice of accepted silvicultural methods; (2) biological control such as the use of natural enemies of the noxious insects, particularly parasites and predators, to help in keeping them in check; and (3) chemical and mechanical means of control such as spraying.

Forest Policy.—The cutting methods employed by the pulp and paper companies vary according to the forest and other conditions obtaining in the individual areas being harvested. Cutting methods and operations on the west coast differ considerably from those pursued elsewhere in Canada. These differences result from the climate, the topography, the type of forest, and

from the size of logs to be handled. In the other provinces, cutting operations follow for the most part a standard pattern although, owing to varying provincial regulations and other considerations, cutting methods differ in detail in each of the Eastern Provinces.

A factor affecting the management of woodlands, and consequently the cutting methods employed, is that, as the virgin forest area decreases and the capacity of the forest industries to consume wood increases, sound business practice not only encourages, but dictates, the application of more intensive management to ensure future supplies of pulpwood. Pulp and paper mills, each representing an investment of many millions, cannot be moved to tap new pulpwood resources. For their supply of raw materials, they must rely largely on their own limits.

Wood is reduced to pulp by two methods: (1) Using the chemical process, logs are reduced by whirling blades to chips which are cooked in acid under heavy steam pressure. The resulting long-fibred pulp gives newsprint its strength. . . . . .

(2) Logs are loaded into magazines—from the "charging floor" shown below—and forced down against large stone grinders. The resulting pulp of comparatively short fibres provides body to newsprint.

Hence, spurred by their responsibilities and by self-interest, the mills employ about 200 trained foresters to direct their forest operations. Their aim is the regeneration of the forests in order to ensure a supply of the proper quality of wood in perpetuity. To this end the industry pursues selective and other cutting methods designed to permit the most rapid regrowth. In addition, the industry has announced and committed itself to a forest policy aimed at the perpetuation of the forest and covering every aspect of sound forest operation.

Logging Operations.—In Eastern Canada, the climate and the nature of the forests are such that cutting and hauling logs can be carried on most economically during the autumn and winter months. Spruce trees are felled and the logs are hauled on sleighs over roads to the nearest streams where they are piled on the ice. Trucks, tractors and logging railways are also used. While there is an increased use of mechanical logging methods, generally speaking the horse is far from being superseded. With the spring breakup, the drive is on and logs are on their way to the mill.

In British Columbia, the heavier western hemlock, Sitka spruce, and balsam fir logs are usually assembled by donkey engines and cable systems or by tractors. Logging railways and heavy-duty trucks and trailers are used to carry logs to the mills, to lakes, rivers or tide-water where they can be assembled in booms or rafts and towed to the mills. The logging operations on the west coast are carried on in most instances throughout the year.

Water Power.—The two great pulp and paper producing provinces—Quebec and Ontario—are without indigenous coal resources and, in spite of rich forest wealth of exactly the right sort, the pulp and paper industry could not have developed had it not been for advantageously located and ample hydro-electric power resources that have been harnessed cheaply enough to enable them to be used for power purposes. The pulp and paper industry in its operations is the largest user of hydro-electric power in Canada. The news-print mills use about 100 h.p. of energy for every ton of daily production. Indeed, except during the war years, the pulp and paper mills normally use 50 p.c. of all the power generated in Canada for industry and for mining. In consequence the growth of the industry has been largely responsible for the development of the hydro-electric resources of Canada described in the Chapter at pp. 115-120. While the industry in 1945 purchased electricity from central electric stations to a value of $19,700,000, many mills own and operate hydro-electric plants which generate power for their own use.

★ *Development of the Industry up to the Second World War*

The first paper mill in Canada was established at St. Andrew's, Que., near Lachute, in 1803; in the next twenty years three more were constructed, one in Portneuf County, Que., one near Hamilton, Ont., and one near Halifax, N.S. In 1851, Canada had ten mills; in the next decade one more was added.

The raw material employed in the manufacture of paper was rags, but the supply of this material was both limited and costly; thus paper-makers were led to experiment with other fibrous materials. They discovered that the fibres of wood, particularly those of spruce, balsam, and hemlock trees were

eminently suitable for their purpose. Acting on this discovery, Alexander Buntin installed in 1866 what is claimed to have been the first wood grinder in America and began the manufacture of wood-pulp by the mechanical process. About the same time the first chemical pulp mill in Canada was installed at Windsor Mills, Que.

In 1881 there were 36 paper and five pulp mills in operation, with a total of 1,598 employees, payroll of $460,476, and an output valued at approximately $2,500,000. During the next decade, the use of wood-pulp in paper making was extensively developed; and at the beginning of the present century the annual output of the industry exceeded $8,000,000. From then until the end of the First World War the industry expanded rapidly and steadily.

Newsprint.—During the first two decades of the twentieth century the Canadian newsprint industry underwent a rapid and spectacular growth. With the rising demand for paper in the United States, especially newsprint, the paper-makers, particularly in the northeastern States, were already facing a dilemma. Their forest reserves were depleted and increasingly inadequate. In their need they had turned to Canada for pulpwood. With the import restrictions on paper in effect, the United States manufacturers bought Canadian pulp which both met their needs and reduced the strain on their forest resources. As a consequence, Canadian pulp-producing facilities began to expand rapidly. But even with supplies of Canadian pulp, the forest assets of the United States were insufficient to permit their mills to meet the demand for their products. At the same time, Canadian sentiment grew increasingly against the exporting of raw pulpwood. Thus in 1900, Ontario enacted legislation prohibiting the export of pulpwood cut on Crown lands. Over the next thirteen years the other provinces took similar steps. To relieve the situation, the United States lowered its tariff on newsprint in 1909, and in 1913 the tariff was removed altogether. Thus encouraged by wider markets, the production of pulp and paper in Canada in 1918 had reached a total of more than $100,000,000.

Following the First World War, the increasing demand for paper, particularly newsprint, outstripped the available supply. As consumers scrambled for supplies, prices were bid up to almost double previous levels, and the gross output of the industry touched a new peak of $236,400,000 in 1920. This was followed by a drop to $151,000,000 in 1921, but from 1922 to 1929 there were fairly steady annual increases in the total value of production, culminating in 1929 in a figure of nearly $244,000,000. This period of high prices and wide prosperity led to over-expansion followed by unemployment and the deep depression of the 1930's.

The effect of the depression of the 1930's on the industry was devastating. The newsprint producers were particularly hard hit. Since 1913, Canada had led the world in newsprint exports. The capacity of the Canadian newsprint mills doubled between 1925 and 1930, but the consumption of newsprint in the United States, which in those years absorbed about 70 p.c. of the output, increased only one-fifth and then declined materially in the general depression that followed. Thus between 1929 and 1932, when new Canadian mills and machines were still being completed and searching for business, the output of Canadian newsprint dropped by almost 30 p.c. Declining demand coupled with increasing capacity produced, rather abruptly, an extensive excess capacity in the Canadian newsprint industry.

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There were annual reductions during the next four years to $123,400,000 in 1933, followed by successive increases to $226,200,000 in 1937. In 1938 gross output dropped to $183,900,000 but it rose to $208,200,000 in 1939. In that year there were 27 mills making pulp only, 49 combined pulp and paper mills, and 24 manufacturing paper only, a total of 100 mills.

By 1935 the social consequences of the disruption in the industry had become so acute that the Governments of Quebec and Ontario, where about 80 p.c. of the newsprint capacity is located, adopted a joint policy of prorating orders among the mills in order to spread employment and avert the closing of mills on which entire towns and their surrounding regions depended. This policy had a stabilizing effect and, coupled with the improvement in the demand which began in 1935, contributed to the rehabilitation of the industry. During the Second World War this interprovincial prorating policy was superseded when the Federal Government took over the control of production and supply. Canada's peacetime dominant position as a producer of newsprint is set forth in the following figures published by the Canadian Pulp and Paper Association:—

	Tons Produced in—		*P.C. of Canada to World*
	World	*Canada*	
1937	8,971,000	3,645,000	40·6
1938	7,555,000	2,625,000	34·7
1939	7,679,000	2,869,000	37·4

Fine Paper and Paperboards.—The production in Canada of papers other than newsprint has also expanded during the present century, but the pace has been slower than with either pulp or newsprint. High tariffs, both in the United States and abroad, have limited the markets of the producers of fine paper, although some tonnage has found its way into Empire and other markets overseas. The miscellaneous paper industry came into being mainly to supply the domestic market. The producers have shown skill and enterprise in developing paperboard and paper of all types—from cigarette to bank-note paper—to meet Canadian needs.

The manufacturers of fine paper have increased steadily the number of standard and specialty papers which previously were imported. They have developed complete lines of printing, business, stationery, writing, blotting and coated papers. In addition, they have successfully developed industrial papers for use in the electrical field and in the manufacture of paper containers, paper cups, napkins, towels and grease-proof papers for wrapping foods. Altogether, close to 800 varieties of paper and board are now made in Canada.

Over the past quarter-century the industry has made increasing use of its by-products. Originally, the mills were interested solely in the cellulose fibres contained in wood. The tars, fats, sugars, and resins present were burned or otherwise disposed of. But research chemists believed that the potential value of these by-products was immense; as a result the industry has steadily developed processes for their utilization and research work is progressing.

Manufacturing Processes.—Pulpwood logs come to the mills either by floating down a convenient stream, by truck, by railway or by water transport. On arrival the bark is removed in barking drums. Slightly different wood-handling methods are employed by the Pacific Coast mills.

Wood is made into paper by first converting it into pulp. Two pulping methods are used, one mechanical and the other by cooking with chemicals.

The two varieties of pulp are washed thoroughly, screened, combined and beaten in these huge vats, and the mixture—99.5 p.c. water—is pumped to the paper machine. . . . . .

The mechanical process produces groundwood pulp, which is exactly what its name implies. Wood is reduced to fibre by pressing against large revolving grindstones. Hence large quantities of power are required. The yield of groundwood or mechanical pulp approximates 97 p.c. of the weight of the wood.

In the chemical process small chips of wood, about ¾″ in length, are cooked at high temperature and under pressure in a chemical liquor. The cooking, requiring several hours, dissolves virtually everything in the wood other than the cellulose. The yield of pulp is therefore reduced to from 45 to 50 p.c. of the weight of the wood. Three such chemical pulping processes are employed to produce sulphite, sulphate, or soda pulp which obtain their names from the acid or alkali employed in the cooking. Paper is made from pulp which, thinly spread in water, travels on a wide stream on what is known as the wet end of the machine. As it moves ahead the water is sucked from the pulp, which then passes over a series of heated revolving drums in the dry end of the machine where the paper emerges. Thus the paper is the result of a process of felting and drying the cellulose fibres of the original wood. Machine speeds vary with design as well as the type and weight of the

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paper made. Some machines produce newsprint at the rate of 1,500 feet a minute. About 250 tons of water may be used to produce one ton of paper.

The type or mixture of pulp employed determines the character of the paper produced. Newsprint, the paper used in newspapers, is composed of about 85 p.c. groundwood and 15 p.c. unbleached sulphite pulp. Bleached sulphite pulp is the raw material from which is made the better grades of paper, including book, bond, writing and tissue. When manufactured for use as the raw material for rayon, cellophane, photographic film, nitro-cellulose, and plastics, it is known as "dissolving pulp". Sulphate, or kraft pulp, in its unbleached form is used to produce wrapping and bag papers, container boards, and other products in which strength is the prime requisite. When bleached this pulp is used to manufacture white printing, tissue, tag, envelope, and other papers and products in which strength is also essential. Soda pulp is made by pulping short-fibred, broadleaved species such as poplar but relatively small quantities are produced in Canada. The raw material of paperboard may include anything from waste paper and pulp screenings (the pulp rejected for paper manufacture), to the finest grades of chemical pulp. Its components vary with the quality and type desired. Canada produces also some pulp made from rags and other fibrous material. Rag pulp goes into the highest grades of paper.

Virtually all papers and paperboards made to-day contain ingredients other than cellulose fibres. Before the pulp goes to the paper machine, dye is added to produce the colour desired. A filler such as china clay, or a size such as rosin, or both, may also be added—filler to improve printability, opacity, and appearance; size to increase resistance to penetration by liquids. To improve the surface of some high-grade papers and paperboards, the finished sheet is coated by spreading a mixture of mineral matter, adhesives, waxes, or waterproofing agents on the surface of the sheet.

★ *The Industry During the War and Its Present Economic Position*

During the earlier years of the Second World War, the manufacture of wood-pulp and paper increased substantially. Production of pulp for manufacturing nitro-cellulose, explosives, rayon for parachutes, self-sealing gasoline tanks, and other war purposes was essential to victory. In addition, forty countries relied on Canada for their wartime newsprint supply. In one year alone, Canadian paperboard boxes carried 4,500,000 tons of goods, saving 2,000,000,000 feet of lumber for other urgent war needs, as well as weight and space aboard ship.

Pulpwood production in the six years of war was more than one-third greater than the average of 1935-39 years. By 1941 pulp exports to Britain and the United States had doubled the 1939 figure and average pulp exports during 1941-45 were more than double the 1939 level. From 1939 to 1941 newsprint output rose from 2,900,000 to 3,500,000 tons, and the total production of other papers and paperboard during the same period increased by 49 p.c.

In the paper machine the water is quickly removed by gravity, suction and pressing as the pulp fibres knit into paper. It then passes over a long series of steam-heated cylinders for smoothing and drying. . . . . .

This record has been fairly well maintained in spite of later restrictions in the use of hydro-electric power: moreover, the industry faced a manpower problem since 12,000 men, about one-third of the normal working force at the mills, enlisted in the Armed Forces.

The Economic Position of the Pulp and Paper Industry.—The industry is one of the larger contributors to the public purse in Canada. During the war years, it paid in taxes of all kinds an estimated sum of $200,000,000. But the extent to which the industry contributes to the national welfare cannot be assessed on the basis of direct taxation only. Its operations create vast additional sources of government revenue. These include the hydro-electric facilities created to meet the power requirements of the industry; more than $300,000,000 paid out annually in wages, purchases, and capital expenditures; an outbound freight traffic alone involving the movement of 500 freight cars daily; and converting industries ranging from the publishing trades to the manufacture of cartons, plastics, and rayons.

Aside from the sums paid to the Federal Treasury, the industry makes equally large contributions to Provincial Governments and municipalities. It is estimated that payments of this nature exceeded $16,000,000 in 1944, a figure which includes stumpage dues.

The pulp and paper industry uses the products and services of other Canadian industries on a wide scale—from agriculture to insurance and from retailing to railroading, all branches of the national economy derive revenues

or benefits from pulp and paper operations. The industry is a larger buyer of goods and services than any other manufacturing industry in Canada. The 1944 purchases of the industry were as follows:—

	Value of Purchases $
Transportation (1943)	70,583,835
Chemicals and mill supplies	34,632,307
Fuel	21,628,321
Electricity	15,730,521
Fibre and fibre stock	6,634,596[1]
Purchased pulpwood	19,000,000[2]
Food (1941 estimate)	6,780,000
Fodder (1941 estimate)	1,250,000
TOTAL PURCHASES	**176,239,580**

[1] Does not include purchases of wood-pulp by paper mills. [2] Estimate. The wage bill of those cutting this wood is included in the estimated $75,000,000 received by woods workers.

Employment.—About 220,000 Canadians receive pay from the pulp and paper industry, which means that at least half a million Canadians directly depend, in whole or in part, on the industry for their livelihood. The sums paid to workers run to an estimated $155,000,000 annually. Employees in the mills including administrative employees received $80,500,000 in 1945, and workers in the woods an estimated $75,000,000. In 1945, in the mills alone, the industry employed 39,996 people. In addition, the industry provides work for another 180,000 workers in the woods. Except in British Columbia, woods workers are employed chiefly on a seasonal basis.

Domestic Trade.—While the industry is the largest exporter of manufactured goods in Canada, the products that it manufactures for home consumption loom large in the domestic trade picture. In addition to supplying Canadian needs for pulp and newsprint, the industry also supplies the Canadian market with most of its books and writing, wrapping and tissue papers, and its paperboard, wallboard, and building and miscellaneous papers. Most of the newsprint and pulp made for sale move abroad. Other papers and paperboard are also exported, but primarily these are manufactured for, and sold on, the domestic market.

The magnitude of Canadian exports of pulp and newsprint tends to overshadow the extent of production for domestic needs. This part of the industry is, in fact, one of the outstanding manufacturing groups in Canada with a combined production in 1945 of approximately $90,000,000. The following figures for the year 1945 show the relationship between the industry's domestic and its export trade:

	Pulp and Paper	*Paper*
Gross value of production	$ 398,804,515	282,837,614
Exports	$ 309,066,903	203,011,992
AVAILABLE FOR DOMESTIC MARKET	$ 89,737,612	79,825,622
Percentage retained for domestic use	22·5	28·3

In addition to paper made domestically, Canada, in 1945, imported paper valued at $13,376,067 of which $3,179,737 covered paper goods; much of the remainder consisted of special papers for specific purposes.

The newsprint is then cut to required width, wound on cores, tested, and finally wrapped and prepared for shipment to all parts of the globe.

On the basis of per capita consumption of paper, Canada ranks second only to the United States, the largest consumer in the world. The high paper consumption is one measure of the standard of living on this continent. The standard of living and the concentration of population are the two chief factors governing consumption. The proportionately smaller urban population in Canada partly explains the difference in the consumption rates of the two countries.

Export Trade.—The level of domestic trade, the national income and the standard of living in Canada depend largely on the flow of Canadian exports abroad. During the fifteen years from 1927 to 1941, pulp and paper accounted for from 14 to 24 p.c. of total value of Canadian exports. From 1920 to 1941 pulp and paper exports were never less than one-eighth of total exports.

Because of the mounting munitions production, during the war years, pulp and paper occupied a less dominant position in the export picture. Nevertheless, from 1943-45, pulp and paper comprised 8·78, 8·11 and 9·60 p.c., respectively, of total Canadian exports. With the return to peace, the industry has begun to climb back to its position as Canada's largest single exporter. During the first six months of 1946, the value of pulp and paper exports were some 17 p.c. of total Canadian exports.

In the twenty years between the two wars, the dollar level of Canadian export trade closely paralleled the ups and downs in the value of Canadian exports of pulp and paper. Total pulp and paper exports, from 1920-40, exceeded $3,000,000,000.

On the basis of its value, over the past twenty years about 75 p.c. of Canadian paper production has moved abroad. Of the pulp produced for sale, more than 85 p.c. is estimated to have been exported. The percentage of dollar value of paper exports to total exports of pulp and paper products varied between 61·7 p.c. and 82·1 p.c. over the period 1926-45.

During the war years, other nations exporting pulp and paper were cut off from their markets and Canada accounted for far more than half the total newsprint produced in the world. Even before the War, Canada accounted for three out of every eight newspaper pages printed throughout the world.

	Pulp and Paper Exports	Total Domestic Exports of Canada	P.C. of Exports to Total
	$	$	
1919	97,168,278[1]	1,235,958,483	7·86[1]
1920	163,127,988[1]	1,268,014,533	12·86[1]
1921	108,644,620	800,149,296	13·58
1922	115,863,742	880,408,645	13·16
1923	140,798,453	1,002,401,467	14·05
1924	139,491,469	1,029,699,449	13·55
1925	154,555,951	1,239,554,207	12·47
1926	173,491,635	1,261,241,525	13·76
1927	176,633,728	1,210,596,998	14·59
1928	192,771,615	1,339,409,562	14·39
1929	198,287,106	1,152,416,330	17·21
1930	177,590,222	863,683,761	20·56
1931	141,170,685	587,653,440	24·02
1932	105,253,603	489,883,112	21·48
1933	95,750,769	529,449,529	18·08
1934	113,078,565	649,314,236	17·42
1935	121,067,321	724,977,459	16·78
1936	142,108,123	937,824,933	15·15
1937	177,979,899	997,366,918	17·84
1938	140,603,514	837,583,917	16·79
1939	155,127,766	924,926,104	16·77
1940	231,809,675	1,178,954,420	19·66
1941	262,081,761	1,621,003,175	16·17
1942	253,104,957	2,363,773,296	10·71
1943	260,838,237	2,971,475,277	8·78
1944	278,853,306	3,439,953,165	8·11
1945	309,066,903	3,218,330,353	9·60

[1]Calculated for calendar years from fiscal-year figures.

As early as 1913 Canada led the world with exports of 256,661 tons of newsprint. By 1945 her exports were nearly twelve times greater and amounted to 3,058,946 tons. World comparisons of newsprint exports in pre-war years are as follows:—

	Tons Exported				
	1913	1936	1937	1938	1939
Canada	**256,661**	**2,993,089**	**3,455,240**	**2,424,655**	**2,658,723**
Finland	77,213	377,032	421,503	394,550	349,594[1]
Newfoundland	49,755	312,879	298,406	323,724	[2]
Sweden	67,938	198,503	222,851	178,256	154,800[1]
Norway	108,507	170,556	195,403	166,058	184,742
Germany	75,761	183,921	217,951	145,507	120,146[1]
United Kingdom	105,153	86,182	63,472	63,025	36,592[1]
Austria	14,855	41,769	61,991	52,664	[2]
Japan	3,270	40,203	40,811	44,961	75,192

[1] Incomplete year. [2] Not available.

The chief market for Canadian newsprint and pulp is in the United States. Prior to the War this market alone absorbed about 82 p.c. of the pulp exports and 80 p.c. of the newsprint exports. In 1945 the United States took 76 p.c. of pulp exports and 83 p.c. of newsprint exports.

Of the total exports of paper of $203,000,000 in 1945 newsprint accounted for $179,500,000. Paperboards and pulpboards accounted for $8,500,000, wrapping paper for $3,800,000, and book and writing $3,900,000. The remaining exports covered other papers of various types.

In the export of pulp in peacetime, Canada did not occupy the same dominant position as in newsprint. The following figures, published by the United States Pulp Producers Association, reveal the pre-war position:—

	Tons Exported		
	1937	1938	1939
Sweden	2,813,616	2,183,114	2,569,775
Finland	1,620,295	1,391,640	1,431,212
Canada	**870,716**	**554,038**	**705,516**
Norway	723,516	565,766	606,039

Rt. Hon. W. L. Mackenzie King,
Prime Minister

John Bracken,
Leader of the Opposition

By 1945 Canadian pulp exports had doubled and were then 1,434,527 tons valued at $106,054,911.

In 1943, the latest year for which statistics are available, the sums invested in the operating mills of the pulp and paper industry stood at $667,-458,143. This figure excludes such substantial assets as investments in timber limits, hydro-electric developments, wholly or partly owned subsidiaries, or in other enterprises. This investment in mills is distributed as follows :—

	Value	*P.C. of Total*
Quebec	$352,925,347	53
Ontario	188,668,105	28
British Columbia	59,288,302	9
New Brunswick, Nova Scotia and Manitoba	66,576,389	10
TOTALS	667,458,143	100

Before the Second World War, the capital invested in pulp and paper was greater than that invested in the next six leading industries combined. In 1943, despite the vast sums spent by the Government for war production, the capital invested in the pulp and paper industry was still more than 32 p.c. greater than that of the next of the leading industries.

★ *The Outlook*

To-day there is an urgent need throughout the world for pulp and paper products of all kinds. Pulp, formerly used merely for paper, is in increasing demand as a raw material for the fabrication of rayon, cellophane, plastics, building and packaging materials, and many other products.

The main wood sources of the world lie in the forests of U.S.S.R., Brazil, United States, Canada and Scandinavia. In the United States, pulp and paper consumption far exceeds that country's production of pulpwood. Following the reconstruction period, Scandinavia will naturally turn to filling the large demands of the European countries. No extensive development of the industry in Brazil appears imminent. Considerable increase in pulp and paper production in Russia could be absorbed within that country. Thus, it is apparent that, at any rate for some time to come, the task of supplying a major portion of world pulp and paper demand must fall to Canada. In meeting this need, the pulp and paper industry can contribute in no small measure to the stability of the Canadian economy, particularly in the years that lie immediately ahead.

During the first nine months of 1946 the newsprint mills in Canada have operated at over 95 p.c. of estimated capacity and at about 100 p.c. for the other three months. The output of newsprint for 1946 will reach an all-time record.

With vast supplies of wood, streams to float the logs to the mills and abundant electric power for their conversion into pulp and paper, the resources of the industry are unsurpassed anywhere. And from these resources flows an essential commodity, a commodity which is the very currency of civilization. All these advantages and qualities would be meaningless, however, if the industry could not dispose of its products. So far as Canada is concerned, it is largely an export industry and as such must depend for its existence on its ability to secure and maintain export markets.

Given a return to freer international trade, the industry can face the future with the assurance that results from long and successful experience in markets at home and abroad.

Field Marshal Viscount Montgomery of Alamein, G.C.B., D.S.O., Chief of the Imperial General Staff, paid an official visit to Canada Aug. 24—Sept. 9, 1946. He is shown here being welcomed to Ottawa by Mayor Stanley E. Lewis, O.B.E.

of States under a common monarch. This group of States has not pooled its possessions, has no central government, no uniform system of money, no Commonwealth bank, no consolidated public debt. This group of States, now called the British Commonwealth of Nations, has not been created by logic or over-all planning but has grown gradually in accordance with the separate wills of its members, adapting its institutions and conventions to changing circumstances.

During the course of its development, years have passed with little apparent change, but the careful observer could from time to time note signs indicating the developments that were taking place. Flexibility of structure is needed for the survival of political organisms, and the British Commonwealth of Nations has shown that it is able to grow and change with the times. The Commonwealth is now a fraternity of sovereign States, regularly informing and frequently consulting each other on certain aspects of their external policy and often co-operating on matters of mutual interest. Just as members of a family grow up and shape their own lives, and family ties become less evident in mature life, so has the British Empire grown up since 1914 and become the present-day British Commonwealth of Nations.

★ *Member States of the British Commonwealth of Nations*

In answer to the question "What States are members of the British Commonwealth of Nations?", the reply is "The United Kingdom, Ireland, Canada, Australia, South Africa and New Zealand". They are, all six, autonomous States within the British Commonwealth.

The United Kingdom of Great Britain and Northern Ireland.—The growth and expansion of the first and second British Empires and the present British Commonwealth of Nations are based on the development of the island Kingdom of Great Britain and Ireland. In 1603, by the union of the English and Scottish Crowns, Great Britain was constituted. The lordship of Ireland was united with the English Crown in the 13th century, and then followed

Canada's Place in the British Commonwealth of Nations

SPECIAL ARTICLE

A NUMBER of historians, looking back on the history of the British Empire, have stated that there are three periods in its life and growth. The first British Empire, taking its rise in the early seventeenth century on the eastern coast of what is now the United States of America, was a colonial Empire of the older type common to Spain, Portugal, France and other States of Continental Europe. That Empire was abruptly extinguished, or at least summarily curtailed, by the American Revolution in 1776.

After the disruption of 1776, however, the British Empire was given a second chance. Out of the remnants of its old dominion, in Canada, Nova Scotia, New Brunswick, Prince Edward Island, Newfoundland, the West Indies, and elsewhere, and out of the pioneering work of nineteenth century explorers, traders and administrators, a new and second British Empire came into existence. That Empire was based on British sea power, the undisputed supremacy of the British Navy throughout the oceans of the world. Its development was stimulated by the immense and rapid growth of international commerce, first in Britain and then in other manufacturing countries; for, as an open-door Empire, it provided a market for all comers, and its maintenance was ensured by the fact that place was found in its institutions for the planting of the seed of liberty. This second British Empire reached the height of its power and of its development in the First World War of 1914-18.

And now a third British Empire has come into existence, new in its form, new in the conditions that it has to face within and without its borders, and new even in its name. For the British Empire of 1914 has now become the British Commonwealth of Nations.

Many people, including British subjects, would find it difficult to answer the question "What is the British Commonwealth of Nations?" To define the existing constitutional position is a much harder task than to explain how it has arisen. The British Commonwealth of Nations has often been described as a unique family system of freely associated nations, equal in status though not in stature. This association of members is not a single State but a group

centuries of unrest which was heightened, rather than abated, by the Act of Union of 1800. The Union of Great Britain and Ireland was formally dissolved in 1921 and, by the Anglo-Irish treaty of 1921, Ireland was given the political status of a self-governing member of the Empire. The six northeastern Irish counties of Ulster did not wish to take part in this arrangement and to-day Northern Ireland and Great Britain form the United Kingdom.

The United Kingdom, in addition to being a partner with the other five sovereign States in the Commonwealth, is also the administrator of a great colonial Empire and of a number of mandated territories. During the past half-century there has been an increasing recognition in the United Kingdom of its responsibilities towards the colonial peoples in its widely scattered Empire whom it is pledged to train in the arts of self-government. This pledge also implies social and economic improvement without which self-government would be an impossibility. These United Kingdom possessions include almost every variety of human-kind, of religious creed and culture and, from the point of view of government, include communities at a number of different stages in their advance towards complete self-government. At the top of this scale of dependent territories is India, a constitutional anomaly, which is now actively planning its future status and may elect to remain a sovereign Member State of the British Commonwealth of Nations or may decide to withdraw from the Commonwealth. Apart from India, about 63,000,000 natives live within the colonial Empire administered by the United Kingdom, and this Empire includes territories ranging from countries like Nigeria, which is four times as large in area as the United Kingdom, to tiny islands in the Pacific. Politically the United Kingdom has declared its aim to be to educate colonial peoples to govern themselves, and this aim has been incorporated in the Charter of the United Nations which states that the Members of the United Nations, in the non-self-governing territories under their administration, will develop self-government and take due account of the political aspirations of the peoples.

After the World War of 1914-18, the mandates system was instituted, under which the colonies that were taken from the defeated countries were entrusted to "advanced nations which . . . could best undertake this responsibility". The mandates administered by the United Kingdom, with the exception of Transjordan and Iraq, which have in the meantime become independent States, are now being transformed into trusteeships under the United Nations, with the United Kingdom as the administering authority. In these trusteeships, progressive development towards self-government or independence will be promoted.

Ireland.—Ireland is the political expression not of a young nation but of a very old nation. This Member Nation of the British Commonwealth comprises all of Ireland except the six northeastern counties which form part of the United Kingdom of Great Britain and Northern Ireland. Ireland and the United Kingdom are entirely different historically from the other members of the Commonwealth. All the other Member States have resulted from colonization by people mainly from the British Isles, but Ireland is an original member of the European family. Compulsory subjection to the English during the 16th and subsequent centuries, with the terrorism of the Cromwellian and other

measures, produced a hatred in Ireland for the English which led during the present century to years of bloodshed, brought to an end by the Anglo-Irish Treaty of 1921.

Australia.—In Australia, immigration was small until about 1850, but by 1855 the British colonies of New South Wales, Victoria, South Australia and Tasmania had responsible governments. Here also federation seemed to be the solution of the wider problem of continental unity and union of the six States of New South Wales, Victoria, South Australia, Queensland, Tasmania and Western Australia into the Commonwealth of Australia was effected on Jan. 1, 1901.

New Zealand.—New Zealand had been the scene of missionary activity since early in the 19th century, but first regular settlers had not arrived till 1839, and in 1840 the land was claimed for the British Crown. As the 19th century progressed, New Zealand acquired all the attributes of a self-governing colony, self-government being granted in 1852. It became the Dominion of New Zealand in 1907.

South Africa.—Australia and New Zealand were colonized by men and women from the British Isles, but South Africa, like Canada, had since its earliest days become the home of settlers of another race. In the 17th century, Dutch, and later French Huguenots, settled in South Africa. After 1814 British settlers began to arrive, and this invasion of the Boer way of life by English settlers led to the Boer War of 1899-1902. After the Boer surrender, the republics of the Transvaal and Orange Free State were given responsible government in 1907, and in 1910, Cape Colony, Natal, the Transvaal and Orange River Colony were consolidated into the Union of South Africa.

Canada.—The British North America Act of 1867 united the Provinces of Canada (now Ontario and Quebec), Nova Scotia and New Brunswick into a federal union under the name of "Canada". With astonishing rapidity, this federal union of the four provinces expanded geographically. In 1868, by the Rupert's Land Act, Canada acquired the vast territories of the Hudson's Bay Company, which stretched over most of the north and west of what is now Canada. Out of this territory were carved the Provinces of Manitoba which entered federation in 1870, and Saskatchewan and Alberta which entered in 1905. In 1871 the Province of British Columbia was admitted and in 1873 Prince Edward Island. In 1895 Canada took over the islands of the Arctic Archipelago. Thus the outline which Canada now presents on the map was established 38 years after the initial federation of the four provinces. Canada is the largest in area and the second most populous of the Member States of the British Commonwealth of Nations. In order to gain some idea of its size, it has been estimated that if Canada could be turned over, using the Atlantic seaboard as the hinge, it would stretch across the north Atlantic, the British Isles, France, Germany and part of the U.S.S.R.

From the constitutional point of view, the year 1867 is a dividing line between two periods in Canada's history. In the first period, 1763-1867, the outstanding achievement was the winning of responsible government in 1848, whereby the executive branch of the Government is responsible to the local elected legislature. In 1867, Canada was self-governing in respect of her domestic affairs, though the Parliament of the United Kingdom retained the power to enact laws extending to Canada and the right to disallow certain

Confederation Chamber, Provincial Legislative Building, Charlottetown, P.E.I. Around this table sat in conference the Fathers of Confederation. As the tablet on the wall states: "In the hearts and minds of the delegates who assembled in this room on Sept. 1, 1864, was born the Dominion of Canada—Providence being their guide, they builded better than they knew".

Canadian legislation. At the time of Canadian federation, the Canadian Government took no part in foreign affairs, for the United Kingdom was responsible for the foreign policy of the whole British Empire. However, from 1867 to the present day the bounds of Canadian autonomy have been gradually enlarged and Canada now has complete control over its internal and external policies.

The growth of Canada to full nationhood and this gradual widening of the bounds of Canadian autonomy were greatly accelerated during and in the period immediately following the War of 1914-18. In 1917 the Imperial War Conference recognized the right of the Dominions and India to an adequate voice in foreign policy. With Canada leading in the demand, Canada, Australia, New Zealand, South Africa and India obtained separate representation at the Peace Conference, and as a sign of their new nationhood they became original members of the League of Nations in their own right.

By 1926 it was evident that the constitutional theory of the British Empire had not kept pace with constitutional practice. As a result of this discrepancy, the Imperial Conference of 1926 took as its main objective the task of bringing the theory up to the point where it corresponded with the facts. The 1926 Conference Report, known as the Balfour Report, summarized and restated the customs that had recently been established, and gave them unquestioned acceptance and authority. It also served as a formal announcement to other nations that the British Commonwealth of Nations of 1926 was no longer the British Empire of 1914, or even of 1919, but that it had been transformed, and the Commonwealth wished the world clearly to understand the nature of the new organization with which it had now to deal. The most far-reaching and comprehensive paragraph of the 1926 Balfour Report was that which declared the equality in status of all the self-governing units of the Commonwealth.

> They are autonomous communities within the British Empire, equal in status, in no way subordinate one to another in any aspect of their domestic, or external affairs, though united by a common allegiance to the Crown, and freely associated as members of the British Commonwealth of Nations . . . . Every self-governing member of the Empire is now the master of its destiny. In fact, if not always in form, it is subject to no compulsion what-

ever . . . . The British Empire is not founded upon negations. It depends essentially, if not formally, on positive ideals. Free institutions are its life-blood. Free co-operation is its instrument.

The 1931 Statute of Westminster which formalized the recommendations of the Balfour Report removed whatever remaining limitations there were on the sovereignty of the Member States of the British Commonwealth of Nations. It was also definitely understood that if any Member Nations of the Commonwealth did not participate in the making of a treaty they would not be bound by its provisions. Moreover, the issue of Full Powers to plenipotentiaries from each unit in the Commonwealth was to be made only on the advice of the individual Governments, although some units might authorize the plenipotentiary from the part chiefly concerned to act on their behalf.

★ *Organization of the Government of Canada*

The Canadian federal union, established by the British North America Act of 1867, was a plan whereby cultural and local loyalties could be preserved and reconciled with the political strength and solidarity of the whole. The vital core of a federal constitution is the division of legislative powers between the Federal Government and the Provincial Governments. Under the Canadian federal system, the subjects coming within the power of the provinces are enumerated, and include such things as the control over education, the administration of justice, municipal institutions, the establishment and maintenance of prisons, hospitals and charitable institutions and control over the public lands of the province. A power of direct taxation to raise revenue for provincial purposes was also given to the provinces. The Federal Government was given power to make laws for the peace, order and good government of Canada in relation to all matters not assigned exclusively to the provinces, and the Federal Government also has unlimited powers of taxation. However, the interpretation placed upon the British North America Act by the Privy Council has had the effect of narrowing the powers of the Federal Government, except in times of grave national emergency, and enlarging the powers of the provinces.

The Government of Canada which is modelled on that of Great Britain consists of three branches—the Legislature or Parliament, the Executive and the Judiciary.

Parliament consists of the Governor General, the Senate and the House of Commons. The House of Commons, under the redistribution legislation* drafted in 1946, will have a membership of 255, made up as follows: Quebec, 73; Ontario, 83; Nova Scotia, 13; New Brunswick, 10; Prince Edward Island, 4; Manitoba, 16; Saskatchewan, 20; Alberta, 17; British Columbia, 18; Yukon, 1. Members of the House of Commons are elected by the people for the duration of the Parliament, which must not be longer than five years. Members of the Senate, numbering 96, are not elected, but appointed for life nominally by

* The First Session of the Twentieth Parliament of Canada requested the United Kingdom Government to amend Section 51 of the B.N.A. Act to provide the above-mentioned increase in membership. This has been done but no further action was taken at the 1946 Session of the Canadian Parliament.

Field Marshal the Right Honourable Viscount Alexander of Tunis, K.G., G.C.B., G.C.M.G., C.S.I., D.S.O., M.C., LL.D., A.D.C., was installed as Governor General of Canada in an impressive ceremony in the Senate Chamber at Ottawa on April 12, 1946.

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the Governor General, actually by the Prime Minister. The Governor General, appointed by the King on the advice of the Canadian Government, has a five-year term of office, and acts only on the advice of his Cabinet.

At the head of the Cabinet is the Prime Minister, who chooses his colleagues and whose resignation carries with it their resignations also. Most of the members of the Cabinet head administrative departments of government and all but one or two are members of the House of Commons. The others are members of the Senate. They are all members of the political party which has the support of the majority in the House of Commons. This arrangement, whereby members of the Cabinet serve as heads of administrative departments and also hold seats in the House of Commons, has the advantages that the Executive is able to guide the course of legislation and especially to control the voting of public money, and that the legislature is able to compel Cabinet Ministers to defend from day to day every act of the Executive and to resign if they lose the support of a majority of the House of Commons.

The third element in the Government of Canada is the Judiciary. Since 1875 Canada has had at Ottawa a Supreme Court which, except in those cases where leave is granted to appeal to the Judicial Committee of the Privy Council

at Westminster, acts as a final court of appeal for Canada. The provincial courts come, so far as their constitution is concerned, under the jurisdiction of the provinces, but the judges of the high provincial courts are appointed by the Canadian Government and procedure in criminal law is regulated by the Parliament of Canada. Judges may be removed from the bench only on the passage of an address by the Senate and the House of Commons.

In the provinces, government is conducted along the same general lines as at Ottawa, the seat of the Canadian Government. The Lieutenant-Governor in each province is the representative of the Crown and is appointed by the Canadian Government for a term of five years. The provinces, with the exception of Quebec, have one legislative body known as the Legislative Assembly, whose members are elected by popular vote. Quebec still retains a second legislative body, corresponding to the Senate, known as the Legislative Council, the members of which are appointed for life. In the provinces, the Executive takes the form of Executive Councils, which perform functions parallel to those of the Cabinet at Ottawa. Law enforcement in the provinces is primarily the responsibility of the Provincial Attorneys General, and the provincial courts are organized and regulated by provincial legislation. While the judges in these courts are appointed by the Federal Government, police magistrates and justices of the peace are appointed by the Provincial Governments.

★ *Canada's International Relations*

When the Department of External Affairs was set up in 1909, Canadian representation abroad was confined to a High Commissioner at London (since 1880) and an Agent General in France (since 1882), neither of whom possessed diplomatic status. Canada's negotiations with foreign powers were conducted by the British Foreign Office with Canadian Ministers or officials occasionally taking part in the negotiations. It is true that there were Canadian officials abroad serving as trade commissioners and immigration agents, but they represented individual Departments of the Federal Government, and did not represent the Government of Canada.

In 1909 no special significance was attached to the appearance of the new Department of External Affairs, and its early years were ones of quiet and inconspicuous development. During the War of 1914-18 it was found advisable for the Canadian Government to establish a Canadian War Mission at Washington, and the success of this Mission led to the announcement in 1920 that Canada was to have a Diplomatic Mission there. A Canadian delegation attended the Peace Conference at Versailles, and Canada became one of the original members of the League of Nations.

In 1926 the Canadian Legation was opened at Washington and shortly afterwards the United States appointed its first Minister to Canada. In the meantime, a Canadian had been appointed to take charge of the Canadian Advisory Office at Geneva.

After the Imperial Conference of 1926, the Secretary of State for External Affairs, rather than the Governor General, became the formal channel of com-

munication between the Government of Canada and the Government of the United Kingdom. As a result of this new arrangement, the United Kingdom Government appointed in 1927 their first High Commissioner at Ottawa.

In 1928 a Canadian Minister to France was appointed and in 1929 a Canadian Legation was opened at Tokyo. In 1937 a Canadian Minister was sent to Belgium, who also served as Canadian Minister to the Netherlands.

In September 1939, Canada, as befitting its advancement in nationhood in the quarter-century between the wars, issued a declaration of war on Germany separate from that of the United Kingdom. The day after this declaration (Sept. 10, 1939), it was announced that the Canadian Government would send High Commissioners to Australia, New Zealand, South Africa and Ireland.

At the present time, the Canadian Government, in addition to having High Commissioners in all the Member States of the British Commonwealth of Nations, has a High Commissioner in Newfoundland; Canadian Ambassadors in the United States, Argentina, Belgium, Brazil, Chile, China, France, Greece, Mexico, Peru and U.S.S.R.; Canadian Ministers in Cuba, the Netherlands, Denmark, Luxembourg, and Norway; Consuls General in New York, Lisbon, and Venezuela, and a Vice-Consul in Portland, Maine. A Canadian Military Mission to Germany was set up at Berlin in January 1946, and a Canadian Liaison Mission was sent to Tokyo in the autumn of 1946.

Canada House, London, England, decorated for Victory Week celebrations.

Population

Vital Statistics

★ *Population*

ALTHOUGH Canada is the largest country in the Americas, yet, due to her topography and surface characteristics, she is not capable of supporting an overall population as dense as her size would imply. Certain areas such as the St. Lawrence Valley, parts of the Maritimes and the coastal plains of the Pacific are exceedingly fertile and situated in latitudes that invite a vigorous population growth but, by and large, these areas are limited in extent and widely separated from one another. Vast areas are suited only to the growing of timber or are economically valuable as potential sources of mineral wealth. In either case, the permanent settlement in such areas will be of very limited proportions.

When Canada's first census was taken in 1666 to measure the advancement made by this French colony since the founding of Quebec 58 years earlier, it was found that there were 3,215 inhabitants. About one hundred years later, that population, settled along the shores of the St. Lawrence River with its western outpost at Montreal, had increased to about 70,000; what is now the Maritime Provinces had another 20,000. The coming of the United Empire Loyalists and their settlement in the Eastern Townships and along the Upper St. Lawrence, Lake Ontario and the Niagara Peninsula in the last quarter of the eighteenth century, opened up new areas and Canada began the nineteenth century with a population of probably 300,000.

The year 1851 marks the beginning of the regular decennial census, so that there is a regular measure of population growth in Canada over the past 90 years. The 'fifties saw a very rapid development, especially in Ontario, and the 'sixties showed only less substantial gains. In the years following Confederation, from 1871 to 1881, there was a spurt, but the population of Canada as a whole showed a very significant drop in its rate of increase during the years from 1891 to 1900. The last half of the nineteenth century was characterized by large numbers of immigrant arrivals, by a large outward movement from the country mainly of immigrant population, and by the movement of

native population from the more thickly settled parts of Quebec and the Maritimes to other parts of the country where the population was more thinly distributed.

But it is within the first decade of the present century that the most spectacular expansion of the population of Canada has taken place. The outstanding feature was, of course, the opening to settlement of the West. The unorganized southern stretch of the Northwest Territories, ceded to the Dominion soon after Confederation, had been tapped and traversed by the Canadian Pacific Railway between 1875 and 1885. But, though the western population had roughly doubled in each of the decades ended 1881, 1891 and 1901, it was only with the discovery of the wheat-growing potentialities of the prairies and the launching of a large-scale immigration movement after 1900 that western settlement became a factor of first importance. In the decade 1901-11 immigration exceeded 1,800,000 and, though at least a third of these were lost to Canada, it formed the chief factor in the gain of 34 p.c. which the total population registered in that period and which was larger than the relative growth of any other country during the same period. The movement was continued in the first three years of the second decade of the century after which a recession set in to which the outbreak of war gave a new and wholly unexpected turn. Nevertheless, Canada's relative gain for that decade was again among the largest in the world.

Since the War of 1914-18, immigration has never reached anything like its former levels and during the depression years of the 1930's it was still further restricted by Government regulations as well as by economic necessity. The population increase in the decade 1921-31 amounted to 18·1 p.c. and in the decade 1931-41 to 10·9 p.c. During the latest decade, and even to some extent in the previous one, the trend of growth has on the whole come back from the west to the east though the percentage increase in British Columbia in these two decades was higher than in any other province.

The trend towards urban life in Canada is very striking. Early in the second half of the nineteenth century signs of an increase in the small urban proportion were beginning to be seen, and with the expansion of manufacturing industries and the increasing ease of transportation and communication, that proportion grew continuously. In 1871, 19·6 p.c. of the population were urban dwellers, in 1901 37·5 p.c., in 1921 49·5 p.c. and in 1941 54·3. The great advance of employment during the war years in the larger cities of Canada is evidence of the drain from country to city that has taken place since the 1941 Census.

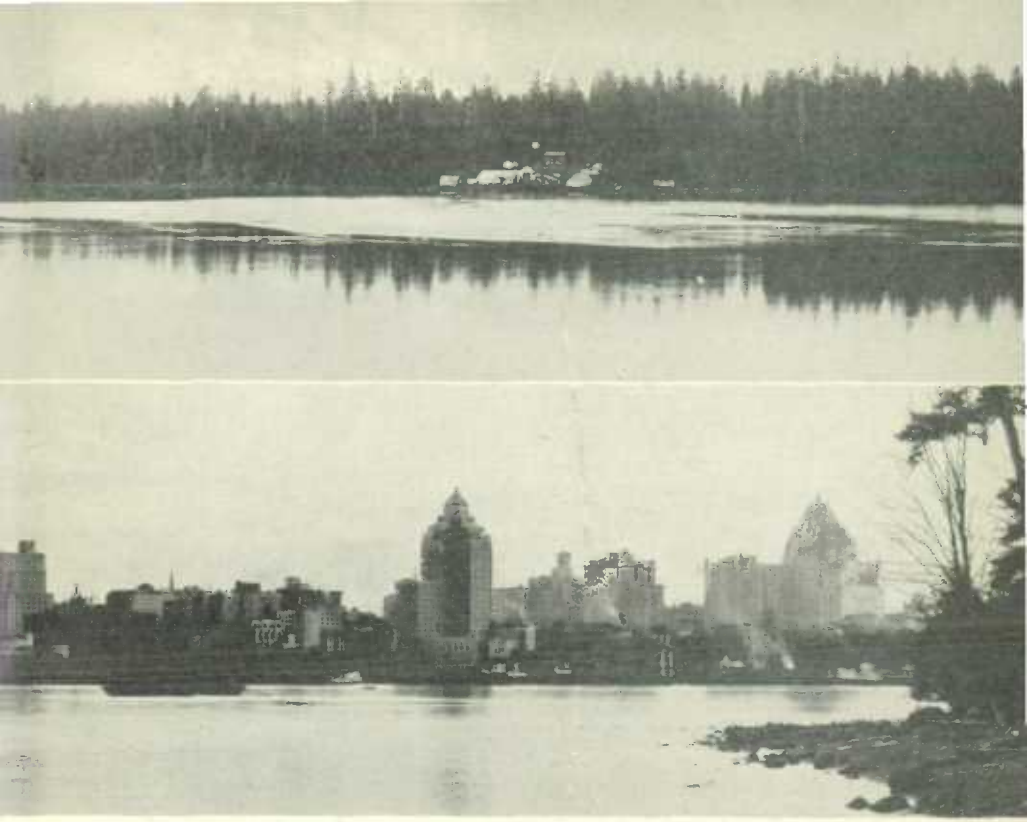
Canadians do not form a compact group like the many European nations, but are a collection of diverse races moulding themselves into a nation that takes its pattern from the land of their adoption. At the time of Confederation, the largest individual British racial group was Irish, and the Irish and Scottish together outnumbered the English by almost two to one. After 1881 the English predominated and the Scottish moved to second place after 1911. By the time of the 1941 Census, the numerical strength of the principal racial stocks was in the following order: French, English, Scottish, Irish, German, Ukrainian, Scandinavian, Netherlander, Jewish and Polish. Canada is officially bilingual, and the 1941 Census revealed 1,474,000 people speaking both official languages, while 7,735,000 spoke English only and 2,182,000 spoke French only.

CANADIAN CITIES TAKE ON THE GRACES OF MATURITY

During 1946, two of Canada's eastern cities—Kingston and Hamilton—attained their 100th birthday, and the western terminus of Vancouver was not far behind in celebrating the 60th year of its foundation. All three have realized the predictions of the loyal and courageous pioneers who, long before these centres were first incorporated as cities, laid the framework for them and established their place in Canadian history.

In early Canadian history, Kingston won for herself a proud place. At the eastern end of Lake Ontario, she held a strategic position and was the key to the defences of Upper Canada. Between 1841 and 1844 she was the capital of United Canada. Though Kingston still retains her military aspect, she is also a cathedral city and an educational centre of some importance.

Hamilton keeps green in La Salle Park the memory of La Salle and his band of intrepid explorers who, in 1669, entered what is now the Hamilton Harbour. The city is now (after Montreal and Toronto), the third industrial and commercial centre of the Dominion.



Vancouver, the magnet "at the end of the rainbow", has almost fabulous attractions for young and old alike. She is in every sense a melting-pot where west meets east. The city has made a spectacular growth during the sixty years of its incorporation. The top photograph shows the site of the city in 1844 and below, from approximately the same viewpoint, is the Vancouver of to-day. In 1941 Vancouver ranked third (after Montreal and Toronto) in regard to population.

Population Statistics

The following tables give a picture of the Canadian population from various angles at the time of the 1941 Census. In the space available in this publication, the subject of population can be dealt with only very summarily. Again, the 1941 Census is now so removed from actual experience that the figures do not reflect current conditions in post-war Canada. Estimates of the population for 1942-45 are given at p. 54.

The student who is interested in obtaining more detailed information from Census sources, is referred to the latest edition of the Canada Year Book available in all public libraries and in the larger school libraries. Such aspects of population as mother tongue, school attendance, citizenship, internal migration, households, housing and families are there dealt with in sufficient detail for the average student. Occupations and earnings of the people are treated in the Appendix to the 1943-44 Year Book at pp. 1062-1073.

Population of Canada, Census Years 1891-1941, with Density, 1941

NOTE.—The figures for certain censuses are not altogether comparable but the qualifications are for the most part technical and are given in detail in the Census volumes and in the Canada Year Book.

Province or Territory	Land Area in Sq. Miles	Population						Persons per Sq. Mile 1941
		1891	1901	1911	1921	1931	1941	
P.E.I...	2,184	109,078	103,259	93,728	88,615	88,038	95,047	43·52
N.S.....	20,743	450,396	459,574	492,338	523,837	512,846	577,962	27·86
N.B....	27,473	321,263	331,120	351,889	387,876	408,219	457,401	16·65
Que.....	523,860	1,488,535	1,648,898	2,005,776	2,360,510	2,874,662	3,331,882	6·36
Ont.....	363,282	2,114,321	2,182,947	2,527,292	2,933,662	3,431,683	3,787,655	10·43
Man....	219,723	152,506	255,211	461,394	610,118	700,139	729,744	3·32
Sask....	237,975	—	91,279	492,432	757,510	921,785	895,992	3·77
Alta....	248,800	—	73,022	374,295	588,454	731,605	796,169	3·20
B.C.....	359,279	98,173	178,657	392,480	524,582	694,263	817,861	2·28
Yukon..	205,346	—	27,219	8,512	4,157	4,230	4,914	0·02
N.W.T..	1,253,438	98,967	20,129	6,507	8,143	9,316	12,028	0·01
Canada	**3,462,103**	**4,833,239**	**5,371,315**	**7,206,643**	**8,787,949**[1]	**10,376,786**	**11,506,655**	**3·32**

[1] Includes 485 members of the Royal Canadian Navy who were recorded separately.

Rural and Urban Populations, by Provinces, 1931 and 1941

Province or Territory	1931		1941		Numerical Increases 1931–41	
	Rural	Urban	Rural	Urban	Rural	Urban
Prince Edward Island..	67,653	20,385	70,707	24,340	3,054	3,955
Nova Scotia.....	281,192	231,654	310,422	267,540	29,230	35,886
New Brunswick.....	279,279	128,940	313,978	143,423	34,699	14,483
Quebec.....	1,061,056	1,813,606	1,222,198	2,109,684	161,142	296,078
Ontario.....	1,335,691	2,095,992	1,449,022	2,338,633	113,331	242,641
Manitoba.....	384,170	315,969	407,871	321,873	23,701	5,904
Saskatchewan.....	630,880	290,905	600,846	295,146	−30,034	4,241
Alberta.....	453,097	278,508	489,583	306,586	36,486	28,078
British Columbia.....	299,524	394,739	374,467	443,394	74,943	48,655
Yukon.....	2,870	1,360	3,117	1,797	247	437
Northwest Territories..	9,316	Nil	12,028	Nil	2,712	—
Canada.....	**4,804,728**	**5,572,058**	**5,254,239**	**6,252,416**	**449,511**	**680,358**

Urban Centres Having over 20,000 Inhabitants in 1941, Census Years 1901-1941

Urban Centre and Province	Populations				
	1901	1911	1921	1931	1941
Montreal, Que.....	325,653	490,504	618,506	818,577	903,007
Greater Montreal.....	—	—	—	1,023,158	1,139,921
Toronto, Ont.....	218,504	381,833	521,893	631,207	667,457
Greater Toronto.....	—	—	—	810,467	900,491
Vancouver, B.C.....	29,432	120,847	163,220	246,593	275,353
Greater Vancouver.....	—	—	—	308,340	351,491
Winnipeg, Man.....	42,340	136,035	179,087	218,785	221,960
Greater Winnipeg.....	—	—	—	284,295	290,540
Hamilton, Ont.....	52,634	81,969	114,151	155,547	166,337
Greater Hamilton.....	—	—	—	163,710	176,110

Urban Centres Having over 20,000 Inhabitants in 1941, Census Years 1901-41—concluded

Urban Centre and Province	Populations				
	1901	1911	1921	1931	1941
Ottawa, Ont.	64,226	87,062	107,843	126,872	154,951
Greater Ottawa	—	—	—	175,988	215,022
Quebec, Que.	68,840	78,118	95,193	130,594	150,757
Greater Quebec	—	—	—	172,517	200,814
Windsor, Ont.	15,198	23,433	55,935	98,179	105,311
Greater Windsor	—	—	—	110,385	121,112
Edmonton, Alta.	4,176	31,064	58,821	79,197	93,817
Calgary, Alta.	4,392	43,704	63,305	83,761	88,904
London, Ont.	37,976	46,300	60,959	71,148	78,264
Greater London	—	—	—	—	86,740
Halifax, N.S.	40,832	46,619	58,372	59,275	70,488
Greater Halifax	—	—	—	74,161	91,829
Verdun, Que.	1,898	11,629	25,001	60,745	67,349
Regina, Sask.	2,249	30,213	34,432	53,209	58,245
Saint John, N.B.	40,711	42,511	47,166	47,514	51,741
Greater Saint John	—	—	—	58,717	65,784
Victoria, B.C.	20,919	31,660	38,727	39,082	44,068
Greater Victoria	—	—	—	—	75,218
Saskatoon, Sask.	113	12,004	25,739	43,291	43,027
Three Rivers, Que.	9,981	13,691	22,367	35,450	42,007
Sherbrooke, Que.	11,765	16,405	23,515	28,933	35,965
Kitchener, Ont.	9,747	15,196	21,763	30,793	35,657
Hull, Que.	13,993	18,222	24,117	29,433	32,947
Sudbury, Ont.	2,027	4,150	8,621	18,518	32,203
Brantford, Ont.	16,619	23,132	29,440	30,107	31,948
Outremont, Que.	1,148	4,820	13,249	28,641	30,751
Fort William, Ont.	3,633	16,499	20,541	26,277	30,585
St. Catharines, Ont.	9,946	12,484	19,881	24,753	30,275
Kingston, Ont.	17,961	18,874	21,753	23,439	30,126
Timmins, Ont.	—	—	3,843	14,200	28,790
Sydney, N.S.	9,909	17,723	22,545	23,089	28,305
Oshawa, Ont.	4,394	7,436	11,940	23,439	26,813
Westmount, Que.	8,856	14,579	17,593	24,235	26,047
Sault Ste. Marie, Ont.	7,169	14,920	21,092	23,082	25,794
Peterborough, Ont.	12,886	18,360	20,994	22,327	25,350
Glace Bay, N.S.	6,945	16,562	17,007	20,706	25,147
Port Arthur, Ont.	3,214	11,220	14,886	19,818	24,426
Guelph, Ont.	11,496	15,175	18,128	21,075	23,273
Moncton, N.B.	9,026	11,345	17,488	20,689	22,763
New Westminster, B.C.	6,499	13,199	14,495	17,524	21,967
Moose Jaw, Sask.	1,558	13,823	19,285	21,299	20,753
Niagara Falls, Ont.	5,702	9,248	14,764	19,046	20,589
Shawinigan Falls, Que.	—	4,265	10,625	15,345	20,325
Lachine, Que.	6,365	11,688	15,404	18,630	20,051

Distribution of Population by Sex and Age Groups, by Provinces, 1941

Age Group	Prince Edward Island		Nova Scotia		New Brunswick		Quebec	
	Males	Females	Males	Females	Males	Females	Males	Females
Under 10 years	9,745	9,438	57,621	55,833	49,513	48,457	354,186	347,189
10–19 "	9,512	9,162	56,643	55,164	48,636	47,629	357,840	354,791
20–29 "	8,412	7,291	53,883	50,947	40,972	37,625	287,888	298,408
30–39 "	6,099	5,063	39,338	34,835	29,162	27,092	232,719	231,371
40–49 "	5,047	4,701	29,921	28,639	22,939	22,148	175,562	169,859
50–59 "	4,156	4,007	24,912	23,452	18,952	17,529	131,186	123,202
60–69 "	3,302	3,156	19,339	17,536	13,970	12,564	83,316	79,569
70 or over	2,955	3,001	14,387	15,512	9,953	10,260	50,285	54,511
All Ages	**49,228**	**45,819**	**296,044**	**281,918**	**234,097**	**223,304**	**1,672,982**	**1,658,900**

72235—4

A Ukrainian orchestra and choir performing at a mass rally in Toronto. There are over three hundred thousand persons of Ukrainian origin in Canada.

Distribution of Population by Sex and Age Groups, by Provinces, 1941 — concluded

Age Group	Ontario		Manitoba		Saskatchewan		Alberta	
	Males	Females	Males	Females	Males	Females	Males	Females
Under 10 years	304,406	295,033	63,006	60,877	87,995	85,191	76,400	74,349
10–19 "	336,738	327,182	70,770	69,719	97,088	93,811	78,533	77,528
20–29 "	323,502	316,193	67,150	66,315	81,528	76,007	71,208	67,926
30–39 "	284,697	270,187	51,203	48,560	59,909	52,524	59,885	50,272
40–49 "	247,696	235,242	43,109	40,015	51,424	43,146	50,550	39,371
50–59 "	204,055	191,773	42,648	33,929	53,930	36,333	48,926	32,312
60–69 "	132,989	132,979	26,007	19,824	31,119	20,083	28,008	18,163
70 or over	87,118	97,865	14,186	12,426	14,570	11,334	12,948	9,790
All Ages	**1,921,201**	**1,866,454**	**378,079**	**351,665**	**477,563**	**418,429**	**426,458**	**369,711**

Age Group	British Columbia		Yukon		Northwest Territories		Canada	
Under 10 years	58,087	56,340	428	439	1,608	1,533	1,062,995	1,034,679
10–19 "	64,307	63,019	311	290	1,138	1,101	1,121,516	1,099,396
20–29 "	69,998	71,151	538	365	1,217	892	1,006,296	993,120
30–39 "	63,305	54,489	582	244	1,145	719	828,044	775,356
40–49 "	53,799	46,806	336	158	736	487	681,119	630,572
50–59 "	61,532	44,524	314	129	489	306	591,100	507,496
60–69 "	42,385	29,640	358	94	281	193	381,074	333,801
70 or over	21,618	16,861	286	42	86	97	228,392	231,699
All Ages	**435,031**	**382,830**	**3,153**	**1,761**	**6,700**	**5,328**	**5,900,536**	**5,606,119**

Conjugal Condition of the Population, by Provinces and Sex, 1941

Province or Territory	Single	Married	Widowed	Divorced	Permanently Separated	Total[1]
	MALES					
Prince Edward Island	29,828	17,625	1,549	22	202	49,228
Nova Scotia	173,506	111,132	9,359	247	1,770	296,044
New Brunswick	140,952	85,093	6,695	197	1,137	234,097
Quebec	1,027,162	591,533	46,386	500	7,270	1,672,982
Ontario	993,265	851,096	60,210	2,291	14,105	1,921,201
Manitoba	209,939	155,157	10,268	473	2,218	378,079
Saskatchewan	283,297	179,996	11,383	468	2,351	477,563
Alberta	243,666	168,469	10,594	801	2,891	426,458
British Columbia	215,205	200,027	13,979	1,547	4,213	435,031
Yukon	2,029	957	116	17	34	3,153
Northwest Territories	3,978	2,443	204	6	10	6,700
Canada	**3,322,827**	**2,363,528**	**170,743**	**6,569**	**36,201**	**5,900,536**
	FEMALES					
Prince Edward Island	24,748	17,473	3,401	19	178	45,819
Nova Scotia	148,474	109,513	21,544	268	2,115	281,918
New Brunswick	123,540	84,275	14,040	192	1,256	223,304
Quebec	981,890	581,569	85,425	646	9,353	1,658,900
Ontario	876,215	826,525	142,731	2,865	18,039	1,866,454
Manitoba	176,458	151,105	20,625	654	2,818	351,665
Saskatchewan	221,557	175,112	18,965	381	2,414	418,429
Alberta	186,215	161,953	17,963	717	2,850	369,711
British Columbia	165,064	181,932	29,235	1,718	4,878	382,830
Yukon	833	810	88	3	27	1,761
Northwest Territories	2,747	2,211	361	Nil	8	5,328
Canada	**2,907,741**	**2,292,478**	**354,378**	**7,463**	**43,936**	**5,606,119**

[1] Includes persons with conjugal condition not stated.

Origins of the People, 1941

Origin	Number	Origin	Number
British Isles Races—		Hungarian	54,598
English	2,968,402	Indian and Eskimo	125,521
Irish	1,267,702	Italian	112,625
Scottish	1,403,974	Japanese	23,149
Other	75,826	Jewish	170,241
		Negro	22,174
Totals, British Isles Races	5,715,904	Netherlander	212,863
		Polish	167,485
French	3,483,038	Roumanian	24,689
Austrian	37,715	Russian	83,708
Belgian	29,711	Scandinavian	244,603[1]
Bulgarian	3,260	Ukrainian	305,929
Chinese	34,627	Yugoslavic	21,214
Czech and Slovak	42,912	Various	67,357
Finnish	41,683	Unspecified	5,275
German	464,682		
Greek	11,692	**Grand Total**	**11,506,655**

[1] Includes 37,439 Danish, 21,050 Icelandic, 100,718 Norwegian and 85,396 Swedish.

72235—4½

Eight Leading Origins in Canada, by Provinces, 1941

Province	Origin							
	British Isles Races	French	German	Ukrainian	Scandinavian	Netherlander	Jewish	Polish
P.E.I.	78,714	14,799	172	2	152	494	25	1
N.S.	445,178	66,260	15,038	711	2,353	23,834	2,285	2,206
N.B.	276,758	163,934	1,394	22	2,929	4,539	1,228	233
Que.	452,887	2,695,032	8,880	8,006	4,840	2,645	66,277	10,036
Ont.	2,729,830	373,990	167,102	48,158	27,225	73,001	69,875	54,893
Man.	360,560	52,996	41,479	89,762	32,620	39,204	18,879	36,550
Sask.	397,905	50,530	130,258	79,777	68,806	35,894	4,149	27,902
Alta.	399,432	42,979	77,721	71,868	63,494	20,429	4,164	26,845
B.C.	571,336	21,876	22,407	7,563	41,560	12,737	3,350	8,744
Canada[1]	**5,715,904**	**3,483,038**	**464,682**	**305,929**	**244,603**[2]	**212,863**	**170,241**	**167,485**

[1] Includes Yukon and the Northwest Territories. [2] Includes 37,439 Danish, 21,050 Icelandic, 100,718 Norwegian and 85,396 Swedish.

Birthplaces of the Population, Census Years 1901-41

Year	Canadian Born		Other British Born[1]		Foreign Born				Total Population
					United States Born		Other		
	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.
1901	4,671,815	86·98	421,051	7·84	127,899	2·38	150,550	2·80	5,371,315
1911	5,619,682	77·98	834,229	11·58	303,680	4·21	449,052	6·23	7,206,643
1921	6,832,224	77·75	1,065,448	12·12	374,022	4·26	516,255	5·87	8,787,949
1931	8,069,261	77·76	1,184,830	11·42	344,574	3·32	778,121	7·50	10,376,786
1941	9,487,808	82·46	1,003,769	8·72	312,473	2·72	701,660	6·10	11,506,655[2]

[1] Includes some hundreds of persons born at sea. [2] Includes "birthplace not stated".

Eight Leading Religious Denominations, Census Years 1901-41

Religious Denomination	1901	1911	1921	1931	1941
Roman Catholic	2,229,600	2,833,041	3,389,626	4,285,388[1]	4,986,552[2]
United Church of Canada	—	—	8,728	2,017,375	2,204,875
Anglican	681,494	1,043,017	1,407,780	1,635,615	1,751,188
Presbyterian	842,531	1,116,071	1,409,406	870,728[3]	829,147[3]
Baptist	318,005	382,720	421,730	443,341	483,592
Lutheran	92,524	229,864	286,458	394,194	401,153
Jewish	16,401	74,564	125,197	155,614	168,367
Greek Orthodox[4]	15,630	88,507	169,832	102,389	139,629

[1] Includes 186,654 Greek Catholics. [2] Includes 185,657 Greek Catholics. [3] These are the "continuing Presbyterians" who did not join with the Methodists and Congregationalists to form the United Church of Canada in the 1920's. [4] Greek Orthodox and Greek Catholics combined under the term Greek Church in 1921; in the Censuses of 1931 and 1941, Greek Catholics are included with Roman Catholics.

Eight Leading Religious Denominations, by Provinces, 1941

Province or Territory	Roman Catholic[1]	United Church of Canada	Anglican	Presbyterian	Baptist	Lutheran	Jewish	Greek Orthodox
P.E.I.	42,743	24,005	5,739	14,724	5,443	45	18	10
N.S.	188,944	124,301	103,393	47,415	89,272	9,104	2,167	347
N.B.	220,454	63,268	55,155	15,382	88,766	870	1,196	85
Que.	2,894,621	100,196	162,056	56,086	12,303	7,081	65,683	12,040
Ont.	882,369	1,073,425	815,413	433,708	192,915	104,111	69,217	28,383
Man.	203,259	194,001	125,076	43,073	13,267	48,213	18,715	20,777
Sask.	243,734	230,495	117,674	54,856	19,460	104,717	4,076	37,699
Alta.	191,343	193,664	113,279	68,910	32,268	84,630	4,052	34,991
B.C.	113,282	200,817	245,531	94,300	29,780	41,772	3,235	5,198
Yukon	742	404	2,545	422	75	368	2	67
N.W.T.	5,061	299	5,327	271	43	242	6	32
Canada	**4,986,552**	**2,204,875**	**1,751,188**	**829,147**	**483,592**	**401,153**	**168,367**	**139,629**

[1] Includes Greek Catholics.

Annual Estimates of Population.—The exact statement of the population of Canada given at ten-year intervals by the Census is supplemented by estimates for intervening years. These are essential for the calculation of per

Baker Lake, N.W.T., lies nearly four hundred miles north of Churchill and has a population of seven whites and about twenty-five Eskimo. The Eskimo woman and her son are standing in front of their temporary igloo. Out of sight in her hood she carries an infant.

capita figures in production and trade, and particularly for use as a base in birth and death comparisons. At every census the previous post-censal data are adjusted to the newly recorded population figures.

Estimates of the Population of Canada, by Provinces, Intercensal Years, 1930-45

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000
1930....	88	514	406	2,825	3,386	689	903	708	676	13	10,208
1931....	88	513	408	2,874	3,432	700	922	732	694	13	10,376
1932....	89	519	414	2,925	3,473	705	924	740	707	14	10,510
1933....	90	525	419	2,972	3,512	708	926	750	717	14	10,633
1934....	91	531	423	3,016	3,544	709	928	758	727	14	10,741
1935....	92	536	428	3,057	3,575	710	930	765	736	16	10,845
1936....	93	543	433	3,099	3,606	711	931	773	745	16	10,950
1937....	93	549	437	3,141	3,637	715	922	776	759	16	11,045
1938....	94	555	442	3,183	3,672	720	914	781	775	16	11,152
1939....	94	561	447	3,230	3,708	726	906	786	792	17	11,267
1940....	95	569	452	3,278	3,747	728	900	790	805	17	11,381
1941....	95	578	457	3,332	3,788	730	896	796	818	17	11,507
1942[1]...	90	591	464	3,390	3,884	724	848	776	870	17	11,654
1943[1]...	91	607	463	3,457	3,917	726	842	792	900	17	11,812
1944[1]...	91	612	462	3,500	3,965	732	846	818	932	17	11,975
1945[1]...	92	621	468	3,561	4,004	736	845	826	949	17	12,119

[1] These estimates are subject to adjustment as later data are made available.

Aboriginal Races

Indians.—The Indians of Canada, whose affairs are administered by the Indian Affairs Branch of the Department of Mines and Resources, number 125,686 (according to a departmental census taken in 1944). The popular opinion that the race is disappearing is not in accordance with fact. Before the advent of the European, the number of Indians was undoubtedly larger, though there is little reliable information on the subject. The trend during this twentieth century, however, has been fairly steadily upward. The distribution among the provinces and territories is as follows: Prince Edward Island, 266; Nova Scotia, 2,364; New Brunswick, 2,047; Quebec, 15,194; Ontario, 32,421; Manitoba, 15,933; Saskatchewan, 14,158; Alberta, 12,441; British Columbia, 25,515; Yukon, 1,531; and the Northwest Territories, 3,816. These are the Indians under Federal administration. There are many others who, under the provisions of the Indian Act, have become enfranchised and have acquired full status of citizenship; these have ceased to be Indians under the law.

The rapid spread of civilization in Canada made it necessary to take effective measures to protect the moral claims of the Indians. As the various sections of the country were opened up, treaties were entered into whereby the Indians ceded to the Crown their aboriginal title and interest in the country, in lieu of which the Crown agreed to set aside adequate land reserves, to make cash grants, provide per capita annuities, give assistance in agriculture, stock-raising, hunting, trapping, etc., as particular circumstances might require, provide education for Indian children, and otherwise safeguard

Indian boys at British Columbia mission schools are given physical education under the provincial recreational organization.

the interests of the Indian population. Accordingly, reserves have been set aside for the various bands of Indians throughout the Dominion and the Indians located thereon are under the supervision of local agents of the Department of Mines and Resources. In addition to the agent, the local staff usually includes a medical officer, clerk, farming instructor, field matron, constable, stockman, etc., according to the special requirements of the agency.

The Government has undertaken a number of special projects for the various sections of the Indian population in accordance with their needs, including fur development enterprises in selected areas, the promotion of handicraft, and planned agricultural operations.

While the Department of Mines and Resources acts as the administrator of the affairs of the Indians, all matters in connection with their health were transferred to the Department of National Health and Welfare as of Nov. 1, 1945. The distribution of family allowances is conducted jointly by the two Departments.

Eskimos.—Eskimos in Canada are found principally north of the tree-line on the northern fringe of the mainland and around the coasts of many of the islands in the Arctic Archipelago and in Hudson Bay. Most of the Eskimo are essentially coastal dwellers, obtaining much of their food and clothing from the mammals of the sea. However, there are bands of Eskimo living in the interior of Keewatin District on the west side of Hudson Bay who are inland people, and who subsist chiefly on caribou.

The administrative care of the Eskimo, exclusive of medical services, devolves upon the Lands, Parks and Forests Branch of the Department of Mines and Resources, which, by regulative measures, conserves the natural resources necessary to their subsistence. The medical care and hospitalization of the Eskimo has been a function of the Department of National Health and Welfare since Nov. 1, 1945.

Contact with the Eskimo is maintained through permanent stations at a number of which medical officers are located—in the eastern, central, and

western Arctic; by patrols of the Royal Canadian Mounted Police; by radio-communication; by means of the annual Canadian Eastern Arctic Patrol by steamship; and by auxiliary motor vessels.

The Decennial Census of Canada in 1941 established the Eskimo population at 7,205, of which 5,404 were located in the Northwest Territories, 1,778 in northern Quebec, and the remainder, 23, in other provinces. Delayed returns received too late for inclusion in the Census, would raise the 1941 Eskimo population to a total of 7,639 of which 1,965 were located in northern Quebec.

★*Immigration*

The year 1913 witnessed the greatest immigration in Canada's history, 400,870 persons having been admitted in that year. The heavy movement that had existed between 1902 and 1914 was cut down severely between 1915 and 1918, and, while the figures were somewhat higher during the 1920's, beginning with 1931 they were the lowest since 1893.

During the year ended Mar. 31, 1946, a total of 31,081 immigrants entered Canada. This figure was a substantial increase over the 15,306 immigrants entered in 1945, the 9,040 in 1944 and the 17,128 in 1939. Before the outbreak of war, Canada had been going through a period of restricted immigration and the change in trend which commenced in 1942 was due mainly to the movement to Canada of dependents of the Armed Forces and not to any fundamental change in immigration policy. From 1942 to Mar. 31, 1946, 24,018 dependents, comprising 16,169 adults and 7,849 children, were admitted to Canada. In January, 1942, provision had been made to furnish these dependents with free transportation from their home in the country of residence to destination in Canada, and by Order in Council of Sept. 21, 1944, immediately on their admission to Canada they acquire the same immigration status as the head of the family.

Of the 31,081 immigrants to Canada in 1945-46, 20,162 were English, Scottish, Irish and Welsh from overseas, as compared with 9,943 and 4,278 in 1944-45 and 1943-44, respectively; 7,454 were from the United States, as compared with 4,624 and 4,441, respectively; and 3,465 were from other countries, as compared with 739 and 321, respectively.

A movement not included in the immigration statistics is that of Canadians returning to Canada from the United States after having left Canada to reside in that country. Such persons numbered 2,895 in the year ended Mar. 31, 1946, as compared with 2,304 in the previous year.

Although tourists entering Canada are not immigrants, their admission calls for an immigration examination at the International Boundary and at ocean ports. In 1945-46 the number of entries in this class totalled (in round numbers) 28,921,000, made up of 17,827,000 tourists, etc., 11,091,000 residents returning and 3,000 Canadians returning after residence in the United States. Comparable figures for the previous year were: 12,699,000 tourists, etc., 8,560,000 returning residents and 2,000 returned Canadians, making a total of 21,261,000.

★*Vital Statistics*

Canada has had a national system of vital statistics since 1926, organized by the Dominion Bureau of Statistics in collaboration with the Registration Officials of the provinces.

National Vital Statistics Index.—At a Dominion-Provincial Conference on Vital Statistics in September, 1944, it was decided that the Dominion and the provinces would collaborate in the creation of a National Vital Statistics Index for Canada. This index is to be used collectively by the several governments in the verification of births, stillbirths, deaths and marriages. Modern mechanical methods including microfilm and punch-card equipment are being synchronized. The former permits the rapid transmission of photographic copies of the events registered in the provincial vital statistics offices to the Dominion Bureau of Statistics. In setting up the National Index and for the analysis of the statistical facts, mechanical tabulation processes are being applied to the material on a uniform basis at the Bureau.

Vital Statistics Council.—A Vital Statistics Council for Canada was established by Order in Council to facilitate co-operation between Dominion and Provincial Governments with respect to the use of vital records and statistics, and to ensure the creation and maintenance of a system that is adequate to meet increasing demands both for Dominion and provincial purposes. The Dominion Statistician is the Chairman, and the Council comprises one representative for each province, one for Yukon and the Northwest Territories and the Chiefs of Vital Statistics and Census Branches in the Dominion Bureau of Statistics.

Implementing an agreement between the Dominion and the provinces, tabulations of births and deaths are being made on the basis of place of residence rather than place of occurrence, as from Jan. 1, 1944.

Births, Deaths and Marriages in Canada

Province	Births			Deaths			Marriages		
	1945[1]		Av. 1926-30	1945[1]		Av. 1926-30	1945[1]		Av 1926-30
	No.	Rate per M.	Rate per M.	No.	Rate per M.	Rate per M.	No.	Rate per M.	Rate per M.
Prince Edward Is.	2,252	24·5	19·7	880	9·6	11·0	681	7·4	5·4
Nova Scotia	15,535	25·0	21·4	5,624	9·1	12·4	5,993	9·7	6·3
New Brunswick	13,676	29·2	25·8	4,679	10·0	12·5	4,484	9·6	7·4
Quebec	104,244	29·3	30·5	33,348	9·4	13·5	32,709	9·2	6·9
Ontario	78,871	19·7	21·0	39,388	9·8	11·2	34,132	8·5	7·8
Manitoba	16,231	22·1	21·7	6,517	8·9	8·3	6,560	8·9	7·5
Saskatchewan	18,898	22·4	24·7	6,370	7·5	7·3	6,348	7·5	7·0
Alberta	19,849	24·0	24·2	6,423	7·8	8·4	7,311	8·9	8·0
British Columbia	18,842	19·9	16·2	9,737	10·3	9·3	9,260	9·8	7·5
Canada[2]	**288,398**	**23·8**	**24·1**	**112,966**	**9·3**	**11·1**	**107,478**	**8·9**	**7·3**

[1] Preliminary figures. [2] Exclusive of Yukon and the Northwest Territories.

72235—5

Diphtheria toxoid is given to school children with the consent of their parents.

Births.—From 1926 to 1930 the number of births showed an upward trend, rising from 232,750 to 243,495. This movement was then reversed until 1937 when the number of births reached its lowest point at 220,235. In 1938 it increased again and in 1939 was 229,468. Because of the growing population, the rate of births per 1,000 population showed a steeper decline, falling from 23·9 in 1930 to 20·0 in 1937. In 1938 it rose slightly to 20·6 and in 1939 it was 20·4.

The influence of the War on Canadian births is reflected in the sharp increase that has taken place since 1939. In 1941 the number of births was 255,224 and the rate 22·2. In 1943 the number was 283,423 and the rate 24·0; this is the highest birth rate recorded since 1928. The preliminary figures for 1945 show 288,398 births and a rate of 23·8.

Deaths.—The annual death rate in Canada averages less than 10 per 1,000 population, which is fairly low in comparison with other countries of the world.

The ten leading causes of death accounted for over 75 p.c. of the total deaths in Canada in 1944. "Diseases of the heart", considered as a group, was the most important cause; cancer was second. The death rate from cancer has

advanced almost every year from 1926 to 1944, the increase in that period being from 80·7 to 119·3 per 100,000 population. This increase in cancer deaths is rather misleading, being due in part to improvement in diagnostic and X-ray techniques which enable the causes of death to be identified, instead of being attributed to other or unknown causes, but mainly to the ageing of the Canadian population. Pneumonia, which was in third place in 1926 with a rate of 89·3 per 100,000 population dropped in 1944 to seventh place with a rate of 49·7.

Maternal Mortality.—The average rate for the five-year period 1926-30 was 5·7 per 1,000 live births. Since that time there has been a marked improvement. The rate decreased to 4·0 in 1940 and reached the low figure of 2·3 in 1945.

Infant Mortality.—In Canada during recent years this rate has shown a substantial reduction, falling from 102 per 1,000 live births in 1926 to 60 in 1941 and 54 in 1942 and 1943. In 1945, the rate was 51 per 1,000.

Infant Deaths and Death Rates in Canada

Province	Infants under One Year					Rates per 1,000 Live Births				
	1926	1942	1943	1944	1945 [1]	1926	1942	1943	1944	1945 [1]
Prince Edward Is.	123	106	98	102	100	70	50	45	45	44
Nova Scotia	882	884	898	838	822	80	58	58	54	53
New Brunswick	1,095	978	886	1,035	929	106	77	68	77	68
Quebec	11,666	6,657	6,642	6,918	6,462	142	70	67	68	62
Ontario	5,302	3,139	3,390	3,346	3,206	78	40	42	43	41
Manitoba	1,122	807	909	786	775	77	51	55	49	48
Saskatchewan	1,681	788	873	858	805	81	43	47	47	43
Alberta	1,233	696	810	889	853	85	38	42	46	43
British Columbia	588	596	711	767	789	58	35	38	40	42
Canada[2]	**23,692**	**14,651**	**15,217**	**15,539**	**14,741**	**102**	**54**	**54**	**55**	**51**

[1] Preliminary figures. [2] Exclusive of Yukon and the Northwest Territories.

Natural Increase.—In 1926 the rate of natural increase was 13·3 per 1,000 population. During the early 1930's, when the birth rate was declining rapidly, the death rate was also declining, but more slowly. In 1939, the death rate was 9·7, and the rate of natural increase 10·7. Since the War, the natural increase rate has, of course, risen substantially. It was 12·2 in 1941, 14·0 in 1943 and, according to the preliminary figures, it stood at 14·5 in 1945.

Marriages.—In 1929 marriages in Canada numbered 77,288. They had increased steadily since 1926. The depression exercised a marked influence on marriages and the marriage rate, causing a steep downward movement until 1932, when the number of marriages was 62,531. From 1933 to 1940 a steady and pronounced increase took place, so that in 1940 marriages numbered 123,318. In 1942 marriages numbered 127,372, and the rate per 1,000 population was 10·9; this is the highest Canadian marriage rate on record. Since then, the number and rate have declined somewhat, being 107,478 and 8·9 per 1,000 population, respectively, in 1945.

72235—5½

Western
Wheat

Agriculture

★ *War and Post-War Agriculture*

TO-DAY, Canada needs less than one-quarter of her population to operate her farms. According to the 1941 Census, the farm population of almost 3,200,000 people lives on 733,000 farms. These farms include 175,000,000 acres of which 92,000,000 are improved. Most of the more readily available agricultural land is now occupied. Any further increase in cultivated acreage must either be developed on, or beyond, the fringe of settlement or by intensive improvement through clearing, drainage, irrigation, weed control, etc., of occupied land.

Mechanization has increased rapidly with the Prairie Provinces taking the lead. Mechanization has resulted in greater production per farm worker and per acre. To-day, the average Canadian farm worker, with the use of machines and science, works about 85 acres of improved land. Farmers who have suffered severely by short growing seasons, dry weather, rust, smut and other hazards, have been given a fresh chance by new plants such as hybrid corn, Marquis, Thatcher, Renown and Redman wheats, sawfly-resistant wheat (Rescue), crested wheat grass, rust and smut-resistant oats. Powerful new pest eradicators, such as hormone-like "2·4D" weed killer and D.D.T. insect killer, are being developed by chemists.

Agriculture during the War Years.—Canadian farmers operating a $5,000,000,000 industry during the war years 1940-45, produced annually $1,500,000,000 worth of farm products, exceeding the annual output of the 1930's (depression and drought) and of the 1920's. The annual net value of agricultural production reached an all-time high of $1,600,00,000 in 1942. During the war years, farmers made important contributions to the common cause by producing, in ever-increasing quantities, foodstuffs needed to nourish the people at home, the troops overseas, and the soldiers and civilians in Britain and Allied countries.

This record production was not a matter of chance but was achieved as a result of a policy designed to provide both security and guidance to farmers. Security resulted from the agreements covering the sale of farm products for one or more years in advance and through the provision of floor prices for agricultural produce. Guidance came from the yearly production programs,

formulated by Dominion and Provincial Departments of Agriculture in consultation with the representatives of organized farmers, and based on the current stock situation, known needs of the domestic market, external commitments and probable world needs in general.

The principal agricultural adjustment problem of the War was to reduce the production of wheat, to increase the production of feed grains, and to step-up the output of live stock, live-stock products and certain other commodities in short supply. It is estimated that total production during the 1940-45 period increased over the immediate pre-war years by approximately 50 p.c. Output of live stock and live-stock products showed the greatest relative increase and by 1944 marketings of cattle, hogs, and sheep and lambs were up 29 p.c., 139 p.c., and 40 p.c., respectively, over the immediate pre-war year 1939; production of milk and eggs increased approximately 11 p.c. and 63 p.c., respectively, during the same period. In 1945 and 1946, marketings of live stock showed a decline.

Of equal importance with the increase in total output was the change in the pattern of production. On the prairies the numbers of live stock expanded rapidly. Coarse grains were grown in place of wheat, but a return to wheat production occurred in 1945 and 1946. A greater acreage was planted in oil-bearing crops. In Ontario and Quebec, the great dairy-production areas of Canada, the outstanding features in the wartime utilization of milk were the marked increase in fluid sales and the greater output of cheese and concentrated milk, largely for export. There was a moderate increase in creamery butter output but a marked decline in dairy butter. In the Maritimes the shift was to live stock. The Province of British Columbia expanded its seed-growing industry.

Canadian exports were modified by such temporary conditions as the disruption of trading relations between countries, the particular importance of shipping space to distance, and mutual aid. Total value of exports of all products of farm origin in 1945 amounted to over $1,000,000,000, an increase of almost 240 p.c. over the total exported in 1939. During the war years, Canada exported almost 3,000,000 tons of agricultural produce other than cereals. In addition, enormous quantities of wheat and flour were exported, averaging, in terms of wheat, 1,000,000 bu. a day for each working day over the past three years.

One of the great positive measures of Canadian war policy was the Mutual Aid Act. The essential feature of the mutual aid legislation, like that of the Lend-Lease Act in the United States, was to facilitate the transference to other Allied Nations of food and war supplies needed in the prosecution of the War.

The farm physical plant increased in size only to a limited extent. The increase in live-stock inventory was great, and in crop inventory, moderate. There were practically no increases in buildings. Land values went up, the average value per acre of occupied farm land rising from $25 in 1939 to $30 in 1945. Farmers bought almost $300,000,000 worth of machinery and implements in the 1940-44 period. Lack of adequate supplies prevented even greater purchases.

The farm business, as a whole, despite its response to wartime activities, was conservatively managed in the war period. Farmers borrowed less than they did during the previous war. They used their increased incomes to pay their debts and to put their businesses in a generally stronger position. During

Orchard and garden land near St. Catharines, Ontario. On the right is a vineyard.

the years between 1939 and 1944 farmers reduced their total indebtedness by an estimated $326,000,000 or 32 p.c. Each of the provinces showed a substantial reduction, the greatest decrease occurring on the prairies.

Many major changes in farm organization during the war period were made by farmers as a result of labour shortages. The farm operator worked harder—more hours per day. Operators nearing the normal retiring age stayed on. Increased use was made of power machinery and equipment, fertilizers and better varieties of seeds. Wartime conditions stimulated improved methods of getting the most done with each machine, and training programs assisted less skilled labour to make better use of the newer types.

The influence of wartime buying and of credit expansion incidental to war financing was felt by agriculture, though this influence was modified by the restraints of the price stabilization and control program. As usual, while war was in full blast, the stimulating forces predominated. Between 1939 and 1944, Canadian national income increased by an estimated $5,500,000,000, or an increase of about 129 p.c. Cash farm income increased from $765,800,000 in 1940 to a wartime high of $1,800,000,000 in 1944.

The complex problems of organizing supplies, administering price policy, guiding agricultural production, conserving farm supplies and providing for equitable distribution of agricultural commodities at home and abroad, resulted in the formation of boards and committees and the appointment of co-ordinators and administrators.

The formulation of policy rested with the Cabinet and Parliament. The Departments of Agriculture, Finance, Trade and Commerce, and Labour, were assigned the task of putting into action the policies laid down. In broad terms, the Department of Agriculture was responsible for the maintenance of production; the regulation of marketing and the enforcement of quality standards; the Department of Finance was responsible for prices and distribution; Trade

and Commerce was responsible for the marketing of wheat specifically, for matters having to do with export*; and the Department of Labour was responsible for the allocation of workers. The first three Departments co-operated in the determination of production and price policies. To facilitate the carrying out of its responsibilities, the Department of Agriculture set up the Agricultural Supplies Board, the Agricultural Food Board, the Meat, Dairy Products and Special Products Boards, and appointed a number of administrators; the Department of Finance set up the Foods Administration under the Wartime Prices and Trade Board; and the Department of Trade and Commerce acted through the Canadian Wheat Board, the Export Permit Branch and the Canadian Shipping Board. In the Department of Labour, the National Selective Service had the direct responsibility for the allocation of farm labour.

In addition to the agencies mentioned above, a number of over-all committees were appointed to co-ordinate war production programs. Advisory committees, consisting in the main of representatives of the farmers and the trade, were named to work with some of the wartime boards. The Canadian Federation of Agriculture, a national federation of provincial, interprovincial and national organizations of agricultural producers, had a voice in the formation of these advisory committees on which agriculture is represented either by Federation members or Federation nominees.

In the international field, Canadian agriculture was represented by membership on the Combined Food Board and its various committees at Washington. To deal with allocations at the policy making level, an interdepartmental group, known as the Food Requirements Committee, was established. As between the United States and Canada, co-ordination of production was aided by the adoption of policies recommended by joint agricultural and economic committees.

In the administration of policies affecting agriculture, Dominion authorities had the generous support of provincial departments and colleges of agriculture. This was effected through frequent conferences, the development of agricultural objectives and by other means. In carrying the program to farmers and to those engaged in the marketing of products, the various farm and trade organizations, particularly the Canadian Federation of Agriculture, played an important part. Advisory committees on which representatives of these bodies served were effective in aiding the development of sound policies and in ensuring their acceptance.

The enumeration of these various means of regulating the Canadian economy in wartime suggests a high degree of regimentation and control. It is true that control was exercised, and effectively too, in the matter of prices. There was also some direction—and there were certain restrictions—in the matter of marketing and distribution. But so far as the production activities of the individual farmer were concerned, there was no regimentation. Farmers were free to operate their farms as they saw fit. They were influenced in their decisions, however, by Government policies and programs made effective

* Due to war conditions, the Dominion Department of Agriculture supervised the export of agricultural products under contract; for example, bacon, beef, cheese, evaporated milk, eggs, and certain fruits and vegetables.

through subsidies, minimum prices and assistance in various forms. To these incentives the response, both as regards adjustments and volume of output, was very great.

Post-War Agriculture.—In the first post-war year, wartime production levels were, to a large extent, maintained. Farm prices continued their upward trend, while domestic and export demand for farm produce remained strong. Between September, 1945, and July, 1946, there was a 6 p.c. increase in prices received by farmers for their products. As conditions permitted, the Canadian economy as a whole was being freed from controls imposed during the war years. By the end of September, 1946, the Dominion Department of Agriculture had ceased payment of subsidies on milk for fluid use and for evaporated milk; on beans, canning crops and berries for jam, as well as on the transportation of fertilizer. In turn, the Wartime Prices and Trade Board had allowed certain upward adjustments in the price ceiling.

One of the most important developments during the War, as regards the export of farm products, was the setting up of definite contractual relations between Canada and the United Kingdom. These contracts or agreements covered shipments of such foods as cheese, evaporated milk, bacon, beef, eggs, vegetable and fruit products. In the contracts, minimum or maximum amounts to be taken by the United Kingdom, the price to be paid, the period of delivery, and the quantity were stated. In many cases, as the need arose or as shipping

Canadian-grown wool is playing an ever-increasing part in textile production. Wool is inspected and graded according to Government standards before being washed and combed.

became available, the United Kingdom bought products not covered by agreement or contract. Prior to 1944, agreements for food shipments between Canada and the United Kingdom were for one-year periods.

This contractual arrangement is being continued in the post-war period. The United Kingdom and Canada have food agreements for wheat, bacon, beef, cheese, evaporated milk, eggs, poultry and fibre flax. Recently a four-year wheat agreement (1946-50) between Canada and the United Kingdom was consummated. Under this agreement, Canada will sell to the United Kingdom, during that period a total of 600,000,000 bu. of wheat (*see* also p. 72).

Regarding other products, the agreements can be summarized briefly as follows: Bacon—for the period Jan. 1, 1946, to Dec. 31, 1947, a minimum of 800,000,000 lb.; Beef—for the calendar year 1946, at least 60,000,000 lb. and for the calendar year 1947, 120,000,000 lb. (bone-in basis); Eggs—for the calendar year 1946, at least 83,000,000 doz. and for the period Feb. 1, 1947, to Jan. 31, 1949, about 156,000,000 doz.; Poultry—for the calendar year 1946, up to 12,500,000 lb.; Cheese—for the period Apr. 1, 1946, to Mar. 31, 1948, 250,000,000 lb.; Evaporated milk—for the period Apr. 1, 1946, to Mar. 31, 1948, 1,200,000 cases. Out of the 1946 crop, fresh apples, canned and evaporated apples, fruit pulp, and dried beans and peas were shipped to the United Kingdom. The Provinces of Nova Scotia and British Columbia furnished the bulk of the apple exports (*see* p. 82).

Although long-term food contracts for export have been signed, Canadian farmers will need to lay great stress on quality to maintain export markets.

Celery on a Western Ontario farm being harvested by Toronto high-school pupils.

They will also need to maintain high efficiency to compete with farmers of other exporting nations. Science has made rapid progress during the war period and farmers cannot afford to ignore the contributions of the scientific investigators as applied to their field. Likewise, in the field of marketing and distribution of farm products, science again plays a part. Canadian farmers are fortunately well served by the facilities of the Dominion and Provincial Departments of Agriculture and by the universities and other research agencies, but these facilities should be used to the fullest possible extent.

While there is every indication of an assured market for Canadian farm produce for some time to come, steps have been taken to prevent any serious slump in prices as a result of the discontinuance of wartime subsidies and bonuses. Provision has been made through the Agricultural Prices Support Act to take care of any subsidies that may become necessary during the transition period from a wartime to a peacetime basis. This Act has been designed to prevent price collapse of farm products and to assist in maintaining adequate and stable returns for agriculture. The Agricultural Prices Support Board appointed under the Act will have powers to buy and sell any farm product except wheat, and thus establish a level of price below which no one need sell. Moreover, the Board is empowered to pay subsidies in order to maintain domestic and export prices at similar levels, thereby avoiding the objection of dumping surpluses and inviting retaliation from the country in which the product is dumped. Benefits arising from the Unemployment Insurance Fund and the Family Allowance payments will contribute to maintaining the demand for farm products at good prices.

One of the first steps taken by Parliament to assure to some extent a maintenance of export trade was the passing of the Export Credit Act, 1944.* This Act is designed to insure against risk and loss, persons engaged in export trade, and also to furnish credits to further such trade.

To provide adequate farm credit, the Canadian Farm Loan Board at present carries on lending operations throughout Canada. The purposes for which loans may be granted are for farm improvements, including the erection of buildings, the purchase of live stock and equipment, farm operating expenses, purchase of farm lands and the refinancing of existing farm indebtedness. Second mortgage loans cannot be made for the purpose of purchasing farm lands. On new loans made after Apr. 1, 1945, the rate of interest on first mortgages is 4½ p.c. per annum with a rate of 5 p.c. in arrears; on second mortgage loans, the rate of interest is 5 p.c. per annum on indebtedness, current and on arrears.

To provide intermediate term credit, the Dominion Parliament amended the Bank Act (Aug. 9, 1944) and passed a "companion" Act, the Farm Improvement Loans Act, 1944 (Aug. 9). A synopsis of this Act is given in the Construction Chapter at pp. 188-189.

Land conservation activities are being continued under the Prairie Farm Rehabilitation Act. The Act was passed in April, 1935, "to provide for the rehabilitation of drought and soil-drifting areas in the provinces of Manitoba, Saskatchewan and Alberta". Emphasis was placed upon assistance to farmers in the development of water supply and improved farm practices. Under the

* An Act to incorporate the Export Credit Insurance Corporation and to promote the revival of trade by the provision of Dominion Government guarantees to encourage exports from Canada.

terms of this Act the Minister of Agriculture was authorized to introduce throughout the affected area those "systems of farm practice, tree culture, and water supply that will afford greater economic security" to the agricultural population. By an amendment to the Act in March, 1937 (1 Geo. VI, c. 14), "land utilization and land settlement" were included as additional objectives, while a later amendment in March, 1939 (3 Geo. VI, c. 7), removed the original five-year limit to the life of the Act. In 1941 the Minister of Agriculture was authorized to purchase land.

In accordance with the terms and intentions of this Act there has been organized, throughout the drier regions of the Prairie Provinces, comprising over 400,000 square miles located in southwestern Manitoba, southern Saskatchewan and southeastern Alberta, a rehabilitation program which has as its main objective the adjustment of prairie agriculture to new conditions imposed by the severe droughts of the 1930-37 period and by depressed conditions affecting western grain production since 1929. This rehabilitation program covers three main phases of work: (1) Water development; (2) Land utilization, directed from the Prairie Farm Rehabilitation Office in Regina, Sask.; and (3) Investigations of cultural practices under the Dominion Experimental Farms Service. In addition, considerable research in the economics of land use adjustments has been carried out. During 1946, construction work was started on the St. Mary River Project in Alberta.

The main forms of financial assistance provided at the present time by the Dominion Government to farmers for housing purposes include: the Canadian Farm Loan Board outlined above; the National Housing Act, and the Farm Improvement Loans Act, dealt with at pp. 186-189; and the Veterans' Land Act, dealt with at p. 218.

★*Agricultural Statistics*

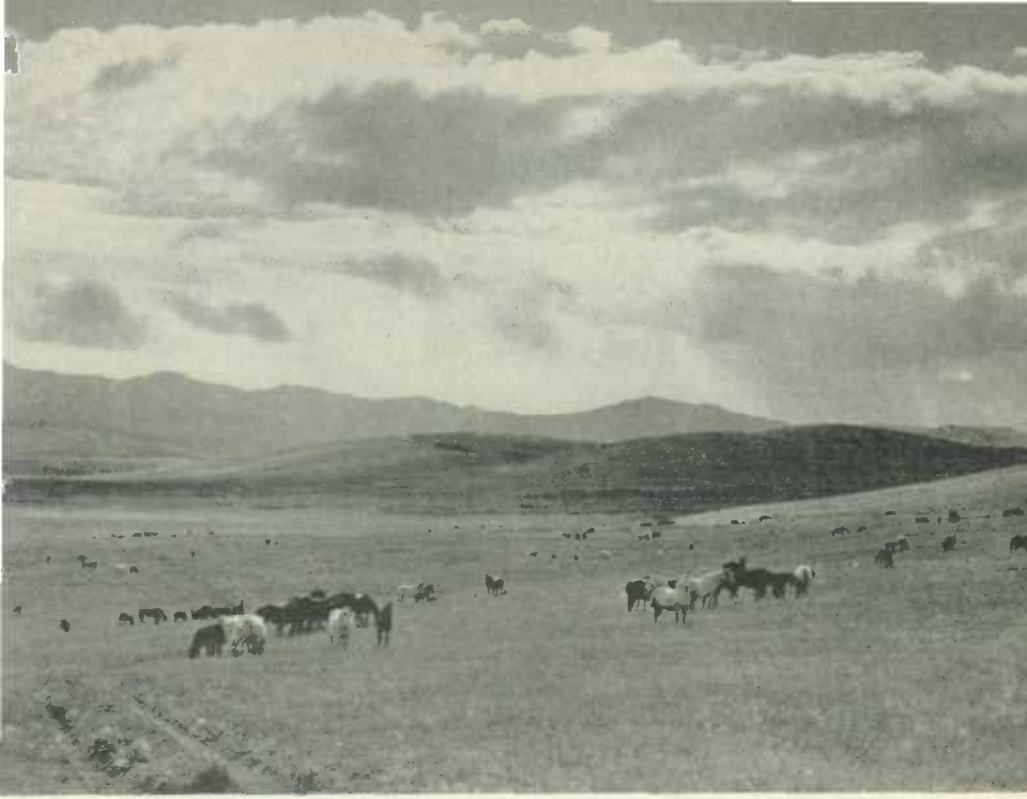
Income of Farm Operators from Farming Operations

Net income of farm operators from farming operations (gross income including supplementary payments less operating expenses and depreciation charges) amounted to $1,004,299,000 in 1945. This showed a substantial decrease of $223,243,000 from the record high of 1944. Although 1945 was $14,233,000 above the figure for 1943, it was about $100,000,000 below that for 1942.

Higher prices for farm products were maintained, but a decrease in livestock production and lower grain yields resulted in the reduced income of 1945.

Cash income from the sale of farm products, which has increased consistently in recent years, declined in 1945 from the recorded high of $1,826,-

Sugar beets being grown in the irrigation district of Alberta.



Horses on an Alberta ranch. Canadian horses are in great demand in European countries and are being sent overseas in large numbers.

493,000 in 1944. The value of farm products consumed on farms has risen steadily as a result of higher prices and the increased consumption of milk, eggs, meats, vegetables and forest products. The gross income did not rise as steadily, nor did it reflect as large increases as the cash income. Much of the increase in the cash income from 1942 to 1943 was the result of sales of

Net Income of Farm Operators from Farming Operations in Canada, 1942–45

Item	1942	1943	1944	1945[1]
	$'000	$'000	$'000	$'000
Cash income	1,100,942	1,409,561	1,826,493	1,685,846
Income in kind	230,278	262,247	275,741	285,967
Value of changes in inventory	+368,208	−61,878	−126,175	−233,652
Gross income	1,699,428	1,609,930	1,976,059	1,738,161
Operating expenses and depreciation charges	616,776	656,926	753,688	750,592
Net income excluding supplementary payments	1,082,652	953,004	1,222,371	987,569
Supplementary payments	21,717	37,062	5,171	16,730
Net income of farm operators from farming operations	1,104,369	990,066	1,227,542	1,004,299

[1] Preliminary.

Canadian grain is sampled, inspected and tested by Government inspectors.

grain held in store on farms from the heavy crop of 1942. For the net income calculations, these sales are credited to the year 1942 by taking into account values of changes in inventory of live stock and grain on farms. Very heavy sales of wheat resulted in the high cash income of 1944.

Gross income for 1945 was 2 p.c. higher than 1942, but showed a decrease of 12 p.c. or $237,898,000 from 1944. Farm operating expenses and depreciation charges increased 22 p.c. from 1942 to 1944, then dropped 0·4 p.c. in 1945. Net income, excluding supplementary payments, in 1945 was 9 p.c. lower than 1942 and 19 p.c. below the 1944 figure of $1,222,371,000. With supplementary payments included, it was 18 p.c. below 1944.

Supplementary payments comprise the amount paid under the Prairie Farm Assistance Act, the Prairie Farm Income Act and the Wheat Acreage Reduction Act, and are included in the year in which they were earned. These payments amounted to nearly $22,000,000 in 1942. Favourable yields, especially of wheat, and higher prices reduced payments in 1944 to about $5,000,000, but they increased in 1945 to approximately $17,000,000 because yields were lower.

Net income in the Eastern Provinces and British Columbia was higher in 1945 than in 1942, whereas for the Prairie Provinces it was lower. Net income for all provinces rose from 1942 to 1943, with the exception of Saskatchewan and Alberta. Decreases were recorded in 1944 for the Maritimes and British Columbia, while from 1944 to 1945 declines occurred in all provinces except Prince Edward Island, Ontario and British Columbia.

Cash Income from the Sale of Farm Products

Annual estimates of cash income from the sale of farm products represent the gross returns from all products sold off farms valued at prices received by farmers. The estimates include bonuses or subsidies paid by the Dominion or Provincial Governments to farmers for the production of the commodities subsidized. They do not include payments made under the Prairie Farm Assistance Act, the Prairie Farm Income Act and the Wheat Acreage Reduction Act.

Increased production, together with higher prices, have raised farm cash income substantially in the past few years; 1945, however, showed a decrease owing to reduced marketings, particularly in the Prairie Provinces, of wheat, barley and hogs. Although farm cash income for the first six months of 1946 was lower than the same period for 1945, favourable yields in the west and a higher initial price for wheat, together with indications for good crops in the other provinces, may raise the 1946 farm cash income to the 1945 level.

Cash Income from the Sale of Farm Products, by Provinces, 1942–45

Province	1942	1943	1944	1945
	$'000	$'000	$'000	$'000
Prince Edward Island	11,171	14,060	13,659	16,394
Nova Scotia	21,577	25,692	27,905	26,042
New Brunswick	25,178	31,373	33,320	35,094
Quebec	174,306	200,310	221,026	227,959
Ontario	355,976	385,946	404,089	449,277
Manitoba	103,422	146,112	176,693	153,401
Saskatchewan	195,825	327,634	543,760	414,845
Alberta	168,887	220,447	338,027	289,125
British Columbia	44,600	57,987	68,014	73,709
Totals	**1,100,942**	**1,409,561**	**1,826,493**	**1,685,846**

Farm Labour

Farm wage rates in Canada continued in 1946 the upward trend that has been evident since the beginning of the War. Average wages of farm help at Aug. 15, 1946, with board, for all Canada, were slightly over $75 per month. This was more than twice the wages reported being paid per month at Aug. 15, 1940, when the average rate for all Canada was approximately $36. Return of service personnel has not greatly alleviated the farm labour situation. Industrial employment continues at a high level and farm labour is expected to be in short supply for some time, though this shortage will be alleviated to some extent by greater mechanization as farm equipment becomes available.

Food Consumption

While certain foods have been under ration or available only in limited supply, the over-all rate of civilian consumption in Canada has been maintained in the war and post-war years at a level considerably above the 1935-39 average. This has resulted, in part, from the sharply increased demand due to higher incomes of the consuming public and, in part, from the substantial increase in indigenous agricultural production. However, with the decline in production of meats and dairy products particularly, it has been necessary to reinstitute or retain rationing of some of these products since the War ended.

Field Crops

Wheat.—An urgent demand from the war-ravaged countries of Europe and the Far East, together with a guarantee of $1·25 per bu. for No. 1 Northern at the Lakehead during the 1946-47 season encouraged farmers to expand the Canadian wheat acreage to 25,900,000 acres in 1946, 2,485,900 acres higher than in 1945 and the largest acreage since the record figure of 28,726,200 acres in

1940. The Prairie Provinces, which accounted for approximately 97 p.c. of the total Canadian wheat acreage in 1946, seeded 25,178,000 acres as compared with 22,566,000 acres in 1944. This represents an increase of 12 p.c. in 1946 with all three of the Prairie Provinces contributing substantially to the higher acreage.

More favourable weather conditions, particularly in the Prairie Provinces, contributed towards an increased outturn per acre in 1946 with the average wheat yield estimated to be 16·2 bu. per acre, about 3 bu. above the 1945 yield and only fractionally higher than the long-time average. According to the second estimate of Canada's 1946 wheat crop, total production was placed at 418,758,000 bu. as compared with 318,459,000 a year earlier. Production in the Prairie Provinces amounted to 398,000,000 bu. as against 294,547,000 bu. in 1945. The 1946 crop included 9,900,000 bu. of Durum wheat, of which 4,100,000 bu. were produced in Manitoba and 5,800,000 bu. in Saskatchewan. Ontario, which contains the only substantial wheat acreage in Canada, outside of the Prairie Provinces, produced a total of 17,107,000 bu. of wheat in 1946. All but 836,000 bu. of this total was winter wheat. When the present crop is combined with the carry-over of 69,858,181 bu. at July 31, 1946, the total supply of wheat for the crop year 1946-47 amounts to 488,616,181 bu., which is 75,368,649 bu. less than for 1945-46 and is the smallest total supply since 1938.

The season of 1945-46 was highlighted by two very important developments which occurred at the close of the crop year and will have a direct bearing on the Canadian wheat industry for the next four years. The first event is concerned with the Canada-United Kingdom wheat agreement which became effective Aug. 1, 1946, and will extend for the next four crop years. Under this agreement Canada will sell to the United Kingdom during that period a total amount of 600,000,000 bu. of wheat. During each of the first two years, 160,000,000 bu. will be provided at a fixed price of $1·55 per bu., basis in store Fort William-Port Arthur, Vancouver or Churchill. The United Kingdom during each of the last two years of the agreement will accept 140,000,000 bu. of wheat at a price not less than $1·25 per bu. in 1948-49 and not less than $1 per bu. in 1949-50, basis in store Fort William-Port Arthur, Vancouver or Churchill. The actual prices to be paid during the 1948-49 and 1949-50 seasons will be negotiated and settled not later than the Dec. 31 immediately preceding the crop year for which it is effective. Any additional quantities of wheat that may be required by the United Kingdom and that the Canadian Government is prepared to make available shall be subject to the provisions of this agreement.

The second event was the announcement on July 30, 1946, of a new price policy concerning the initial payment for wheat to farmers in Western Canada. Retroactive to Aug. 1, 1945, and continuing until July 31, 1950, these initial payments have been raised from $1·25 to $1·35 per bu., basis No. 1 Northern in store Fort William-Port Arthur or Vancouver. After participation payments have been completed for the 1943 and 1944 wheat crops and after the 10-cent payment on the 1945 crop has been made to bring the initial payment up to $1·35 per bu., all the remaining surplus from that crop, along with the surpluses from the succeeding four crops of 1946, 1947, 1948 and 1949 will be placed in a five-year pool. Participation certificates will be issued in the usual way, but the payment on these certificates will not be made until after the conclusion of the five-year pool at July 31, 1950.

At the same time it was announced that, with the exception of the United Kingdom which is a contract country, the fixed export price of $1·55 to non-contract countries would be raised and an attempt would be made to sell at prices roughly corresponding to those of the other principal supplier, now the United States. Furthermore, it was stated that the domestic price of wheat would be continued at $1·25 per bu., with the Government assuming carrying costs on the amounts of wheat used domestically. The Government will continue to pay a drawback to millers covering the difference between 77⅞ cents and $1·25 per bu. on wheat used in Canada for human consumption.

Production, Imports and Exports of Wheat for Canada, 1930-46

NOTE.—Wheat flour has been converted into bushels of wheat at the uniform average rate of 4½ bu. to the barrel of 196 lb. of flour.

Year	Production	Imports of Wheat and Flour[1]	Exports of Wheat and Flour[1]
	'000 bu.	bu.	bu.
1930	420,672	244,221	258,693,887
1931	321,325	216,328	207,029,555
1932	443,061	173,014	264,304,327
1933	281,892	413,165	194,779,875
1934	275,849	896,674	165,751,305
1935	281,935	291,510	254,424,775
1936	219,218	403,396	195,223,653
1937	180,210	6,138,819	92,957,047
1938	360,010	1,891,177	160,034,183
1939	520,623	444,368	192,674,368
1940	540,190	122,036	231,206,246
1941	314,825	29,103	225,828,434
1942	556,684	3,022	214,700,902
1943	284,460	432,931	343,755,320
1944	416,635	404,547	342,945,515
1945	318,459	74,765	340,107,000[3]
1946	418,758[2]	[3]	[3]

[1]Imports and exports are for the years beginning Aug. 1, 1939 to 1945. [2]Subject to revision. [3]Not available at time of going to press.

Coarse Grains.—Although weather conditions were more favourable for the growing of coarse grains in the Prairie Provinces in 1946, reduced acreages and adverse harvesting weather resulted in a production of oats and barley little larger than that of a year earlier. In the second estimate of production issued Nov. 14, 1946, oats production for all of Canada was placed at 399,500,000 bu. as against 381,600,000 bu. in 1945. Barley production at 159,900,000 bu. was only about 2,200,000 bu. above the 1945 crop. Oats and barley acreages failed to reach the 1946 acreage objectives by 1,147,500 acres and 1,269,500 acres, respectively. The combined production of fall and spring rye was estimated at 6,913,000 bu. as compared with 5,888,000 bu. in 1945. This gain was due to both an increase in yield and an increase in acreage. The flaxseed picture in Canada in 1946 varied little from that of a year earlier, with a total production amounting to 7,700,000 bu. in 1946 as compared to 7,600,000 bu. in 1945.

Slightly increased production of coarse grains has been more or less offset by reduced carry-over stocks of these grains at July 31, 1946, so that total supplies of feed grains for the 1946-47 season are about the same as a year ago. Exports of oats and barley are under permit. The absolute export embargo placed on barley during the 1945-46 season was relaxed somewhat in 1946 and small quantities were allowed to leave the country.

Field Crops of Canada, 1945-46

Crop	3rd Estimate 1945 Crops			2nd Estimate 1946 Crops		
	Area	Production	Gross Farm Value	Area	Production	Gross Farm Value
	acres	bu.	$	acres	bu.	$
Wheat	23,414,100	318,459,000[1]	367,502,000	25,900,000	418,758,000	477,487,000
Oats	14,393,200	381,596,000	203,113,000	13,162,700	399,483,000	210,610,000
Barley	7,350,100	157,757,000	105,452,000	6,730,500	159,912,000	106,034,000
Rye	487,100	5,888,000	8,680,000	518,000	6,913,000	13,288,000
Peas, dry	93,100	1,363,000	3,863,000	119,500	2,242,000	6,638,000
Beans, dry	96,400	1,294,000	3,456,000	91,700	1,566,000	4,871,000
Buckwheat	261,100	5,246,000	4,544,000	217,500	4,748,000	4,094,000
Mixed Grains	1,453,200	46,927,000	30,353,000	1,399,300	54,924,000	36,457,000
Flaxseed	1,059,200	7,593,000	19,006,000	1,008,500	7,651,000	22,206,000
Corn, shelled	237,000	10,365,000	10,774,000	246,500	10,542,000	11,157,000
		cwt.			cwt.	
Potatoes	507,700	35,986,000	81,168,000	520,600	48,031,000	75,252,000
Turnips, etc.	137,500	25,493,000	22,246,000	130,100	27,375,000	20,068,000
		tons			tons	
Hay and Clover	10,219,400	17,724,000	213,769,000	10,233,000	14,697,000	176,597,000
Alfalfa	1,587,000	3,880,000	48,130,000	1,540,400	3,203,000	41,358,000
Fodder Corn	492,500	3,637,000	15,188,000	472,900	3,962,000	16,667,000
Sugar Beets	59,360	619,000	6,566,000	66,800	721,000	5,769,000

[1]Tentatively revised from 3rd estimate on basis of disposition data.

Live Stock

During the war years the live-stock industry made a very substantial contribution to the feeding of the Canadian population, the Armed Services and the population of the United Kingdom. As a result of relatively good crops and large supplies of feed at prices favourable to production, farmers greatly expanded their live-stock enterprises. The great increase in production reached its peak in the latter part of 1944 and early part of 1945. Since then production has declined owing to the relatively higher prices and shorter supplies of animal feeds, together with high wage rates and shortage of farm labour. This reduction has caused some difficulty in finding adequate supplies of meat products for home consumption and for shipment abroad.

Numbers of Principal Species of Live Stock on Farms in Canada, June 1, 1939-46

Year	Horses	Cattle	Hogs	Sheep and Lambs
	'000	'000	'000	'000
1939	2,761	8,374	4,364	2,911
1940	2,780	8,380	6,002	2,887
1941	2,789	8,517	6,081	2,840
1942	2,816	8,945	7,125	3,197
1943	2,775	9,665	8,148	3,459
1944	2,735	10,346	7,741	3,726
1945	2,585	10,759	6,026	3,622
1946	2,397	10,385	5,377	3,378

The numbers of animals on farms have declined somewhat from the high levels of the war years. Hog numbers reached a peak of 9,473,000 on Dec. 1, 1943, and have since declined to almost half the number. Cattle numbers

Electric brooders have removed many uncertainties from turkey raising, reducing the average mortality.

reached their peak on June 1, 1945, and the number of horses has continued the downward trend evident over many years as mechanical power has replaced them. Sheep and lambs established their peak on June 1, 1944.

Poultry and Eggs

In response to the wartime agricultural program, which called for large shipments of eggs, mostly in dried form, to the United Kingdom, an unprecedented development took place in poultry farming during the six war years. Egg production increased 68·6 p.c. from 1939 to 1945, and this expansion was accompanied by a rise of 45 p.c. in the volume of poultry meats available, most of which was consumed in Canada. The number of all poultry (hens, chickens, turkeys, geese and ducks) on farms which was 62,405,200 on June 1, 1939, had increased to 89,568,600 by the same date of 1945. The indications are that this high level of poultry and egg production will be maintained in 1946.

Poultry Meat and Farm Egg Production, by Economic Areas, 1944 and 1945

Economic Area and Year		Poultry Meat Production			Egg Production		
		Marketed	Farm-Home Consumed	Total	Marketed	Farm-Home Consumed	Total[1]
		'000 lb.	'000 lb.	'000 lb.	'000 doz.	'000 doz.	'000 doz.
Maritime Provinces....	1944	14,490	2,762	17,252	14,756	8,615	24,218
	1945	13,981	2,656	16,637	16,138	9,056	25,744
Quebec and Ontario...	1944	103,494	29,580	133,074	114,971	39,717	160,298
	1945	105,470	30,068	135,538	127,920	42,745	174,686
Prairie Provinces.....	1944	116,739	34,280	151,019	95,560	47,632	148,386
	1945	109,307	32,077	141,384	96,440	46,574	145,870
British Columbia.....	1944	11,125	2,706	13,831	23,559	3,506	28,046
	1945	11,180	2,696	13,877	24,176	3,456	27,652
Totals.....	**1944**	**245,848**	**69,328**	**315,176**	**248,846**	**99,470**	**360,948**
	1945	**239,938**	**67,497**	**307,436**	**264,674**	**101,831**	**373,952**

[1] Includes eggs for hatching.

Dairying

The development of dairying enterprises which commenced at the beginning of the War reached a peak in 1944. The stimulation of dairy production by producers subsidies during the entire war period, and the payment of consumer subsidies during the past three years has tended to increase the sales of fluid milk for direct consumption. During the six-year period, 1939 to 1945, milk production increased approximately 1,800,000,000 lb. and the industry as a whole made an immense contribution to the food supplies of both Canada and the United Kingdom. After the collapse of Germany in May, 1945, production suffered from a reactionary development which became more pronounced after the final cessation of hostilities in August. The retreat from dairying in the Prairie Provinces following the bountiful harvest of 1944 with higher prices paid for grain and live stock, and the cumulative effects of the labour shortage, all played a part in halting the upward swing in dairying production during 1945.

Subsidies.—Producer-subsidies for dairy products were introduced in December, 1941, and have fluctuated somewhat since that time. Those in effect at the end of 1945 permitted payments of 10 cents per lb. on butter-fat used for the production of creamery butter, and 20 cents per hundred on milk used for cheese. Milk for concentration received a subsidy of 30 cents per hundred during the period Oct. 1 to Apr. 30 and 15 cents from May 1 to Sept. 30. Fluid milk was subject to a producer-subsidy of 55 cents per hundred in some markets and 25 cents in others during the period October to April, with a 35-cent rate

Holstein-Friesian Cattle at the Ontario Agricultural College. Live-stock and dairy production has advanced greatly in recent years through the co-operative efforts of the Dominion and Provincial Governments, packing and distributing houses, farm produce dealers, and farm clubs and organizations.

taking the place of the 55-cent subsidy during the May-September period. The consumer-subsidy of 2 cents per quart on all milk bought remained in effect during 1945: it was discontinued on June 1, 1946.

Milk Production.—During 1945, 17,620,047,000 lb. of milk were produced on farms, a decline of approximately 4,000,000 lb. from the 1944 production. This reduction was accounted for by lower production in the Prairie Provinces; elsewhere more milk was produced than in 1944. Approximately 63 p.c. of the total production in 1945 was used in the manufacture of dairy products. The quantity of milk used for creamery butter declined nearly 2 p.c. and fluid sales increased 2·5 p.c.

Butter Production.—Butter production in 1945 showed a further decline from the peak of 1943. Since fluid milk was in greater demand and was in a preferred price bracket so far as the farmers were concerned, it was only natural that the production of butter should suffer to some extent.

Cheese Production.—Cheese production in 1945 amounted to 186,998,485 lb., an increase of 2·4 p.c. over 1944 and of 11·9 p.c. over 1943, but a decrease of 10·2 p.c. from the high level reached in 1942. The cheese contract made with the Government of the United Kingdom for the year ended Mar. 31, 1946, called for delivery of 125,000,000 lb. but shipments exceeded that amount by over 5,000,000 lb.

Income and Values.—Dairy production has proved to be one of the profitable branches of farming during the past few years. This situation has arisen as a result of the wartime demand for milk and milk products, both for export and domestic use, and also as a result of the subsidies paid by the Government, which have contributed considerably to the farm value of milk production. Total cash income from the sale of dairy products amounted to $268,467,000 in 1945, an increase of approximately $162,000 compared with that of the previous year. This represented 16 p.c. of the total farm income of Canada, but was 4 p.c. less than that shown in 1939. Although the prices were high, the quantities produced did not keep pace with the increased output in other lines of farming, particularly hogs and wheat.

The total farm value of dairy production, which includes cash income, income in kind and milk fed to live stock, amounted to $347,234,000 in 1945; and the total value of dairy production, which comprises manufactured products and fluid sales valued at the factory, as well as products held on the farm, showed a total valuation of $401,414,000. Both totals were slightly higher than for 1944.

Domestic Disappearance.—The consumption of fluid milk and cream on a milk basis was 0·98 pt. per capita in 1945 as compared with 0·91 in 1942. Consumption of total butter in 1945 (creamery, dairy and whey) was 28·77 lb. per capita. The total disappearance of 293,000,000 lb. of creamery butter compared with only 271,000,000 lb. in 1940, but, due to rationing, it represented a decline of 305,000,000 lb. or 4 p.c., from 1942. Cheese, on the other hand, showed a continual increase since 1942, reaching 4·86 lb. per capita in 1945. During the past six years, concentrated milk products advanced from less than 10 lb. per capita to over 14 lb. in 1945. All products, expressed in terms of milk, showed a decrease of 20 lb. per capita between 1944 and 1945, the total per capita consumption in the later year amounting to approximately 1,242 lb.

Dairy Production by Economic Areas, 1944 and 1945

Economic Area and Year	Milk		Milk Products			
	Fluid Sales	Total Milk Production	Butter		Cheddar Cheese	Evaporated Milk
			Creamery	Dairy		
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Maritime Provinces..1944	232,816	1,078,408	18,245	7,923	2,261	2,507
1945	239,899	1,097,808	19,043	7,569	2,259	3,995
Quebec and Ontario..1944	2,761,811	10,626,601	157,269	15,817	168,774	141,112
1945	2,845,866	10,960,926	165,608	15,583	173,242	156,608
Prairie Provinces....1944	625,103	5,293,485	117,624	29,215	8,212	13,261
1945	623,532	4,919,408	102,687	28,495	8,195	13,349
British Columbia....1944	292,746	625,544	5,639	1,625	834	27,464
1945	298,561	641,905	6,203	1,636	756	27,649
Totals.....1944	**3,912,476**	**17,624,038**	**298,777**	**54,580**	**180,081**	**184,344**
1945	**4,007,858**	**17,620,047**	**293,541**	**53,283**	**184,452**	**201,601**

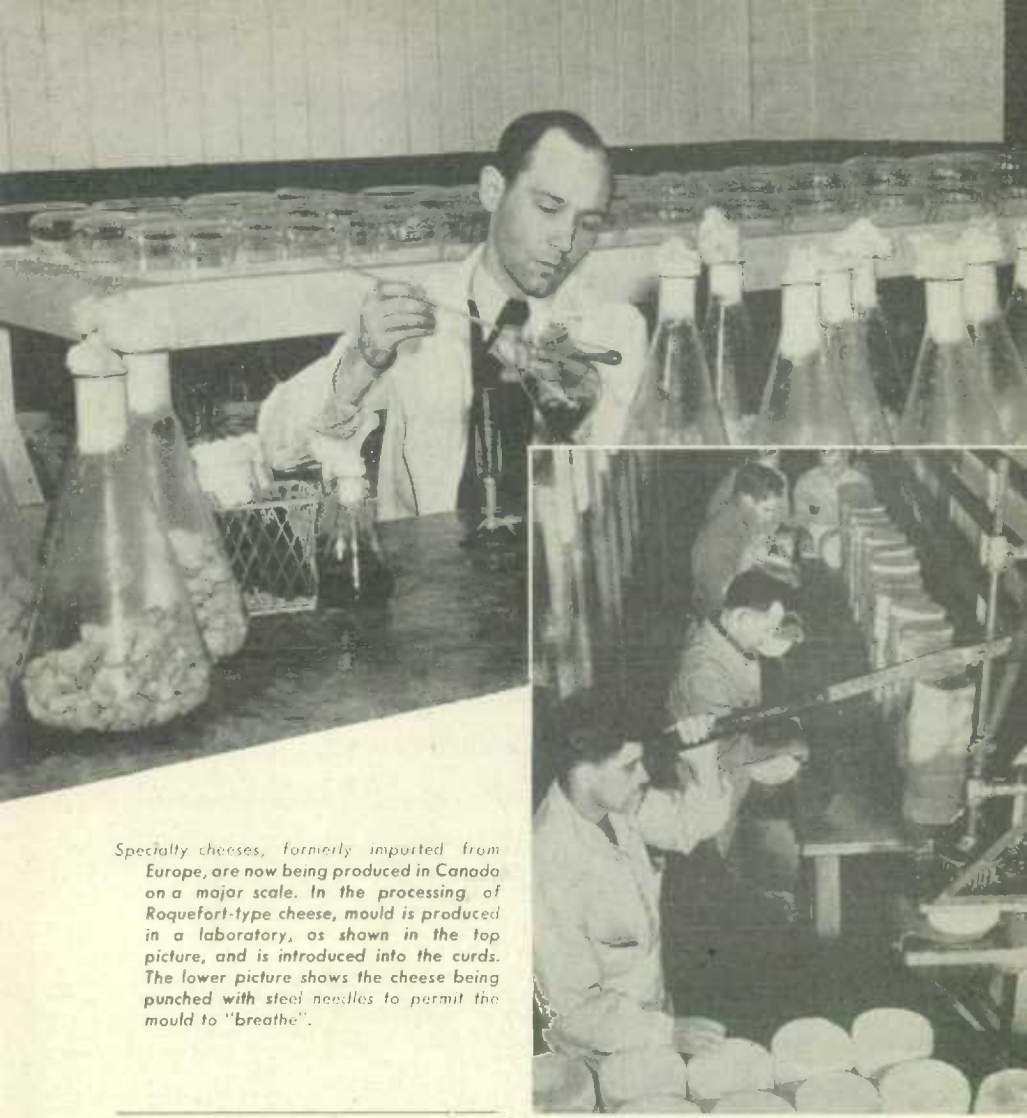
Special Crops

Tobacco.—The loss of overseas markets for tobacco resulting from the outbreak of war in 1939 brought a drastic reduction in plantage of tobacco in the following year. In 1939 the acreage had reached a pre-war peak of 92,300 acres and in 1940 it dropped to 67,880 acres. Since that year, however, recovery has been rapid and, with the exception of 1943, each year has seen a substantial expansion in area to reach the unprecedented total of 118,388 acres in 1946.

From present indications, the 1946 tobacco crop, including all types, will be the largest ever harvested. Production is estimated at 134,356,000 lb., of which 113,511,000 lb. is flue-cured, 11,200,000 lb. is burley, 2,400,000 lb. is dark, 5,040,000 lb. is cigar and 2,205,000 is pipe tobacco. The bulk of the flue-cured tobacco and all the burley and dark tobacco are grown in Ontario. Cigar tobacco was grown in this Province for the first time in 1946, but most of this type is harvested in Quebec, where all the pipe types are grown.

With the exception of plug tobacco, the annual per capita consumption of all forms has increased during the past 11 years. In 1935 cigarettes were smoked at the rate of 485 per person per year. By 1945 consumption had almost tripled, reaching a record rate of 1,255 cigarettes per person. Cigar consumption likewise showed a substantial increase although not as great as in the case of cigarettes. Cigar smoking increased from an average of 11·5 cigars in 1935 to an average of 18·2 in 1945. The consumption of cut tobacco showed an increase in per capita rate during the same period of from 1·7 lb. to 2·2 lb. and snuff from 0·07 lb. to 0·09 lb.

Sugar Beets.—The area devoted to sugar beets in Canada jumped from 59,360 acres in 1945 to 67,500 acres in 1946, the largest acreage planted to this crop since 1941 when it totalled 70,700 acres. The 1946 yield of 10·4 tons per acre varied little from that of a year ago and the increase in the total production of 702,000 tons as against 619,000 tons in 1945 was due entirely to the substantial increase in acreage. The Alberta sugar-beet crop, planted entirely on irrigated land, produced 367,000 tons from 29,800 acres, accounting for more than half of



Specialty cheeses, formerly imported from Europe, are now being produced in Canada on a major scale. In the processing of Roquefort-type cheese, mould is produced in a laboratory, as shown in the top picture, and is introduced into the curds. The lower picture shows the cheese being punched with steel needles to permit the mould to "breathe".

the Canadian total production. Ontario, second in importance among the provinces as a sugar-beet producer, showed the greatest absolute increase in production this year as compared with last. An area of 23,400 acres in 1946 as compared with 17,660 in 1945 more than offset a lower yield in the latter year; production amounted to 205,000 tons, an increase of 41,000 tons. Manitoba combined a larger acreage with an increased yield to turn out 109,000 tons of beets in 1946 as against 82,000 a year earlier. Quebec, the only other province in Canada to produce sugar beets on a commercial scale, increased its acreage from 1,400 to 2,300 acres, and its production from 10,000 to 21,000 tons. Heavier yields played an important part in the larger output for the Province. The total production of refined beetroot sugar in Canada in 1945 amounted to 163,837,790 lb. as against 165,318,840 lb. in 1944.

Tobacco is a delicate plant and a demanding one, requiring utmost watchfulness and even 'handmade' encouragement. The plants are started in greenhouses and later transplanted to open ground as shown in the inset.

Ontario's largest cash crop is tobacco. In the southwest corner of the Province same 90,000 acres are planted to it and the Ontario crop represents nine-tenths of the Dominion yield. Canada's 1946 crop of 134,000,000 lb. was the largest in the history of the industry, and for that crop a record minimum price of thirty-five and one-third cents per lb. was set.

Maple Products.—The 1946 maple season was unusually long and the syrup of better-than-average quality. Production was considerably heavier than in 1945 but the demand was strong and prices remained practically unchanged. Expressed as syrup, the total crop amounted to 2,144,000 gal. compared with 1,530,000 gal. in 1945 but it was still 18 p.c. below the ten-year 1936-45 average of 2,606,000 gal. The crop in 1946 was valued at the farm at $6,282,000 compared with $4,497,000 for the previous year's crop.

The chief area of production is in Quebec where, on the average, 80 p.c. of the crop is made. The Ontario crop, while considerably smaller, is next in importance followed by the New Brunswick and Nova Scotia crops. Maple syrup, according to Canadian regulations, must contain not more than 35 p.c. moisture and a Canadian gallon will therefore weigh not less than 13 lb., 2 oz. Maple sugar is made by continuing the evaporation process and a gallon of syrup will yield 10 lb. of sugar.

Honey.—Honey production in 1945 was below the 1944 level chiefly because of poor honey-plant crop conditions. Although the number of producing colonies was increased by 14,000 during the year to bring the Canadian total to 522,500, the average yields per colony were down from 71 lb. in 1944 to 63 lb. in 1945. The total crop in 1945 was 33,020,000 lb. compared with the previous year's crop of 36,264,000 lb. With the lighter crop, the average price received by producers was 16 cents per lb., one cent higher than during the previous season.

During the war years, interest in beekeeping in Western Canada greatly increased while elsewhere the number of beekeepers declined: for the Prairie Provinces the number rose 187 p.c. and for the remainder of the country declined 8 p.c. The number of colonies also expanded rapidly in the Prairie Provinces, showing an increase of 82 p.c. from 1939 to 1945. For the other provinces the increase was only 10 p.c.

Fibre flax.—Production of fibre flax on a commercial scale has been carried on for a number of years but it was not until after the outbreak of war that a real interest was shown in this crop. At the request of the United Kingdom authorities, Canada undertook to expand the industry to provide much needed flax for defence purposes. In 1940, the 20,275 acres harvested was almost double the acreage of the previous season. The acreage continued to expand for the next two years and in 1942, 47,040 acres were harvested. Due to the lack of experience on the part of growers, returns were not as great as anticipated and interest in producing flax began to lag the following year. The acreage dropped sharply in 1943 to 35,297 acres and by 1945 the area harvested amounted to only 21,557 acres. It is expected, however, that the industry will not decline to pre-war levels as many producers have made a considerable investment in equipment. Due to the nature of the crop, yields vary widely. From the 1945 crop, 1,250 tons of fibre and 2,400 tons of tow were marketed having a value of $1,250,000 and $567,300, respectively.

Seed Crops.—The hay and pasture seed crop in 1945 was heavier than that of the previous season, reaching a total of 57,099,000 lb. of cleaned seed having a value of $8,847,000. The major seed crop was timothy, of which 15,135,000 lb. were harvested. The production of other seed crops of commercial importance was: alfalfa 10,362,000 lb., sweet clover 10,113,000 lb., brome grass 10,057,000 lb., red clover 5,260,000 lb., alsike clover 3,286,000 lb., crested wheat grass 1,152,000 lb., creeping red fescue 851,000 lb., Kentucky blue grass 500,000 lb., Canadian blue grass 275,000 lb., Western rye grass 105,000 lb., and Bent grass 3,000 lb. Vegetable seed production made great strides during the War when European sources were cut off and Britain was in urgent need of additional seed supplies. Now that the War has ended, Canadian shippers are meeting increased competition for the United Kingdom markets but it is hoped that, with the emphasis on quality, the demand will continue for Canadian seed. In 1945, 29 kinds of garden vegetable and field root seeds were grown of which canning and garden pea seed was the most important both from the standpoint of quantity and value. The importance of the overseas markets to the industry is shown by the exports which amounted to 2,939,061 lb. in 1944, 2,403,093 lb. in 1945, and 3,550,000 lb. in 1946 for the crop years ended June 30.

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Fruit.—The orchards throughout Eastern Canada recovered almost completely in 1946 from the damage caused by late frost, disease and consequent partial defoliation in the previous year. Spring weather was ideal for the pollination and excellent crops were in prospect early in the season. Hot, dry weather prevailed from the end of June until mid-August and the small fruits suffered considerably. Strawberry and raspberry production was not as heavy as was at first anticipated. The tree fruit crops, on the other hand, developed rapidly and with the dry weather diseases such as brown rot of stone fruits and apple scab were reduced to a minimum. Insect injury, however, was a problem in some sections. The September estimates of the 1946 production with the final estimates for 1945 in parentheses are as follows: apples, 16,173,000 bu. (7,635,000 bu.); pears, 845,000 bu. (600,000 bu.); plums and prunes, 691,000 bu. (486,000 bu.); peaches, 2,109,000 bu. (1,566,000 bu.); apricots, 166,000 bu. (87,000 bu.); cherries, 267,000 bu. (237,000 bu.); strawberries, 16,001,000 qt. (16,726,000 qt.); raspberries, 12,423,000 qt. (12,548,000 qt.); loganberries, 1,152,000 lb. (1,447,000 lb.); grapes, 72,220,000 lb. (66,012,000 lb.)

Values of Fruits Produced in Canada, 1942-45, with Five-Year Averages, 1937-41

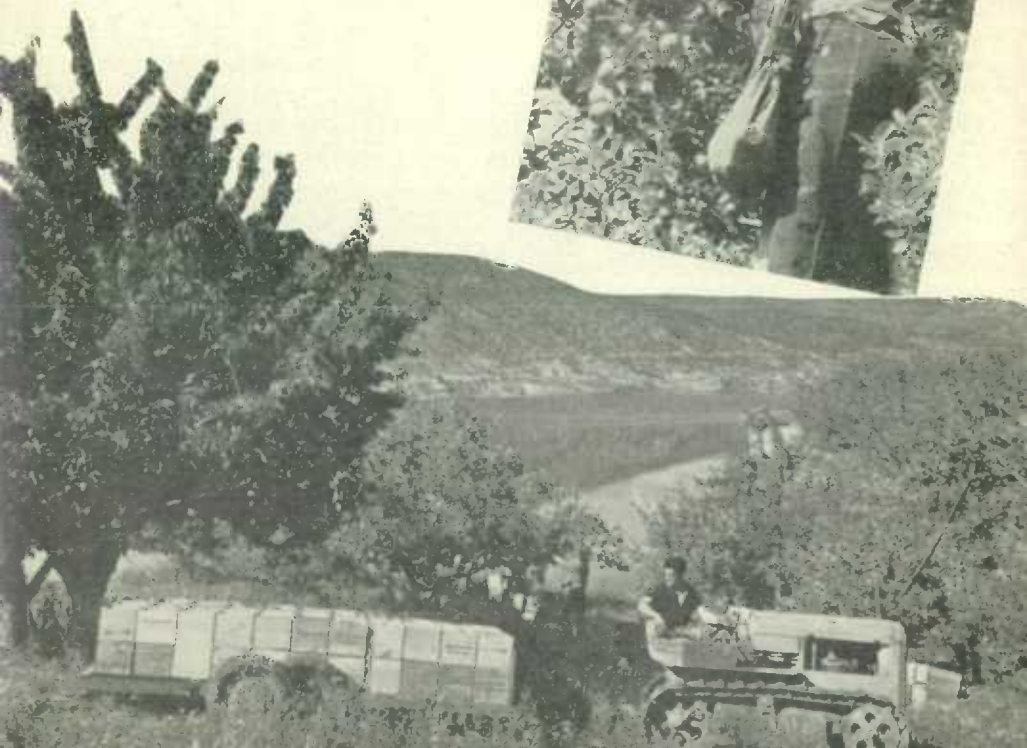
Fruit	Five-Year Average 1937–41	1942	1943	1944	1945
	$	$	$	$	$
Apples	10,376,000	14,390,000	16,814,000	22,807,000	12,857,000
Pears	821,000	1,429,000	1,462,000	2,007,000	1,582,000
Plums and prunes	425,000	737,000	1,133,000	1,375,000	1,270,000
Peaches	1,891,000	3,550,000	2,079,000	4,534,000	4,502,000
Apricots	146,000	227,000	102,000	489,000	319,000
Cherries	751,000	1,587,000	1,545,000	1,909,000	1,724,000
Totals, Tree Fruits	14,410,000	21,920,000	23,135,000	33,121,000	22,254,000
Strawberries	2,112,000	2,057,000	3,337,000	2,303,000	4,186,000
Raspberries	1,076,000	1,664,000	2,708,000	2,682,000	3,147,000
Grapes	1,021,000	1,862,000	1,733,000	2,380,000	2,543,000
Loganberries	107,000	153,000	153,000	196,000	140,000
Totals, Small Fruits	4,316,000	5,736,000	7,931,000	7,561,000	10,016,000
Totals, All Fruits	**18,726,000**	**27,656,000**	**31,066,000**	**40,682,000**	**32,270,000**

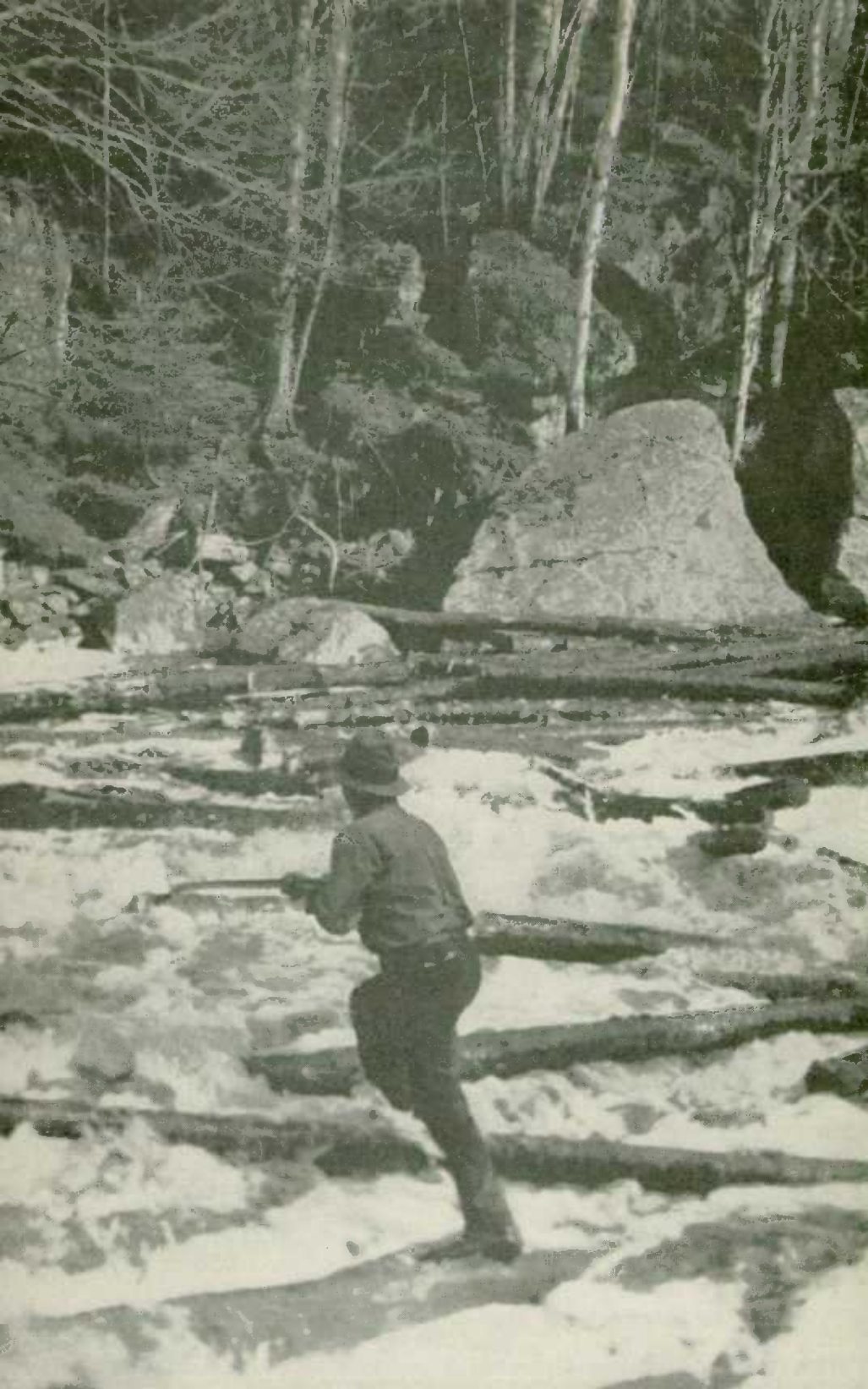
With the opening up of overseas markets, shipments of Canadian apples, both fresh and processed, are again moving to the United Kingdom. In accordance with agreements made in August, 1946, Canadian shippers are expected to send 2,252,000 boxes of British Columbia apples, at least 300,000 bbl. and probably 450,000 bbl. of Nova Scotia apples and 6,000 bbl. of Ontario apples to Britain. In addition, 80,000 lb. of evaporated apples from British Columbia and 250,000 to 280,000 cases of canned apples from Nova Scotia will move to the United Kingdom markets. An agreement was also reached with United States officials to permit the shipment of 1,000,000 bu. of packed apples and 2,000,000 bu. of processed apples to that country.

★ *Provincial Assistance to Agriculture*

Each of the nine provinces, under Sect. 95 of the British North America Act, has its Department of Agriculture. These Departments direct the general agricultural policies of the provinces and administer the provincial legislation affecting agriculture. They also provide extensive services to assist the rural people in their respective areas, such services being directed to the promotion and development of good cultural practices, improvement of live-stock production, the organization of adult and juvenile farm groups, assistance for agricultural fairs and exhibitions and the extension of agricultural education. Agricultural colleges maintained by the provinces are: the Nova Scotia Agricultural College at Truro, the Ontario Agricultural and the Ontario Veterinary Colleges at Guelph, and the College of Agriculture at Saskatoon. Three agricultural colleges in Quebec are assisted by the Provincial Government, while faculties of agriculture are found in the provincial universities of Manitoba, Alberta and British Columbia.

Apples are a characteristically Canadian fruit, and while they are grown for local use in almost every part of Canada, the large commercial crops are produced mainly in the Annapolis Valley of Nova Scotia, Western Ontario and Southern British Columbia.





Forestry

CANADA'S forests cover an area of 1,291,000 square miles, or more than one-third of the total land area of the country, but a considerable part of this vast forest is not suitable for commercial operations, either because it is too difficult and expensive to reach, or because the trees are not of satisfactory size and quality. The accessible productive portion of the forest covers 435,000 square miles, or 278 million acres, and it is from this area that the whole output of sawlogs, pulpwood, fuelwood, and other primary products is obtained. About 378,000 square miles of forest, classed as productive but not at present accessible, form a reserve for the future when transportation systems may be more highly developed.

By far the larger part of the world demand for wood is for softwood, or coniferous species. Canada possesses the principal reserves of softwoods within the British Empire, and these include large supplies of the most desirable varieties—spruces, Douglas fir, western hemlock, western red cedar, and white, red and other pines. In addition, the Eastern Provinces furnish hardwoods, such as birches, maples and elms, which are particularly useful for special purposes.

The total stand of timber of merchantable size is estimated to be approximately 311,000 million cubic feet (usable volume), of which 191,000 million cubic feet are accessible. In terms of ordinary commercial units of measurement, the accessible portion of the stand consists of 250,000 million feet board measure of sawlogs and 1,685 million cords of smaller material. Nearly 70 p.c. of the accessible stand is of softwood species.

The extraordinary demand created by the War for forest products of all kinds imposed an abnormal drain on the reserves of merchantable timber. There was particularly severe over-cutting of such specially valuable trees as Sitka spruce and the finer specimens of yellow birch. In addition, shortages of labour seriously hampered protection of the forests against fire and other enemies, and forest research was brought almost to a standstill. If the forests are not to be impaired, the volumes of wood removed each year to serve useful purposes and the volumes burned or destroyed by pests must be replaced by annual growth. Forest depletion is dealt with more fully in the special article on the Pulp and Paper Industry at pp. 18-33.

The marketing outlook for Canadian lumber during the post-war period is very favourable. Domestic demand for construction purposes will probably remain strong for several years. The agreement with the British Ministry of Supply for the export to Great Britain of Canadian lumber during the first two post-war years will continue for the British Columbia Coast until June, 1947, but will terminate for the rest of Canada on Dec. 31, 1946. The brisk demand for lumber in the United States will continue for some time; strong markets may be expected in other Empire countries and in the liberated areas of Europe.

Operations in the Woods

Generally speaking, the operations in the woods form the preliminary step in the industry and provide the primary forest products in the form of logs or bolts which are the raw material for the mill operations that form the second stage. An exact separation of the statistics relating to these two stages in the industry cannot always be made nor can the lumber industry be treated as entirely distinct from the pulp and paper industry. Woods operations produce not only sawlogs but pulpwood, ties, poles, piling, square timber, mining timbers, firewood, fence posts, wood for charcoal and excelsior manufacture, and wood for distillation. It is often impossible to state for what purpose the timber being cut will eventually be used. Many lumber manufacturers install machinery for cutting-up and barking pulpwood, and direct a part of their spruce and balsam logs to pulp manufacture; some pulp and paper companies operate sawmills in connection with their plants for the purpose of utilizing the larger timber on their limits.

Trees are grown from selected seeds and cuttings to replenish depleted forest areas.
They are loosened with forks, picked and tied in bundles of 100 for shipment.

It has been estimated that operations in the woods in Canada in 1944 gave employment during the logging season amounting to 35,551,000 man days, and distributed over $195,000,000 in wages and salaries.

Value of the Products of Woods Operations, by Products, 1940-44

Products	1940	1941	1942	1943	1944
	$	$	$	$	$
Logs and bolts	71,817,471	86,514,625	92,897,611	99,852,479	115,788,036
Pulpwood	74,347,132	88,193,045	103,619,151	110,844,790	124,563,926
Firewood	33,297,756	26,662,296	27,264,486	45,152,897	44,332,748
Hewn railway ties	1,788,001	1,547,780	878,830	1,138,663	1,289,165
Poles	2,691,107	2,467,336	2,663,603	2,032,681	5,217,255
Round mining timber	5,707,677	2,458,435	2,169,268	3,418,857	3,509,015
Fence posts	999,934	964,568	1,291,393	1,902,546	2,216,585
Wood for distillation	518,204	588,747	745,408	774,344	887,260
Fence rails	270,320	262,521	341,607	464,365	513,135
Miscellaneous products	3,130,273	3,503,736	2,500,534	3,033,661	3,453,698
Totals	**194,567,875**	**213,163,089**	**234,371,891**	**268,615,283**	**301,570,823**

The Lumber Industry

Except in the Maritime Provinces, 90 p.c. of the forest land is the property of the Crown, lumbermen being granted cutting rights only. This land is administered by the various provincial departments. Conifers usually form about 95 p.c. of the total cut of all kinds of wood, only 5 p.c. being deciduous-leaved trees or hardwoods. Spruce is the most important kind of lumber sawn, and is produced in every province. Douglas fir, which is produced almost entirely in British Columbia, comes second, with hemlock, white pine and yellow birch next in order of importance.

The industry includes products of: sawmills; shingle, tie, lath, shook, stave, heading and hoop mills; and mills for the cutting-up and barking of pulpwood. Sawn lumber produced in 1944 amounted to 4,512,232 M ft. valued at $170,351,406. Shingles numbered 2,697,724 M squares at $11,411,359, sawn ties 7,579,560 at $7,621,538, and lath 110,639 M at $645,010. The gross value of production for the industry as a whole showed an increase of 10·5 p.c. over the total for 1943.

Production of Sawn Lumber and All Sawmill Products, 1944

Province or Territory	Sawn Lumber Production		Total Sawmill Products
	M ft. b.m.	$	$
Prince Edward Island	7,502	265,443	330,234
Nova Scotia	229,610	8,622,553	9,658,323
New Brunswick	294,818	11,839,238	13,826,290
Quebec	1,010,361	41,603,134	50,099,695
Ontario	587,237	25,470,014	30,312,517
Manitoba	72,870	2,635,008	2,778,600
Saskatchewan	163,986	5,117,360	5,571,572
Alberta	162,913	4,685,231	5,564,400
British Columbia	1,982,478	70,080,622	98,381,844
Yukon	457	32,803	33,148
Totals	**4,512,232**	**170,351,406**	**216,556,623**

The Pulp and Paper Industry

The production of pulp and its conversion into newsprint and other paper products is one of Canada's major manufacturing enterprises. The industry includes three forms of industrial activity, the operations in the woods with pulpwood as a product, the manufacture of pulp, and the manufacture of paper. There are also three classes of mills in the industry. These, in 1945, numbered 29 mills making pulp only, 48 combined pulp and paper mills and 32 mills making paper only.

The development and present status of this industry is fully dealt with in the special article at pp. 18-24; only three tables, showing the increase in the production of pulp and paper during the past fifteen years, are included here.

Pulp Production, Mechanical and Chemical, 1931-45

Year	Mechanical Pulp		Chemical Fibre		Total Production[1]	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	$	tons	$	tons	$
1931.....	2,016,480	37,096,768	1,086,735	46,998,988	3,167,960	84,780,809
1932.....	1,696,021	28,018,451	913,438	35,987,294	2,663,248	64,412,453
1933.....	1,859,049	25,332,444	1,120,513	38,781,630	2,979,562	64,114,074
1934.....	2,394,765	30,875,323	1,241,570	44,851,635	3,636,335	75,726,958
1935.....	2,563,711	32,323,820	1,304,630	47,398,219	3,868,341	79,722,039
1936.....	2,984,282	38,674,492	1,501,163	53,662,461	4,485,445	92,336,953
1937.....	3,384,744	46,663,759	1,756,760	70,065,469	5,141,504	116,729,228
1938.....	2,520,738	39,707,479	1,147,051	48,189,669	3,667,789	87,897,148
1939.....	2,796,093	43,530,367	1,370,208	53,601,450	4,166,301	97,131,817
1940.....	3,368,209	56,017,547	1,922,553	92,987,720	5,290,762	149,005,267
1941.....	3,550,285	61,749,788	2,170,562	113,689,763	5,720,847	175,439,551
1942.....	3,308,118	65,208,919	2,298,343	126,936,143	5,606,461	192,145,062
1943.....	3,033,751	63,721,703[3]	2,239,079	130,797,449[3]	5,272,830	194,519,152
1944.....	3,113,142	72,097,231	2,157,995	138,944,181	5,271,137	211,041,412
1945.....	3,380,873	86,723,425	2,219,941	145,149,697	5,600,814	231,873,122

[1] Certain of the totals include unspecified pulp.

Pulp Production, by Chief Producing Provinces, 1931-45

Year	Quebec		Ontario		Canada[1]	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	$	tons	$	tons	$
1931.....	1,513,658	41,884,387	858,100	22,944,933	3,167,960	84,780,809
1932.....	1,240,442	31,124,954	786,405	18,735,105	2,663,248	64,412,453
1933.....	1,360,704	29,860,706	867,417	18,644,259	2,979,562	64,114,074
1934.....	1,813,096	36,837,402	999,935	21,000,769	3,636,335	75,726,958
1935.....	1,916,382	38,235,076	1,087,742	22,866,369	3,868,341	79,722,039
1936.....	2,236,376	44,071,292	1,257,060	27,005,484	4,485,445	92,336,953
1937.....	2,551,546	55,277,014	1,466,555	33,964,784	5,141,504	116,729,228
1938.....	1,858,971	44,220,224	1,057,984	25,821,023	3,667,789	87,897,148
1939.....	2,119,183	49,026,966	1,158,576	27,631,051	4,166,301	97,131,817
1940.....	2,794,384	76,996,100	1,369,389	38,235,733	5,290,762	149,005,267
1941.....	2,971,386	89,103,399	1,507,324	46,908,967	5,720,847	175,439,551
1942.....	2,896,440	97,632,408	1,518,967	51,936,704	5,606,461	192,145,062
1943.....	2,617,403	94,054,176	1,490,966	54,818,046	5,272,830	194,519,152
1944.....	2,767,081	105,042,991	1,316,365	54,934,993	5,271,137	211,041,412
1945.....	2,887,176	114,197,036	1,468,682	62,596,260	5,600,814	231,873,122

[1] Includes production in British Columbia, Manitoba, New Brunswick and Nova Scotia.

A large pulp and paper mill at Three Rivers, Que. The annual newsprint capacity of this mill is 262,650 tons.

During 1945, 77 establishments produced 4,359,576 tons of paper, with a total value of $282,837,614. In addition to newsprint, which formed 67 p.c. of the total value, Canadian mills have a highly developed production of fine paper, wrapping paper, tissues, paperboard and other cellulose products, which together accounted for the remainder of the paper production.

Newsprint and Total Paper Production, 1931-45

Year	Newsprint Paper		Total Paper	
	Quantity	Value	Quantity	Value
	tons	$	tons	$
1931	2,227,052	111,419,637	2,611,225	143,629,889
1932	1,919,205	85,539,852	2,290,767	113,873,123
1933	2,021,965	66,959,501	2,419,420	96,689,875
1934	2,604,973	86,811,460	3,069,516	120,892,225
1935	2,765,444	88,436,465	3,280,896	125,752,650
1936	3,225,386	105,214,533	3,806,710	146,354,666
1937	3,673,886	126,424,303	4,345,361	175,885,423
1938	2,668,913	107,051,202	3,249,358	151,650,065
1939	2,926,597	120,858,583	3,600,502	170,776,062
1940	3,503,801	158,447,311	4,319,414	225,836,809
1941	3,519,733	158,925,310	4,524,776	241,450,292
1942	3,257,180	147,074,109	4,231,767	230,269,512
1943	3,046,442	152,962,868	3,966,344	234,036,152
1944	3,039,783	165,655,165	4,044,376	255,545,841
1945	3,324,033	189,023,736	4,359,576	282,837,614

72235—7

Fisheries

★ *The Industry During 1946*

IT is not possible to give a close estimate of the fish catch for any year very far in advance since fisheries operations are subject to unpredictable and uncontrollable factors such as storm or calm on ocean grounds and the vagaries of the fish themselves. However, preliminary reports indicate that Canada's total fishery catch for 1946 will again be well over 1,000,000,000 lb., though it is very likely that the catch will show some decrease from the 1945 figure.

A decrease in the total is suggested by the fact that for sea fisheries, which ordinarily produce nine-tenths or more of Canada's total catch, the landings in the first eight months of the year were somewhat smaller than they were in the corresponding months of 1945. The reduced catch of herring and salmon on the Pacific Coast accounted for the decrease. Each of the Atlantic Provinces—Quebec, New Brunswick, Prince Edward Island, and Nova Scotia—had a catch gain to its credit.

In the same eight months, moreover, there was a substantial dollar increase in the export business done in fisheries products. Should the business in the last four months of the year continue at approximately the same pace as in the earlier months, the 1946 export trade total will be greater, in terms of dollars at least, than in 1945 when previous records were left behind and a mark of $80,226,000 was reached. Some restraint upon over-optimism as to the probable total for 1946 is imposed, however, by the fact that it is already evident that British Columbia's canned salmon pack—the great bulk of the pack is always put up in the last half of the year—will be substantially smaller than the production in 1945 and the reduction may be reflected in a decrease in fisheries export business for September-December, as compared with the business done in the like period of 1945. At the same time, even if September-December should cut into the export gain for the earlier months of the year, it is certain that 1946 export trade will reach a high level.

While the catch was smaller, it was worth more to the fisherman in landed value than the larger production of 1945 due to the fact that the demand for fish products during 1946 has been continuing at the high level of recent years and prices have increased somewhat. The landed value to sea fishermen in the first eight months of 1946 was $39,000,000, a gain over the same period of last year of $2,500,000. This rise in the value of the raw material will, of course, be reflected in the marketed value of the finished products.

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Because of the fact that the provincial authorities do not issue interim reports, no estimate is available of the production of fresh-water fish for 1946. However, the fresh-water catch is a relatively small part of the total fishery production of the country, so that a normal decrease or increase in inland production will not greatly affect the over-all total. The dollar value from inland fisheries will, in all probability, follow the same trend as that evidenced in the case of the sea fisheries.

At the beginning of the year an urgent need existed for great quantities of food products to relieve distress in countries that had been liberated from the Axis a few months before: also British requirements were still large. The need of the Caribbean countries for large quantities of certain types of processed fish, mainly salted products, was another certain prospect. These conditions were prime factors in maintaining the heavy demand for Canadian fisheries products. As the year progressed, the short supply of certain other foods in both the United States and Canada also affected the demand for fish, although the United States would have been a big buyer of Canadian fish in any event.

In addition to fish earmarked for the British Ministry of Food and UNRRA, the current export allocations include: 26,000,000 lb. of canned fish, a large quantity of pickled and smoked fish, and dried salt fish in the amount of 40,500,000 lb. or something like three times that amount in terms of fishermen's landings. The salt fish marketings go to the Caribbean, Latin America and the United States. Most of the exportation of fresh and frozen fish—not subject to allocation control—usually goes to the United States, but this year's shipments will include a substantial quantity (approximately 14,000,000 lb.) of frozen cod with deliveries about equally divided between France and the United Kingdom. The United Kingdom was a buyer of Canadian frozen salmon and halibut before 1939 and obtained large quantities of frozen cod during the war years. France, however, had not hitherto been an outlet of any importance for Canadian fish in the frozen form, except sometimes for salmon.

Export needs, which are being met by one allocation scheme or another, coupled with domestic and United States requirements, have combined to keep the year's demand for Canadian fish products at a high level. As for the future, there is prospect of continued world need for large quantities of fish foods.

SEINING AT TWILIGHT

The seiners reach their rendezvous at sunset, the period of slack tide.

The light skiff tows a $10,000 net in a giant circle; it goes 200 feet deep in the water and is nearly half a mile long. The trapped fish are drawn to the vessel and scooped from the net.

An echo sounder traces a picture of the ocean floor by a sonic reflected beam. Any solid object between the hull and the ocean floor causes a shadow; thus shoals of fish are found.

The problem, apparently, will be how need is to be translated, in some countries, into effective demand, or, put in another way, how purchases by or for these countries may be financed. UNRRA, as such, will very soon have ceased to be a buyer for needy countries. Proposals now under discussion for setting up a world food board or organization will presumably take some considerable time to develop.

In order to make certain that available stocks would be utilized most effectively, both at home and abroad, Canada continued in 1946 to employ the allocation schemes that were operative during the War. Some of these schemes were set up originally under plans devised by the former Combined Food Board, some were created by the Dominion's Food Requirements Committee, and some this year by the Fish Committee of the International Emergency Food Council. Current allocations, which cover the twelve-month period July 1, 1946, to June 30, 1947, including domestic supply as well as export shipment, cover a great many million pounds of fish.

The allocations for the British Ministry of Food include 17,000,000 lb. of canned herring and more than 1,000,000 lb. of canned pilchards, together with canned salmon. The quantity of canned salmon, however, is a question of some uncertainty at the moment. Originally the allocation for the United Kingdom was set at 52,800,000 lb., the equivalent of 1,100,000 standard cases, but some readjustment will be necessary. The original figures were based on an estimate of the total quantity of canned salmon available for allocation among the several markets set at 91,200,000 lb., or 1,900,000 cases, and that estimate, in turn, was based on a careful study of the probabilities of the catch. In addition to the fish desired for the United Kingdom, salmon supplies for the domestic market had to be kept in mind and also some smaller quantities allocated to other export areas.

The ways of fish are never certain, however, and the 1946 run of salmon in the waters of British Columbia has been considerably smaller than expected and the pack fell off accordingly. Practically all of Canada's salmon canning is done in summer and early autumn so that operations in the latter part of the year will add to total output but, at best, they cannot be expected to do a great deal toward offsetting the production decrease of the earlier months of the season. Present outlook is that, when the final cannery tally is made for the season it will show an aggregate pack of between 1,200,000 and 1,300,000 cases. It is obvious that in such circumstances some scaling down of the salmon apportionments will have to be made. It may perhaps be well to add here, in order to prevent misapprehension, that lessened numbers of salmon located by the fishermen during a particular year do not necessarily indicate that the stocks of the fish are on the decrease. Fluctuations in the size of the runs are common experience, though the reasons for such fluctuations are not fully understood, despite the increasing knowledge of salmon ways and life which is being gained through fisheries research.

Allocations on UNRRA account were set at slightly more than 46,000,000 lb. of canned, pickled, and smoked fish. This finished-product poundage represents, of course, a much greater amount of raw material, or fishermen's catch—two to three times as much. Although the UNRRA commitment for 46,000,000 lb. still stands, it is being reduced, at UNRRA request, in so far as Canada finds it possible to arrange for other distribution from the supplies of fish

View upstream at Hell's Gate, giving some idea of the turbulence of the flow even at low water when the fishways are dry.

concerned. This state of affairs is not related, as is the case with regard to canned salmon for the British Ministry of Food, to the availability of supplies, but is due entirely to some changes which conditions in distressed countries have brought about in the UNRRA program for relief feeding. Whether through UNRRA or otherwise, the full quantity making up 46,000,000 lb. will go into distribution. Half of it will consist of canned herring; 13,000,000 lb. pickled barrelled fish; 5,000,000 lb. canned groundfish, such as cod, haddock, etc.; and 2,000,000 lb. canned mackerel. Hard-cured bloaters, a smoked herring product, will make up the balance.

★ *Hell's Gate Fishway*

International co-operation and the high skill of scientists and engineers have opened the way to restoration of the once great sockeye salmon of British Columbia's Fraser River system. They have conquered Hell's Gate, a Fraser canyon 150 miles from the sea, where, for thirty years and more, the ascent of salmon to the spawning grounds had been impeded, and often made impossible, and the famous sockeye run thereby enormously reduced. The International Pacific Salmon Fisheries Commission and the scientific and technical skill of those who serve it have overcome the obstructive condition at the canyon by fishways cut through the sheer rock walls of the narrow, turbulent gorge—one of the outstanding jobs in the history of fisheries conservation.

Restoration of the Fraser run will add many million dollars to future earnings of the sockeye fishermen of Canada and the United States. Fishermen of both countries will share in the gain, just as both countries are contributing equally to the cost of restoration, for Fraser River sockeye are "international fish." Though hatched in fresh-water areas of a Canadian watershed, they migrate early to sea and give no heed to national boundaries during their life in salt water. As adult fish, they journey homeward again in due season to reproduce their kind in Fraser tributaries where they themselves were born. It is when the salmon are making their way through the coastal waters of British Columbia and the United States on this homeward migration that the commercial fishermen of the two countries make their catches.

The story of the Hell's Gate blockade and its conquest goes back to 1913. The run of Fraser sockeye is larger some years than in others. This condition has been well defined and the years of the "big run" are known in advance since, in general, the sockeye of the Fraser system have a four-year life cycle and abundant seeding of the spawning grounds by the fish in the "big run" reflects itself in the stocks four years later.

As it happened, 1913 was one of the "big run" years. That year, too, railway construction was in progress along the Fraser, and by great ill chance a granite mountainside, weakened in rail-bed construction, crashed without warning into Hell's Gate before the salmon had made their way upstream to the spawning grounds. Much of the canyon was blocked by tons of rock and the great masses of water pounding down the river were forced into a narrowed channel of tremendous turbulance.

Consequently, relatively few of the spawning sockeye were able to make their passage through Hell's Gate to reproduce. This destruction, notwithstanding the remedial action promptly attempted, continued to reflect itself in diminished abundance in succeeding cycle years. Nor was this all. The sockeye runs of intervening seasons were also reduced. The fish fought to get through but many of them died exhausted and unspawned and of those that succeeded a great number were torn and injured by conflict with the rocks and reproduction suffered accordingly. The Fraser sockeye stocks never recovered from the effects of the 1913 disaster. Though substantial catches were made, they never approached the earlier level.

From the outset, of course, the disaster was the cause of great concern. However, the critical preoccupation of the war years 1914-18, and the problems that followed in the immediate post-war years, lessened the attention that could be given to the possibility and means of rebuilding the Fraser sockeye stocks. It was not until 1930 that a concrete plan was devised—a plan for action by Canada and the United States through a joint commission. In that year a convention, or treaty, providing for the creation of the commission was ratified by Canada, but United States ratification did not take place until seven years later. In 1938 the Commission was set up. Three members were appointed by each country and a scientific staff started intensive research on the life of the Fraser sockeye and conditions in the sockeye fishery. Later, engineering experts were added to the staff.

In carrying on the investigations, new problems of fisheries research had to be dealt with and new techniques of research developed. Although the Commission was concerned with other situations hindering fishery improvement, attention was concentrated on the Hell's Gate condition as being the most

Right bank fishway at low water.

Left bank fishway at maximum operating level, showing drop at entrance in river level.

important. Studies revealed that sockeye could make their way through the canyon when the water was high or when it was low, but at levels between these extremes great numbers of the fish found the turbulence of the gorge too much for their strength and drifted back downstream to die unspawned. To remedy the situation, the construction of fishways was recommended. The designing and building of such fishways involved not only an understanding of the probable behaviour of sockeye salmon under the new conditions that fishways would create but also involved difficult engineering problems, some of which had not previously presented themselves. In 1944, however, the necessary preparations had been completed and construction was begun on two fishways, one 460 feet long, the second, on the opposite side of the river, 220 feet.

Slotted-type fishway in operation, showing the succession of individual pools where the salmon can rest in their upward passage.

The contrast here indicates the size of the fishway. This is the left bank exit channel at low water when the fishway is dry.

The job was completed before the 1946 sockeye run to the Fraser had begun. Total cost of the project was about $1,000,000, shared equally by Canada and the United States.

Briefly, the fishways are huge canal-like detours, cut through the rock of the canyon walls. They are so designed that slotted vertical baffles lessen greatly the swiftness of the water diverted through the fishways and create relatively quiet eddies where the salmon can rest from time to time in their upward passage. When the river is at low level and the sockeye can make their own way, the fishway entrances are above the surface; at high water, when the fishways are likewise unnecessary, they are deep below the surface. It is at mid-level, when the Fraser torrent is too strong for them, that the salmon get the help they need.

In 1945, when the fishways were far enough advanced to be in use, there were definite indications that they were achieving their purpose. Confirmation came with construction completed and the 1946 sockeye run in progress. As stated by the International Commission, "large increases in the number of fish on the spawning grounds have occurred this (1946) season . . . . The opening of the gate at all river stages to these runs will now make it possible for the Commission to develop again the tremendous early runs of salmon in the Fraser River".

★ *Statistics of Production*

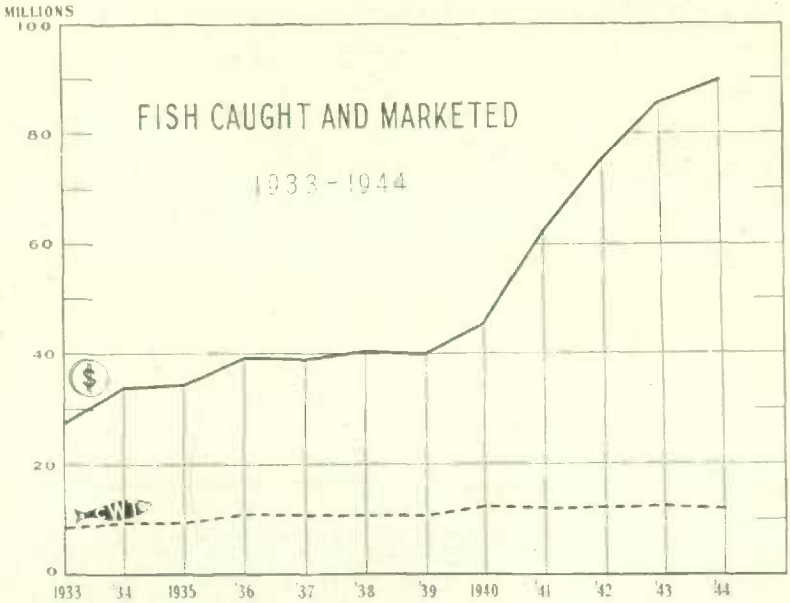
Canada's list of food fishes embraces nearly 60 different kinds, chief among which are salmon, cod, herring, lobster, whitefish, sardines, halibut, pilchard, haddock, pickerel and mackerel. The total quantity of fish of all kinds taken

by Canadian fishermen in 1944 was 11,791,456 cwt., for which fishermen received, at the point of landing, a total of $52,078,439 compared with a catch of 12,358,241 cwt. with a landed value of $48,712,802 in 1943.

Fisheries Production, by Provinces, 1914, 1943 and 1944

Province or Territory	Values of Production			Percentages of Total Values		
	1914	1943	1944	1914	1943	1944
	$	$	$	p.c.	p.c.	p.c.
Prince Edward Island	1,261,666	2,860,946	2,598,975	4·1	3·3	2·9
Nova Scotia	7,730,191	21,684,435	23,662,055	24·7	25·4	26·5
New Brunswick	4,940,083	11,128,864	11,968,692	15·8	13·0	13·4
Quebec	1,924,430	5,632,809	5,361,567	6·2	6·6	6·0
Ontario	2,755,291	5,292,268	4,938,193	8·8	6·2	5·5
Manitoba	849,422	4,564,551	3,581,795	2·7	5·3	4·0
Saskatchewan	132,017	1,154,544	1,482,223	0·4	1·4	1·7
Alberta	86,720	795,000	929,887	0·3	0·9	1·0
British Columbia	11,515,086	32,478,632	34,900,990	36·8	37·9	39·0
Yukon	69,725	2,495	3,131	0·2	—	—
Totals	**31,264,631**	**85,594,544**	**89,427,508**	**100·0**	**100·0**	**100·0**

The salmon fishery of British Columbia gives to that Province first place in respect to value of production, the position that in earlier times belonged to Nova Scotia with her cod fishery. The herring fisheries (on both the Atlantic and Pacific Coasts) are of rising importance and second only to salmon in value of output. Canned herring is the chief product, but herring meal and oil are also produced. On the Atlantic Coast, the cod, lobster and sardine fisheries are of importance, while among the inland fishes, whitefish occupies first place.



Wrapping fish fillets before freezing. The method of merchandising fish has changed considerably in recent years; over 50 p.c. is now sold in the form of fresh or frozen fillets.

The statistics in the following table are based upon the averages of the five latest pre-war years and of the first five complete years of hostilities.

Averages of Production and Values Marketed, by Principal Kinds of Fish, 1935-39 and 1940-44

Kind of Fish	Averages 1935–39		Averages 1940–44	
	Quantity Caught	Value Marketed	Quantity Caught	Value Marketed
	cwt.	$	cwt.	$
Salmon	1,769,319	13,435,975	1,476,887	18,120,037
Cod	1,620,056	3,159,882	2,069,608	10,058,737
Herring	2,773,682	2,643,737	3,507,415	9,373,648
Lobsters	308,448	4,194,228	292,178	5,881,528
Whitefish	156,919	1,643,670	171,741	2,914,222
Sardines ... bbl.	219,184	1,630,962	359,650	2,660,700
Halibut	153,691	1,646,448	140,954	2,621,231
Pilchards	781,551	641,592	1,210,217	1,881,895
Haddock	387,801	1,287,394	294,501	1,877,620
Pickerel	129,505	970,781	129,004	1,616,259
Mackerel	286,702	571,564	345,058	1,514,913

The fish-processing industry is connected entirely with the sea fisheries, the plants being scattered along the coasts in locations of easy accessibility to the fishermen in delivering their catches. Capital invested in fish-processing establishments, vessels, boats, nets, traps, etc., in 1944 amounted to $67,323,760, and the number of persons finding part-time or full-time employment was 81,480.

Furs

★ *Canada's Fur Trade and the London Market*

LONDON is a far cry from the fur-trapping areas of Canada. Yet Canada's fur trade has been closely linked with London ever since its early beginnings.

The fur trade is of ancient origin—far older than Canada, as we know it. As early as the sixth century B.C., the Phœnicians brought furs to Britain in exchange for Cornish tin. The Romans, too, traded in furs and, later on, in the ninth century, Norse traders brought their furs to trade with the Britons. It was but natural that London, well situated as a landing stage for continental trade and already established as the chief port and commercial centre of Britain, should become the market centre for the trade—a position which she still holds. After the discovery of the New World, fur-trading expeditions were sent out from London and the furs were brought back there to be sold. Ever since that time, with the exception of the war years 1939-45, this procedure has not varied, and Canada's fur trade and London's fur market have grown and expanded side by side.

Fashion has played a large part in the development of the fur trade. In the Middle Ages, it would appear that beaver hats were fashionable among wealthy people. Chaucer's merchant, on the road to Canterbury, wore "Uppon his heed a Flaundrisch bevere hat", no doubt of the kind that was made in Bruges, one of the centres that supplied the fashionable and wealthy world.

At that time, beaver supplies were obtained from northern and central Europe, and the animal was even common in England. In the trade, tradition has it that felt hats were first made on the Continent in 1456 and that their manufacture in London was not started before 1510. However, for a long time after that date foreign hats were preferred.

By the middle of the seventeenth century, in Restoration England, a beaver hat was no longer a curiosity but one of the marks of wealth and fashion.

Buyers at the first post-war fur auction at Beaver Hall, London, held in February, 1946. The Governor of Hudson's Bay Company presided at the opening.

The industry itself had grown and developed, protected by laws prohibiting the importation of foreign hats and caps, and by legislation preventing the mixing of beaver with rabbit wool in felting.

When Samuel Pepys bought his first beaver hat in 1661 for £4 5s 0d (an amount equivalent to between £25 and £30 or $110 to $125 to-day), the English market obtained some, if not most, of its supplies from the New England colonists. France had long imported large quantities from her settlements in Canada, and before losing New Netherland to England in 1664, Holland also obtained supplies from her colonists, but the Navigation Laws were a bar to much beaver from these two North American sources reaching the English market, either directly or indirectly. French, English and Dutch colonists alike obtained their skins from Indian middlemen, who in turn bartered them from tribes living farther to the north and west. But when Groseilliers and Radisson came to King Charles II in 1665 with their plan for an expedition to Hudson Bay, one of their aims was to deal directly with the Indian trappers.

The story of these two *coureurs de bois*, Groseilliers and Radisson, is well known—how, after being spurned by their countrymen, they came to the Court of Charles II, how they interested Prince Rupert in a scheme for tapping the beaver wealth of Canada through Hudson Strait, and how the Hudson's Bay

Company was incorporated by Royal Charter to carry on that trade. The granting of the Royal Charter gave a tremendous impetus to the fur trade. Vast imports of skins started that very year and the development of London as an entrepôt market for furs was well on its way. The first public sale was held at Garraway's Coffee House, Change-alley, London, in 1672 and was said to have been attended by many well known people, and at least one member of the Royal Family. Sales were made by candle. That is to say, an inch of lighted candle was set up. Its wick fell when it had burned down and the last bidder before the fall of the wick was the buyer.

Since that time, the demand for furs has continued to grow and many changes have taken place in the trade. Fashion, trade booms and depressions, and wars have all played their part, but it was the Second World War that caused the greatest upheaval to the London fur market.

When war broke out in 1939, it was no longer practicable to ship large quantities of furs to England. The Hudson's Bay Company sales were discontinued and London could not maintain her position as centre of the world fur trade. For the next few years, Canada's fur industry had to find its outlet through Montreal and New York.

But once the War was over, London immediately resumed her traditional leadership. Once again raw fur skins poured in from Canada and the Hudson's Bay Company was able to hold its general fur auctions at London. The first of these took place in February, 1946. For the first time in six years, overseas buyers arrived at London to attend the sale. They came from the United States, France, Switzerland, Norway and Sweden.

During the week before the sale, these buyers, and many London buyers, spent their time in the warehouse. For no furs are visible at such sales.

Buyers inspect raw Persian lamb skins in the warehouse before the sale.

Four Canadian fur bearers in their natural habitat—silver cross fox, muskrat, marten and beaver.

Buyers, after inspecting the skins in the warehouse, mark on their catalogues those for which they wish to bid later. It is a fact that buyers are able to bid, sight unseen, with perfect confidence as to the quality of what they buy, because of the high standard of sampling and grading maintained.

In the warehouses were thousands of dollars worth of raw furs hanging in rows, sorted and graded for condition and size. The majority of these were from Canada and included: a mass of white fox furs from the barren lands; lustrous blue foxes from the Arctic; red foxes from southern Canada and piles of beaver skins that attracted the attention of many buyers. As we have seen, beaver was for years the principal article of trade of the Hudson's Bay Company and it still holds pride of place in the auctions, being the first article to come under the hammer. Other Canadian skins were badger, ermine, marten, muskrat, otter, seal, squirrel, and wolf.

There were also furs from other countries than Canada on view. Among these were Asiatic and Australian fox furs; Indian lamb; American opossum, raccoon, and skunk; and South American skunk and fox furs.

This first post-war London General Auction was, as has been indicated, an important occasion in the history of the fur trade. The honour of presiding at the opening fell to the present Governor of the Hudson's Bay Company.

Business transacted in the first hour of the auction was calculated at about £50,000. In two minutes £6,000 was paid for one lot of muskrat skins. In all, about £200,000 worth of business was done during that first day.

Once more the fur catch of Canada was being sold in the London market and in the years to come, this trade will doubtless be of ever-increasing value to both sides of the Atlantic.

★ *Fur Production*

Since Norman and Breton fishermen bartered fish for furs with the Indians on the eastern seaboard in the sixteenth century, the fur trade has been increasingly important to the Canadian economy. Early explorers, seeking a western outlet to China, were disappointed in their original quest but they found the country teeming with fur-bearing animals and were instrumental in opening a lucrative trade in furs.

As the centuries passed and farm settlement pressed westward and northward, the fur trapper had to go farther afield for his catch. Conservation was

found to be necessary. This took the form of closed seasons or the prohibition of trapping, and licensing of trappers. Some special beaver colonies were protected and many muskrat marshes were isolated as preserves. Fur farming followed conservation; indeed it may be considered as a more intensive method of conservation. It developed from the early practice of trappers keeping foxes, caught out of season, alive until the fur was prime. Prince Edward Island led the movement, but fur farming is now carried on in all provinces of the Dominion.

The activities of the Dominion and Provincial Governments in the development of wild-life conservation have been continued, together with the assistance given to the fur farming industry by the Dominion Department of Agriculture.

There are fluctuations in the number of pelts taken each year because of differences in trapping seasons and of the incidence of disease, but during the war years the numbers increased, the peak year being 1942. Owing to increased demand, there were sharp rises in prices, so that values were increasingly greater each year, reaching a peak in 1944. The year 1945, however, showed values only slightly less than those of 1944, but still greater than the 1943 total.

Numbers and Values of Pelts Taken, Years Ended June 30, 1930-45

Year Ended June 30	Pelts		P.C. of Value Sold from Fur Farms	Year Ended June 30	Pelts		P.C. of Value Sold from Fur Farms
	Number	Value			Number	Value	
		$				$	
1930.....	3,798,444	12,158,376	19	1938...	4,745,927	13,196,354	43
1931.....	4,060,356	11,803,217	26	1939...	6,492,222	14,286,937	40
1932.....	4,449,289	10,189,481	30	1940...	9,620,695	16,668,348	31
1933.....	4,503,558	10,305,154	30	1941...	7,257,337	21,123,161	26
1934.....	6,076,197	12,349,328	30	1942...	19,561,024	24,859,869	19
1935.....	4,926,413	12,843,341	31	1943...	7,418,971	28,505,033	25
1936.....	4,596,713	15,464,883	40	1944...	6,324,240	33,147,392	28
1937.....	6,237,640	17,526,365	40	1945,...	6,994,686	31,001,456	31

Numbers and Values of Pelts Taken, by Provinces, Years Ended June 30, 1943-45

Province or Territory	Pelts			Values		
	1943	1944	1945	1943	1944	1945
	No.	No.	No.	$	$	$
Prince Edward Is.	31,280	24,706	26,945	760,385	890,362	875,785
Nova Scotia	112,235	101,913	100,353	920,515	764,863	593,551
New Brunswick	70,167	70,159	88,078	864,489	834,741	927,158
Quebec	541,788	519,155	534,783	4,562,354	6,167,605	5,059,995
Ontario	1,048,178	1,049,371	992,802	5,806,743	7,129,781	7,003,877
Manitoba	878,989	880,622	1,511,130	3,242,655	3,832,641	4,818,625
Saskatchewan	1,174,164	1,106,354	925,240	2,440,942	3,437,777	2,310,760
Alberta	2,446,665	1,513,951	1,772,381	4,542,818	4,686,311	3,884,998
British Columbia	677,168	682,371	696,751	1,860,990	2,736,991	3,113,780
N.W.T.	385,440	297,633	258,931	3,165,107	2,199,132	1,743,710
Yukon	52,897	78,005	87,292	338,035	467,188	669,217
Canada	**7,418,971**	**6,324,240**	**6,994,686**	**28,505,033**	**33,147,392**	**31,001,456**

During the war years, the value of Canadian raw fur production showed substantial increases; the value of pelts sold from fur farms and those taken by trappers during the year ended June 30, 1945, reached a total of $31,001,456. This was a decrease of 6 p.c. from the 1944 figure, which was, however, an increase of 9 p.c. over the 1943 total. Approximately 69 p.c. of the 1945 value represented furs taken by trappers in the wild.

Average prices were generally lower for the long-haired furs but slightly higher for those used for coats. Pelts of mink contributed the largest amount to the total value with a production of $7,980,343 worth, muskrat was second with $6,299,411, beaver third with $4,687,963 and silver and new types fourth with $4,494,120. Mink skins rose in average price from $19·55 to $22·38, muskrat from $2·28 to $2·65, marten from $46·31 to $47·99 and rabbit from 30 cents to 59 cents.

Fur Farming.—Although the fox was the first important commercial fur bearer to be raised in captivity, many other kinds of fur-bearing wild animals are now being raised with success—mink, raccoon, skunk, marten, fisher and rabbit. Mink farms are the most numerous of these, raccoon farms coming next. From 1920 to 1939 fur farming in Canada expanded rapidly and during that period there was a marked change in the type of furs that were most acceptable to the market. Black fox was popular twenty-five years ago. A few years later the highest prices were being paid for quarter and half-silvers and during recent years the full-silver and new-type have been setting the upper price limit. The development of the new-type fox and mink has proven to be an incentive to the fur-farming industry. New-type fox such as platinum, platinum-silver, pearl-platinum, pearlatina, glacier blue and white-marked are meeting a ready market as are the new-type mink, including silver-sable, platinum-silver blue, snow-white and a number of other colour phases. An attempt is being made to introduce chinchilla into Canada, but production is not yet on a commercial basis. In 1939 the Dominion Government introduced the grading of furs under the Department of Agriculture. One of the main

Mink pens and Greenland blue foxes on a large Ontario fur farm.

objectives in grading is to secure uniformity, so that furs may be bought by grade without the necessity of buyers from foreign countries personally examining the pelts.

The number of fur farms in operation in Canada in 1944 was 6,396 compared with 6,973 in the preceding year. Most of the declines have occurred in the smaller farms or where fur-bearing animals are kept as a side-line to general farming. The difficulties that have been experienced in securing meat for feeding and necessary extra labour have made it hard for these smaller enterprises to operate economically. Although farms were fewer in 1944, the value of fur-farm property increased to $19,389,783, 11 p.c. higher than in the preceding year. This increase in capital was due mainly to larger numbers of the higher priced new-type foxes and mink. Quebec stood first among the provinces in value of fur-farm property with 21·4 p.c. of the total. The other provinces ranked as follows: Ontario, 20·6 p.c.; Alberta, 16·5 p.c.; Manitoba,

13·1 p.c.; Saskatchewan, 8·0 p.c.; Prince Edward Island, 7·7 p.c.; British Columbia, 5·1 p.c.; New Brunswick, 4·8 p.c.; and Nova Scotia, 2·8 p.c.

The total revenue of the fur-farming industry in 1944 was $9,382,103, 88 p.c. of which was received from the sale of pelts and the remainder from the sale of live animals. Silver and new-type fox pelts accounted for $4,184,101, or 51 p.c. of the total pelt sales, and mink for $3,884,243 or 47 p.c. The average value of silver-fox pelts was $28·91 compared with $30·88 in 1943, and of standard mink pelts $18·30 compared with $15·24. Live silver fox sold numbered 4,332 and were valued at $248,484, new-type fox, including platinum, white-face, silver blue, etc., numbered 2,085 valued at $316,753 and mink numbered 12,055 valued at $520,530. Compared with 1943, the total value of pelts sold showed a decrease of $717,798 while the value of live animals sold increased by $253,896.

The value of the animals on the farms at the end of 1944 was $11,548,914, of which 54 p.c. was of silver and new-type fox and 42 p.c. of mink. The total number of fur-bearing animals on farms was 248,205 compared with 219,257 in 1943. The 99,279 silver and new-type fox on the farms was an increase over the preceding year of 3,979, and the 144,166 mink an increase of 24,900.

From information received direct from the fur farmers, it is estimated that 96,300 standard silver fox, 54,200 new-type fox and 319,000 mink will be pelted in the season 1946-47.

Montreal is recognized as an international fur market, and fur auction sales are held also at Winnipeg, Regina, Edmonton and Vancouver. Through the medium of the Canadian fur auctions, grading and marketing of furs have been placed on a scientific footing, resulting in more stabilized conditional prices to the benefit equally of trapper, breeder, manufacturer, distributor and consumer. Under the circumstances brought about by the War, Canada's trade in furs was carried on mainly with the United States from 1940 to 1944, but 1945 saw a great expansion in the exports to the United Kingdom.

Exports and Imports of Raw and Dressed Furs, 1937-45

Year	Exports[1]			Imports		
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries
	$	$	$	$	$	$
1937	10,722,537	5,728,014	17,515,460	1,676,407	4,293,135	8,169,840
1938	8,794,834	4,478,818	14,096,503	1,135,686	3,148,940	5,650,624
1939	7,054,745	6,772,641	14,568,986	1,018,417	4,455,938	7,133,052
1940	3,306,271	12,187,096	16,176,075	920,528	6,813,080	8,885,540
1941	430,428	14,883,751	16,159,033	1,970,910	4,112,345	9,120,337
1942	156,586	16,869,153	17,976,615	945,360	3,306,214	6,448,861
1943	66,844	25,086,912	26,448,522	496,578	4,923,632	8,613,879
1944	28,321	25,748,651	27,029,329	250,280	6,832,775	11,434,257
1945	1,363,727	26,755,604	29,572,474	262,775	9,078,294	21,205,173

[1] Canadian produce only.

During the past twenty years or so, immense improvements have been made in the dressing, dyeing and finishing of furs. In 1944, the 18 fur-dressing and dyeing plants in Canada treated 8,606,642 fur skins, the chief kinds being rabbit (3,593,393), muskrat (1,641,374), and squirrel (994,306). The number of plants engaged in the manufacture of fur goods—coats, capes, scarves, muffs, etc.—numbered 517 with a total output valued at $40,909,709.

Mines and Minerals

WITH the defeat of Germany and Japan in 1945, the mining industry in Canada commenced a period of readjustment from wartime operations to peacetime production. A renewed interest has been shown in exploration and development work, though progress has been hampered by a lack of essential equipment and a shortage of skilled labour. Canada's mineral production in 1945 was valued at $514,000,000 or $28,000,000 more than in 1944.

Metallics.—After several years of declining production, the result of conditions arising from the War, the outlook for gold mining is improving. The lifting of restrictions on development work has largely cleared the way for expansion of activities, though it will probably be some time before sufficient skilled labour and supplies become available to enable the industry to greatly extend its operations; on the other hand, the return to parity in July, 1946, of Canadian funds in terms of United States dollars added to the difficulties of the industry. Aside from the producing mines, attention has been centred chiefly on exploratory work which has been exceptionally active during the past year or more, especially in Quebec, Ontario, Manitoba and the Northwest Territories. The Bureau of Mines at Ottawa reports that from the results of this prospecting it is apparent that many properties will be added to the list of producers.

The origin of Canadian gold production is varied, the metal being recovered from stream channels, auriferous quartz ores, copper-gold-silver ores, and nickel-copper and silver-lead-zinc ores. Approximately 80 p.c. of the Canadian gold output represents gold bullion produced at auriferous quartz lode mines in northwestern Quebec; in the Kirkland Lake, Larder Lake, Porcupine, Little Long Lac and Patricia areas of Ontario; and in British Columbia from the Bridge River and Portland Canal Districts. Several gold-bearing deposits are under examination or development in Canada's new gold-mining field in the Yellowknife area of the Northwest Territories and the outlook for production in this camp is good. Gold production from all sources totalled 2,696,727 fine oz. valued at $103,823,990 in 1945 compared with 2,922,911 fine oz. worth $112,532,073 in 1944. Of the 1945 output, 661,608 fine oz. came from Quebec mines;

1,625,368 fine oz. from Ontario; 179,223 fine oz. from Manitoba and Saskatchewan; 186,854 fine oz. from British Columbia, and 40,376 fine oz. from Yukon and the Northwest Territories.

Encouragement to Canadian silver production was given in 1945 when, in September, the United States ceiling price for foreign silver was raised from 45 cents to 71·11 cents per fine oz., and further stimulus will be provided by the advance to 90 cents in 1946; this price can be obtained by Canadian mines for silver exported after Dominion requirements are satisfied.

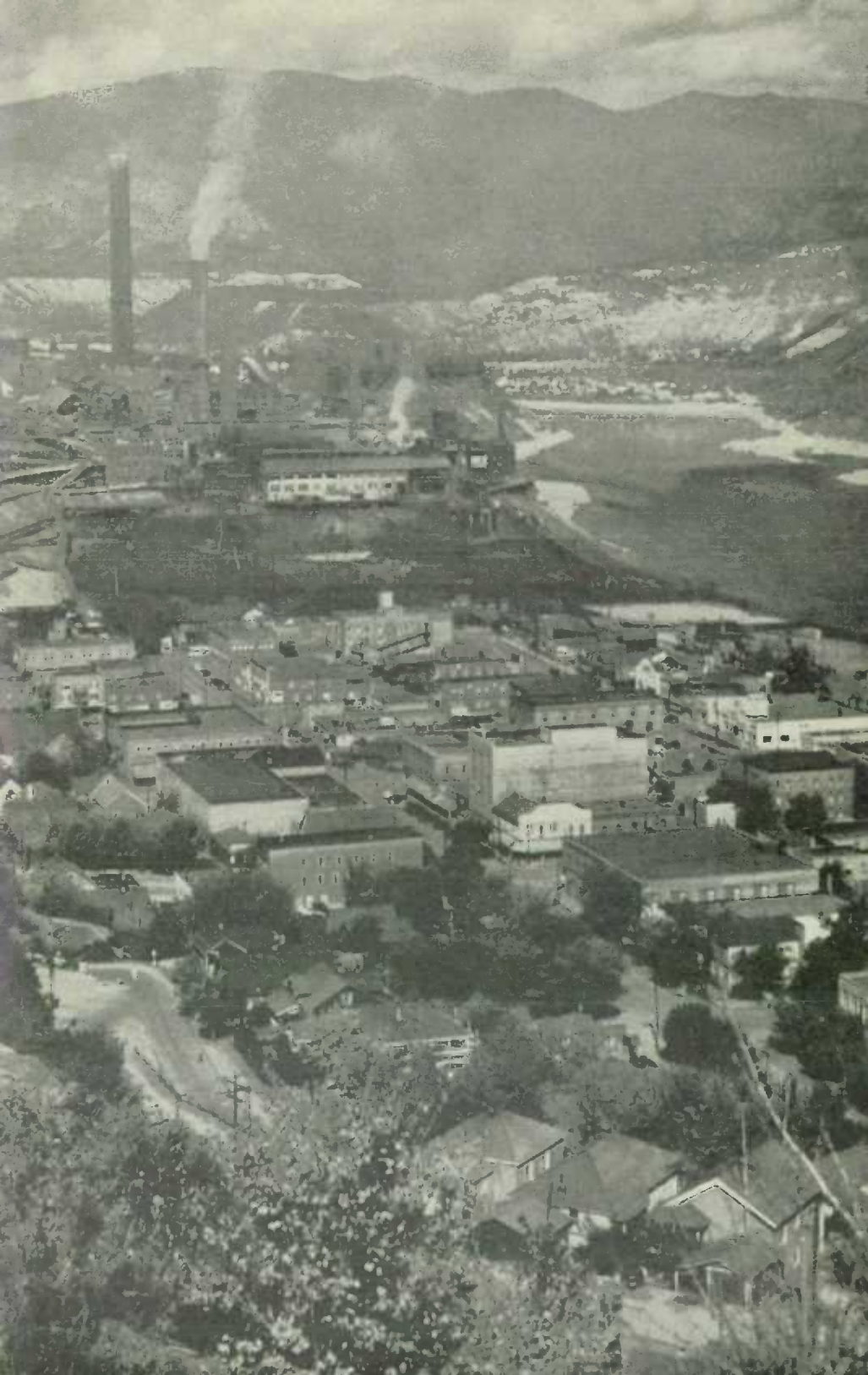
Production of non-ferrous metals showed comparatively little change from 1944. The principal copper producers, as in the immediately preceding years, were the Noranda, Waite-Amulet-Dufault and Normetal mines in Quebec; the International Nickel Company and Falconbridge Nickel mines in Ontario; the Flin Flon and Sherritt-Gordon mines in Manitoba and Saskatchewan, and the Britannia and Granby deposits in British Columbia. Nickel production as usual came entirely from the large nickel-copper deposits of the Sudbury District of Ontario. The famous Sullivan mine of the Consolidated Mining and Smelting Company of Canada, located at Kimberley, B.C., continued to be the largest lead-producing property. The production of zinc in 1945 comprised the refined zinc produced at Trail, B.C., and Flin Flon, Man., together with the zinc in concentrates exported from mines in Quebec, Manitoba and British Columbia. Most of the wartime projects for the production of tungsten, molybdenite, chromite and certain other strategic minerals were closed down by the Wartime Metals Corporation (a Crown company) in 1944 or 1945.

Included in the more interesting events in the Canadian mining industry in 1945 was the discovery and development of an important copper-gold-silver orebody on the property of Quemont Mines, Ltd., adjoining Noranda Mines, Ltd., in northwestern Quebec; the renewed activity in the Yellowknife gold district; the expansion in high-grade iron-ore production at Steep Rock Lake in the Rainy River District of Ontario, and the exploration of large high-grade iron-ore deposits in Ungava. Canadian base-metal mines and metallurgical plants are, for the most part, well equipped and capable of supplying the immediate major metal requirements of post-war industry.

Fuels.—The fuel situation in Canada has always demanded the serious consideration of the authorities. The country is in a somewhat anomalous position in that large deposits of coal are located in the eastern and western provinces, but no coal is mined in Ontario and Quebec, where the greatest number of Canadian manufacturing industries are located and denser populations exist. For that reason, coal must be brought into these central provinces, chiefly from the United States. Supplies of anthracite coal, formerly brought in from Great Britain in substantial amounts, have been practically cut off in recent years because of the difficulties in ocean shipping. Production of coal in Canada totalled 16,506,713 tons in 1945 and 17,026,499 tons in 1944. Of the 1945 output, 5,112,615 tons came from mines in Nova Scotia; 7,800,151 tons from Alberta; 1,699,768 tons from British Columbia; 1,532,995 tons from Saskatchewan; and 361,184 tons from New Brunswick.

Natural gas has been found in most of the provinces of Canada. It is produced commercially in abundance in Alberta, to a lesser extent in Ontario, and in smaller quantities in New Brunswick and Saskatchewan. In Alberta,

Smelters at Trail, B.C. →



most of the production comes from the Turner Valley field, which supplies fuel for the field itself and is then piped to the cities and districts of Calgary and Lethbridge. In Saskatchewan, the eastern part of the Lloydminster field supplies the town of the same name, and it is also produced in the Kamsack area. In Ontario, natural gas is produced only in the southwestern part of the Province and is piped to several cities and towns for industrial and domestic consumption. In New Brunswick, the Stoney Creek field supplies the urban centres of Moncton and Hillsborough with natural gas. Output at 48,400,000,000 cu. ft. in 1945 was a 7 p.c. increase over 1944.

Crude petroleum is produced in Canada from wells in Alberta, the Northwest Territories, Saskatchewan, Ontario and New Brunswick. The Turner Valley in Alberta is the largest single oil-producing field in the Dominion with a normal output of approximately 90 p.c. or more of Canada's entire petroleum production. In Ontario, crude oil continues to be produced at Petrolia, Oil Springs, and other places in the southwestern part of the Province. The Stoney Creek field supplies the output from New Brunswick. Production of crude petroleum in the Northwest Territories showed a sharp decline following suspension of activities associated with the Canol project in March and April of 1945. The production of crude petroleum commenced in the spring of 1945 in the Lloydminster field of Saskatchewan. Output for Canada totalled 8,482,796 barrels in 1945.

Non-metallics.—Canadian deposits of industrial minerals are in most instances ample for the requirements of the nation. The Dominion is probably the world's leading asbestos-producing country and is also one of the chief producers of feldspar, mica, magnesitic-dolomite, gypsum, salt and graphite. Production of most non-metallic minerals was reasonably well sustained in 1945; in certain instances the problems of supply and demand arising from reconversion to peacetime industry were reflected in fluctuating output. The output of structural materials, particularly brick and building tile, was seriously affected by the shortage of skilled labour.

Canada is endowed with widespread and diversified mineral wealth and the great unexplored areas of her northland afford promising fields for the prospector and explorer of both to-day and to-morrow.

Mineral Production of Canada, 1944 and 1945

Item		1944		1945	
		Quantity	Value	Quantity	Value
			$		$
METALLICS					
Copper	lb.	547,070,118	65,257,172	474,914,052	74,890,021
Gold	fine oz.	2,922,911	112,532,073	2,696,727	103,823,990
Iron ore	ton	553,252	1,909,608	1,135,444	3,635,095
Lead	lb.	304,582,198	13,706,199	346,994,472	17,349,723
Magnesium	"	10,579,778	2,575,695	7,358,545	1,607,264
Mercury	"	735,908	1,210,375	—	—
Molybdenite concentrates	"	2,127,508	1,079,698	978,114	480,019
Nickel	"	274,598,629	69,204,152	245,130,983	61,982,133
Palladium, rhodium, iridium, etc.	fine oz.	42,929	1,960,085	458,674	18,671,074
Platinum	"	157,523	6,064,635	208,234	8,017,010
Silver	"	13,627,109	5,859,656	12,942,906	6,083,166
Zinc	lb.	550,823,353	23,685,405	517,213,604	33,308,556
Others	ton	64,509	3,247,408	22,858	2,881,784
TOTALS, METALLICS		—	308,292,161	—	332,729,835

Mineral Production of Canada, 1944 and 1945—concluded

Item	1944		1945	
	Quantity	Value	Quantity	Value
NON-METALLICS				
FUELS		$		$
Coal ..... ton	17,026,499	70,433,169	16,506,713	67,588,402
Natural gas ..... M. cu. ft.	45,067,158	11,422,541	48,411,585	12,309,564
Peat ..... ton	644	5,397	118	1,062
Petroleum ..... bbl.	10,099,404	15,429,900	8,482,796	13,632,248
TOTALS, FUELS	—	97,291,007	—	93,531,276
OTHER NON-METALLICS				
Asbestos ..... ton	419,265	20,619,516	466,897	22,805,157
Barite ..... "	118,719	1,023,696	139,589	1,211,403
Gypsum ..... "	596,164	1,511,978	839,781	1,783,290
Magnesitic dolomite and brucite	[1]	1,139,281	[1]	1,278,596
Mica ..... lb.	6,684,846	841,026	7,044,221	233,270
Peat moss ..... ton	80,446	1,869,553	83,963	2,011,139
Quartz ..... "	1,740,262	1,658,409	1,502,894	1,499,287
Salt ..... "	695,217	4,074,021	673,076	4,054,720
Sodium sulphate ..... "	102,421	987,842	93,068	884,322
Sulphur ..... "	248,088	1,755,739	250,114	1,881,321
Others	—	1,769,948	—	2,031,837
TOTALS, OTHER NON-METALLICS	—	37,251,009	—	39,674,342
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS				
Clay products, brick, tile, sewer pipe, etc.	[1]	6,997,425	[1]	8,913,092
Cement ..... bbl.	7,190,851	11,621,372	8,471,679	14,246,480
Lime ..... ton	885,142	6,926,844	832,253	6,525,038
Sand and gravel ..... "	28,399,986	10,280,119	29,750,703	10,568,363
Stone ..... "	5,994,992	7,159,177	6,205,555	8,166,700
TOTALS, CLAY PRODUCTS, ETC.	—	42,984,937	—	48,419,673
Grand Totals	—	**485,819,114**	—	**514,355,126**

[1] Not available.

Mineral Production of Canada, by Provinces, 1943-45

Province or Territory	1943		1944		1945	
	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total
	$		$		$	
Nova Scotia	29,979,837	5·7	33,981,977	7·0	32,184,488	6·2
New Brunswick	3,676,834	0·7	4,133,902	0·9	4,182,100	0·8
Quebec	101,610,678	19·2	90,182,553	18·5	91,586,476	17·8
Ontario	232,948,959	44·0	210,706,307	43·4	232,109,616	45·1
Manitoba	13,412,266	2·5	13,830,406	2·8	14,429,423	2·8
Saskatchewan	26,735,984	5·0	22,291,848	4·6	22,336,074	4·3
Alberta	48,941,210	9·2	51,066,662	10·5	51,753,237	10·2
British Columbia	68,442,386	12·9	57,246,071	11·8	64,063,842	12·5
Yukon	1,625,819	0·3	939,319	0·2	1,239,058	0·2
Northwest Territories	2,679,993	0·5	1,440,069	0·3	470,812	0·1
Canada	**530,053,966**	**100·0**	**485,819,114**	**100·0**	**514,355,126**	**100·0**

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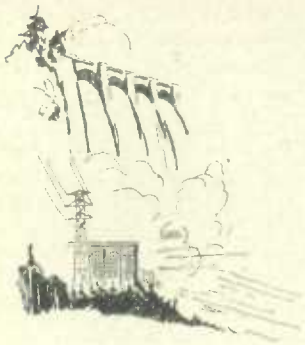

Water Powers

CANADA has a wealth of water-power resources favourably distributed throughout the country in relation to other resources, to centres of population, and to transportation facilities. Since the turn of the present century, water-power development has had a profound effect upon the national economy. This development, increasing from a total of 173,000 h.p. in 1900 to more than 10,309,433 h.p. in 1946, has been the mainspring of the great industrial expansion of the past four decades and has brought to the greater part of the population the amenities of electric lighting and other electric services.

Water power was fundamental to Canada's vast war-production program in the six years of hostilities which ended in August, 1945, and during this time more than 2,000,000 h.p. was added to the developed water-power capacity of the Dominion. Virtually all of this new capacity was utilized for war production and, in addition, large quantities of power were diverted from peacetime to wartime use. The period that has elapsed since the end of the War has been one of transition to peacetime economy and despite certain regional dislocations, production of electric energy has taken place on a slightly rising trend.

Available and Developed Water Power, by Provinces, Jan. 1, 1947

Province or Territory	Available 24-Hour Power at 80 p.c. efficiency		Turbine Installation
	At Ordinary Minimum Flow	At Ordinary Six-Month Flow	
Prince Edward Island	3,000	5,300	2,617
Nova Scotia	20,800	128,300	133,384
New Brunswick	68,600	169,100	133,347
Quebec	8,459,000	13,064,000	5,848,572
Ontario	5,407,224	7,261,373	2,677,050
Manitoba	3,309,000	5,344,500	446,825
Saskatchewan	542,000	1,082,000	90,835
Alberta	512,480	1,253,460	93,060
British Columbia	7,023,000	10,998,000	864,024
Yukon and Northwest Territories	382,500	813,500	19,719
Canada	**25,727,604**	**40,119,533**	**10,309,433**

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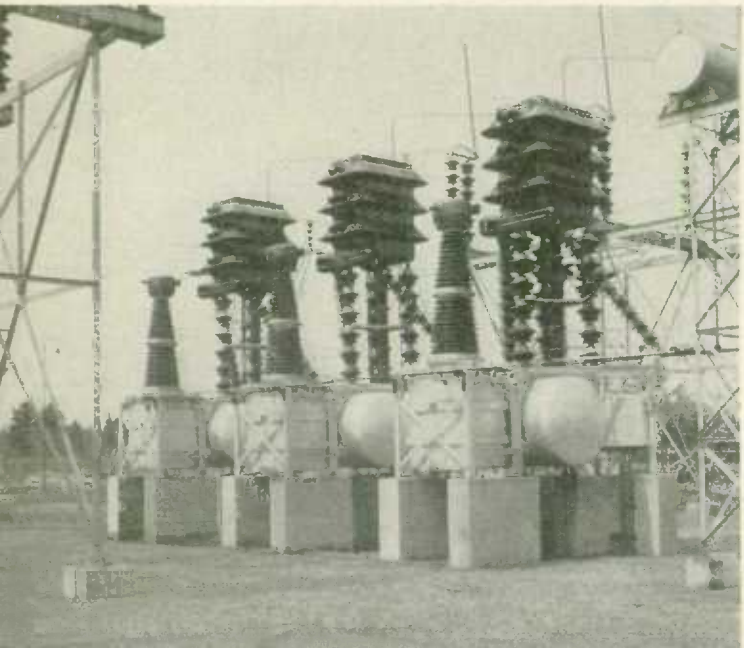
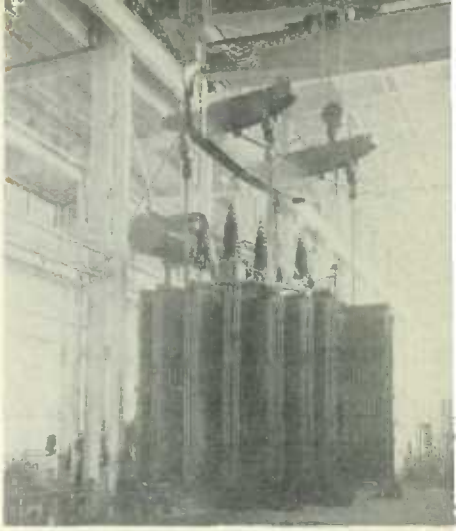
There has, however, been a change in the character of energy being consumed. The consumption of primary power in 1946 was about 13 p.c. lower than in 1944, the peak year of war demand. On the other hand, this decrease has been more than offset by the increase in the use of energy for secondary purposes. This situation reflects, particularly, a drastic reduction in the amount of electric energy that was required for the production of aluminum during the War and the diversion of this energy for secondary purposes, chiefly in the pulp and paper industry for the raising of process steam in electric boilers.

It has proven sound commercial practice to install hydraulic power equipment averaging 30 p.c. in excess of the six-month flow power, and it is estimated that Canada's presently recorded water power provides for an installation of more than 52,000,000 h.p. That is, the present development represents only 25 p.c. of the possible development.

Provincial Distribution of Water Power.—The water powers of the *Maritime Provinces,* while small in comparison with those in other provinces, constitute a valuable economic resource, the development of which is supplemented by power from abundant indigenous coal supplies. *Quebec,* with large resources of water power, has achieved a remarkable development; the present installation in the Province represents about 58 p.c. of the total for Canada. Almost 84 p.c. of this total installation is operated by six large organizations. The Province of *Ontario* has extensive water-power resources. The Hydro-Electric Power Commission of Ontario, province-wide in its field, operates plants aggregating 70 p.c. of the total hydraulic installation of the Province and serves more than 900 municipalities. A notable feature of electric distribution by the Commission is the operation of more than 23,000 miles of rural lines serving over 160,000 consumers. Of the *Prairie Provinces,* Manitoba has the greatest power resources and the greatest power development; 71 p.c. of the total hydraulic development of the three Provinces is installed on the Winnipeg River to serve the city of Winnipeg and adjacent municipalities and more than 160 cities, towns, and villages in southern Manitoba over the



A large Canadian-made air blast circuit breaker, rated at 230,000 volts, 600 amperes. Under emergency conditions this unit is tested to successfully interrupt 2,500,000 Kva. in one-fifteenth of a second.



A modern type of oil-immersed air-pressure cooled power transformer made in Canada. This is a 25,000 Kva., 110,000 high voltage, three-phase, 25 cycle unit.

2,400-mile transmission network of the Manitoba Power Commission. Water-power development in Saskatchewan is confined to the northern mining districts and in Alberta to the Bow River basin, from which power is transmitted to Calgary and to numerous municipalities extending from the International Boundary to north of Edmonton. In southern Alberta and Saskatchewan there are also large fuel reserves. *British Columbia,* traversed by three distinct mountain ranges, ranks second in available power resources and in hydraulic development is exceeded by Quebec and Ontario only. The Yukon and Northwest Territories, although affected by relatively light precipitation, have numerous rivers offering opportunities for power development. Developments have been made for local mining uses.

Hydro-Electric Construction during 1946.—In anticipation of the end of the War there was a sharp reduction in new hydro-electric construction in 1944 and the forepart of 1945, but plans had been laid for post-war undertakings and a number of these were commenced in the latter part of 1945 and others in 1946 to provide for growth in power demand in various regions. The most extensive projects were undertaken in Ontario and British Columbia, but the program also included new construction in the Northwest Territories, Alberta, Manitoba, and Quebec.

During 1946, the Hydro-Electric Power Commission of Ontario had four large projects under construction. At DeCew Falls, near St. Catharines, work was continued on an extension to the Commission's 25-cycle plant involving the installation of a new 70,000-h.p. unit and other incidental works. At Stewartville, on the Madawaska River, construction was active on a new 60-cycle development of 81,000-h.p. capacity. Preliminary work was initiated on a large development at Des Joachims Rapids, on the Ottawa River, designed initially for a capacity of 360,000 h.p. In the Thunder Bay District of northern Ontario, the Commission commenced construction of a 53,000-h.p. development on the Aguasabon River.

In British Columbia, the British Columbia Power Commission had construction under way on its first development at Elk Falls on Campbell River, where an initial installation of 50,000 h.p. is being made from which power

A Hydro sub-station in keeping with its residential environment.

will be transmitted to augment the supply to the central part of Vancouver Island. For the growing needs of Vancouver and the lower mainland, the British Columbia Electric Railway Company inaugurated construction of the first stage of a development on Bridge River which will include a diversion dam and other works and the installation of a 62,000-h.p. unit.

In the Northwest Territories, the Dominion Government, through the Department of Mines and Resources, initiated the construction of an 8,000-h.p. development on the Snare River to augment the supply of power to mines and other users in the Yellowknife area.

The Calgary Power Company, Limited, virtually completed the construction of a 13,500-h.p. development on the Kananaskis River near Seebe, Alberta, which will be linked with the Company's other plants on the Bow and Cascade Rivers, serving a large part of Alberta from a transmission network.

In Manitoba, the city of Winnipeg Hydro-Electric System added two new units of 12,000 h.p. each to its Slave Falls power station on the Winnipeg River.

In Quebec, the Lower St. Lawrence Power Company built a new 6,000-h.p. hydro-electric development on Metis River, one mile below its present plant, and the Gatineau Power Company proceeded with the installation of the fifth and final unit of 24,000 h.p. in its plant at Farmers Rapids on the Gatineau River.

Central Electric Stations

Over 90 p.c. of all developed water power in Canada is developed by central electric stations and, although there are 300 that derive their power entirely from fuels and 45 hydraulic stations that also have thermal auxiliary equipment, 98 p.c. of all electricity generated for sale is produced by water power.

The production of electricity by central electric stations amounted to 5,500,000,000 kwh. in 1919, the first year for which such data are available. Six years later it was almost doubled, by 1928 it had more than trebled, and by 1930 it amounted to 18,000,000,000 kwh. With continued depression in manufacturing industries, the output started to decline late in 1930 and continued into 1933, but from 1933 to 1945 there was an almost continuous succession of

increases each average month, as shown in the table below. The daily rate of production of primary power reached a peak in November, 1943, and from that point has fluctuated at a slightly lower level.

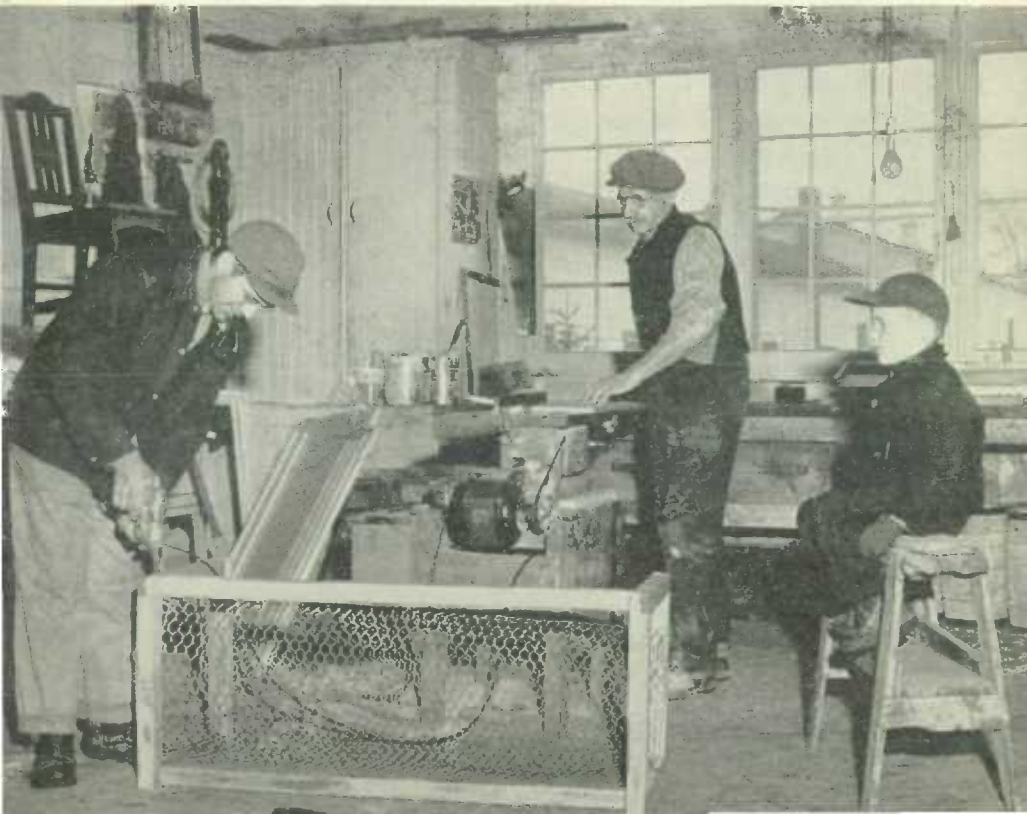
Average Monthly Output of Central Electric Stations, 1929-46

Year	From Water	From Fuel	Total	Year	From Water	From Fuel	Total
	'000 kwh.	'000 kwh.	'000 kwh.		'000 kwh.	'000 kwh.	'000 kwh.
1929.....	1,441,203	27,622	1,468,825	1941....	2,731,880	55,233	2,787,113
1932.....	1,296,360	25,845	1,322,205	1942....	3,037,823	62,109	3,099,932
1937.....	2,256,779	41,882	2,298,661	1943....	3,299,998	64,807	3,364,805
1938.....	2,130,006	37,728	2,167,734	1944....	3,290,538	81,637	3,372,175
1939.....	2,321,815	40,811	2,362,626	1945....	3,262,771	78,946	3,341,717
1940.....	2,460,466	46,222	2,506,688	1946[1]....	3,357,304	79,181	3,436,485

[1] Ten-month average.

The demands for primary power for war requirements greatly increased the primary power production, partly by switching secondary power to primary power uses and partly by increases in total output. The electro-chemical and electro-metallurgical industries showed large and rapid increases in consump-

Electrical service enables the farmer to keep his household furniture and appliances in good repair, as well as his farm machinery, and makes the construction of useful new equipment a simple task. The small motor in this picture is driving a circular saw and a portable electric drill.



Transmission lines must function reliably throughout the year, despite the hazards of wind, sleet and electrical storms.

tion of electric power, whereas the pulp and paper industry showed decreases mainly through transfer from electric to coal boilers.

The rated capacity of electric motors in use in manufacturing industries of Canada in 1944 was 81·7 p.c. of the total capacity of all power equipment in these industries, the increase from 61·3 p.c. in 1923 being almost continuous. In the mining industries this conversion to electric drive has been even greater, growing from 57·3 p.c. in 1923 to 83·0 p.c. in 1944.

Revenues of central stations in 1944 amounted to $215,246,391 and 1,906,452 domestic customers were served, representing approximately 60 p.c. of all families in Canada, both urban and rural.

Electric energy is exported from Canada only under licence and an export tax of 0·03 cents per kwh. is levied. Exports have shown a steady increase over the past decade and amounted to 2,646,435,000 kwh. in 1945.

Manufactures

THE chief forward movement in the development of Canadian manufactures has been the result of three great influences: first, the opening of the west at the beginning of the present century, which greatly increased the demand for manufactured goods of all kinds, especially construction materials; secondly, the First World War which left a permanent imprint upon the variety and efficiency of Canadian plants; and thirdly, the Second World War with its insatiable demands for food and manufactured materials of all sorts.

Canada's manufacturing capacity during almost six years of war, 1939-45, increased at a rate unsurpassed in her history. The situation created as a result of Canada's strategic position as a source of food and armaments had far-reaching effects on the magnitude and diversification of Canadian manufacturing production, with the result that Canada stands on the threshold of a new era in manufacturing development.

Summary of Statistics of Manufactures, 1870-1944

Year	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Net Value of Products[1]	Gross Value of Products
	No.	$ '000	No.	$ '000	$ '000	$ '000	$ '000
1870	41,259	77,964	187,942	40,851	124,908	96,710	221,618
1880	49,722	165,303	254,935	59,429	179,919	129,757	309,676
1890	75,964	353,213	369,595	100,415	250,759	219,089	469,848
1900[2]	14,650	446,916	339,173	113,249	266,528	214,526	481,053
1910[2]	19,218	1,247,584	515,203	241,008	601,509	564,467	1,165,976
1920[2]	22,157	2,914,519	591,753	711,080	2,083,580	1,609,169	3,692,748
1929	22,216	4,004,892	666,531	777,291	2,029,671	1,755,387	3,883,446
1933	23,780	3,279,260	468,658	436,248	967,789	919,671	1,954,076
1935	24,034	3,216,403	556,664	559,468	1,419,146	1,153,485	2,653,911
1936	24,202	3,271,264	594,359	612,071	1,624,214	1,289,593	3,002,404
1937	24,834	3,465,228	660,451	721,727	2,006,927	1,508,925	3,625,460
1939	24,805	3,647,024	658,114	737,811	1,836,159	1,531,052	3,474,784
1940	25,513	4,095,717	762,244	920,873	2,449,722	1,942,471	4,329,173
1941	26,293	4,905,504	961,178	1,264,863	3,296,547	2,605,120	6,076,308
1942	27,862	5,488,786	1,152,091	1,682,805	4,037,103	3,309,974	7,553,795
1943	27,652	6,317,167	1,241,068	1,987,292	4,690,493	3,816,414	8,732,861
1944	28,483	[4]	1,222,882	2,029,621	4,832,333	4,015,776	9,073,693

[1] For and since 1929 the figures for the net value of production represent the gross value less the cost of materials, fuel and electricity. Prior to this, only the cost of materials is deducted. [2] Includes all establishments employing five hands or over. [3] From 1920 to 1944 the figures include all establishments irrespective of the number of employees, but exclude construction, and custom and repair work. [4] Not collected.

The inexorable needs of War brought about radical changes in the demand for manufactured goods and to that extent complicated the process of recon-

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version to peace. Some industries, such as aircraft, shipbuilding, explosives and ammunition, had practically to close down. For other groups, demands shifted from wartime to peacetime products and in many cases reconversion problems could be solved relatively quickly. Instances of these are the railway equipment group, farm implements, heating appliances and the electrical apparatus industries. Indications are that the technical reconversion of Canadian farm industry was about three-quarters complete by August, 1946.

Industrial production as a whole now exceeds that of any former peacetime period. An even greater supply of goods would have been available and many current shortages relieved if industrial operations had not been interrupted so seriously by labour disturbances which have produced critical shortages in many basic commodities. Such disturbances have indeed been the main restrictive influence on output.

Statistics of Manufactures, by Provinces and Purpose Groups, 1944

Province and Group	Establishments	Employees	Salaries and Wages	Cost of Materials	Net Value of Products[1]	Gross Value of Products
	No.	No.	$ '000	$ '000	$ '000	$ '000
Prince Edward Island	241	1,786	1,695	6,993	3,571	10,714
Nova Scotia	1,281	37,812	59,940	103,463	93,377	204,422
New Brunswick	937	23,164	32,345	83,994	62,258	152,106
Quebec	9,657	424,115	668,156	1,494,253	1,350,519	2,929,685
Ontario	10,730	564,392	975,038	2,310,348	1,930,044	4,339,798
Manitoba	1,290	40,937	62,758	226,235	120,340	352,335
Saskatchewan	1,054	12,361	17,703	131,215	40,833	175,349
Alberta	1,165	22,186	33,228	172,082	77,416	252,950
British Columbia	2,116	96,062	178,639	303,560	337,137	655,845
Yukon and N.W.T.	12	67	119	190	281	489
Totals	**28,483**	**1,222,882**	**2,029,621**	**4,832,333**	**4,015,776**	**9,073,693**
Producers materials	8,990	343,035	567,700	1,369,160	1,142,646	2,646,304
Food	8,435	136,747	183,795	1,271,356	408,863	1,702,331
Industrial equipment	2,889	216,279	385,434	697,898	781,329	1,512,623
Vehicles and vessels	413	222,604	454,450	637,342	771,462	1,425,859
Clothing	2,713	117,056	146,624	284,018	242,325	529,231
Drink and tobacco	635	28,566	44,140	118,407	159,388	281,732
Books and stationery	2,468	47,319	76,542	75,883	141,795	219,966
House furnishings, etc.	908	38,940	58,426	83,231	100,932	187,175
Personal utilities	758	18,922	26,131	54,417	59,950	115,502
Miscellaneous	274	53,414	86,379	240,621	207,086	452,970

[1] Net value of production represents the gross value less the cost of materials, fuel and electricity.

Food Industries.—Normally the food industries of Canada contribute about 23 p.c. of the total output of manufactured products. In 1944 the gross production of the food industries was valued at $1,702,330,839. The leading industries, with the gross value of production in 1944, were as follows: slaughtering and meat packing, $543,034,100; butter and cheese, $218,143,356; flour and feed mills, $215,790,282; bread and other bakery products, $125,261,098; fruit and vegetable preparations, $107,335,254; miscellaneous foods, $97,434,861; biscuits, confectionery, cocoa and chocolate, $86,011,499; fish curing and packing, $68,882,879; prepared stock and poultry feeds, $67,497,152; sugar refining, $63,874,868; and condensed milk, $30,663,172. Each of these industries reported a

Beef carcasses in a packing plant are sliced in half with power saws.

substantial increase; all-told there was an increase of 38 p.c. in the physical volume of production as compared with 1939.

Slaughtering and Meat Packing.—Slaughtering and meat packing is the leading industry of the food group. In 1944 it also ranked first among the manufacturing industries of Canada in the gross value of production, having for the first time displaced the non-ferrous metal smelting and refining industry. In the latest year the physical volume of production in the industry was about 87 p.c. higher than in 1939; the industry furnished employment to 23,867 persons who were paid $38,697,789 in salaries and wages, and about $395,000,000 was paid out by packers for live stock. Of the 153 establishments in 1944, 26 contributed 80 p.c. of the total output, while the 11 largest plants had an average production of about $27,939,538.

Dairy Products.—Manufacturing statistics of dairy products are given in the Chapter on Agriculture at pp. 76-80.

Flour Milling.—The flour-milling industry has a tremendous capacity to produce whatever flour may be needed during the post-war period. The present maximum daily capacity of the mills is 91,000 bbl. per day of 24 hours, or an annual running capacity of about 29,000,000 bbl. The output of flour during the 1945-46 crop year amounted to 26,684,403 bbl., the highest on record, and an increase of about 42 p.c. over the previous ten-year average.

A great impetus was given this industry, which has existed to meet domestic needs for more than 300 years, by the large import requirements of the United Kingdom and other Allied countries during the recent war years. Exports of

72235—9½

A "slasher" in a textile mill straightens out and puts a protective coating on the warps.

wheat flour to all countries increased to 13,730,584 bbl. in 1945 from an export of only 3,911,886 in 1938. The demand for Canadian flour in foreign markets was a decided boon to Canadian agriculture, inasmuch as it enabled flour mills to make available large quantities of mill feeds that otherwise would not have been produced. Farmers could thus obtain sufficient feeds needed to fulfil the large commitments for the export of cheese and bacon.

Canadians are all Shareholders in

"POLYMER"

CONCEIVED, designed and built at top speed to meet an urgent war need, the Polymer plant, where the secret of the manufacture of synthetic rubber was developed commercially in the war years, has now become definitely woven into the fabric of the Canadian peacetime economy. Its success is a guarantee that Canada shall never again be dependent on far-a-way sources for rubber in time of emergency, and augurs well for greater stability in the price of this commodity.

From this property on what was once an Indian reservation, go forth each year more than $20,000,000 worth of two main types of synthetic rubber, buna-S and butyl. And through its pipelines to adjacent plants, flow basic raw materials for making plastics.

Polymer is the only plant in existence able to convert petroleum gases into crude synthetic rubber. Three years ago on Sept. 29, 1943, the plant produced its first commercial batch of synthetic rubber. It is unique in its efficiency. With steadily rising output it has succeeded in reducing operating costs. Originally designed for an output of 83,600,000 pounds of butyl and buna-S synthetic rubbers per annum, it was producing at the rate of 115,000,000 in the spring of 1946 and a goal of 118,000,000 pounds has been set for the year ending Sept. 29, 1947. Polymer's present selling price is 18·5 cents per pound, f.o.b. Sarnia. There is considerable conflict of opinion as to the price at which crude rubber will sell in a free post-war market. The United States recently purchased 200,000 tons of Malayan rubber at 20¼ cents a pound, f.o.b. Singapore. Since shipping charges equal about two cents per pound, the present price of natural rubber is about 22·6 cents in Canada, as against Polymer's present price of 19 cents laid down at Canadian processing plants. This Polymer price might be still further reduced.

The only rubber-producing plant north of the United States border, Polymer supplies all Canadian requirements of buna-S and butyl and has made substantial exports to Europe and the two Americas. Convinced that its products will continue to be in large demand after natural rubber is available in quantity, Polymer is ready and able to increase its usefulness to Canada and to the many friendly nations with which Canada is engaging in two-way trade. For instance, in October, 1946, a consignment of 600 tons of buna-S rubber made by Polymer was shipped to France. This is the largest single consignment that has yet been made by Polymer to a European country, although 500 tons were shipped to the same country in February, 1946.

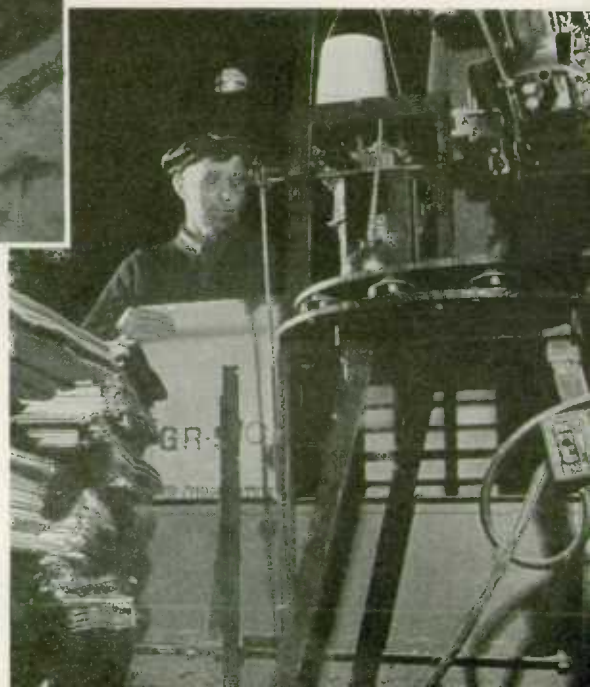
Butadiene and styrene are piped from outside storage tanks to reactor tanks (above) where polymerization takes place. From the reactors the liquid goes to coagulation tanks (top centre) where brine acid causes suspended rubber particles to form small chunks of rubber.

THE POLYMER SYNTHETIC RUBBER PLANT AT SARNIA, ONT.

Large sheets of rubber pass over rollers for drying.

Packing rubber for shipment.

Continuous shreds of synthetic rubber as they come from the extruder after having been bound together by heat and pressure.



Canned Foods.—Exports of canned goods in Canada have almost kept pace with increased production. Nearly 30 p.c. of such production finds its way abroad. There has, however, been a considerable change in the emphasis in export trade that certain canned products have assumed. Canned fruits exported, for instance, were but a small fraction in 1944 of their volume in 1939. Similarly with canned vegetables and canned soups, but canned fish, canned meats and concentrated milk in cans all showed very substantial increases.

Principal Foods Canned in Canada, 1939 and 1944

Product		1939		1944	
		Quantity	Value	Quantity	Value
			$		$
Fish	lb.	108,893,332	15,478,961	144,960,471	26,046,074
Fruits	"	116,500,115	7,769,005	70,003,002	6,548,931
Vegetables	"	251,432,000	14,526,671	393,235,705	26,951,532
Meats	"	7,887,228	1,743,227	87,344,513	23,576,961
Soups	"	96,660,000	9,259,222	124,892,865	14,756,625
Other foods	"	—	9,113,941	—	20,368,950
Concentrated milk	cwt.	1,660,425	11,575,971	2,706,601	27,829,398
Totals		—	**69,466,998**	—	**146,078,471**

Textile Industries.—Individual industries in the textile group represent practically all stages of manufacturing, and these industries are, to a high degree, centralized in Quebec and Ontario.

The peak of textile production was reached in 1942. For that year the index of the physical volume of production stood at 152·4, an increase of 45·3 p.c. as compared with 1939. Minor declines in volume were reported in 1943 and 1944, the indexes being 140·2 and 136·2, respectively. In spite of the declining production during these two years, all the major industries of the group operated at substantially higher levels in 1944 than in 1939. For textiles as a whole there was an increase of 30 p.c. in volume. The silk industry reported an increase of 52 p.c., woollen cloth 49 p.c., men's factory clothing 45 p.c., women's factory clothing 36 p.c., cotton yarn and cloth 12 p.c., and hosiery and knitted goods 6 p.c.

During 1944, the industry employed 153,122 persons, 27,016 of whom were employed in the men's factory clothing group, 25,810 in women's factory clothing, 22,939 in hosiery and knitted goods, 21,900 in cotton yarn and cloth, 11,315 in silk and artificial silk and 8,361 in woollen cloth. For the whole industry, $195,805,681 was paid out in salaries and wages. Before the War, the textile industries employed almost half the women employed in all manufacturing industries, but during the war years so many avenues of employment were opened up to women that by 1944 the proportion in textile industries had dropped to about 26 p.c.

New developments in the industry include the use of artificial silk (viscose) yarns in the production of tire cord and fabrics, and the experimental production of acetate artificial silk from wood-pulp.

Iron and Steel Industries.—The three major corporations that constitute the core of the industry in Canada are self-contained in that they process iron and steel from the ore through to the semi-finished and finished articles. The activities of the Steel Company of Canada, Limited, cover a wide range of products. The main plant at Hamilton, Ont., has 3 blast furnaces, 13 open-hearths, 1 electric furnace, and rolling mills for making billets, bars, wire rods, sheets, plates and light shapes. Its capacity is about 1,100,000 net tons of ingots annually. In addition, it operates several works in Ontario and Quebec for the production of wire, fencing, nails, screws, bolts, nuts, forgings, pipe, horseshoes, etc. The Algoma Steel Corporation, Limited, has 5 blast furnaces, 12 open-hearths, and also rolling mills. Its capacity is about 736,000 tons of ingots yearly and its chief products are billets, rails and rail fastenings, carbon and alloy merchant bars, tinplate, black sheets, structural steel and sheet piling. It is Canada's main producer of heavy structural shapes which are made in all standard sizes and forms. The Dominion Steel and Coal Corporation operates 4 blast furnaces and 16 steel furnaces with a yearly ingot capacity of 750,000 tons. Its rolling mill makes billets, rails, rail fastenings, merchant bars, wire rods and plates and in other plants or plants of subsidiary companies it makes wire, fencing, nails and similar lines.

Canada has recently built 2 of the largest blast furnaces in the British Empire. Actual output of pig iron in 1945 was 1,777,958 net tons compared with 846,418 tons in 1939.

Notable expansion occurred during the war years in connection with alloy steels and steel plates. The production capacity and output of alloy steels was multiplied six times, making this country practically independent in providing the types used in guns, armour plate and machine tools. In all, there are 137 steel furnaces in Canada, including 51 open-hearth units, 83 electric units and 3 converters.

Canada's steel production in 1945 amounted to 2,881,323 tons or nearly double the best pre-war tonnage. At the beginning of 1940 the rated capacity of steel furnaces in the Dominion was 2,300,000 net tons, but new installations raised this potential to 3,623,000 tons at the end of 1945, including 3,358,000 tons ingot capacity and 265,000 tons for castings.

In the secondary or steel fabricating industries, there was tremendous expansion in the war years. For a decade prior to 1940 the shipbuilding industry was practically inactive, but in 1944 there were over 67,000 workers in 22 major and 72 smaller yards with output valued at $329,000,000. The aircraft industry, which had fewer than 1,000 employees at the outbreak of war in 1939, had approximately 80,000 workers in main assembly and in sub-assembly plants in 1944 when output amounted to $427,000,000. The automobile industry, which early in the War was switched entirely to military vehicles, continued to work at a high level with 22,499 employees in 1944 and production valued at $324,000,000.

For the entire group of iron and steel industries, the output in 1944 was valued at $2,541,000,000 compared with $553,000,000 in 1939.

Locomotive wheels, newly moulded, are guided to annealing pits where they are subjected to a four-day cooling period; one pit accommodates twenty wheels.

Chemicals.—Production of chemicals and allied products totalled $472,-300,000 in 1945 compared with $730,900,000 in 1944, a decline of 35 p.c. The drop in output in 1945 was due entirely to the termination of contracts for ammunition and military explosives following the surrender of Germany and Japan, resulting in the closing toward the year-end of a number of large war plants which were occupied entirely on military requirements. For the ammunition group alone the value of prodution was less than $100,000,000 in 1945 compared with $360,000,000 in 1944. If shell-filling and small-arms cartridges were exluded from the totals the values for the remaining industries would be approximately as follows: 1940, $193,000,000; 1941, $273,-000,000; 1942, $348,000,000; 1943, $359,000,000; 1944, $371,000,000; and 1945, $372,000,000.

In 1945 there were about 983 establishments in operation in this group and employment was given to an average of 60,000 workers throughout the year. These firms paid out $100,000,000 for salaries and wages, $16,000,000 for fuel and electricity, and $200,000,000 for manufacturing materials. The decline in employment compared with 1944 was 26 p.c.; in salaries and wages 27 p.c.; and in cost of materials 44 p.c.

Exports of chemicals and allied products advanced to $111,300,000 in 1945 from $100,700,000 in the preceding year. Imports dropped slightly to $79,800,-000 from $80,800,000 in 1944.

Canada has a strong and diversified heavy chemical industry which now supplies about 70 p.c. of the Dominion's chemical needs and, in addition, makes a substantial contribution to export trade. It has buildings and capital equipment valued at $120,000,000, employs 10,000 workers, and annually distributes $18,000,000 in salaries and wages and $40,000,000 for materials, fuel and power. Its production expanded three-fold during the War to reach a total value in 1945 of about $110,000,000 and much of this new capacity has already been absorbed in peacetime operations. Carbide, cyanide, cyanamide, acetic acid, vinyl resins, acetylene black, ammonium nitrate, ammonium phosphate and ammonium sulphate are the main export items, while sulphuric acid, caustic soda, chlorine, calcium chloride, phosphorus chemicals, synthetic ammonia, acetone, sodium silicate, and compressed gases are other important items of manufacture in a list that is being extended steadily each year.

Leading Individual Industries

A prominent feature of Canadian manufacturing development in recent years has been the rapid growth of non-ferrous metal smelting. This industry has now taken its place among the leading manufactures along with the industries based upon forest, agricultural and live-stock resources. From the standpoint of gross value of production, it has stood in first place since 1937. In 1944 it ranked second, having been displaced from the premier position by the

Chemical materials known as "plastics" comprise about fifteen main types, each with its own characteristics and uses. Certain vinyl resins, with excellent properties as binders for glass, are used in making shatterproof windshields and visors. The milky vinyl sheet, placed between two sheets of glass, becomes crystal clear under pressure.

slaughtering and meat-packing industry. Under the impetus of war production, the industries engaged in producing the equipment needed by the Armed Forces, such as shipbuilding, aircraft, automobiles, miscellaneous chemical products and primary iron and steel, advanced to higher positions.

Principal Statistics of Fifteen Leading Industries, 1944

Industry	Establishments	Employees	Salaries and Wages	Cost of Materials	Net Value of Products	Gross Value of Products
	No.	No.	$ '000	$ '000	$ '000	$ '000
Slaughtering and meat packing	153	23,867	38,698	458,484	81,738	543,034
Non-ferrous smelting and refining	16	23,927	44,537	313,996	123,303	474,207
Miscellaneous chemical products	228	50,437	82,009	227,608	198,944	431,494
Aircraft	45	79,572	161,065	137,734	286,654	426,982
Pulp and paper	104	37,896	75,833	157,995	174,492	369,846
Shipbuilding and repairs	94	67,076	138,967	101,057	224,632	329,300
Automobiles	5	22,499	53,880	234,578	87,185	324,091
Electrical apparatus and supplies	234	48,834	82,304	120,413	160,170	283,071
Iron and steel products, *n.e.s.*	170	36,963	75,077	126,539	126,852	256,407
Butter and cheese	2,282	18,622	25,359	168,490	45,837	218,143
Sawmills	5,506	43,516	51,516	118,167	96,529	216,557
Flour and feed mills	1,087	7,289	10,512	187,117	26,781	215,790
Primary iron and steel	64	30,763	60,837	92,215	103,019	212,510
Petroleum products	48	6,809	14,318	153,559	47,986	210,547
Rubber goods	56	21,421	35,979	82,188	82,813	169,511
Totals, Fifteen Leading Industries—						
1944	**10,092**	**519,491**	**950,891**	**2,680,140**	**1,866,935**	**4,681,490**
1943	**9,854**	**541,612**	**957,441**	**2,634,086**	**1,805,535**	**4,578,873**
Grand Totals, All Industries—						
1944	**28,483**	**1,222,882**	**2,029,621**	**4,832,333**	**4,015,776**	**9,073,693**
1943	**27,652**	**1,241,068**	**1,987,292**	**4,690,493**	**3,816,414**	**8,732,861**
Percentages of Fifteen Leading Industries to All Industries, 1944	35·4	42·4	46·8	55·5	46·4	51·6

Manufacturing Industries in Urban Centres

The prosperity of most of the cities and towns of Canada, especially in the east, is intimately connected with their manufacturing industries, which provide employment for a large proportion of their gainfully occupied population. In the west the cities are more largely distributing centres, though manufactures are rapidly increasing there also.

The extent to which the manufacturing industries of Canada are concentrated in urban centres is indicated by the fact that in Ontario 89·5 p.c. of the gross manufacturing production of the province in 1944 was contributed by cities and towns having a gross production of over $1,000,000 each. In Quebec the percentage was 91·1, while in the Maritime Provinces and British Columbia, where sawmilling, fish-packing and dairying are leading industries, the proportions fell to 71·0 and 77·5 p.c., respectively. In the Prairie Provinces manufacturing is confined largely to a few urban centres.

Urban Centres with Manufacturing Production of Over $35,000,000 in 1944

NOTE.—Statistics cannot be published for Arvida, Noranda and Ste. Therese-de-Blainville, Quebec; Coniston, Copper Cliff and Oshawa, Ontario; and North Vancouver and Trail, British Columbia.

Urban Centre	Establishments	Employees	Salaries and Wages	Cost of Fuel and Electricity	Cost of Materials	Gross Value of Products
	No.	No.	$'000	$'000	$'000	$'000
Montreal, Que	3,109	185,708	308,396	15,856	650,619	1,215,988
Toronto, Ont	3,344	154,538	259,777	11,744	513,429	1,020,345
Windsor, Ont	231	35,912	80,668	4,890	232,102	387,604
Hamilton, Ont	480	53,500	94,983	12,095	171,117	363,034
Vancouver, B.C	933	43,473	79,141	3,568	142,416	289,391
Winnipeg, Man	686	25,870	38,824	2,446	119,918	198,170
Montreal East, Que	20	3,620	6,927	4,464	76,405	122,626
Quebec, Que	318	25,424	36,783	3,014	45,710	115,144
Port Colborne, Ont	21	2,743	5,127	2,547	78,011	107,558
Edmonton, Alta	189	7,520	11,539	654	76,568	101,480
Leaside, Ont	44	12,463	24,924	554	41,740	100,220
Sarnia, Ont	45	6,412	12,980	5,726	50,997	93,556
Kitchener, Ont	156	12,597	19,822	1,074	50,927	93,288
St. Boniface, Man	52	3,972	6,575	500	69,115	87,882
Calgary, Alta	205	6,723	10,903	1,629	56,746	86,213
New Toronto, Ont	23	7,226	14,145	1,268	45,179	85,310
London, Ont	237	13,098	20,132	1,127	34,707	79,591
Peterborough, Ont	85	8,926	14,955	809	41,812	74,668
St. Catharines, Ont	98	10,150	18,442	1,113	40,630	71,772
Welland, Ont	51	8,352	15,277	3,835	28,253	69,301
Shawinigan Falls, Que	41	6,091	10,925	8,420	32,570	68,487
Brantford, Ont	122	12,980	21,753	1,128	24,060	65,969
Fort William, Ont	44	8,085	16,824	1,438	20,278	59,458
Sault Ste. Marie, Ont	46	6,102	12,061	4,467	30,224	57,674
Ottawa, Ont	206	11,916	19,546	1,082	21,998	52,954
Longueuil, Que	13	10,771	21,546	324	18,521	49,443
St. Laurent, Que	17	11,546	21,333	405	14,769	47,825
Lachine, Que	39	6,768	14,384	788	21,625	46,376
Three Rivers, Que	73	6,296	9,933	3,896	20,512	45,146
Saint John, N.B	121	4,657	6,817	770	28,519	43,586
Regina, Sask	104	3,148	5,542	1,107	29,151	42,261
New Westminster, B.C	95	5,064	8,653	508	22,353	41,929
Sherbrooke, Que	88	8,142	11,250	785	17,417	40,006
Kingston, Ont	50	6,803	11,878	930	15,663	39,689
Saskatoon, Sask	84	2,254	3,341	400	29,710	39,384
Halifax, N.S	113	7,138	12,148	612	15,365	37,325
Moose Jaw, Sask	44	1,627	2,529	429	29,661	35,498

Employment in Manufactures

Changing industrial activity is reflected in the variations of the monthly employment index maintained by the Dominion Bureau of Statistics. The indexes shown below are computed from monthly returns received from establishments having 15 or more employees. The coverage of total workers in manufacturing is extremely high.

During the past seven years the index of manufacturing climbed from 115·3 at Sept. 1, 1939, the last pre-war month, to reach a peak of 231·4 at Oct. 1, 1943, thence it declined considerably but at Oct. 1, 1946, it stood at 188·3 or 63 p.c. higher than at Sept. 1, 1939.

Employment in 1946 has been greatly retarded by major strikes in many industries in Canada and the United States. However, by October, the index had reached its highest point in the year, partly the result of the settlement of many strikes which had affected the situation earlier in the year and partly as a result of seasonal influences.

Despite the decline in war production, manufacturing industries have provided positions for thousands of ex-servicemen. Many women have withdrawn from the industry and their positions have been taken by veterans. At October, 1944, 28·3 p.c. of all reported employees were women. Since the cessation of hostilities, the trend has been downward and at Oct. 1, 1946, 26 persons in every hundred so employed were women.

With the changes in the industrial distribution of wage earners in manufacturing, following the termination of the war and the elimination of much overtime, there was considerable decline in aggregate weekly payrolls in the earlier months of 1946. The influence of many wage adjustments during the year was sufficient to reverse this trend and the payroll index based on June 1, 1941, reached 142·8 at Oct. 1, 1946, compared with 137·8 at Oct. 1, 1945; the figure at Oct. 1, 1943, had however, been 150·8. It is also interesting to note that despite the decline in war manufacturing, wage increases have been so widespread throughout manufacturing as a whole in the past few months that the average hourly earnings at Oct. 1, 1946, were 71·4 cents or 3·6 cents greater than one year previously; at the same time the average hours worked declined from 44·7 hours per week to 42·8 hours.

Monthly Indexes of Employment in Manufactures, 1941-46

(1926=100)

Month	1941	1942	1943	1944	1945	1946
Jan. 1	142·5	187·1	219·6	226·4	212·7	179·9
Feb. 1	147·4	191·2	222·1	227·3	215·0	182·8
Mar. 1	150·8	195·7	223·4	226·5	214·3	182·6
Apr. 1	158·2	199·4	224·1	225·5	212·9	184·9
May 1	162·3	202·3	222·9	223·2	210·6	186·2
June 1	168·0	205·9	224·1	223·1	209·0	184·7
July 1	172·4	209·5	226·5	225·8	207·2	187·2
Aug. 1	176·8	212·4	227·7	225·0	204·1	184·2
Sept. 1	181·4	215·6	229·9	226·2	198·6	187·1
Oct. 1	184·9	218·3	231·4	223·7	188·3	188·3
Nov. 1	187·5	218·6	230·8	221·3	186·3	—
Dec. 1	188·4	221·7	230·9	220·1	184·2	—

General machine shop in one of Canada's modern plants for the manufacture of electrical apparatus.

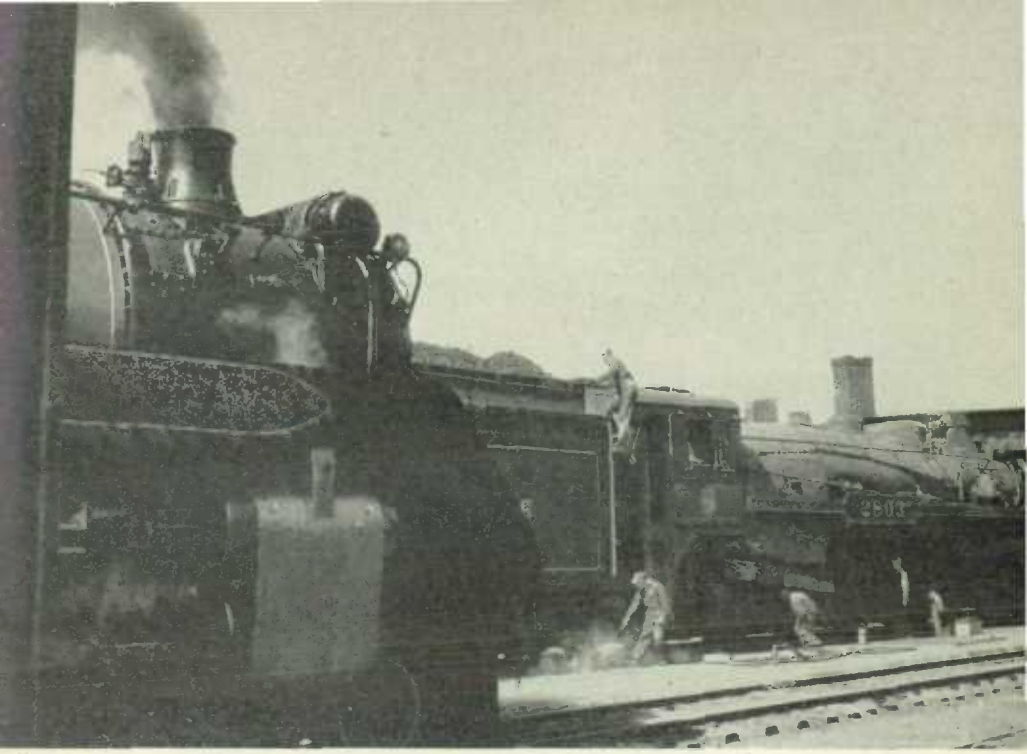
Transportation Communications

Steam Railways

IT would be difficult to over-estimate the importance of the railways in the building of Canada and to-day with its relatively small population thinly distributed along the southern strip of a vast area 4,000 miles in length, and its extensive external and internal trade, a large and costly transportation system is a necessity.

One of the first great undertakings to engage the attention of the Dominion of Canada after Confederation in 1867 was the building of a transcontinental railway to link the east and west. Surmounting tremendous difficulties, the Canadian Pacific Railway was completed in 1885 and the vast hinterland of the Canadian west was opened for settlement. The wheat boom during the period 1900-13 brought prosperity and rapid economic expansion and precipitated another era of railway development. Two other transcontinental systems, the Canadian Northern and the Grand Trunk Pacific (with the government-built National Transcontinental) were built, and total Canadian railway mileage increased from 18,140 in 1901 to 30,795 in 1914. This expansive railway policy of Canada made direct economic intercourse between its separate regions possible. Not only was the settlement of the west promoted, but economic activity in the east was stimulated. A direct railway connection with the prairies gave a tremendous impetus to the industrialization of Ontario and Quebec, to the coal and steel industries of Nova Scotia and to the lumber industry of British Columbia. The railways had reduced the vast size of the country to manageable proportions.

It has at times seemed unfortunate that the optimism prevailing during this period should have resulted in building far more railways than were at the time economically justified and in costly duplication extending across long stretches of unproductive territory so that transportation overhead increased with each passing year. Yet in times of war it is difficult to see how the extraordinary demands on transportation facilities could otherwise have been met. The heavy strain on such facilities during 1914-18 left the railways considerably weakened and in order to avert financial disaster on a national scale, many lines had to be taken over by the Government. It was these lines, including the Canadian Northern, the Grand Trunk (and its subsidiary the Grand Trunk Pacific) and several smaller lines, along with the Intercolonial, that were brought together in 1923 to form the Canadian National Railways.



Canada's two great railways, the C.P.R and the C.N.R., are world-renowned for service and efficiency. This record is supported by the most meticulous program of inspection that each piece of equipment undergoes before and during a run.

During the 1920's the position of the railways improved considerably with good conditions in both agriculture and business and further expansion took place, mostly in Western Canada, adding nearly 4,000 miles of new line during the decade. But the depression beginning in 1929, combined with a prolonged period of drought in the West and the rapid growth of automobile traffic brought back the "railway problem" in an acute form. The Royal Commission of 1931 recommended separate operation of the two major systems but with the adoption of co-operative measures to cut down operating expenses. The railways subsequently implemented this by pooling certain passenger services, abandoning some light traffic or duplicate mileage, and adjusting rates to meet highway competition, including the establishment of "pick-up and delivery" service between towns within certain areas in Eastern Canada.

With the outbreak of the Second World War, however, the excess capacity which had burdened the railways during the depression became one of the greatest national assets. For the first time in the history of the Canadian railways the volume of traffic was on a scale to justify the calculations of the early builders. The expansion of industrial production under the stimulus of war demands increased freight traffic 110 p.c. in ton miles between 1939 and 1944. The increase of 195 p.c. in passenger traffic over the same period was even

more phenomenal. The peak in traffic was reached in 1944 and a falling off in both freight and passenger traffic was shown in 1945.

In the post-war period the decline in traffic will revive some of the problems that faced the railways in the inter-war period. Competition from highway and air transport will become more severe. On the other hand, if the country's wartime gains in productive capacity can be retained, a normal level of economic activity in the future should create sufficient traffic to maintain the railways in a sound condition.

Summary Statistics of Canadian Railways, 1928, 1933, 1938 and 1942-45

Year	Freight Carried One Mile	Passengers Carried[1]	Employees	Gross Operating Revenues	Operating Expenses
	Tons	No.	No.	$	$
1928	41,610,660,776	40,592,792	187,710	563,732,260	442,701,270
1933	21,092,594,200	19,172,193	121,923	270,278,276	233,133,108
1938	26,834,696,695	20,911,196	127,747	336,833,400	295,705,638
1942	56,153,953,000	47,596,602	157,740	663,610,570	485,783,584
1943	63,915,074,000	57,175,840	169,663	778,914,565	560,597,204
1944	65,928,078,992	60,335,950	175,095	796,636,786	634,774,021
1945	63,349,094,918	53,407,845	180,603	774,971,360	631,487,562

[1] Duplications included.

Electric Railways

Widespread changes in urban transport systems have been taking place in recent years. Electric street railways, originally the sole type of conveyance, have been replaced in many of the smaller cities of Canada by the motor bus and have been supplemented and partially replaced by the motor bus and the trolley bus in the larger cities. At the end of 1946, electric cars were in operation in 22 Canadian cities, compared with 43 in 1926, while a large number of inter-urban electric lines have been abandoned. In many cases, the same transportation company has remained in operation, using motor buses instead of electric cars, but in a considerable number of cities in Ontario and Western Canada the transportation services are owned and operated by the municipalities.

Increased population in cities and suburbs with the resultant growing traffic congestion, have brought transportation problems to first place in plans for post-war development. The electric street car seems likely to remain the basic part of the systems of the larger cities. Windsor is at present the largest city where buses, exclusively, are operated. Trolley buses are in use in Edmonton, Montreal and Winnipeg only, but other cities, including Toronto, Calgary, Regina and Hamilton, are planning to add this type of vehicle in the near future. Equipment owned by electric railways in 1945 included 3,512 electric passenger cars, 1,454 buses and 67 trolley buses.

Traffic of electric railways in 1945 reached an all-time high of 1,316,572,000 passengers carried (not including cities where motor buses are used exclusively), an increase of 5·1 p.c. over 1944. Electric cars carried approximately 83 p.c. of the traffic, motor buses 16 p.c. and trolley buses 1 p.c.

Roads and Highways

Construction of roads suitable for motor traffic has been one of the principal items of provincial expenditure during the past 25 years. The Dominion Government has built roads in National Parks and has granted subsidies to the provinces, first in 1920 and again as an unemployment relief measure in 1930-39, but has not constructed any rural roads outside of Dominion lands.

At the end of 1944 there were in Canada 127,447 miles of surfaced roads and 425,858 miles of earth roads. Of the surfaced roads, 110,563 miles were gravel or crushed stone, 14,324 bituminous surfaced and 2,518 portland cement concrete.

The expenditures for 1944 amounted to $71,851,341, including $28,099,004 for construction of roads, $3,386,261 for construction of bridges, $33,765,253 for maintenance of roads, $3,801,649 for maintenance of bridges, $25,446 for footpaths and sidewalks, and the remainder for administration and general expenses.

Motor-Vehicles

The number of motor-vehicles registered in Canada reached a peak of 1,572,784 in 1941, including 1,279,536 passenger cars, 278,771 commercial cars, and 14,477 motor-cycles. During the war years the number of commercial cars continued to increase, advancing to 322,829 in 1945, including 315,606 trucks, 5,988 buses and 1,235 miscellaneous vehicles; motor-cycles were slightly less at 14,194. Passenger cars, however, declined each year to 1,160,058 in 1945, due to restrictions on the manufacturing of cars for private use, tires and gasoline,

Travel by motor coach is growing in popularity, especially for short and medium runs. The chief operating companies have improved schedules and provided depot and travel facilities that have extended their competitive position.

Trucking above the Fraser River on the Vancouver-Kamloops Road—a 300-mile rise through the mountains, known as "B.C.'s Burma Road".

inability to secure repair parts and shortage of garage mechanics. A reversal of this wartime trend can now be looked for, although the full effect may not be felt for some time, since material shortages have continued to keep down production.

The Dominion Government guaranteed the provinces their 1941 revenues from the gasoline taxes and have made up the differences by subsidies, but the loss in revenues from reduced registrations was not offset; it declined from $31,559,944 in 1941 to $30,746,992 in 1944 but increased to $31,856,824 in 1945.

Motor-Vehicles Registered in Canada, 1938-45

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada[1]
1938.....	7,992	51,214	37,110	205,463	669,088	88,219	109,014	107,191	119,220	1,394,853
1939.....	8,040	53,008	38,116	213,148	682,891	88,864	119,018	113,702	122,087	1,439,245
1940.....	8,070	57,873	39,000	225,152	703,872	90,932	126,970	120,514	128,044	1,500,829
1941.....	8,015	62,805	41,450	232,149	739,194	96,573	131,545	126,127	134,499	1,572,784
1942.....	7,537	58,872	37,758	222,622	715,380	93,147	130,040	125,482	132,893	1,524,153
1943.....	8,032	59,194	40,205	222,676	691,615	93,494	133,839	127,559	134,691	1,511,845
1944.....	8,412	57,933	39,570	224,042	675,057	93,297	140,992	127,416	135,090	1,502,567
1945.....	8,835	56,699	41,577	228,681	662,719	92,758	140,257	130,153	134,788	1,497,081

[1] Includes Yukon.

Shipping

Canadian shipping is divided into two classes: (1) foreign service, and (2) coasting service. The first is subdivided into: (*a*) seagoing, i.e., between Canadian ports on the Pacific and Atlantic Oceans and on the St. Lawrence up to Montreal, including fishing at sea and at ports in other countries; and (*b*) inland, i.e., between Canadian and United States ports on the Great Lakes and connecting rivers. The second is service between Canadian ports, including fishing in Canadian waters.

Shipping statistics are collected only from ports at which there is an official of the Customs and Excise Division of the National Revenue Department, and consequently do not include shipping on Mackenzie River, Lake Winnipeg, etc.

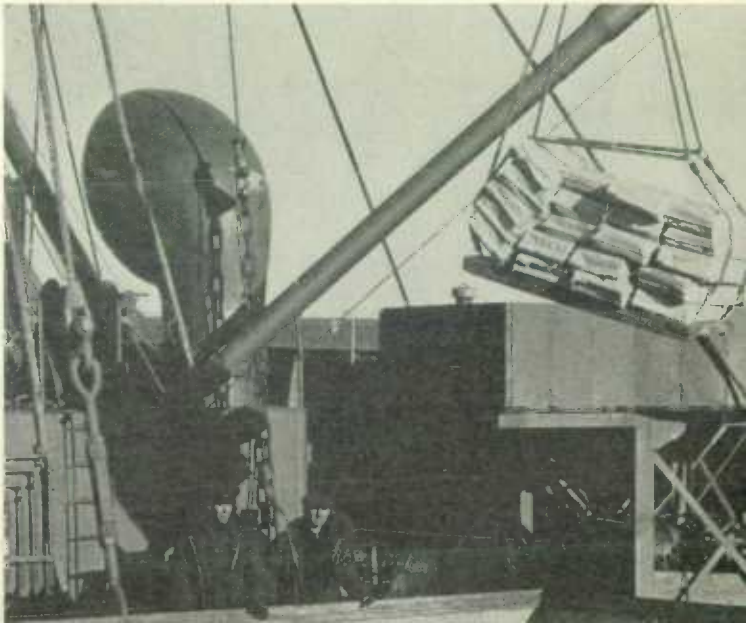
Vessels Entered at Canadian Ports, 1938-45

Year ended May 31	Foreign Service[1]		Coasting Service		Totals	
	No.	Tons Register	No.	Tons Register	No.	Tons Register
1938	42,582	45,603,055	75,537	44,471,834	118,119	90,074,889
1939	43,601	44,775,116	73,386	45,386,457	116,987	90,161,573
1940	46,241	46,666,396	78,212	44,361,232	124,453	91,027,628
1941	25,122	32,579,900	79,951	50,471,166	105,073	83,051,066
1941[2]	26,203	31,452,400	77,592	48,111,082	103,795	79,563,482
1942[2]	24,066	25,640,763	73,366	43,990,764	97,432	69,631,527
1943[2]	22,901	26,345,562	65,066	40,300,778	87,967	66,646,340
1944[2]	23,786	28,356,681	64,999	43,776,497	88,785	72,133,178
1945[2]	24,431	29,655,984	65,410	48,098,201	89,841	77,754,185

[1] Sea-going and inland international. [2] Calendar year.

Harbours

Facilities provided for the co-ordination of land and water transportation at Canada's many ports include docks and wharves, warehouses for general cargo, cold-storage warehouses, harbour railway and switching connections,



Loading Canadian synthetic rubber for shipment to Europe.

grain elevators, coal bunkers, oil storage tanks and, in the chief harbours, dry-dock accommodation. Eight of the principal harbours—Halifax, Saint John, Chicoutimi, Quebec, Three Rivers, Montreal, Vancouver and Churchill—are administered by the National Harbours Board, seven others by commissions that include municipal as well as Dominion Government appointees, and the remainder by harbour masters directly under the authority of the Department of Transport.

Canals

There are six canal systems under the Department of Transport, namely: (1) between Fort William and Montreal, (2) from Montreal to the International Boundary near Lake Champlain, (3) from Montreal to Ottawa, (4) from Ottawa to Kingston, (5) from Trenton to Lake Huron, and (6) from the Atlantic Ocean to Bras d'Or Lakes in Cape Breton. These canals have opened to navigation from the Atlantic about 1,890 miles of waterways. Under the Department of Public Works or other authority are minor canals and locks that facilitate local navigation.

The Great Lakes and St. Lawrence River form one of the busiest waterways in the world. More traffic passes up and down the Detroit River than any other waterway and the traffic through the canals at Sault Ste. Marie, Ont., in 1929 reached a total of 92,616,898 tons, more than through the Panama and Suez Canals combined. Due to heavy war requirements for iron ore this traffic was increased to a new peak of 120,200,814 tons in 1942. In 1945 the total was 113,227,316 tons.

Inner Harbour at Victoria, B.C. The Parliament Buildings are shown in the left foreground and Esquimalt across the inlet.

At the conclusion of hostilities, Canada found herself with an immense number of assets and potential assets in civil aviation. These took the form of trained personnel, airports, aids to air navigation, communication facilities and meteorological services. The task of deciding which of these potential assets can be used to advantage in civil aviation has engaged the full attention of the authorities.

The following table shows the increase in the number of certificates issued by the Civil Aviation Division of the Department of Transport to personnel and aircraft from January, 1945, to July, 1946.

Civil Aviation Certificates and Licences in Force, January, 1945, and July, 1946

Type	In Force Jan. 1, 1945	In Force July 31, 1946	Increase
Private air pilots	255	795	540
Commercial and transport pilots	567	1,982	1,415
Airport traffic control officers	135	94	—41
Air engineers	850	1,154	304
Registration of Aircraft—			
Private	7	38	31
Commercial	240	673	433

During the war years, there were 207 airports and aerodromes constructed or improved by the Department of Transport for the British Commonwealth Air Training Plan, Western Hemisphere Operations or war purposes generally. In addition there are 45 airports, aerodromes and emergency landing fields owned and operated by the Department.

International Aviation Organizations.—During the International Civil Air Conference held at Chicago in November, 1944, Canada was chosen as the seat of the Provisional Civil Aviation Organization, now widely known as PICAO, which was established at that time. The Council of that Organization, on which Canada as a member was represented, met at Montreal in July, 1945, and devoted its activities chiefly to setting up its own organization. The Organization voted to retain the headquarters of the permanent Civil Aviation Organizaion at Montreal when the Convention on International Civil Aviation comes into effect. It is anticipated that this will occur early in 1947.

Subsequent to the meeting, various technical committees dealing with such subjects as airworthiness, licensing of personnel, operating procedures, airway control, airports and airways, investigations of accidents, search and rescue, communication, etc., had met at Montreal to draw up standards for international flying. These committees, working both singly and in groups, have been meeting periodically ever since to perfect their work. Canada has actively participated in all these meetings.

As an outcome of the work done by PICAO, a meeting was held at Dublin, Ireland, in March, 1946, to establish rules for operation on the North Atlantic. An organization named the Trans-Atlantic Route Service Organization was

established for the purpose of preparing details covering standards and procedures for the safe operation of trans-Atlantic services. This was followed by a similar meeting at Washington in August, 1946, to arrive at an agreement on details of operation in the Caribbean area. Canada, being interested in both these areas, was well represented at the meetings.

An organization known as the International Air Transport Association (IATA) of which most of the major international civil air operators of the entire world are members, also has its Headquarters at Montreal. The first president of this Association is a Canadian, H. J. Symington, of Montreal: a tribute to the prominent place Canada holds in world aviation.

Delegates from the United Kingdom and Canada met in Bermuda late in December, 1945, to prepare an agreement on the allocation of routes and traffic as between Canada, Newfoundland and the United Kingdom. Canada and the United Kingdom agreed to operate reciprocal services between the two countries, limiting the space, however, for the present to 175 passengers per week each way for each country. At the same time a tentative arrangement was made with Newfoundland permitting Canada to operate an Atlantic service on a traffic basis through Goose Bay, Labrador, or through Gander in Newfoundland.

Government Air Policy.—In a statement in the House of Commons on Apr. 2, 1943, the Prime Minister made it clear that, in the international field, Canadian support would be given to any reasonable proposal for international control in the interests of peace in the post-war years. In the domestic field he stated that Trans-Canada Air Lines would "continue to operate all transcontinental systems and such other services of a mainline character as may from time to time be designated by the Government" and that Trans-Canada was "the sole Canadian agency which may operate international air services". He stated that secondary services would be left to private enterprise, but made it clear that no competition would be permitted either between a private company and a publicly owned company or between two private companies.

The Aeronautics Act was amended in 1944 making provision for the establishment of an Air Transport Board (in lieu of the Board of Transport Commissioners) to advise the Minister on questions of general policy in connection with air transport, to investigate and recommend the establishing of new air routes, and to license all commercial air-transport services.

The Trans-Canada Air Lines Act was amended in 1945 by increasing the capital from $5,000,000 to $25,000,000 and providing authority to create corporations to operate and maintain air services under contract with Trans-Canada Air Lines.

Trans-Canada Air Lines.—Trans-Canada Air Lines has been in operation since 1937. As stated above, it has been designated by the Government as the service to fly transcontinental, international and overseas routes. Trans-Canada Air Lines is now operating over a total of 5,299 miles of air routes in Canada including routes to New York and to Newfoundland, and 3,030 miles across the Atlantic between Montreal and Prestwick, Scotland. This latter service is operated for the Department of Transport.

The North Star, first of a fleet of four-engined forty-passenger transports to be built by the Canadian Government for T.C.A. and the Department of National Defence, and to be used in trans-Atlantic and transcontinental services. The aircraft has a cruising speed of 325 m.p.h. and a non-stop range of 3,500 miles. Its 620-h.p. Merlin engines give it an altitude of over 22,000 feet.

Trans-Canada Air Lines carried 183,121 revenue passengers (exclusive of the Atlantic service) in 1945 as compared with 156,884 in 1944 and 140,276 in 1943; 3,429,232 lb. of mail as compared with 3,739,105 lb. in 1944 and 3,726,607 lb. in 1943; and 950,323 lb. of air express as compared with 856,016 lb. in 1944 and 821,606 lb. in 1943. T.C.A. now utilizes 28 aircraft.

Canadian Pacific Air Lines.—Canadian Pacific Air Lines consolidated into one organization a number of independent commercial operators which had been chiefly engaged in servicing the mining industry in northern Canada. Canadian Pacific Air Lines now control the operation of Canadian Airways Limited, Arrow Airways Limited, Ginger Coote Airway, Prairie Airways, Mackenzie Air Services, Yukon Southern Air Transport Limited, Dominion Skyways Limited, Quebec Airways, Wings Limited, Starratt Airways and Transportation Company.

The component companies of Canadian Pacific Air Lines flew 5,373,403 revenue miles in 1945. This compares with 5,984,602 miles in 1944 and nearly 6,134,000 miles in 1943. Freight express and mail carried totalled 10,673,093 lb. as compared with 9,463,595 lb. in 1944 and 11,736,246 lb. in 1943. Passengers carried totalled 125,110 in 1945, 104,166 in 1944, and 72,602 in 1943.

Independent Air Lines.—Although many of the principal operating companies have been absorbed by C.P.A., there still remain independent organizations in this field. Maritime Central Air Lines operates a mail, passenger and express service between Moncton, Saint John, Blissville, Summerside, Charlottetown and New Glasgow and the M. and C. Aviation Company, operates a licensed air-mail, passenger and express service from Prince Albert to northern Saskatchewan points. There are also an increasing number of air carriers operating charter service.

Passengers carried by aircraft increased from 133,776 in 1939 when the Trans-Canada service was being organized to 490,809 in 1945. Passengers between Canada and the United States exclusive of through passengers between Alaska and the United States increased from 15,456 in 1939 to 161,565 in 1945. On the Newfoundland route, which was established in 1942, 19,361 passengers were carried in 1945. Mail ton-miles also increased from 433,349 in 1939 to 2,096,289 in 1945.

Telegraphs

Six telegraph systems are operated in Canada, four in conjunction with the railways, one by the Dominion Government and one small system that is owned and operated independently. One United States company operates lines across Canadian territory; one private Canadian company operates a wireless system; and three cable companies, in addition to the telegraph companies, operate cables from Canadian stations. In all, 22 cables are operated between Canada and England, Azores, Australia, New Zealand, Newfoundland, St. Pierre and Miquelon, and Bermuda, and 2 cables between North Sydney and Canso, N.S.

These systems operate 386,042 miles of telegraph wire in Canada, 5,434 miles outside of Canada, and 1,076 nautical miles of submarine cable between Canada and other countries. Multiple circuits normally produce 787,253 miles of channels for telegraphic use. During 1945 a total of 17,666,904 telegrams and 2,192,173 cablegrams, excluding messages between foreign countries, were handled by these systems.

A cable-laying "train", consisting of a tractor drawing a plough and two trailers each carrying a huge reel of telephone cable, laying a section of the underground system which will ultimately extend from Quebec City to Detroit. The train moves at a speed approximating a brisk walk and halts only for changing of reels or removal of particularly heavy obstacles.

Telephones

There were 3,174 telephone systems in Canada in 1944, operating 6,108,070 miles of wire and 1,751,923 telephones. The estimated number of conversations during the year was 3,012,653,000 or 1,720 per telephone. The transfer from manually operated telephone switchboards to automatic has continued although it has been somewhat restricted by scarcity of equipment since 1941. In 1944, 56 p.c. of all telephones were dial telephones; 93 p.c. of these were in urban centres of over 10,000 population, where they comprised 78 p.c. of the telephones in use.

National Radio

In November, 1946, the Canadian Broadcasting Corporation marked ten years of progress in national radio. In 1932, the first steps toward a national system were taken with the formation of the Canadian Radio Broadcasting Commission (succeeded in 1936 by the CBC); at that time only about two-fifths of the population outside the commercial districts of Toronto and Montreal were able to get Canadian radio programs regularly. To-day, CBC network coverage has been extended to reach 96·1 p.c. of the radio homes in Canada. At times, 13,000 miles of wire are required to link network stations, since Canada lies across five of the world's time zones.

Organization of the CBC.—The Canadian Broadcasting Corporation is owned by the listeners, who pay an annual licence fee of $2·50. It operates under the Canadian Broadcasting Act, 1936, by which it is given regulatory

powers over its own and over all privately owned radio stations in Canada. The CBC is headed by a permanent Chairman and a Board of nine Governors, who act as "trustees of the national interest in broadcasting". The Governors are chosen to give representation to the main geographical divisions of Canada, and various facets of Canadian life. With the Chairman, they are entrusted with the general direction of CBC policy. Day-to-day operations and management of the system are the responsibility of a General Manager and an Assistant General Manager.

As constituted under the Act, the CBC is designed to operate in the public interest. It is responsible not to the government of the day, but to Parliament as a whole through a Minister of the Cabinet. From time to time the work of the Corporation is reviewed by special Parliamentary Committees.

Operations.—The CBC operates all radio networks in Canada : the Trans-Canada and Dominion networks, serving English-speaking listeners from coast to coast, and the French network, serving French-speaking listeners in the Province of Quebec. The networks are made up from 11 CBC-owned and 94 privately owned stations located across Canada. The Trans-Canada has a maximum outlet of 59 stations ; the Dominion a maximum of 35 ; and the French network a maximum of 11. For occasional broadcasts of national interest, the three networks are joined to form the National network. In addition to these outlets, the CBC has pioneered in the development of low-powered repeater

A CBC musical show goes on the air. The announcer stands at the microphone on the left and the narrator and the singing star on the right.

Adjusting the frequency on a telephone line that is carrying a radio broadcast from New York to Canada.

stations, which operate automatically with the network, in remote areas of Canada. French-speaking listeners in northern Quebec and on the western Prairies are served by short-wave stations, and another is used to reach listeners in the northern coastal regions and the interior of British Columbia. Short-wave receiving stations are maintained at Dartmouth, N.S., at Ottawa and Toronto, Ont., mainly for the reception of BBC transmissions, and at Vancouver, B.C., for contact with Australia and Asia.

Program Service and Development.—During the year ended Mar. 31, 1946, 55,934 programs were broadcast, consuming 17,062 hours of broadcast time. The year's operations continued the trend of increased service to listeners; 81·2 p.c. of the broadcast hours were devoted to non-commercial programs, an increase of 479 hours over the previous year. The CBC originated and produced 78 p.c. of the network broadcasts. Of the remainder, 2·6 p.c. were originated by private stations, and the balance were exchange programs from United States networks and the British Broadcasting Corporation.

The greatest number of broadcast hours was devoted to light music, including semi-classical programs. This was followed, in order, by news, drama, variety, talks, agricultural, educational and religious programs, and programs of interest to women, sport fans and children.

News bulletins from the CBC News Service are available to all radio stations in Canada to which there are land lines, and must be released on a sustaining, non-sponsored basis. The CBC buys the news service of the Canadian Press and British United Press, but rewrites the bulletins for radio, incorporating material from CBC correspondents overseas.

In order to bring news broadcasts and other programs to listeners in each of the five time zones at suitable hours, administrative, program and engineering

72235—10

A broadcast studio in a large retail store. Broadcasting has proved a major attraction, linking actual sales to advertising. The daily program, consisting of shopping and store news and items of general interest to those at home, may be seen and heard by customers in the store.

headquarters and newsrooms are maintained at Halifax, Montreal, Toronto, Winnipeg and Vancouver. This decentralization also makes it possible for CBC producers to cater to varying tastes in the five regions, and to employ and develop local talent. The main emphasis, however, is on national radio, with the objective of supplying a good balance of entertainment on the one hand, and information and education on the other, combining these factors wherever possible.

Educational Programs.—The CBC devotes a large proportion of its broadcast time to programs of an educational nature, for both English- and French-speaking listeners. In co-operation with Provincial Departments of Education, special programs related to courses of study are broadcast to school classrooms.

Several programs in the series of French school broadcasts, heard on the French network under the title *Radio-Collège,* are being broadcast to Europe through the CBC International Service at the request of the United Nations, to help fill the need for new educational material.

Programs of an educational nature for adults are presented in a wide variety of talks, commentaries, interviews, discussion periods, semi-dramatized programs and special programs for women on home-making, health and child-care.

CBC International Service.—The words "This is Canada Calling" were first heard on the international airwaves in December, 1944, when Canada's short-wave station began experimental broadcasts to Europe. Built and operated on behalf of the Dominion Government, the CBC International Service now broadcasts to Europe, Africa, South America, New Zealand and Australia. The "high gain" antenna system in use by the International Service transmitters at Sackville, N.B., was the first used on the North American continent for service to Europe.

The Post Office

In reconverting to peacetime operation, the Post Office Department, during the past year, has been carrying out plans to increase efficiency and restore and improve services that had been curtailed during the war years.

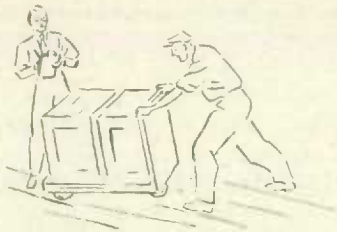
Postal service, including parcel post, has been restored with many countries. Second daily letter-carrier delivery to residential districts, discontinued in wartime, has been resumed. To mark the return of Canada to peacetime pursuits a special pictorial issue of stamps, emphasizing aspects in the normal life of the country, have replaced the wartime scenes in use since 1942.

Financially, the fiscal year 1945-46 was the busiest year in the history of the Post Office Department with gross revenue standing at the all-time high figure of $83,763,006 compared with $79,553,903 in 1944-45. Money orders payable in Canada were sold to the aggregate value of $285,574,174 and $5,359,328 payable in other countries. The aggregate value of postal notes sold totalled $26,840,747. There were 12,109 post offices in operation.

Air Mail.—The trans-Canada air-mail system operates several times daily each way from the Atlantic to the Pacific over some 3,900 miles. In addition, the Canadian Government Trans-Atlantic Air Service conveys mails daily in both directions between Canada and the United Kingdom. Swift connections are made with the United States and other air-mail networks of the world. Canada's use of the air-mail services is reflected in the following figures:—

Year Ended March 31	*Miles Flown* No.	*Mail Carried* lb.
1939	3,711,987	1,822,399
1940	5,769,257	2,351,172
1941	8,330,121	2,842,367
1942	10,021,579	3,541,625
1943	10,799,670	5,373,021
1944	12,799,218	7,220,554
1945	13,581,053	8,224,230
1946	15,215,816	7,473,152

A Post Office employee locks up bags of mail already labelled according to destination.



External Trade

DURING the past few decades Canada has developed into one of the great trading nations of the world. Although containing less than one per cent of the world's population, Canada in 1939 ranked sixth in total trade, fifth in exports and sixth in imports. During the recent war, with unlimited demand abroad for foodstuffs and war materials, she became the world's third largest external trader. One-third of all the goods and services produced in the country in 1944 were exported, compared with less than 20 p.c. of a much smaller 1938 production total.

This growth and development of Canadian foreign trade is a result of the combination of unique geographic and economic conditions. Canada is richly endowed with resources of a specialized nature. The development of these resources has required enormous capital investment which is profitable only when the resources are exploited on the largest possible scale, and the initial costs can be offset by mass production. Canada can sell wheat in competition with other parts of the world because of the capital invested in railways, shipping and farm machinery. These facilities could not be economically employed without the intensive development of the wheat industry. The pulp and paper and base-metal industries have required similar heavy capital investment in plant and hydro-electric developments. A population of twelve million people could not begin to absorb the total production of these specialized industries, and it is only by exporting that efficient low-cost production of these basic commodities can be maintained.

At the same time Canada is not self-sufficient in many commodities required by modern industry or which have become an integral part of the high Canadian standard of living. A glance at the table on p. 157, listing principal imports, will show the wide variety of articles that are produced, if at all, in insufficient quantities to meet domestic demand. Coal and machinery, cotton and wool, oil and gasoline, sugar and fresh fruits, tea and coffee, all are used in quantity by Canadian industry or needed to fill the wants of the Canadian consumer. These commodities are paid for by the sale of Canadian goods abroad.

The maintenance of a large volume of trade is therefore of two-fold importance to Canada. It is only by exporting on a large scale that she can obtain the economies of large-scale production, and her needs for the many goods that cannot be produced in Canada can be satisfied only if sufficient Canadian products are sold on the international market to pay for the imports.

MILLION
$
3500
3000
2500
2000
1500
1000
500
0
DOMESTIC EXPORTS
LEGEND
OTHER FOREIGN
UNITED STATES
OTHER BRITISH
UNITED KINGDOM
1944
1945

MILLION
$
2000
1600
1200
800
400
0
IMPORTS
LEGEND
OTHER FOREIGN
UNITED STATES
OTHER BRITISH
UNITED KINGDOM
1944
1945

The geographical alignment of Canadian trade poses an additional problem. Before the recent war, Canadian exports to the United Kingdom were normally twice the size of her imports from that country, whereas her purchases in the United States exceeded her sales to that country. The surplus on United Kingdom account financed the deficit on United States account. With the present rigid exchange control by the United Kingdom, a result of their continuing shortage of foreign exchange, that arrangement is no longer possible and the Canadian deficit on United States account must be met from reserves accumulated during the War. A return to free convertibility of her sterling surplus would certainly be to Canada's immediate interest, but from the long-run point of view it is important that an attempt be made to bring Canada's account with the United States closer to equilibrium. The exchange problems of the 1930's showed that when economic conditions become adverse, very wide disequilibrium in trade between two countries is most undesirable.

Imports, Exports and Total Trade of Canada, 1926-45

(Millions of Dollars)

Year	Imports	Exports			Total Trade	Excess: Imports (−) Exports (+)
		Domestic Produce	Foreign Produce	Total		
1926	1,008·3	1,261·2	15·4	1,276·6	2,284·9	+ 268·3
1927	1,087·1	1,210·6	20·4	1,231·0	2,318·1	+ 143·9
1928	1,222·3	1,339·4	24·4	1,363·8	2,586·1	+ 141·5
1929	1,299·0	1,152·4	25·9	1,178·3	2,477·3	− 120·7
1930	1,008·5	863·7	19·4	883·1	1,891·6	− 125·4
1931	628·1	587·7	11·9	599·6	1,227·7	− 28·5
1932	452·6	489·9	8·0	497·9	950·5	+ 45·3
1933	401·2	529·5	6·0	535·5	936·7	+ 134·3
1934	513·5	649·3	7·0	656·3	1,169·8	+ 142·8
1935	550·3	725·0	12·9	737·9	1,288·2	+ 187·6
1936	635·2	937·8	12·7	950·5	1,585·7	+ 315·3
1937	808·9	997·4	14·7	1,012·1	1,821·0	+ 203·2
1938	677·5	837·6	11·1	848·7	1,526·2	+ 171·2
1939	751·1	924·9	11·0	935·9	1,687·0	+ 184·8
1940	1,082·0	1,178·9	14·3	1,193·2	2,275·2	+ 111·2
1941	1,448·8	1,621·0	19·5	1,640·5	3,089·3	+ 191·7
1942	1,644·2	2,363·8	21·7	2,385·5	4,029·7	+ 741·3
1943	1,735·1	2,971·5	29·8	3,001·3	4,736·4	+1,266·2
1944	1,758·9	3,440·0	43·1	3,483·1	5,242·0	+1,724·2
1945	1,585·8	3,218·3	49·1	3,267·4	4,853·2	+1,681·6

Export Trade

Details of the composition and destination of Canadian exports over various periods of time are given in the tables on pp. 153-156. The aggregate of domestic exports for 1945, $3,218,300,000 represents a slight decrease from the 1944 record figure of $3,440,000,000. The end of the War brought about an abrupt cessation in the export of war goods, which was only partially compensated for by the reopening and expansion of normal peacetime trade. While the downward trend continued into 1946, with total exports for the first eight months of 1946 at $1,494,000,000, 35 p.c. lower than for the corresponding period of 1945, exports for this period were more than double the total for the first eight months of 1939.

Structure of Export Trade.—The impact of the War on export trade will be grasped most easily from the table on p. 154, in which an attempt is made to

Pit props are again being sent across the Atlantic for use in British mines. These props were collected from all sections of Nova Scotia and are awaiting shipment on the Halifax waterfront.

segregate those goods that were mainly for war purposes. The percentage of war materials in other articles cannot be ascertained. In addition to causing a great increase in total exports, the War brought about a radical change in the type of commodities exported.

In the decade preceding the War, the proportion of raw materials to total exports gradually declined, with many products hitherto exported as raw materials undergoing some form of processing. Exports of fully manufactured goods showed little relative change in that period. From 1939 on, however, the requirements of the United Nations for munitions, war supplies and processed foods, and the growth of Canadian manufacturing to fill their diverse needs, accelerated the trend towards a higher manufactured content in the export shipments. In 1939, fully manufactured goods comprised 43·7 p.c. of total exports of $925,000,000. By 1944 this proportion had risen to 63·6 p.c., despite the fact that 1944 exports of raw materials and partly manufactured goods were nearly two and one-half times as great as in 1939. In 1945 the proportion of fully manufactured goods dropped to 56·7 p.c. as the munitions shipment decreased and exports of food reached new highs. A historical analysis of this changing structure will be found in the table on p. 155.

Summary.—The great increase in Canadian national income and prosperity during the war years was due in large part to the unlimited requirements abroad for Canadian goods, despite the artificial and abnormal nature of such demand. Foreign requirements are continuing at a high level in the immediate post-war period and, together with accumulated domestic demand, are responsible for the continuing prosperity in the readjustment period. Total exports in the year

ended Aug. 31, 1946, aggregated $2,415,000,000 in value as compared with $881,000,000 for the last year of peace (September, 1938, to August, 1939). Of course the two amounts are not strictly comparable. Prices in 1945-46 were substantially higher than before the War. Some of the goods exported in the 1945-46 period were UNRRA or Red Cross donations to aid distressed areas. A large part of the exports were made possible by Canadian loans and advances to various countries in need of financial aid, the benefits from which will not accrue to Canada for some time. Nevertheless, the volume increase over the pre-war period has been very great, and the flow of exports at a high level is a continuing protection against an increase in unemployment and a falling national income.

In assessing the importance of the post-war export trade figures, it is considered that, despite the changes in the price level that have occurred, comparisons with the wartime period are less fruitful than comparisons with the years immediately before the War. Wartime export figures must be used with caution, as they are influenced by many abnormal factors which preclude accurate comparisons with any other period of time. Some of these factors are examined below.

(1) In comparing war exports with those of earlier years, the price factor is very important. Prices of practically all goods climbed during the War, and in this sense the wartime figures contain an unknown degree of inflation. Prices of war supplies were often extremely arbitrary, defying comparison with any normal base, and often the price tag on the tank, gun or shell shipped abroad bore no relationship to the cost of the article.

(2) The definition of "export" contained of necessity a degree of arbitrariness. War supplies shipped directly to the Canadian troops were not classed as exports, but those shipped to Allied Nations were so considered. This resulted in the anomalous situation, where, as a result of Allied pooling arrangements in respect of war equipment, Canadian forces purchased abroad considerable amounts of Canadian equipment that had entered the Canadian export figures as shipments to the United Kingdom. The amounts are not known precisely, but in 1943, 1944 and 1945 were substantial.

(3) The demand for Canadian goods of all descriptions was unlimited, neither price nor ability to buy being an effective consideration. If the purchasing country did not have sufficient foreign exchange to pay for the war supplies, Mutual Aid and similar devices enabled the shipments to continue to the limits of Canadian productive ability. There was no such open order arrangement before the War, although various forms of assistance were continued to a lesser degree after the War to ease the rehabilitation problems of distressed areas, and to maintain the Canadian export industries.

New Brunswick sardine herring being transferred from the weir to "carrier" for export to the United States. While many Canadian sardine are packed locally, there is a considerable excess exported raw.

(4) Geographically, the wartime figures are even less valuable as a basis for comparison. Munitions were sent to the United Kingdom, Italy, Egypt, and India in a pattern arising largely from the changes in the course of the War and not from any normal or historic trade arrangements. Exports to the United States were similarly artificially stimulated, as the Hyde Park agreement ensured bulk purchases of war goods by the United States, the United States Government spent large amounts on war projects in Canada, and abnormally large grain shipments to the United States took place in the latter part of the War. Trade with South America suffered from a dwindling supply of peacetime goods and the diversion of shipping for war purposes.

Principal Exports, 1939 and 1944-46

NOTE.—Commodities arranged according to value in 1945; figures are for calendar years.

Commodity	1939	1944	1945	1946[1]
	$'000	$'000	$'000	$'000
Wheat	109,051	384,150	475,787	158,398
Automobiles, trucks and military wheeled vehicles	22,551	246,243	206,795	41,815
Newsprint paper	115,686	157,191	179,451	167,832
Cartridges	801	313,896	174,772	572
Meats	37,445	192,001	166,974	89,729
Aluminum	25,684	105,520	133,567	33,869
Aircraft	353	107,133	108,152	4,387
Wood-pulp	31,001	101,563	106,055	73,437
Planks and boards	48,829	90,119	98,935	65,599
Wheat flour	16,378	90,001	97,855	86,347
Automobile parts	2,992	139,345	93,852	15,461
Guns, rifles and other firearms	16	239,576	82,747	4,069
Fish	27,742	63,854	80,226	55,683
Electrical apparatus	3,229	71,700	60,957	16,059
Nickel	57,934	68,401	54,778	37,423
Other vehicles	407	47,659	51,242	30,288
Copper	40,232	40,544	40,860	25,223
Gifts and donations	Nil	33,743	39,421	22,670
Fertilizers, chemical	9,179	24,000	30,428	21,630
Explosives	577	19,072	29,247	170
Raw furs	14,130	26,204	28,521	25,066
Cheese	12,249	27,062	27,909	10,503
Dried eggs	Nil	21,268	27,297	10,454
Barley	7,882	45,588	24,101	315
Pulpwood	11,901	20,012	23,882	18,377
Whiskey	7,914	14,874	22,977	19,139
Asbestos	14,365	19,830	22,184	15,382
Zinc	9,922	15,209	20,373	18,511
Farm implements and machinery	6,975	13,434	20,196	21,483
Machinery, except farm	10,873	24,947	19,869	8,767
Ferro-alloys, pigs, ingots, blooms and billets, iron	5,168	17,014	19,431	9,696
Ships and vessels	486	23,287	15,591	10,488
Platinum and other metals of the platinum group, in concentrates or other forms	6,137	6,777	13,298	9,686
Rubber tires and tubes	8,023	14,898	13,045	5,023
Abrasives	4,568	14,765	12,153	7,368
Rolling-mill products, iron	3,864	10,130	10,189	5,232
Scientific and educational equipment	3,529	12,615	9,658	2,220
Lead	9,850	7,045	9,177	11,377
Shingles, wood	8,225	6,984	8,001	5,960
Cattle	15,353	5,517	7,096	7,255
Army, Navy and Air Force stores	45	45,637	7,014	328
Raw tobacco	10,183	4,933	6,723	4,492
Leather, unmanufactured	6,856	2,910	4,004	4,623
Apples, fresh	5,853	6,010	3,457	699
Silver ore and bullion	8,525	2,933	2,597	444
Logs	5,478	3,425	2,213	1,935

[1] First eight months of the year.

Students of the National Civil Engineering School of Rio de Janeiro, Brazil, visited Canada early in 1946 for the purpose of touring the industrial plants of Ontario and Quebec. They are shown inspecting a Montreal engineering plant.

As explained in the preceding text, the six main commodities or groups of commodities that were features of the war effort, i.e., where the increases were largely abnormal and due to war requirements, have been segregated from the list of principal exports shown on p. 153 in the statement below.

Exports, by Important Wartime Groups, 1939-45

(Millions of Dollars)

Item	1939	1940	1941	1942	1943	1944	1945
Totals, Domestic Exports	**924·9**	**1,179·0**	**1,621·0**	**2,363·8**	**2,971·5**	**3,440·0**	**3,218·3**
Wheat and flour	125·4	145·9	206·7	167·6	300·7	474·2	573·6
Bacon	32·7	58·8	77·5	100·6	116·1	148·3	96·5
Other agricultural and animal products	193·8	178·3	203·3	246·2	356·5	491·7	547·4
Wood, wood products and paper	242·5	348·0	387·1	389·8	391·1	440·9	488·0
Non-ferrous metals	182·9	194·7	244·0	308·9	332·7	339·9	352·5
Munitions and war supplies[1]	13·3	84·2	182·5	804·8	1,115·7	1,158·4	753·7

[1] Includes motor-vehicles and parts, military wheeled vehicles, tanks, guns, aircraft, cartridges, shells, explosives and Canadian Army, Navy and Air Force stores.

Structure of Export Trade, 1926-45

(Values in Millions of Dollars)

Year[1]	Raw Materials		Partially Manufactured		Fully or Chiefly Manufactured		Total Value
	Value	P.C. of Total Exports	Value	P.C. of Total Exports	Value	P.C. of Total Exports	
1926	594	46·1	189	14·7	506	39·2	1,289
1927	572	45·9	183	14·7	490	39·4	1,245
1928	571	46·9	189	15·5	459	37·6	1,219
1929	649	48·0	195	14·5	507	37·5	1,351
1930	395	36·4	213	19·6	478	44·0	1,086
1931	295	37·8	134	17·2	352	45·0	782
1932	213	37·8	87	15·4	264	46·8	563
1933	201	42·7	67	14·2	203	43·1	470
1934	209	36·2	124	21·5	244	42·3	577
1935	234	35·7	137	20·8	285	43·5	656
1936	259	34·1	178	23·3	324	42·6	761
1937	374	38·2	220	22·5	384	39·3	978
1938	277	28·4	269	27·5	430	44·1	977
1939	231	27·8	221	26·6	379	45·6	831
1939[1]	274	29·6	247	26·7	404	43·7	925
1940	261	22·1	337	28·6	581	49·3	1,179
1941	322	19·9	427	26·3	872	53·8	1,621
1942	300	12·7	488	20·6	1,577	66·7	2,364
1943	519	17·5	498	16·7	1,955	65·8	2,971
1944	764	22·2	488	14·2	2,188	63·6	3,440
1945	858	26·7	536	16·6	1,824	56·7	3,218

[1] Figures for 1926 to 1939 are for the years ended Mar. 31; those for 1939 to 1945 are for calendar years.

Exports, by Leading Countries, 1939 and 1944-46

NOTE.—Countries arranged in order of importance, 1945.

(Millions of Dollars)

Country	1939	1944	1945	1946[1]
United States	380·4	1,301·3	1,197·0	546·2
United Kingdom	328·1	1,235·0	963·2	378·3
British India	5·2	174·8	307·5	38·0
Italy	2·2	160·1	89·5	16·8
France	7·0	15·9	76·9	51·2
Russia (U.S.S.R.)	0·3	103·3	58·8	16·7
Newfoundland	8·5	48·0	40·5	23·8
Netherlands	7·4	Nil	40·0	24·5
Egypt	0·4	108·3	36·4	8·9
Belgium	7·3	Nil	34·6	54·1
Australia	32·0	43·5	32·2	23·2
British South Africa	18·0	23·6	31·6	42·3
Greece	0·3	8·6	25·6	7·5
New Zealand	12·0	11·9	19·1	9·6
French Africa	0·1	32·2	16·9	8·6
Brazil	4·4	7·3	16·7	13·3
Trinidad	4·2	16·5	16·4	12·2
Jamaica	4·3	13·9	14·4	9·0
Eire	3·6	12·0	14·3	3·7
Yugoslavia	Nil	Nil	11·7	10·5
Switzerland	1·9	16·1	10·9	4·9
Poland	1·3	Nil	9·2	16·1
Morocco	0·1	1·3	9·2	1·0
Ceylon	0·4	6·2	8·3	1·4
Mexico	3·0	6·3	8·2	6·7
Norway	10·9	Nil	7·8	13·1
Other British West Indies	1·6	5·8	6·9	5·1
Czechoslovakia	0·2	Nil	6·7	9·1
China	2·6	14·9	6·6	26·4
British Guiana	1·6	5·7	6·4	4·6

[1] First eight months of year.

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Exports, by Leading Countries, 1939 and 1944-46—concluded

Country	1939	1944	1945	1946[1]
Argentina	4·1	3·6	6·0	7·8
Colombia	1·8	2·2	5·0	6·2
Barbados	1·6	4·2	4·8	4·3
Malta	0·4	3·1	4·7	3·6
Cuba	1·5	3·7	4·5	3·5
Sweden	4·3	Nil	4·2	5·8
Venezuela	1·7	1·8	4·1	8·2
British East Africa	0·8	6·2	3·8	1·4
Iraq	Nil	5·7	3·5	2·2
Germany	7·9	Nil	2·7	6·0
Netherlands East Indies	1·1	"	0·9	4·8
Turkey	Nil	7·1	0·7	1·3
Japan	28·2	Nil	Nil	0·1
Totals, Above 43 Countries	**902·7**	**3,410·1**	**3,168·4**	**1,442·0**
Grand Totals, Domestic Exports	**924·9**	**3,440·0**	**3,218·3**	**1,494·2**
British Empire	430·8	1,620·5	1,486·8	577·2
Foreign Countries	494·1	1,819·5	1,731·5	917·0

[1] First eight months of year.

Import Trade

The War had considerably less effect on the volume and structure of imports than it did on Canadian export trade. The dependency of Canada upon United States sources for machinery and tools, particularly as a result of the spectacularly rapid development of Canadian industry in the early years of the War, and the need for increasing supplies of coal, iron and oil to supply the large volume of manufacturing production, brought about greater demands for these commodities. With rising incomes in Canada, consumer demand pushed requirements of consumer goods to new high levels, and imported consumer goods from the United States steadily increased. Total imports from that country rose from $497,000,000 in 1939 to $1,004,000,000 in 1941 and to a high of $1,447,000,000 in 1944, with the proportion of United States imports to the total rising from 66·2 p.c. in 1939 to 82·3 p.c. in 1944. Allowance should be made for the fact that some goods from other countries were routed through United States ports, to avoid the dangers of the long sea route to Canada, and were attributed to the United States in the trade figures.

The return to a more normal geographical distribution of the source of Canadian imports was evidenced in the 1945 import totals. While imports as a whole fell from $1,759,000,000 in 1944 to $1,586,000,000 in 1945, a drop of 10 p.c., imports from the United States represented but 75·8 p.c. of the total.

In the first eight months of 1946 the over-all downward trend was reversed as shipping routes were reopened and, at $1,205,000,000, imports were 13 p.c. greater than for the comparable period in 1945. The proportion of United States imports declined to 70·9 p.c. of the total. Some of this increase in total imports must be discounted since the non-commercial item "Canadian Goods Returned", which consisted in large part of Canadian army equipment returned from the United Kingdom and Newfoundland, aggregated $65,500,000 in the first eight months of 1946 as compared with $36,600,000 for the calendar year 1945, and $9,800,000 for the first eight months of 1945.

Details of Canadian import trade will be found in the following tables and in the table on p. 150. The structure of the commodity trade in the war years was not very different from 1939, with the exception of war materials imported free of duty under Order in Council, and articles for the Armed Forces. Greatest proportionate changes are in those items roughly classified as capital equipment—machinery, engines and boilers, and electrical apparatus. Totals for these items would be even larger were it possible to distribute the war materials over the normal groups.

Principal Imports, 1939 and 1944-46

NOTE.—Commodities arranged according to value in 1945; figures are for calendar years.

Commodity	1939	1944	1945	1946[1]
	$'000	$'000	$'000	$'000
Coal	41,579	113,138	102,432	70,210
Machinery, except farm	42,829	78,551	92,781	80,858
War materials under Order in Council P.C. 57/8600, etc.	Nil	241,321	88,954	2,828
Crude petroleum	39,677	71,998	72,412	53,659
Automobile parts	25,308	80,321	67,855	43,266
Fresh fruits	15,384	50,212	61,338	49,087
Farm implements and machinery	20,917	40,611	50,435	41,893
Plates, sheets, hoop, band and strip iron	26,089	39,669	45,465	24,124
Electrical apparatus	13,752	57,859	43,052	29,834
Raw cotton	16,425	40,815	39,153	27,310
Articles for Army, Navy and Air Force	955	24,354	35,572	3,178
Cotton fabrics	10,935	37,242	34,944	30,016
Sugar for refining	20,226	28,710	28,950	20,578
Engines and boilers	7,606	63,159	28,040	18,674
Books and printed matter	15,152	18,230	21,445	20,338
Fresh vegetables	6,151	14,570	21,252	22,954
Furs	7,133	11,434	21,205	18,903
Tea	10,091	13,092	17,729	5,633
Glass and glassware	7,915	13,960	16,098	13,767
Aircraft	5,550	65,129	16,001	6,255
Clay and products	7,935	12,637	13,681	11,505
Paper	8,654	12,157	13,376	12,004
Raw wool	4,509	11,326	12,327	10,628
Nuts, except cocoanuts	3,508	12,084	12,251	12,643
Vegetable oils	9,415	11,357	11,479	7,611
Jute fabrics	4,014	11,891	11,039	7,737
Stone and products	7,612	10,609	9,888	8,703
Gasoline	7,998	13,187	9,571	7,868
Drugs and medicines	3,989	7,645	9,440	6,579
Scientific and educational equipment	4,762	8,451	9,216	8,707
Raw coffee	4,155	14,031	8,885	12,090
Paints and varnishes	4,662	7,465	8,660	6,494
Iron ore	4,179	7,394	8,596	2,115
Wood, manufactured	4,659	7,092	8,483	6,934
Dyeing and tanning materials	6,257	7,032	8,297	6,335
Alcoholic beverages	6,540	5,512	8,292	7,623
Worsteds and serges	6,040	7,797	8,212	7,824
Rubber, manufactured and partly manufactured	3,371	8,061	8,154	6,924
Alumina, bauxite and cryolite	3,708	10,272	7,787	4,430
Dried fruits	5,723	6,951	7,127	7,686
Rubber, crude	11,813	6,598	6,943	4,091
Noils, tops and waste, wool	6,072	6,099	6,875	6,433
Structural iron and steel	3,102	5,700	5,137	4,115
Automobiles	15,674	10,765	4,876	14,035
Bars and rails, iron	3,030	6,030	4,447	3,801
Lumber and timber	3,392	3,161	4,203	3,212
Settlers' effects	3,967	3,064	3,708	4,525
Fertilizers, chemical	3,948	4,251	3,707	2,908
Soda and sodium compounds	3,180	4,592	3,698	3,309
Leather, unmanufactured	3,218	2,976	3,510	2,642
Raw hides	6,173	4,498	3,059	1,905
Corn	4,571	5,870	2,640	3,981
Guns, rifles and other firearms	244	7,739	765	623
Meats	4,439	1,616	538	839

[1] First eight months of the year.

Imports, by Leading Countries, 1939 and 1944-46

NOTE.—Countries arranged in order of importance, 1945.
(Millions of Dollars)

Country	1939	1944	1945	1946[1]
United States	496·9	1,447·2	1,202·4	854·0
United Kingdom	114·0	110·6	140·5	147·3
British India	9·8	27·9	30·6	17·2
Venezuela	1·9	13·8	17·3	15·8
Australia	11·3	12·5	17·2	13·1
Newfoundland	2·0	9·3	16·6	5·3
Mexico	0·5	13·1	13·5	11·9
Columbia	5·4	13·8	11·7	7·3
British Guiana	6·9	7·2	9·3	6·4
New Zealand	4·3	8·7	9·3	6·2
Jamaica	4·4	12·6	9·3	7·9
British South Africa	4·0	5·6	8·4	6·1
Honduras	Nil	1·3	8·0	11·2
Switzerland	3·5	4·8	7·9	7·8
Brazil	1·1	7·2	7·6	10·1
Cuba	0·9	4·2	7·5	9·9
Argentina	4·4	9·6	7·3	4·0
Gold Coast	0·3	1·8	6·4	3·2
San Domingo	Nil	5·0	6·2	4·1
Ceylon	3·6	4·3	5·7	2·4
Barbados	3·9	8·2	5·5	3·4
Spain	0·7	3·0	4·4	3·5
Nigeria	0·1	2·4	3·4	4·8
Trinidad	2·7	1·0	3·1	2·2
Fiji	2·8	3·6	1·6	2·3
Netherlands	3·8	0·1	0·4	2·2
Belgium	6·8	Nil	0·4	2·3
France	6·0	"	0·3	2·3
Germany	8·9	"	Nil	Nil
Japan	4·9	"	"	"
Straits Settlements	13·1	"	"	2·2
Totals, Above 31 Countries	**728·6**	**1,738·8**	**1,561·8**	**1,176·4**
Grand Totals, Imports	**751·1**	**1,758·9**	**1,585·8**	**1,204·7**
British Empire	188·9	220·4	271·7	234·1
Foreign Countries	562·2	1,538·5	1,314·1	970·6

[1] First eight months of the year.

★ *Non-Commodity Items of Foreign Exchange*

A nation's external trade is not concerned solely with the exchange of goods. There are other exchanges of a non-commodity type that are of great importance as will be noted from the following discussion on the balance of international payments. The tourist trade also deserves special mention in the Canadian economy. It represents the economic disposition of national assets in which Canada is particularly rich.

Canadian Balance of International Payments

In an economy such as Canada's, where external sources of income and demand furnish an important dynamic element to activity within the country, the balance of payments focuses attention on the impact of external demand upon the Canadian economy, the expenditure of income outside of Canada, and the resulting financial and exchange aspects.

From the point of view of exchange and finance, the balance of payments is divided into two clearly defined divisions: the balance of payments between Canada and the Sterling Area, and the balance of payments between Canada and the rest of the world with which Canada's dealings are on a United States dollar basis. Because of conditions arising from the War, Canada's balance of sterling income over disbursements is no longer freely convertible into U.S. dollars whereas, before the War, sterling balances were employed in part to cover the deficit in U.S. dollars.

With the Sterling Area, the problem has been one of finding a means of financing the growing British shortage of Canadian dollars resulting from the extraordinary wartime needs of the United Kingdom for Canadian munitions, food and raw materials. The magnitude of the wartime movements of commodities and the provision of services which entered Canada's international accounts is strikingly revealed by the current account of the balance of payments between Canada and the Sterling Area. During the six years, 1940 to 1945, gross credits in the current account aggregated over $10,600,000,000. Commodities exported by Canada on account of the Sterling Area, both directly to the Sterling Area and to other theatres of war as well, totalling about $9,000,000,000, made up the largest part of this aggregate. Of this about $7,900,000,000 was on United Kingdom account. Freight and shipping services and other wartime service activities contributed about $1,383,000,000. Munitions, military equipment and ships made up the largest part of the commodity movement or over one-half of the exports on United Kingdom account. Greatly expanded food exports represented about 30 p.c., lumber and wood products about 6 p.c. and other industrial materials like non-ferrous metals constituted most of the remainder. Exports on account of other Sterling Area countries made up more than $1,100,000,000 of the total.

The current source of income in Canada available to the Sterling Area was much less than the requirements for Canadian dollars indicated by the above totals. Gross debits in Canada's current account with the Sterling Area aggregated about $4,800,000,000, including expenditures overseas on account of the Canadian Forces which amounted to $2,597,000,000. The other large source of Canadian dollars arose from exports from the Sterling Area to Canada which amounted to about $1,350,000,000 during the period, apart from movements of aircraft and equipment to Canada for use in the British Commonwealth Air Training Plan. Payments of interest and dividends by Canadian borrowers to British investors of $357,000,000 made up the next largest item in the account. British receipts from shipping services, commercial and financial services, remittances and other current transactions with Canada made up the residue of British receipts of approximately $500,000,000.

The gap in the current account of the Sterling Area with Canada which had to be financed amounted to approximately $5,800,000,000. The largest gap occurred in 1942 when the current account balance with the Sterling Area amounted to $1,269,000,000. In 1943 and 1945 the disequilibrium was only slightly less, but in 1944 it was much lower because of the peak in the overseas expenditures of the Canadian Government which occurred in that year.

Special methods of financing the British deficiency of Canadian dollars arising from the great excess of wartime expenditures over receipts had to be developed. The principal form of financing was the Mutual Aid program,

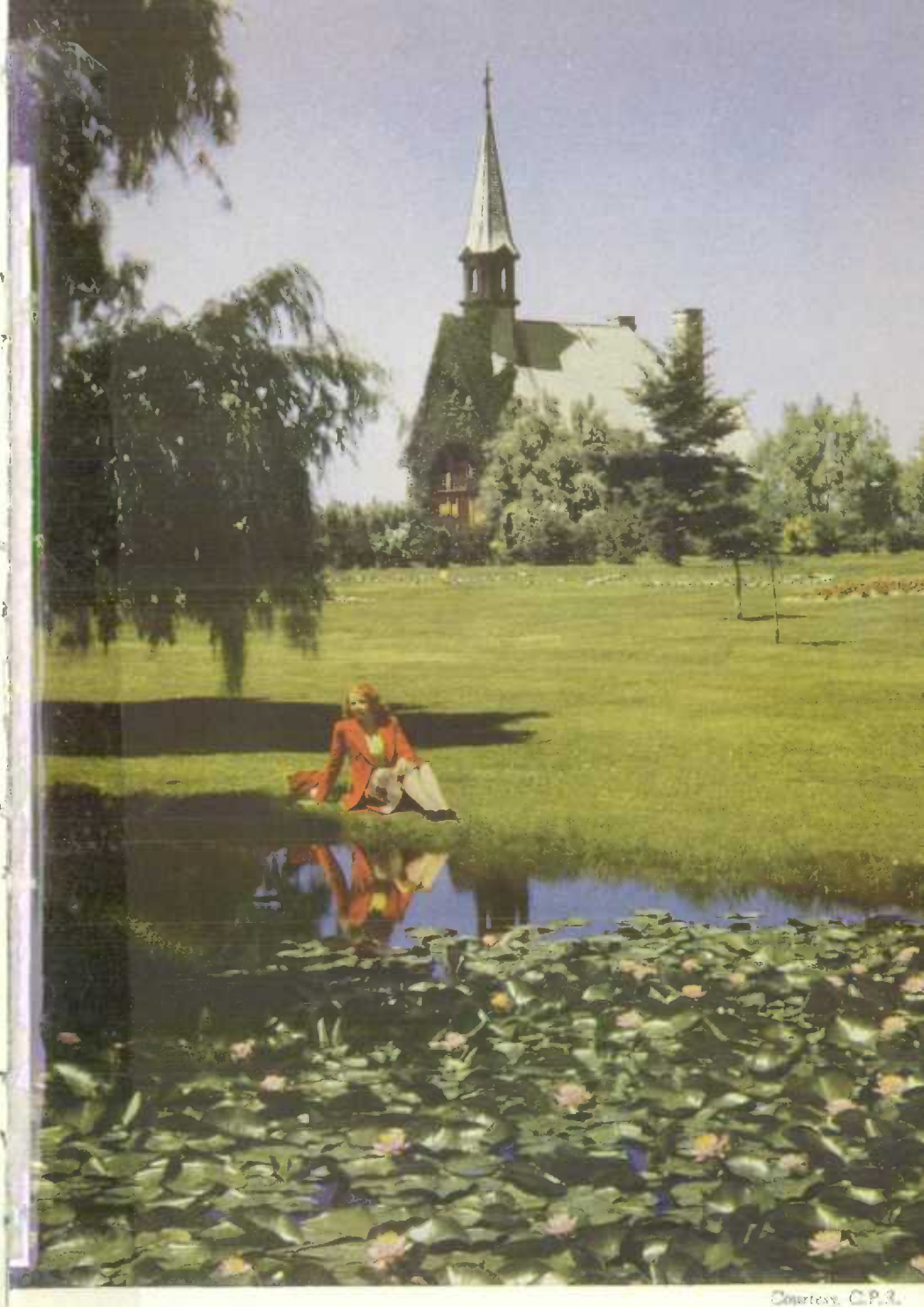
under which Canada provided munitions, food, and other war supplies and services directly to Allied countries unable to pay for these supplies because of financial difficulties caused by the War. Early in the War, however, Britain secured Canadian dollars to cover expenditures in Canada through the official repatriations of Canadian securities held in England. By the end of 1942 virtually all of the Dominion and C.N.R. issues held in the United Kingdom had been repatriated. During the same early period and particularly in 1941 and early in 1942 the deficiency was also covered by Canada accumulating substantial amounts of sterling. The major part of the accumulation was converted in 1942 into the Canadian dollar loan of $700,000,000 to the Government of the United Kingdom. In the same year the Canadian Parliament appropriated $1,000,000,000 as a gift to the United Kingdom to enable purchases of food and munitions and other requirements to be covered. This contribution took the form of a financial transfer of funds to be used by the British as required to cover the shortage of Canadian dollars, although in effect it was a transfer of goods and services.

The Canadian Mutual Aid program succeeded these early methods of financing the outward movement of Canadian commodities vitally needed for the prosecution of the War. Canada under Mutual Aid provided food, munitions, military equipment, other war supplies and war services to the United Kingdom and other Allied Nations requiring this aid. Mutual Aid to the Sterling Area, including the $1,000,000,000 contribution, had a total value of about $3,175,000,000 at the end of 1945. Following the termination of Mutual Aid at the end of the War, interim advances were made by the Canadian Government to the United Kingdom, which by the end of 1945 totalled $164,000,000, in order to ensure the continued shipments of food to the United Kingdom. In 1946 this method of financing was superseded by the credit of $1,250,000,000 extended by the Canadian Government to the United Kingdom in order to facilitate purchases of goods and services in Canada and to assist the United Kingdom in meeting transitional post-war deficits in its current balance of payments. These deficits continued to be substantial in Britain's account with Canada after the end of the War, because of the continued British need for Canadian commodities, particularly food and industrial materials. At the same time there has been the great contraction in British receipts of Canadian dollars from overseas expenditures. These declined sharply after the War and increases in British exports to Canada have been limited by production available in that country.

In the case of the balance of payments with non-Empire countries, the central problem has been a Canadian shortage of United States dollars from current sources. The customary deficits in Canada's current account with the United States were greatly augmented by the War in each year until 1943, principally because of the rapid rise in Canadian imports from the United States. In 1941 the current deficit with the United States rose to $318,000,000. At the same time, net credits from other foreign countries whose currencies are convertible into U.S. dollars sharply contracted with the decline in exports to Continental Europe and Asia.

THE
CHATEAU FRONTENAC
QUEBEC CITY
QUEBEC

KAKABEKA FALLS
NEAR FORT WILLIAM
ONTARIO



Courtesy, C.P.R.

AN ATMOSPHERE OF PEACE AND SERENITY PERVADES THIS SCENE OF EVANGELINE PARK, GRAND PRÉ, NOVA SCOTIA

Courtesy, Associated Screen News Limited

MOUNT EISENHOWER stands out in magnificent scenic splendour along the Trans-Canada Highway, halfway between Banff and Lake Louise in the Canadian Rockies. Formerly called Castle Mountain, because of its distinctive shape and colour, it was officially renamed Mount Eisenhower after the end of the War in 1945 as part of Canada's tribute to the great General who led the Allied Forces to Victory.

Canadian participation in the War led to a great expansion in imports of United States merchandise and in other expenditures in the United States. While increases in United States demand for many Canadian commodities were very large, to some extent due to overseas sources of supply being displaced, there was not the sharp rise in Canadian exports to the United States comparable to the early rise in imports until the year 1942 when Canadian production of munitions, ships and other supplies had developed, part of which was sold to the United States. These exports of war supplies remained very heavy for the rest of the War and in addition there were extraordinarily large United States purchases of Canadian grain from 1943 on.

During the six wartime years from 1940 to 1945, Canadian purchases of commodities in the United States totalled $6,271,000,000, while Canadian sales of commodities to the United States (excluding gold) amounted to $5,703,000,000. Included in this latter figure are receipts of $1,187,000,000 by War Supplies Limited from the sale to the United States Government of munitions, ships and other war supplies and abnormal sales of grain totalling $658,000,000 which rose from $12,000,000 in 1940 to a record of around $337,000,000 in 1944.

As regards requirements for U.S. dollars to meet deficits with the United States, exchange control and control of capital movements provided the principal means of conservation. Government measures also limited expenditures on Canadian pleasure travel and non-essential commodities. Settlements made by the United Kingdom in U.S. dollars, and in gold sold in the United States, were also a factor in meeting deficits with the United States. Still another factor was the growing volume of imports of capital arising, mainly, from the purchase of outstanding Canadian bonds by United States investors.

In the last three years of the War a combination of temporary developments helped the U.S. dollar situation still further. Most of the sales of war supplies and grain referred to above occurred during this period. Other exports to the United States were also heavier and more diversified than formerly and another substantial source of U.S. dollars in the latter years of the War originated in United States Government expenditures on defence activities in Canada such as the construction of the Alaska highway and airfields, the Canol project and other activities in northern Canada. In 1944 and 1945 there were again small surpluses on current account due to the continuation of some of the abnormal sources of large receipts which had been prominent in these years. By 1946 a large current account deficit with the United States again reappeared as current receipts declined and current expenditures by Canada on imported merchandise increased.

While Canada had a credit balance on current account with other countries in the U.S. dollar area, these were considerably less during the war years than the normal levels of earlier years. Furthermore, Mutual Aid was extended to some Allied countries in the Non-Sterling Area, as well as to the countries of the Sterling Area. Mutual Aid to non-Empire countries to the end of 1945 totalled over $200,000,000. In addition, during the latter years of the War, there were large shipments from Canada of food and other commodities required for relief and rehabilitation financed by Canada's contribution to

UNRRA, and also provided as military relief. Then, too, in 1945 Canada's export credits program was started with a total lending program of $750,000,000 authorized by the Canadian Parliament by the spring of 1946 in addition to the loan of $1,250,000,000 to Britain. But while some of these credits were extended and disbursed in 1945, the largest part of the expenditures under this program will occur in 1946 and 1947.

The Tourist Trade

The year 1946 witnessed a great resurgence of tourist travel on the North American Continent. Automobile traffic between the United States and Canada, freed from wartime restrictions, expanded greatly and total international traffic was about 75 p.c. above the 1945 level. While tourist travel by rail declined somewhat during 1946 from the record established under wartime conditions, entrees by bus, boat, 'plane and other means showed encouraging gains.

During the year, many famous resort areas, such as Banff and Jasper in the west and well-known railway resorts in Ontario and the Maritimes, which had been closed during the war years, were reopened to welcome visitors from at home and abroad. Thousands of returned veterans turned to the tourist trade as a means of re-establishment to serve as proprietors of summer hotels and tourist cabins, as guides, and in other services related to the industry.

A peculiar feature of the Canadian tourist traffic in 1946 was the large number of short-term visits by tourists to Canada. During the year more than 21,000,000 United States residents crossed the border into Canada, but over three-quarters of them remained only for brief stays up to a day or so. This vast movement illustrates the close ties that bind border communities and the friendly and easy relations of intercommunication which are a model of international goodwill between neighbouring nations.

About half of Canada's visitors came from the northeastern States, mainly New York, while about one-third came from the Great Lakes States, principally Michigan, with the west coast States supplying the bulk of the remainder or about 10 p.c. of the total.

In addition to the wealth of goodwill and friendly social relations that the tourist trade brings to Canada, the monetary return forms an important item on the credit side of the ledger—as a contributor to employment and as a source of U.S. dollars (the bulk of tourist receipts are from travellers from the United States). The balance of payments on travel account between Canada and all countries for the years 1937 to 1945 are given in the following statement. The year 1946 will definitely establish new records of tourist expenditures in Canada and of expenditures of Canadians travelling abroad.

Year	*Credits*	*Debits*	*Net*
	(Millions of Dollars)		
1937	166	87	+79
1938	149	86	+63
1939	149	81	+68
1940	105	43	+62
1941	111	21	+90
1942	82	27	+55
1943	89	37	+52
1944	120	60	+60
1945	167	85	+82

An analysis of expenditure of travellers to Canada from the United States during the war years, classified by means of travel, illustrates the effects of wartime restrictions on the tourist trade.

Means of Travel	*1940*	*1941*	*1942*	*1943*	*1944*	*1945*
			(Millions of Dollars)			
Automobile	49·5	54·0	26·0	17·0	24·4	54·7
Rail	26·5	28·0	32·0	49·0	67·2	65·2
Boat	6·0	7·0	4·0	6·0	7·9	12·8
Through bus	5·7	7·0	6·0	5·0	6·3	13·1
Aeroplane	1·3	3·0	3·0	3·0	3·2	6·5
Other (pedestrian, local bus, etc.)	9·0	8·0	8·0	7·0	7·5	12·1
TOTALS	98·0	107·0	79·0	87·0	116·6	164·4

Canada's Tourist Attractions

Canada is a land replete with a great variety of natural attractions for tourists. The prodigious expanse of the country, its great assortment of physical wonders, the charm of its Old-World settlements, the excellent transport system of road, rail, boat and aeroplane facilities giving access to practically all parts of the country, the friendly open-hearted nature of its people, all combine to make the Dominion one of the world's most attractive tourist paradises. There are some 180 ports of entry spread from the Atlantic to the Pacific by which the tourist may enter Canada and the formalities at these gateways are kept at a minimum—one of the blessings of peaceful intercourse between two friendly nations.

A well-trained army of hunting and fishing guides, courteous hotel and lodge keepers, provincial tourist advice bureaus, shopping guides and a host of others in the service industries stand ready to make the tourist's stay in Canada enjoyable and educational, and to assure that he leaves the country eager to return again and again.

A brief panorama from coast to coast may serve to highlight some of the outstanding tourist features.

Prince Edward Island.—This is Canada's smallest province—only 120 miles in length and with an average width of some 21 miles. This sea-girt island is blessed with an ideal climate, beaches of fine sand, excellent deep-sea fishing, sailing and splendid motor roads through beautiful, rolling lowland.

Nova Scotia.—Nova Scotia is the eastern gateway to Canada, with Halifax the principal port of entry for transatlantic liners. It is a peninsular province 381 miles long by 50 to 105 miles wide, and almost entirely surrounded by sea. Here the love of the sea and maritime pursuits is inbred and naturally gives a maritime flavour to vacation trips in this Province. The historic atmosphere, the apple orchards, the lakes and streams that dot the interior, the excellent sea fishing, the forests alive with game, the picturesque fishing villages, and the fine motor roads all invite the tourist to prolong his stay.

New Brunswick.—Across the Bay of Fundy with its tidal wave, rise the blue shores of New Brunswick. The ardent salmon fisherman needs no reminding of the famous pools of this Province, nor of the beauty of its forests and streams and rivers. One of the natural wonders of the world is the reversing

fall at Saint John. There are marks of the early settlement in ivy-covered forts, the old wells and the covered bridges. The south coast features the resort area of St. Andrews-by-the-Sea, Campobello, beloved by the late President Roosevelt, and other interesting islands and beaches. In the central and eastern area extensive forests form the basis of the large pulp and paper industry, while Miramichi Bay and the Baie de Chaleur beckon the summer visitor. Good roads provide a network to all sections of the Province.

Quebec.—A visit to the Province of Quebec is not complete without a tour of the Gaspe Peninsula—the artist's delight—historic, charming and picturesque, with quaint little fishing villages, mountains, lakes and streams, breath-taking panoramas, peopled by habitants who retain a touch of the mediæval in their way of life, mingled with an appreciation of the modern world. Time moves slowly and gracefully in Gaspe. An excellent highway skirts the coast. Travelling westward up the majestic St. Lawrence, a variety of attractions lines the world's greatest inland waterway. The beautiful fiord-like Saguenay joins the St. Lawrence at Tadoussac beneath the watchful eye of Cape Trinity. Standing proudly on its great rock towering over the St. Lawrence is the city of Quebec—the key to New France, and once second only to Gibraltar as a fortress. Below the city are the famous falls of Montmorency, higher than Niagara, and upriver a few miles the mighty Quebec Bridge hangs 170 feet above the water. The trade mark of the ancient seigniories is visible in the long, narrow, fertile farms which run down to both banks of the river in orderly array. Neat little white-washed villages hug the waterway and here and there giant pulp and paper mills have built their huge pyramids of logs waiting to be ground into pulp so that the world may have its books and newspapers. Provincial parks are numerous and the religious shrines of Ste. Anne de Beaupré, Cap-de-la Madeleine, and St. Joseph's Oratory are world famous.

The largest city in Canada and the world's greatest inland ocean port is cosmopolitan Montreal, on an island near where the Ottawa River joins the St. Lawrence, 1,000 miles from the sea. Here modern finance and commerce rear their great buildings beside the shrines of the Old World. Montreal is familiar to millions of tourists for its gaiety, its cuisine, its parks and boulevards, its stores and French-Canadian hospitality. And northward, the year-round vacation land of the Laurentians beckons with its choice of a great variety of charming hotels and cosy chalets noted for their excellent cuisine. La Belle Province is a mixture of the quaint and modern. The vast hinterland that spreads northward from the St. Lawrence is an area rich in forest, fur and mineral wealth—one of the last great undeveloped areas of North America, and with tremendous possibilities.

Ontario.—From the shores of the Ottawa to the edge of the prairies, Ontario stretches for some 1,200 miles, reaching from the Great Lakes and St. Lawrence to the shores of Hudson Bay—a vast nation in the heart of Canada—with busy cities, great rivers and lakes, bustling frontier mining towns and wide areas of primeval forest. Within a day's drive of more than one-third of the population of the United States, it is a great magnet for tourists and normally entertains over half of those coming to Canada during the four seasons. It features the awe-inspiring grandeur of Niagara, the beauty and majesty of the Capital City, Ottawa, the lovely Thousand Islands, ancient Kingston, Toronto with its great annual fair and busy commercial district, the

The Village of Cloridorme on the picturesque drive around the coast of the Gaspe Peninsula of Quebec.

Niagara Peninsula—home of famous fruits and tobacco, Hamilton with its sunken garden, northern Ontario with its Quints and prosperous mining towns, the thousands of lakes and rivers, the abundant game and fish, the great provincial parks and playgrounds for summer and winter enjoyment.

Manitoba.—Manitoba introduces the traveller to the prairies, but it is a province of great contrasts richly endowed with lakes and rivers and stretching to the shores of Hudson Bay, where in 1612 the first white man set foot. Winnipeg, its capital, is a great modern city, the grain centre of Canada. In the northern section, Manitoba resembles Ontario and Quebec with its abundant water power, vast forests and mining towns. Old Hudson Bay Trading Posts still dot the hinterland and cater to the Indian and trappers. It is a lakeland paradise with good roads and the proverbial western hospitality to assure an enjoyable vacation.

Saskatchewan.—Saskatchewan likewise is a province of great variety for the tourist, ranging from the rolling prairies and busy, clean, new cities surrounded by modern farms, northward to a land of lakes and rivers girded by primeval forests and peopled by a sturdy band of Indian and White trappers. In the Prairies and northward into the far reaches of the Arctic Circle, the famous redcoat—the R.C.M.P.—maintains law and order. Saskatchewan is the bread-basket of the Empire and is famous for its fields of golden hard wheat. Prince Albert is the gateway to one of Canada's famous National Parks, replete with game and fish and scenic marvels.

Alberta.—Alberta has become well known to thousands of Americans during the War as the gateway to the storied north. Here begins, beyond Edmonton, the Alaska Highway, a road that excites the curiosity of the adventurous to see the new lands and magnificent vistas of the last frontier. Extending from the southern boundary to 100 miles north of Calgary, lies the

prairie zone, a great ranching country famous for cattle and sheep. Calgary situated at the foothills of the Rockies, is a neat, thriving city close to the Turner Valley oil fields, in which is held each year the famous stampede. Edmonton, 170 miles to the north, is the centre of a vast trading area, the main airport for northern regions and the last major port on the Asia flight. The famous resorts of Banff, Lake Louise, Waterton Lakes and Jasper and other scenic national parks are located on the western fringe of the Province. Alberta presents in the Rockies a never-to-be-forgotten panorama of lofty snow-capped mountains, sheer precipices, turbulent mountain streams and waterfalls, crystal lakes, delightful valleys, natural hot springs, dude ranches and a thousand and one tourist attractions.

British Columbia.—Here nature has been most prolific in painting a landscape to delight the beholder with its awe-inspiring beauty. It is a land of mountain fastnesses, dotted with glacier-fed lakes, tumbling mountain brooks, lofty waterfalls cascading ribbons of silver into placid lakes, stately pines grasping the mountain sides—a land of sudden sunrise and sunset with views of majestic grandeur. The Province of British Columbia begins at great heights in the fastness of the Rockies and slopes gradually down a giant's staircase to the sea. Here is the romance and colour of the Cariboo Trail, Kicking Horse Pass and dozens of scenic highways. Nature has been kind to British Columbia and blessed its coastal regions with a mild and gentle year-round climate. Lakes, streams and bays offer fine fishing, and grizzly bear, deer, moose, bighorn mountain goats and sheep and infinite variety of game birds abound. Vancouver is Canada's gateway to the Pacific—a metropolis of great natural beauty and thriving industry. Vancouver Island across the Straits of Georgia is a vacation land of rare beauty, radiating from Victoria, the Capital—a city of charm and culture—a year-round playground.

Northward along the coast of British Columbia is the famous Inside Passage to the Yukon and Alaska; a voyage of magnificent scenery in calm waters sheltered by thousands of spruce-covered islands. The Yukon, Land of the Pioneers, is rich in scenery and a great variety of plentiful game and fish and is accessible by rail from Skagway or by 'plane from Edmonton.

The tourist season in Canada extends over twelve months of the year with the heaviest traffic from May to September. Hunting and fishing enthusiasts come in large numbers for the fall season. From December to March, carnivals, ski and snowshoe meets, dog derbys and bonspiels attract thousands of ardent sportsmen to Banff and Jasper, the Laurentians and Huntsville. Each year, new winter resorts are opening up and are well patronized by tourists, eager to enjoy the stimulating and invigorating winter sports.

The Dominion and Provincial Governments maintain numerous parks as a means of preserving regions of outstanding beauty or marked interest. These parks are dedicated to the people of Canada and their guests for the benefit, education and enjoyment of all who wish to take advantage of the remarkable opportunities provided. Differing widely in character and varying in purpose, the park areas include scenic and recreational parks, situated from the Atlantic

Morning mists at Coldstream on Vancouver Island's famous Malahat Drive.

Coast to the Rocky and Selkirk Mountains; national wild-animal parks or reserves, established for the protection and propagation of species once in danger of extinction; and national historic parks which are intimately bound up with the early history of Canada and are both interesting and educational.

Tourist information is available from the Canadian Travel Bureau at Ottawa, the Provincial Bureaus in each provincial capital, from the railways, steamship lines and a host of other services, including Boards of Trade, Chambers of Commerce, Tourist Associations, Automobile Clubs, Municipalities, etc.

Internal Trade
Prices
Cost of Living

★ *Internal Trade*

THE diverse resources of the various parts of the country have led to a vast exchange of products and the task of providing goods and services where they are required for consumption or use by a population of 12,119,000, very unequally distributed over half a continent, accounts for a greater expenditure of economic effort than that required for the prosecution of Canada's great volume of external trade, high though the Dominion ranks among the countries of the world in this field.

Internal trade is broad and complicated, including as it does the transportation and distribution of goods within the country through the medium of railways, steamships, warehouses, wholesale and retail stores, and other agencies. It also includes all services such as those carried on by doctors, hospitals, theatres, schools, banks, insurance companies, and innumerable others. All such activities, even if not productive of material goods, add substantially to the national income.

Unfortunately, owing to the many ramifications of internal trade, its statistical measurement presents great difficulties. Nevertheless, some idea of its extent may be gathered from the fact that, in 1945, the national income arising from productive operations was estimated at $11,359,000 while the value of domestic exports was $3,218,000,000 in that year.

Wholesale Trade

Results of the Census of Merchandising and Service Establishments (taken every ten years) for 1941 showed a total of 24,758 wholesale trading establishments or agencies with annual sales of $5,290,750,500, of which $4,278,341,500 represented the sale of goods on own account, while the remaining $1,012,409,000 represented sales made on commission for others. Wholesale firms required the services of 94,627 male and 22,844 female employees to whom $189,449,100 was paid in salaries and wages. In addition there were 13,656 proprietors actively engaged.

These figures summarize the activities of wholesale firms which differ widely in the commodities dealt in. The commodities handled vary from primary and semi-finished products to fully manufactured goods. Within these broad

groups there are also variations as between commodities destined for use by manufacturers, commercial and institutional users, and individual consumers. There are duplications in the total sales figures, some types of wholesalers transacting business with other types.

Wholesale establishments also vary as to the extent of services or functions performed. The most important group is that designated as wholesalers proper which is composed of regular wholesale merchants, importers, exporters, wagon distributors, and smaller groups such as drop shippers and desk jobbers, mail-order wholesalers and voluntary group wholesalers. Assemblers of primary agricultural products also constitute one of the major type-of-operation groups while other types include: agents and brokers who perform primarily the sales function without providing warehousing or storage and delivery facilities and assuming limited or no credit or financial risks; bulk tank stations operated by distributors of petroleum products, some of which are owned and operated by the large refining companies while others are owned and operated by individual concerns; manufacturers' sales branches and offices at locations apart from plants which perform the same distributive functions as the readily recognized wholesale merchants.

Covering all kinds of business, the wholesalers proper operated 9,417 establishments with a sales volume of $2,358,475,300 in 1941. The largest and most important type within this group is that composed of regular wholesale merchants. There were 7,075 such establishments with sales of $1,425,002,400, engaged primarily in selling to retailers and to industrial, commercial and institutional users, with a smaller proportion of their sales being made to other wholesalers.

Current Trends.—For the consumer goods trades where sales are made mainly to retailers, the Bureau of Statistics prepares monthly indexes of wholesale sales in nine lines of activity; the automotive, drug, clothing, footwear, dry goods, fruit and vegetable, grocery, hardware, and tobacco and confectionery trades. Composite sales indexes for these kinds of business (on the base 1935-39=100) stood at 141·9 for 1941, 156·2 for 1942, 168·2 for 1943, 185·9 for 1944 and 205·3 for 1945. Using 1941 as a base, the indexes indicate that wholesale sales in the nine lines covered by the survey were up 10·1 p.c. in 1942, 18·5 p.c. in 1943, 31·0 p.c. in 1944, and 44·7 p.c. in 1945 over the 1941 level. The upward trend continued in 1946, sales in the first eight months of that year being 20 p.c. higher than in the corresponding period of 1945.

Retail Trade

The final stage in the distribution of consumer goods is effected through a great number of retail stores ranging in size from small shops, with meagre daily takings, to large enterprises, whose annual sales are reckoned in millions of dollars. Final results of the Census of Merchandising for 1941 showed a total of 137,331 retail stores with $3,440,901,700 sales, an increase of 24·9 p.c. over the volume of business transacted in 1930, the only other year for which complete details are available.

Retail trading provided employment for 297,047 full-time employees in 1941, of whom 188,658 were male and 108,389 were female and to whom $289,379,500 was paid in salaries and wages. There were also 95,561 part-time employees who received $25,058,000. In addition, there were 131,823 proprietor workers engaged in their own stores.

There were 118 individual kind-of-business classifications used in classifying the retail merchandise trade, and the proportion which each group formed of the total retail trade, together with the significant changes that took place between 1930 and 1941, are shown in the following table.

Distribution of Total Retail Store Sales, by Kind-of-Business Groups, 1930 and 1941

Group	1930		1941		P.C. Change 1941–30
	Amount	P.C. of Total	Amount	P.C. of Total	
	$		$		
Food	615,476,100	22·3	786,247,300	22·9	+27·7
Country general stores	207,657,000	7·5	214,747,800	6·2	+ 3·4
General merchandise	472,689,300	17·2	525,971,000	15·3	+11·3
Automotive	380,914,900	13·8	594,719,500	17·3	+56·1
Apparel	219,968,600	8·0	295,211,600	8·6	+34·2
Building materials	164,111,700	6·0	174,203,400	5·1	+ 6·1
Furniture, household and radio	99,791,300	3·6	118,356,900	3·4	+18·6
Restaurant	75,977,100	2·8	131,181,000	3·8	+72·7
Other retail stores	507,171,300	18·4	589,192,700	17·1	+16·2
Second-hand	11,812,600	0·4	11,070,500	0·3	− 6·3
Totals, Retail Sales	**2,755,569,900**	**100·0**	**3,440,901,700**	**100·0**	**+24·9**

Large-Scale Merchandising.—The development of large-scale merchandising in Canada as in other countries followed two main lines of growth. In the first instance, there was the development of large individual establishments, chiefly of the department-store type and associated in some cases with extensive mail-order business. Secondly, there was the rapid expansion in the chain-store type of distribution which took place in the 1930's. In 1941, department stores, including the mail-order business, transacted 11·0 p.c. of the total retail trade of the country and chain store companies (firms with four or more stores) 18·7 p.c. Results of annual surveys of retail chains show a reduction in the number of chain companies and chain outlets during recent years, though the volume of business remained about the same. In 1944 there were 435 firms operating 6,829 stores. Their total sales volume was $772,864,600, an amount which formed 18·7 p.c. of the total estimated retail trade for that year.

Current Trends.—Retail merchandising in Canada throughout 1945 was subjected to many new influences which accompanied the transition from war to peace. It is noteworthy, however, that the changed circumstances occasioned by these developments did not noticeably disturb the prevailing direction of retail purchasing. On the contrary, it is remarkable how consistently retail trade continued an almost unbroken upward movement during 1945, a movement which gained momentum through the early part of 1946.

Chief interest in 1945 and since, both for retail merchants and for consumers, has centred on prospects for the return of many items long absent

A warehouse well stocked with goods awaiting distribution to the consumer.

from the retail market and the removal of wartime restrictions on production of various types of goods which have been obtainable in limited quantities. Commodities affected by wartime controls have become available in constantly increasing amounts during the past several months with the suspension of restrictive regulations which has followed a sequence commensurate with an orderly program of transition. Consumer income continues at a high level and, with wartime savings providing a backlog of purchasing power, the demand for new merchandise remains far above current production rates for many lines.

The eagerness with which new products have been awaited is reflected in extensive sales increases for all trades, and more particularly those whose activities include the distribution of goods affected by wartime production controls. The more prominent increases since early in 1945, therefore, are to be found in sales of hardware stores, radio and electrical stores and furniture stores. In the late months of 1945, an increasing demand for men's apparel developed as returning veterans sought to outfit themselves for the resumption of civilian activities, and men's wear stores have shown pronounced gains since that time. Supplementing the high level of consumer income were certain other additions to the fund of total purchasing power. Among these were Government payments to demobilized Service personnel to assist in their re-establishment in civil life and the introduction of family allowances, both of which assumed particular importance in the latter half of 1945 and in 1946. In view of the many developments that affected retail trading in the same period, it is impossible to assess the true effect of these measures which have, nevertheless, added considerably to consumer income.

The department store holds an important place in the retail merchandise trade of Canada. Elaborate facilities for shopping are offered to city dwellers and a tremendous volume of mail-order business is conducted with customers in small towns and rural areas.

This form of large-scale merchandising showed a marked development in Canada previous to the depression period of the 1930's, but since 1929 that trend has not been followed up. Independent stores, according to the 1941 Census of Merchandising, still command about 70 p.c. of total retail sales.

Retail sales in Canada in 1944 were estimated at $4,124,200,000, having reached a point 19·9 p.c. above the volume of 1941 trading. Preliminary results for 1945 indicate an approximate gain of 8·5 p.c. over 1944 and a dollar volume in the vicinity of $4,475,000,000. During the first eight months of 1946 this rate of increase was more than maintained, the composite index of sales for fourteen retail trades recording a gain of 15 p.c. over the same period of 1945. This acceleration follows partly from the factors mentioned above and partly from an upward movement in retail prices and a volume of tourist trade substantially heavier than that experienced in 1945.

Retail Services

In addition to the 137,331 retail merchandise stores in operation in 1941, there were 49,271 service establishments with total receipts of $254,677,900 recorded in the results of the Census of Merchandising and Service Establishments. These figures cover a wide range of establishments of various types, located generally in the retail marketing sections of urban areas and whose revenue represents receipts from services rendered rather than from the sale of merchandise. Professional services, transportation services, and services related directly to the building trades, masonry, plumbing, etc., are not included.

The provision of amusement and personal services of various kinds forms a large proportion of the total. Included in the personal services group are 14,529 barber shops, beauty parlours, or combined barber shops and beauty parlours, with total receipts of $30,563,900. Included in the amusement group are 1,244 motion-picture theatres with box-office receipts (exclusive of taxes) amounting to $41,368,800. Figures for the years 1942 to 1945 reveal an expansion in motion-picture theatre attendance and receipts. There were 215,573,267 paid admissions in 1945, while box-office receipts, exclusive of amusement taxes, amounted to $55,430,711. Dominion and provincial amusement taxes at motion-picture theatres amounted to an additional $14,055,021.

Co-operative Associations

Co-operative Business Organizations.—In 1945 there were more than 1,800 co-operative associations in Canada with total assets amounting to $172,565,590, of which the book value of plant and equipment was $43,048,326. The members' equity amounted to $83,747,151, consisting of paid-up share capital of $15,789,047 and reserves and surplus of $67,958,104. This was an increase of $11,255,613 in net worth over 1944. Working capital also increased from $31,826,711 in 1944 to $40,163,231 in 1945. The relation of net worth to total assets increased from 35 p.c. in 1944 to 48 p.c. in 1945, accounted for by decreases in inventory and a corresponding decrease in bank borrowings especially by the grain-marketing associations.

For the first time since 1932 Canadian co-operatives topped $500,000,000 in sales value of products marketed. This amount of business was done by 965 associations which reported. In addition, associations handling merchandise and farm supplies numbered 1,383 and the total value of this type of business was $81,360,855, an increase of $15,852,084 over 1944. Value of sales of farm products in 1945 showed an increase of $40,682,829 over 1944. It is estimated that about 28 p.c. of the main farm products was handled by co-operatives

at some stage of the complete marketing process. Of all the commodity marketing groups, the grain growers are the most highly organized; about 45 p.c. of all commercial marketings of grain passed through the co-operative channels.

Consumers' Co-operative Stores.—In 1945 there were 917 consumers' co-operative stores with 165,449 members and retail sales of $55,560,893. Co-operatives accounted for 0·8 p.c. of total retail sales in that year.

Credit Unions.—This is a form of co-operative banking which was introduced into the Province of Quebec in 1900 and spread to the other provinces from 1930 onwards. In 1945 there were over 2,200 of these co-operative credit institutions all over the country with a membership of about 600,000. Total assets were well over the $145,000,000 and in 1945 loans totalling $41,000,000 were made. Quebec leads all provinces in number of such unions, membership, and total assets, followed by Ontario and Saskatchewan.

In Quebec, these "caisses populaires" are an extremely important factor in the rural economy, since loans are made mostly to farm people for agricultural purposes. In that Province, over 900 caisses loaned approximately $25,000,000 to members in 1945. It is estimated that the distribution of credit unions in Canada as a wlfole is about equal as between rural and urban.

Insurance.—Mutual fire insurance is one of the oldest forms of co-operation in Canada. There are at present over 400 such mutuals with insurance at risk amounting to $1,436,000,000. Net losses paid in 1944 were over $3,000,000. A co-operative life insurance company in Saskatchewan recently applied for a Dominion charter.

Miscellaneous.—Co-operative methods and principles have been applied to almost every form of enterprise. They have been formed to provide telephone service, medical services and health plans, transportation, housing, burial services, restaurants, and laundries.

An important recent development is the setting up of co-operative farms in Saskatchewan which are promoted and aided by the Provincial Department of Co-operation and Co-operative Development; many of the co-operators are veterans. Also the Quebec legislature recently set up a rural electrification board which will assist rural groups to organize co-operatively to provide themselves with electricity on the farmstead.

Recent Trends.—During the war years Canadian co-operatives have expanded in many directions and further strengthened the movement with federations and international affiliations. The various co-operative wholesales in Canada have joined to form Interprovincial Co-operatives Ltd. to facilitate interprovincial co-operative trading in products of the various provinces. Five large co-operative wholesales in Canada belong to National Co-operatives Inc. in the United States whose main business is in dairy equipment, farm, household and automotive chemical preparations. This is one of the first moves towards increasing co-operative international trading.

The Royal Commission on Co-operatives.—As a result of co-operative expansion and activities in the past ten years certain anomalies and inade-

Feeding cattle from Canada's extensive western rangelands at a packing-plant stockyard.

quacies with respect to income and excess profits taxes became apparent. A Royal Commission was established in 1944 to enquire into the matters at issue and their report was published in December, 1945. (*See also* p. 229.)

Combines in Unlawful Restraint of Trade

The Combines Investigation Act, R.S.C. 1927, c. 26, enacted in 1923 and amended in 1935, 1937 and 1946, provides for the investigation of trade combinations, monopolies, trusts and mergers alleged to have operated to the detriment of the public by limiting production, fixing or enhancing prices, preventing competition or otherwise restraining trade. Organizations of this nature are defined by the Act as "combines", and participation in the formation or operation of such combines is an indictable offence, subject to penalties up to $25,000 or two years' imprisonment.

A report entitled "Canada and International Cartels", prepared by the Commissioner of the Combines Investigation Act with the assistance of a special committee, was presented at the 1946 session of Parliament and has been published. That report shows, with many illustrative examples, the undesirable effects on the Canadian economy of the operations of private international trade combinations known as cartels and points out the obstacle to full employment in either the international or domestic sphere which might result from undue restraints of trade imposed by private trade combinations. Restrictive agreements of this type have involved the limiting of production, the fixing of prices, the establishment without prior governmental direction or approval, of import and export quotas, the allocation of territorial markets

and the control of the application of technological developments in certain industries. The report stresses the limited degree to which Canada can, by itself, remedy situations of this sort except merely on the domestic plane and the necessity for international collaboration to curb restrictive business practices in world trade.

The 1946 amendments to the Combines Investigation Act give legislative form to some of the recommendations made in the cartel report. They strengthen the Act in matters of procedure and provide more adequately for initiation of inquiries, including investigation of alleged breaches of Sections 498 and 498A of the Criminal Code, which concern offences related to those covered by the Combines Investigation Act. They also confirm the transfer previously made by Order in Council of responsibility for the administration of the Combines Investigation Act from the Minister of Labour to the Minister of Justice. The recommendation in the cartel report that greater attention should be given to patents in circumstances where they may be used to assist in monopolization of an industry to the detriment of the public may be related to the amendment authorizing the Exchequer Court of Canada to prevent by court order certain uses of patents or trade-marks to limit production unduly or to restrain or injure trade to the public detriment.

The amendments recognize the necessity of encouraging competition in those fields where it must remain an essential element if private enterprise is to function effectively and the necessity for that purpose, of closer and more critical examination of trade practices and conditions than was applied in the pre-war period. The imminent or actual withdrawal of many governmental wartime restrictions enacted in the public interest requires vigilance to ensure that competition is revived and that business groups do not introduce or extend restrictive private controls of trade which are not necessary or desirable in peacetime conditions and which might seriously militate against the expansion of employment and trade.

★ *Wholesale Prices*

On the base 1926=100, the general wholesale price index stood at 72·3 in August, 1939, and at 109·2 in August, 1946. This represents an increase of 51 p.c. during the seven years of war and one year of reconversion and reconstruction. The index is strongly affected by the increase in wholesale prices of Canadian farm products, which rose from the relatively low point of 58·4 in August, 1939, to 111·1 in August, 1946, an increase of 90 p.c.

The index includes approximately 500 articles, each of which is priced at several sources. The articles are largely basic commodities, produced by Canadian farms, mines, forests, fisheries and manufacturing industries, although a considerable number of semi-manufactured and finished goods are also included. Weights used correspond to the importance in domestic markets of the various items marketed, whether they are imported, exported or for domestic consumption.

The eight-year increase of 51 p.c. in the Canadian wholesale price index compares favourably with the United Kingdom increase of 77 p.c. and the United States increase of 70 p.c. for the same period.

Monthly Index Numbers of General Wholesale Prices and Wholesale Prices of Canadian Farm Products, 1945 and 1946

(1926 = 100)

Year and Month	Index Numbers of— General Wholesale Prices	Index Numbers of— Canadian Farm Products	Year and Month	Index Numbers of— General Wholesale Prices	Index Numbers of— Canadian Farm Products
1939			November	103·9	109·3
August	72·3	58·4	December	103·9	109·4
1945			**1946**[1]		
January	102·9	109·5	January	104·6	109·6
February	103·0	109·7	February	105·2	110·3
March	103·1	110·1	March	105·6	110·3
April	103·3	110·4	April	108·2	110·7
May	103·6	109·7	May	108·6	111·5
June	104·0	110·9	June	109·1	112·7
July	104·6	112·9	July	109·5	113·8
August	104·0	109·1	August	109·2	111·1
September	103·3	106·6	September	109·1	110·5
October	103·6	108·7	October	110·8	112·8

[1] Subject to revision.

★ *Price Control in the First Post-War Year*

Reflecting the operation of Canada's stabilization program, the cost-of-living index at V-J Day had risen only 3·8 p.c. over the level of Oct. 1, 1941, which marks the approximate date of the beginning of price ceilings. One year later—on Sept. 1, 1946—the index showed a further increase of 4·7 p.c., bringing the cost of living to a level 24·5 p.c. above that of August, 1939. While the 1945-46 increase showed a considerable advance in the cost of living, it was by no means surprising in view of the continuing strong inflationary pressure to which the economy was subjected; in the main it represented price increases inevitable in the transition from a war economy to one of peacetime, and is a measure of the success achieved in the war years in holding prices down, despite the marked increases in cost of production. Thus, the program of subsidy reduction or removal, which was embarked upon after the end of hostilities, involved some important price increases, such as those in textiles, fluid milk, processed fruits and vegetables. Other major price adjustments, notably those affecting steel and farm machinery, were necessary to relieve manufacturers of some of the burden of cumulative cost increases which, with the loss of war contracts, they could no longer absorb under existing ceilings. Another series of price increases, mainly in respect to foods, were granted in an effort to stimulate production.

The form of price control inaugurated in December, 1941, under the jurisdiction of the Wartime Prices and Trade Board has followed the principle of holding the prices of goods and important services, as well as rentals, to the levels prevailing in the basic period, Sept. 15-Oct. 11, 1941. While a few commodities were originally exempted from price control, it was eventually found necessary to establish maximum prices even for some of these items (e.g., the more important fresh fruits and vegetables). From time to time individual basic

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period price ceilings applicable to various goods have been replaced by standardized specific prices, for greater clarity and more effective enforcement.

The "basic period principle" which governed the administration of price control involved not only the stabilization of prices but also the maintenance, so far as practicable, of the same price-quality relationships and the same proportionate volume of production in each price range as in the basic period. It involved, too, the fair distribution of scarce goods between the various regions and between different dealers. Since prices were no longer free to increase and thus strike a balance between demand and supply, price control was necessarily linked with control over supply and distribution such as rationing, the allocation of raw materials and, where necessary, the direction of production. Similarly, rent control necessitated the protection of tenants against arbitrary eviction.

Wartime increases in costs and the general pressure of expanding buying power were the sources of many problems in the administration of price control. To a substantial degree the "squeeze" of higher costs was absorbed by producers, importers and distributors. In some businesses, the impact of increased costs was offset by the higher volume of sales and in many fields cost-reducing measures, such as the simplification of products, helped to reduce the squeeze. Where such methods proved insufficient and where a continued supply of the commodity concerned was necessary, subsidies were paid or, in some instances, price increases were authorized.

Some of the major problems arising during the first four years of price control have been covered in previous volumes of this Handbook. This review deals with the important developments during the period, September, 1945, to October, 1946.

As was to be expected, the need for price control did not by any means disappear with the end of the War since continuing shortages, rising costs of production and rapidly increasing prices abroad still presented grave threats of inflation. The necessary powers to continue all needed emergency controls for a period of approximately one year were embodied in a Special Act of Parliament—the National Emergency Transitional Powers Act—which came into force on Jan. 1, 1946.

However, while the maintenance of price control was still necessary, it was equally important to make the administration of price control sufficiently flexible to meet the changed circumstances of the transition period. In wartime a high level of production was assured by Government expenditures, but with the cancellation of war contracts a sustained level of production and employment was consequent upon the existence of adequate returns on civilian production. It was particularly important therefore that the price controls should not be so rigidly administered as to restrict the expansion in output of civilian goods.

The end of the War threw greater emphasis on the need to adjust prices to compensate for increased costs of production. Since 1941 the production costs of many industries had risen considerably as a result of increases in the costs of domestic and imported materials, labour and other elements of cost.

During the war years this development did not normally require price adjustments; most manufacturers could continue to sell their civilian production at 1941 prices because they were also producing other and more profitable lines on a large scale under war contracts. With the termination of these

contracts and the continuing upward trend in production costs, unit costs of production proved frequently to be too high in relation to existing maximum selling prices, and increased prices have had to be authorized in certain industries, the more important including iron and steel mill products, farm machinery, furniture, bedding and pulp and paper products.

The initial price problems created by the resumption of civilian production in industries producing household appliances and automobiles were greatly relieved by the removal in May, 1945, of the special excise tax of 25 p.c. on electrical and gas household appliances and the reduction in the tax in the case of passenger cars, radios, phonographs and cameras. The war exchange tax on imports from non-sterling countries was also removed (October, 1945) and the 8 p.c. sales tax was taken off building materials and machinery and equipment used in production.

During the period under review, a high level of demand both at home and abroad accentuated the shortages of supply in many fields, notably in food supplies. In several exceptional cases price increases were authorized as incentives to greater production. Thus, in April, butter prices were advanced by 4 cents per pound and upward adjustments had to be made in both export and

Patent medicines and other preparations being packaged and wrapped for delivery to the many branch stores of a large western wholesale drug company.

domestic prices of pork. Beef ceiling prices were adjusted to establish a more satisfactory price relationship between top and lower grades of beef and also to improve distribution.

Lumber prices were raised in an attempt to correct an unsatisfactory situation arising out of the extremely heavy demand for lumber. The increasing spread between export and domestic prices for lumber was tending to drain away too large a proportion of supplies (particularly in the higher grade lines), while black market operations were disrupting the distribution of the lumber that was available to the domestic market.

With the growing number of price adjustments at the manufacturing level for various products, it was considered desirable to establish a standard method of controlling the resultant price increases at distributive levels. The practice adopted was to establish maximum wholesale and retail percentage markups over costs for a wide range of items including leather and textile goods, fabricated metal items, and furniture.

The program of preparing for the eventual decontrol of prices gained momentum during this period with the removal of further subsidy payments, the inauguration of a more liberal policy of import pricing and, finally, the suspension of price ceilings on a large number of goods and some services.

Many import and domestic subsidies had been discontinued in 1945 and more were eliminated in 1946. One of the most important of these was the subsidy on fluid milk. In June, 1946, the 2-cent per quart consumer milk subsidy was discontinued, and the price of milk to the consumer was subsequently increased by the same amount. The subsidy to milk producers was also eliminated on Sept. 30, 1946, and increases in milk prices were authorized by the different Provincial Milk Boards and ceiling prices on concentrated milk products were adjusted by the Prices Board. The reduction or removal of subsidies in respect to various textiles was accompanied by a controlled increase in the prices of the various items of clothing and furnishings affected thereby.

Early in 1946, a new procedure was adopted with respect to the method of fixing prices on imports from various Allied countries (including the United Kingdom, France, Russia, Belgium, Norway, China and others) where the wartime increase in costs and prices had been appreciably greater than in Canada. Instead of requiring such goods to be imported at 1941 prices they were priced in relation to the laid-down cost plus a specific markup. In order to prevent too great an increase in price to the consumer, dealers were required to accept smaller than normal markups on these goods. Under this procedure the volume of supplies from the countries in question began to increase.

The first step in the actual decontrol of domestic prices was taken in February, 1946, when price controls were suspended, on an experimental basis, on a moderate list of unimportant items which were in good supply. This list was extended by later additions, which included several more important items such as newsprint and some types of capital equipment.

By the summer of 1946, it became apparent that the entire stabilization program was under great pressure as a result of rising costs in markets abroad from which Canada draws supplies, or to which Canadian exports are shipped. At the same time the issuance of lists of items exempted from price control had tended to encourage a feeling in some minds that price control was being gradually abandoned. Consequently, a statement of Government policy was

By Ward Market, Ottawa, presents a busy scene on market days when farmers, produce merchants, wholesalers, retailers and the public gather by the thousands and tons of foodstuffs are exchanged.

made by the Minister of Finance in the House of Commons on July 5 announcing four specific steps designed "... to prevent undue increase in the cost of living, and costs of production, improve the effectiveness of price control, encourage a greater supply of scarce goods which we import from other countries, and generally strengthen the stabilization program and facilitate an orderly post-war adjustment of the Canadian economy while protecting it from the major effects of adverse development outside our borders".

As a first step in carrying out this policy, the Prices Board issued an order specifying in detail the goods and services that would remain subject to price control including, for example, almost all articles of importance in the normal household budget, such as food, clothing, fuel, rentals, etc., most raw and basic production materials, as well as the items of chief importance in the production costs of farmers and other primary producers.

A revised pricing procedure for imported goods was also inaugurated under which a wide variety of goods would henceforth be priced on the basis of landed cost plus a specified markup (rather than on the basis of 1941 or other specific ceilings), regardless of the country from which they were imported.

As the third and most significant step in the new program, the rate of exchange of the Canadian dollar was restored to parity with the United States dollar and, consequently, increased in value in terms of all other currencies. This removal of the 10 p.c. wartime discount on the Canadian dollar was justified, in part, on the ground that by doing so some of the pressure on the price ceiling exerted by higher external prices would be relieved and the cost of imports in terms of Canadian dollars would be reduced 10 p.c. below what it would otherwise have been. This is important in the case of a wide variety of essential imports, such as machinery, coal, clothing and textiles, sugar, tea and the like. The Minister of Finance also stated that current subsidies on imported items of significance to consumers would continue to be made so as to hold the cost of living within reasonable limits.

Problems in respect to supply continued to be pressing in 1945-46 despite the termination of hostilities and the expansion of non-military production. Indeed, with an unprecedented level of consumer demand and a continuing world shortage of certain essential commodities (such as cotton yarns and fabrics, coal, vegetable oils and lumber), shortages in some lines were perhaps more acute than during the war years. In addition, shortages were intensified by the loss of production resulting from the numerous and widespread strikes which occurred in 1946. Industries thus affected included steel, rubber, lumber, textiles, chemicals, glass, electrical and brass products and shipping.

In the case of food, the relief requirements of overseas countries necessitated a heavy volume of exports and, consequently, the maintenance of restrictions on domestic consumption. The rationing of butter, meat and sugar was maintained, and in March, 1946, steps were taken to reduce the domestic consumption of wheat by reducing the amounts used for milling and for distilling purposes.*

One of the major changes in distribution controls in the period under review was the revision in September, 1945, of the Prices Board's policy of "equitable distribution" governing goods in short supply to facilitate the establishment of new businesses, a matter of particular concern to ex-service men, and to meet the problem arising out of the resumption of the manufacture of durable goods, for many of which the 1941 distribution pattern was no longer appropriate. The suppliers of certain specified goods which were in fairly adequate supply were given complete freedom in the matter of distribution; and in the case of certain other specified goods, they were permitted to distribute 20 p.c. of their current production without restriction, while the other 80 p.c. remained subject to the rules of equitable distribution. A smaller group of items remained restricted as to distribution on the old basis. The list of goods affected by relaxation or decontrol was extended later in the year and again in 1946.

During the war years the acute shortage of housing made it necessary to establish ceilings on rentals and to give tenants an extra-contractual security of tenure. The shortage of accommodation became intensified in 1946 and the rental and eviction controls affecting housing accommodation were, in general, rigorously maintained. However, a minor relaxation of rental and eviction controls with respect to commercial accommodation was introduced at the end of 1945.

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* These restrictions were withdrawn in September, 1946.

★ *Cost of Living*

During the past year the Dominion Bureau of Statistics' cost-of-living index moved up to 125·6. This represents a price increase of 25·6 p.c. over the average cost in the five pre-war years (1935-39) of a typical urban wage-earner family budget of that time. If the price increase of this budget were reckoned on the August 1939 base, when the index stood at 100·8, it would amount to 24·6 p.c.

The cost-of-living index budget does not represent a minimum standard of living; it is a budget based upon actual living expenditure records of typical wage-earner families. The index measures price changes only. Increases in quantities consumed are not taken into account. Items that have gone up a great deal in price, such as many articles of food and clothing, are averaged in with articles that have not gone up so much, such as rent and electric light and carfare. But the correct amount of importance is given to each of these items. The weights to be attached to them were determined by a very careful study of urban wage-earner family expenditures, undertaken in 1938.

Quality deterioration is carefully watched by a full-time staff of field representatives who report their findings regularly. If an article now lasts only half as long but costs just as much as heretofore, this is counted as a doubling of price. Articles in short supply, especially those in the lower price ranges which have disappeared entirely, are similarly accounted for. For example, if a set of dishes which formerly cost $6·95 is now unobtainable, the field representatives obtain the next cheapest price, say $8·95, and this is counted as a price increase and given its due representation in the index.

One hundred and fifty of the most important articles of consumption are priced each month. Each one is priced in several cities (from 10 to more than 60 cities in the case of foods), and in several stores in each city so that, altogether, more than 50,000 individual quotations enter into the calculations.

Index Numbers of Living Costs in Canada, 1938-45, and by Months, 1946

(Av. 1935-39 = 100)

Year and Month	Food	Rent	Fuel and Light	Clothing	Home Furnishings	Sundries	Total
1938	103·8	103·1	97·7	100·9	102·4	101·2	102·2
1939	100·6	103·8	101·2	100·7	101·4	101·4	101·5
1940	105·6	106·3	107·1	109·2	107·2	102·3	105·6
1941	116·1	109·4	110·3	116·1	113·8	105·1	111·7
1942	127·2	111·3	112·8	120·0	117·9	107·1	117·0
1943	130·7	111·5	112·9	120·5	118·0	108·0	118·4
1944	131·3	111·9	110·6	121·5	118·4	108·9	118·9
1945	133·0	112·1	107·0	122·1	119·0	109·4	119·5
1946—							
January	132·8	112·3	107·1	122·6	119·5	110·9	119·9
February	132·5	112·3	107·1	122·7	120·1	110·9	119·9
March	133·1	112·3	107·2	123·1	120·4	110·9	120·1
April	135·1	112·3	107·2	123·2	120·7	111·0	120·8
May	137·7	112·6	107·2	123·7	122·1	111·5	122·0
June	142·1	112·6	107·2	124·3	122·4	112·1	123·6
July	144·2	112·6	107·2	126·4	125·1	113·7	125·1
August	144·7	112·6	107·2	127·6	127·0	113·8	125·6
September	143·2	112·6	107·2	129·6	128·4	113·9	125·5
October	146·5	113·4	107·3	130·2	128·8	113·9	126·8
November	146·6	113·4	108·6	131·1	129·2	114·1	127·1

Construction

★ *Government Assistance to the Industry*

THERE are three Acts of Parliament in effect at the present time under which it is possible to obtain help from the Dominion Government for the purpose of building houses: The National Housing Act, 1944; the Farm Improvement Loans Act; and the Veterans' Land Act. The first two are outlined below, together with a statement on the work of Wartime Housing Limited, a Crown company created in 1941 to erect temporary homes for rental purposes in order to relieve housing pressure in congested areas. The Veterans' Land Act is dealt with under the Chapter on Veterans Affairs, p. 218.

Few matters are of more vital concern to Canadians to-day than housing. In one way or another, nearly everyone is affected. Some are in urgent need of a place to live. Others look forward to the day when they can move from cramped, unsuitable quarters into their own homes. Still others are interested in the social aspects of housing—new and improved standards, slum clearance, community planning and zoning.

Efforts to meet the deficit, to set higher standards, call for co-ordination on a national scale. To provide that co-ordination, Central Mortgage and Housing Corporation, a Crown company, was incorporated by Act of the Twentieth Parliament (December, 1945). Its purpose and functions are, briefly: (*a*) to administer the National Housing Act, 1944; (*b*) to provide facilities for the rediscounting of mortgages by the lending institutions; and (*c*) to administer the Emergency Shelter Regulations.

As a result of consolidation of the Dominion Government's operations in the housing field, the Corporation also directs the activities of Wartime Housing Limited and, in addition, the non-farm or small holdings operations carried on under the Veterans' Land Act are referred to the Corporation.

Construction proceeds on a 81,000 h.p. development at Stewartville, Ont. When the power house structure takes shape, it will be 200 feet high and the top will be about level with the bush line in the background.

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The National Housing Act, 1944, was the third general housing Act to be proclaimed in Canada. The first, the Dominion Housing Act, 1935, was superseded by the National Housing Act, 1938, which in turn was followed by the present Act. The National Housing Act covers virtually the entire housing field.

Joint Loans.—Loans are made jointly by the Corporation and approved lending institutions to prospective home-owners or to builders of houses for sale to occupants. Houses must be constructed according to sound, prescribed standards. Maximum loan is 90 p.c. of the first $4,000 of the lending value, plus 70 p.c. of any lending value in excess of $4,000. Twenty-five per cent of the money borrowed is furnished by the Corporation; interest payable by the borrower is 4½ p.c. per annum, calculated semi-annually. Term of the loan may be up to 25 years. However, in an area adequately protected by approved community planning and zoning regulations, the period may be extended to 30 years. Payment of principal interest and taxes are made in monthly instalments. Joint loans may be made for rental-housing projects on much the same terms, except that the loan must not exceed 80 p.c. of the lending value and that the maximum term is 25 years.

In the first six months of 1946, a total of 5,521 units were financed under the joint loans section of the Act, involving $25,040,980, or an average loan per unit of $4,535. These figures compare with 3,294 units, involving $13,884,525, or an average loan of $4,212 per unit in the corresponding period of 1945.

Loans to Limited-Dividend Housing Companies.—Loans may be made directly by the Corporation to a limited-dividend housing company to assist in the construction of a low-rental housing project. Such loans may be for 90 p.c. of the lending value of the project at an interest rate of 3 p.c. per annum. Their period of amortization may be extended to 50 years. Life insurance companies under Dominion jurisdiction are authorized to invest up to 5 p.c. of their Canadian assets in a low- or moderate-rental housing project, and are guaranteed a net return of 2½ p.c. per annum on such investments.

In 1945, several life insurance companies operating in Canada joined together and formed a mutual institutional holding company in the name of Housing Enterprises of Canada, Limited. Through limited-dividend operating companies, Housing Enterprises is building rental housing in some 35 cities, involving the construction of approximately 3,600 units.

Loans to Primary Producers.—The Corporation is authorized to make direct advances to mining, lumbering, logging and fishing companies in outlying areas to assist in providing homes for their employees.

Loans are made to, or are guaranteed by, the company concerned; the term of the loan may be as long as 15 years, the rate of interest is 4 p.c., and the company cannot earn on its investment in the housing project more than the 4 p.c. interest rate. The maximum loan is 80 p.c. of the lending value.

Farm Loans.—Joint loans may be made on the following terms to assist in the construction of houses on farms: (*a*) Where a farm is clear of encumbrance, a joint loan will be the least of $5,000, the cost of building the house, or two-thirds of the appraised value of the farm; (*b*) where a farm is already mortgaged, a joint loan will be the least of $8,000, the aggregate of the cost

Deep River, a Government-owned townsite built for the workers of Chalk River atomic development plant. When construction is completed, 295 families will be housed and provided with a shopping and community centre.

of building the house and the amount necessary to discharge all encumbrances on the farm, or two-thirds of the appraised value of the farm. The rate of interest is 4½ p.c.; the term of the loan up to 20 years.

Home Extension Loans.—Loans may be made by banks or approved instalment credit agencies for home improvement and home extension purposes. These loans are intended to assist home-owners to finance additional dwelling units in existing houses. They bear interest at 5 p.c. The section dealing with home improvement loans is not in force owing to the shortage of building materials.

Home Conversion Plan.—Under the Home Conversion Plan, the Corporation is authorized to lease buildings in certain cities and contiguous municipalities, to convert them into housing units and to sublet them to suitable tenants for the relief of the housing shortage. It is not the intention to press further development of the Home Conversion Plan at this time owing to the lack of houses suitable for conversion, the shortage of materials and the high costs involved.

Integrated Housing Plan.—The purpose of the Integrated Housing Plan is to encourage the building of houses for sale, preference being reserved for veterans of the War of 1939-45 and their dependents. The main features of the Plan are: (*a*) a pre-determined maximum sales price; (*b*) priority for materials; (*c*) a Government guarantee to purchase in the event of non-sale; (*d*) sales preference to veterans.

Research and Community Planning.—The Corporation is authorized to deal with the investigation of housing conditions and measures to be taken for their improvement, the preparation of plans of low-cost homes, public education on the subject of community planning and all other aspects of research of this kind.

Slum Clearance.—The Corporation has taken over administration of the National Housing Act in full, except for grants for slum clearance. In this instance, the Corporation advises the Minister of Reconstruction and Supply, but the grant itself is made by the Minister. However, slum clearance is not considered to be opportune at the present time. The need for shelter is too great to permit the destruction of living accommodation of any kind.

Wartime Housing Limited

Wartime Housing Limited, a Crown company, was formed in the spring of 1941 to build houses for families and living accommodation for single men and women employed in essential war industries. To the end of 1944, 17,218 houses had been completed, together with 200 other buildings such as staff houses, schools, community halls, etc. Many of these latter units have now served their purpose and have been disposed of through the War Assets Corporation.

With the return of Service men the demand for housing increased tremendously. The low-cost rental field opened by the veterans' needs was too great for ordinary handling and the construction activities of Wartime Housing Limited was renewed. The first veterans' housing program, started in 1944, was completed in the early part of 1945, and 1,287 dwelling units became available. The program for 1945 called for the building of 6,531 houses and, despite the serious shortages of many materials needed in house building that were experienced, caused by strikes at sources of supply, over 5,078 of the houses started late in 1945 were completed by September, 1946.

In 1946 municipal requests for 4,213 houses were approved and construction undertaken. Several hundred of these were completed and occupied by late mid-summer. It is anticipated that the 1947 municipal requests for veteran houses will exceed greatly the number undertaken in the 1946 program.

Farm Improvement Loans Act

The Farm Improvement Loans Act, 1944, is designed to provide short-term and intermediate-term credit to farmers. Under its provisions, the Dominion Government authorizes the chartered banks of Canada to make loans over a three-year period and up to $250,000,000 under a 10 p.c. Government guarantee against loss. The maximum of an individual loan is $3,000, the interest rate is 5 p.c. simple interest, and the repayment periods are from one to ten years, depending upon the amount borrowed and the purpose for which the loan is obtained. The Act restricts loans to farmers.

There are two broad aims behind this legislation, the first of which is the improvement and development of farms. Loans will be made for the installation of modern, labour-saving equipment, more and better live stock,

and for other improvements necessary to maximum farm production. The second is the improvement of living conditions on farms, such as the provision of electrification, refrigeration, heating systems, water systems, and all those things that make for comfort and convenience in living and that do so much to eliminate the drudgery of the farm housewife.

There are seven classes of Farm Improvement Loans: (1) Purchase of agricultural implements; (2) Purchase of live stock; (3) Purchase of agricultural equipment or installation of a farm electrical system; (4) Alteration or improvement of a farm electrical system; (5) Fencing or drainage; (6) Construction, repair or alteration of, or addition to, farm buildings; (7) General improvement or development of the farm.

Despite the shortage of material, supplies and labour, up to the end of August, 1946, a total of 13,456 loans had been taken out under this Act for an amount of $10,178,690.

★ *Construction Statistics*

Housing.—In 1945, with increasing emphasis on the urgent need for shelter, it became apparent that an adequate series of housing statistics would be required as basic to a program of accelerated residential construction. The Dominion Bureau of Statistics initiated such a series. Reports on new residen-

Starting work on one of the many housing schemes under way across Canada. These projects are financed by Housing Enterprises of Canada, Limited.

tial construction were obtained from municipal offices of 623 municipalities covering housing construction from Jan. 1, 1945. The series has been continued on into 1946. This group of municipalities includes all metropolitan areas, urban centres of population 5,000 or over, and a further selected number chosen on the basis of scientific sampling technique. The sample of incorporated localities covers approximately 66 p.c. of the Dominion total—85 p.c. of the urban population and 36 p.c. of the rural population. The proportion of single units built was higher in rural areas, amounting to almost 88 p.c. of the total as compared to 57 p.c. in urban centres.

Dwelling Units Built in Canada, by Type, 1945

Type	Urban		Rural[1]		Total	
	No.	P.C.	No.	P.C.	No.	P.C.
Single dwellings	17,189	57·1	15,492	87·6	32,681	68·4
Semi-detached or double	1,168	3·9	632	3·6	1,800	3·8
Row or terrace	208	0·7	27	0·2	235	0·5
Duplex	1,688	5·6	206	1·2	1,894	4·0
Triplex	1,032	3·4	12	—	1,044	2·2
Apartment or flat	2,551	8·5	414	2·3	2,965	6·2
Other	916	3·0	250	1·4	1,166	2·4
Conversions and reconversions	5,337	17·8	645	3·7	5,982	12·5
Totals	**30,089**	**100·0**	**17,678**	**100·0**	**47,767**	**100·0**

[1] Includes Yukon and the Northwest Territories.

Of the 36,280 residential buildings constructed in 1945 about 63 p.c. were wood frame with wood siding. Wood as a major building material in the make-up of dwellings entered into more than 86 p.c. of the buildings constructed.

Residential Construction, by Type, 1945

Type	Number	Per Cent
Wood frame and wood siding	23,025	63·5
Wood frame and brick veneer	4,011	11·0
Wood frame and stucco on lathe	4,387	12·1
Concrete or cement block and stucco	731	2·0
Solid masonry	1,108	3·0
Solid brick	1,797	5·0
All other types	1,221	3·4
Totals	**36,280**	**100·0**
Summer cottages	903	—

About 37 p.c. of the dwelling units built in 1945 were constructed in the 12 major metropolitan areas which contain 36 p.c. of the population of the Dominion. The percentage of all new buildings was 34, this lower percentage being accounted for by the larger proportion of multiple dwellings. Residential construction in Montreal and Quebec was characterized by a greater proportion of multiple dwellings than the other areas.

Comparison of Dwelling Units and Buildings in 12 Metropolitan Areas, 1945

Metropolitan Area	Dwelling Units		Buildings		Average Dwelling Units per Building
	No.	P.C.	No.	P.C.	
Halifax	189	0·4	144	0·4	1·31
Saint John	163	0·3	137	0·4	1·19
Quebec	1,054	2·2	503	1·4	2·09
Montreal	4,797	10·0	2,089	5·7	2·30
Ottawa	1,497	3·1	1,048	2·9	1·43
Toronto	3,608	7·5	3,060	8·4	1·18
Hamilton	613	1·3	494	1·4	1·24
London	446	0·9	268	0·8	1·66
Windsor	747	1·6	693	2·0	1·08
Winnipeg	1,259	2·6	1,006	2·8	1·25
Vancouver	2,875	6·0	2,450	6·7	1·17
Victoria	650	1·4	474	1·3	1·37
Totals, 12 Metropolitan Areas	**17,898**	**37·5**	**12,366**	**34·1**	**1·45**
Totals, Canada	**47,767**	**100·0**	**36,280**	**100·0**	**1·32**

All Construction.—The value of work performed by the construction industry in Canada in 1945, according to reports received from 19,025 general, trade and sub-contractors, municipal authorities, the Harbours Board, and Dominion and Provincial Government Departments amounted to $543,579,833. This represented an increase of 20·8 p.c. over the total for 1944, though it was somewhat lower than for the years of heavy wartime construction.

Statistics of the Construction Industry, 1936-45

Year, Province and Group	Persons Employed	Salaries and Wages Paid	Cost of Materials Used	Value of Work Performed
	No.	$	$	$
1936	142,346	112,846,384	122,189,238	258,040,400
1937	151,652	150,637,291	175,844,435	351,874,114
1938	147,191	147,405,398	176,562,208	353,223,285
1939	148,414	153,442,443	189,497,342	373,203,680
1940	149,830	180,229,498	267,228,786	474,122,778
1941	176,358	235,631,781	370,188,739	639,750,624
1942	175,267	262,043,471	324,732,380	635,649,570
1943	155,300	246,836,035	278,888,384	572,426,551
1944	123,892	197,703,984	200,801,042	449,838,059
1945	146,530	233,991,454	275,621,996	543,579,833
1945				
Prince Edward Island	430	722,893	937,874	1,876,857
Nova Scotia	13,083	13,969,246	13,370,748	29,324,769
New Brunswick	4,404	6,785,662	6,337,987	14,373,424
Quebec	41,895	65,936,469	77,366,558	150,166,258
Ontario	54,807	93,067,120	112,343,844	216,545,127
Manitoba	5,862	10,086,904	14,616,889	28,382,523
Saskatchewan	4,078	6,502,184	8,833,138	17,482,076
Alberta	7,254	11,522,354	14,998,591	32,013,693
British Columbia and Yukon	14,717	25,398,622	26,816,367	53,415,106
Contractors, builders, etc	110,405	185,494,940	249,226,381	458,869,189
Municipalities	10,804	15,995,980	8,636,585	26,347,676
Harbour Commissions	681	1,053,916	456,336	1,646,552
Provincial Govt. Depts	19,259	23,335,976	12,033,891	43,135,675
Dominion Govt. Depts	5,381	8,110,642	5,268,803	13,580,741

The value of residential construction, which accounted for 43·6 p.c. of the total building construction, showed an increase of 49·6 p.c. over the previous year. The value of other building construction increased by 19·2 p.c. in the same comparison, jobbing trades in connection with building by 26·4 p.c., while engineering increased by only 3·8 p.c.

The number of persons employed in the industry increased from 123,892 to 146,530, while salaries and wages rose from $197,704,000 to $233,991,000.

Values of Construction, by Types, 1943-45

Type of Construction	1943	1944	1945	Increase or Decrease 1944 to 1945
	$	$	$	$
Residential	63,684,367	83,927,360	125,524,346	+41,596,986
Institutional	13,148,233	21,005,720	30,449,556	+ 9,443,836
Commercial	26,439,561	29,233,965	42,873,383	+13,639,418
Industrial (includes factories, warehouses, mine buildings, etc.)	140,396,554	71,131,759	82,800,022	+11,668,263
Other (includes armouries, barracks, hangars, etc.)	58,216,173	15,001,136	6,445,275	− 8,555,861
Totals, Building Construction	**301,884,888**	**220,299,940**	**288,092,582**	**+67,792,642**
Streets, highways, etc.	66,582,959	68,381,994	78,585,511	+10,203,517
Bridges, watermains, sewers, dams, reservoirs, etc.	30,256,377	22,020,560	27,427,629	+ 5,407,069
Electric stations and transmission lines	30,843,814	19,919,488	24,704,582	+ 4,785,094
Docks, wharves, piers, etc.	10,282,332	5,819,364	7,693,748	+ 1,874,384
Other engineering (includes landing fields, parks, canals, dredging, pile driving, etc.)	65,562,348	36,982,396	20,496,195	−16,486,201
Totals, Engineering Construction	**203,527,830**	**153,123,802**	**158,907,665**	**+ 5,783,863**
Air conditioning	529,822	513,683	952,690	+ 439,007
Bricklaying	1,666,265	1,811,055	2,220,631	+ 409,576
Carpentry work	2,293,094	3,179,213	4,478,934	+ 1,299,721
Commercial refrigeration	991,685	1,589,733	1,498,645	− 91,088
Concreting and cement work	1,565,094	1,407,353	2,269,312	+ 861,959
Electrical work	7,802,484	9,279,276	14,192,659	+ 4,913,383
Elevators, service	2,146,588	2,722,284	3,384,424	+ 662,140
Excavating	1,612,138	1,288,359	1,704,024	+ 415,665
Flooring	641,913	965,064	1,061,667	+ 96,603
Glass and glazing	788,831	1,071,510	1,084,288	+ 12,778
Lathing, plastering and stucco	1,330,744	1,505,376	1,895,120	+ 389,744
Masonry and stone work	151,857	244,857	353,628	+ 108,771
Ornamental iron work	198,076	242,436	274,164	+ 31,728
Painting and decorating	7,574,716	10,937,163	12,611,152	+ 1,673,989
Plumbing, heating and sanitary engineering	22,426,084	24,460,765	29,295,962	+ 4,835,197
Roofing, sheet metal	1,020,238	1,045,041	1,758,835	+ 713,794
Roofing, all other	3,296,531	3,536,472	4,209,906	+ 673,434
Sheet metal work, other than roofing	3,699,218	3,524,171	4,013,399	+ 489,228
Sprinkler installation	1,012,584	660,460	1,269,521	+ 609,061
Structural steel work	2,007,191	1,710,662	1,600,345	− 110,317
Tiling, marble and terrazzo	744,063	953,238	1,236,601	+ 283,363
Weatherstripping and insulation	3,166,527	3,447,242	4,409,072	+ 961,830
Wrecking and demolition	199,516	221,227	469,490	+ 248,263
Unspecified	148,574	97,677	335,117	+ 237,440
Totals, Building Trades	**67,013,833**	**76,414,317**	**96,579,586**	**+20,165,269**
Grand Totals	**572,426,551**	**449,838,059**	**543,579,833**	**+93,741,774**

Building Permits.—Since 1940 the Dominion Bureau of Statistics has collected monthly statistics showing the anticipated cost of building represented by the permits taken out in 204 municipalities.

Building permits in 1945 registered an increase of 53 p.c. compared with 1944. For the first nine months of 1946 the value of all permits issued by the reporting municipalities was $301,013,054 as compared with $143,927,013 in the comparable period of 1945, an advance of 109·1 p.c.

Building Permits Issued by 204 Selected Municipalities, Classified by Type and by Provinces, 1945

NOTE.—Additions include alterations and repair.

Type of Construction	P.E.I.	N.S.	N.B.	Que.	Ont.
	$	$	$	$	$
Residential	83,380	2,524,512	740,382	27,378,929	41,734,005
New construction	72,330	1,906,915	451,120	24,354,466	37,125,094
Additions, etc.	11,050	617,597	289,262	3,024,463	4,608,911
Institutional	279,975	539,058	472,402	5,519,979	11,122,405
New construction	275,000	386,180	435,802	5,081,529	8,817,923
Additions, etc.	4,975	152,878	36,600	438,450	2,304,482
Commercial	204,850	879,265	325,445	6,712,701	8,056,222
New construction	180,300	360,590	196,100	3,787,021	4,491,575
Additions, etc.	24,550	518,675	129,345	2,925,680	3,564,647
Industrial	32,500	142,765	142,510	9,651,245	18,126,979
New construction	2,500	113,000	39,500	6,973,031	9,119,337
Additions, etc.	30,000	29,765	103,010	2,678,214	9,007,642
Other Building	—	16,350	6,050	987,814	1,013,953
New construction	—	9,700	4,400	550,483	645,160
Additions, etc.	—	6,650	1,650	437,331	368,793
Totals, All Permits	**600,705**	**4,101,950**	**1,686,789**	**50,250,668**	**80,053,564**
New Construction	**530,130**	**2,776,385**	**1,126,922**	**40,746,530**	**60,199,089**
Additions, etc.	**70,575**	**1,325,565**	**559,867**	**9,504,138**	**19,854,475**

	Man.	Sask.	Alta.	B.C.	Canada
	$	$	$	$	$
Residential	8,252,803	4,511,184	14,433,115	18,230,521	117,888,831
New construction	7,790,296	3,962,971	13,388,648	16,402,501	105,454,341
Additions, etc.	462,507	548,213	1,044,467	1,828,020	12,434,490
Institutional	271,450	1,449,695	266,230	1,621,262	21,542,456
New construction	50,800	1,126,700	137,968	1,165,085	17,476,987
Additions, etc.	220,650	322,995	128,262	456,177	4,065,469
Commercial	1,629,470	878,506	1,768,917	2,639,023	23,094,399
New construction	1,097,465	558,976	795,337	1,839,948	13,307,312
Additions, etc.	532,005	319,530	973,580	799,075	9,787,087
Industrial	805,437	533,365	605,578	1,851,330	31,891,709
New construction	632,500	396,800	367,938	1,108,295	18,752,901
Additions, etc.	172,937	136,565	237,640	743,035	13,138,808
Other Building	66,600	84,465	264,964	329,569	2,769,765
New construction	58,250	60,780	220,046	199,642	1,748,461
Additions, etc.	8,350	23,685	44,918	129,927	1,021,304
Totals, All Permits	**11,025,760**	**7,457,215**	**17,338,804**	**24,671,705**	**197,187,160**
New Construction	**9,629,311**	**6,106,227**	**14,909,937**	**20,715,471**	**156,740,002**
Additions, etc.	**1,396,449**	**1,350,988**	**2,428,867**	**3,956,234**	**40,447,158**

Railways.—The expenditures of railways on maintenance of way, and structures and equipment are not included in the figures of the construction industries given at pp. 191-192 and are therefore summarized here. For steam railways, expenditures for these purposes in 1945 amounted to $213,826,233 as against $214,888,606 in 1944. For electric railways the total for 1945 was $14,543,278 as against $12,824,535 in 1944. Expenditures on new lines of steam railways totalled $2,879,736, and additions and betterments showed a net expenditure of $23,782,606 in 1945, compared with $55,389,866 in 1944.

Labour
Employment
Unemployment

★ *Labour Legislation*

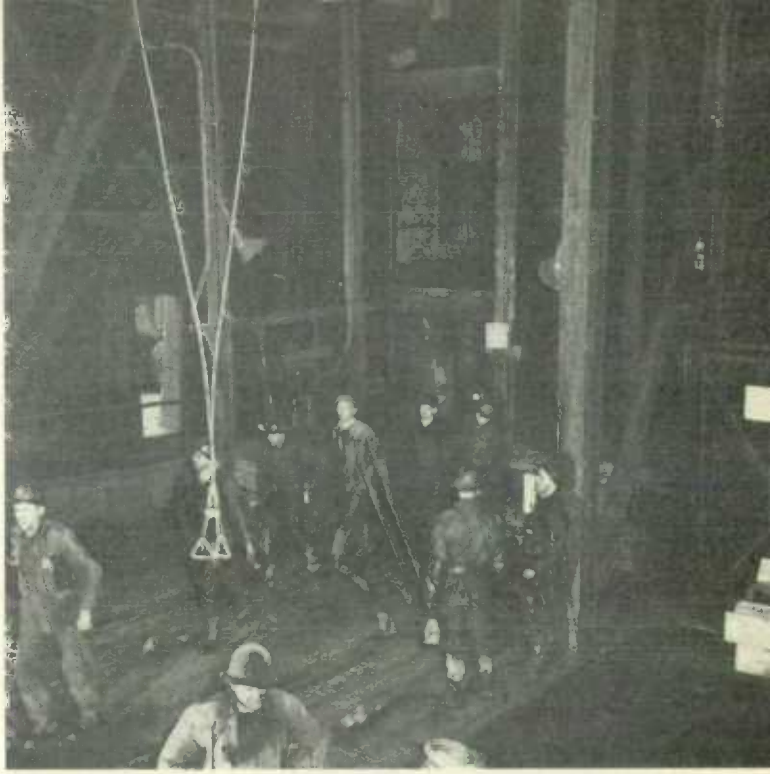
BOTH the Parliament of Canada and the Legislatures of the Provinces have enacted laws for the protection, in some respect, of workers in their place of employment. The Dominion and Provincial Departments of Labour administer these and other labour laws with the exception of workmen's compensation statutes and mining laws.

Co-operation between the Dominion and the Provinces has enabled the Dominion to apply uniform principles in the settlement of certain classes of disputes, and financial assistance from the Dominion has stimulated vocational training and apprenticeship in all provinces.

A Dominion-Provincial system of employment offices was taken over by the Dominion in 1940 to be used in the administration of the Unemployment Insurance Act of that year.

The Dominion regulates working conditions of its own employees and provides compensation for them in case of accident during employment. Observance is required of specified wage-and-hour conditions by contractors for Dominion public works and for equipment and supplies. Dominion laws govern employment on railways and in the mercantile marine, permit peaceful picketing, and prohibit employment on Sunday except under certain conditions. The Dominion provides, too, a Government system of annuities up to $1,200 a year.

In all provinces, except Prince Edward Island where there is little industrial employment, there are laws for the inspection of mines, factories, shops, and other work-places and the regulation of wages, hours of work, employment of women and children, apprenticeship and workmen's compensation. Laws have also been enacted to protect freedom of association, to require employers to bargain with the representatives of employees or with trade unions and to prohibit any strike or lockout until after an inquiry. Prince Edward Island in 1945 enacted laws to prohibit employment in industry of children under 15 years of age and to promote collective bargaining.



Gold miners at Noranda emerging from the cage that has brought them from several thousand feet below.

Emergency Regulations

Certain wartime labour problems were dealt with by the Dominion Government by Order in Council under the War Measures Act. These Orders included provision for the control of wages and salaries as a part of the Government's policy to combat inflation; a declaration of principles for the conduct of industrial relations; and regulations requiring employers to negotiate with the representatives of their employees or of trade unions and establishing machinery for settling differences concerning proper representatives or conditions of work.

To enable the Government to cope with exceptional conditions during the post-war period, the National Emergency Transitional Powers Act replaced the War Measures Act on Jan. 1, 1946. The Wages Control Order, with some modifications, and the Labour Relations Regulations have been continued under this statute which is to expire not later than Mar. 31, 1947.

Wages and Hours of Labour

Control of Wages.—The stabilization of wages, one phase of the Government's program to prevent inflation, was applied in stages. When first introduced in 1940, it was merely advisory, but when comprehensive price control was introduced late in 1941, wage and salary increases and wage reductions were prohibited except with the permission of the administrative authorities. The next year wage rates, except those found to be unduly low, were stabilized at the level of Nov. 15, 1941, and provision made for a cost-of-living bonus to be adjusted to changes in the cost of living.

Revised in December, 1943, the Wages Control Order provided for incorporating the cost-of-living bonus in the wage rate and empowered the National and Regional War Labour Boards to permit an increase only where necessary to remedy a gross injustice or inequality. Increases might be granted, however, to equalize the cost-of-living bonuses and wage increases granted after August, 1939, and also to maintain the relation between the rates of railway employees in and outside Canada. Some leeway was permitted the provincial minimum wage authorities so that the statutory minimum rates could be raised as high as 35 cents an hour.

As further modified in 1946, the Order allows such wage increases to be authorized as the War Labour Boards find just and reasonable; all restrictions on minimum wage fixing authorities are removed and free collective bargaining is permitted in regard to holidays with pay, shift differentials, hospital-aid plans, and annuity, pension and group insurance plans.*

Wage Rates.—The following table shows index numbers of wage rates in the main industrial groups for five-year periods from 1901 to 1935 and by years from 1935 to 1944.

Index Numbers of Wage Rates for Certain Main Groups of Industries, 1901-44

(Rates in 1939=100)

Year	Construction	Water Transport	Electric Railways	Steam Railways	Coal Mining	Metal Mining	Manufacturing	Logging	Telephones	General Average [1]
1901...	35·3	43·9	32·8	33·7	47·4	61·2	—	51·4	—	38·1
1905...	42·8	44·7	37·7	36·5	49·5	58·7	—	57·0	—	43·1
1910...	50·9	48·4	44·0	44·1	54·0	62·5	—	64·0	—	49·9
1915...	59·4	54·0	50·2	49·8	58·7	66·2	50·1	61·1	—	53·2
1920...	106·0	105·2	99·7	108·2	113·3	102·9	102·4	142·5	92·2	107·0
1925...	99·8	90·4	96·4	91·2	96·1	93·3	92·3	95·2	89·1	93·8
1930...	119·1	97·2	102·3	100·0	97·1	93·9	95·5	97·5	94·7	99·9
1935...	93·6	81·1	94·3	90·1	95·0	92·6	87·0	73·1	93·0	88·4
1936...	94·2	82·4	95·2	90·1	95·1	94·9	89·1	80·9	93·8	90·0
1937...	96·9	92·0	97·8	96·0	95·6	99·1	96·1	93·9	98·5	96·[illegible]
1938...	99·2	99·1	99·4	100·0	100·0	99·6	99·2	101·8	99·7	99·6
1939...	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1940...	104·5	105·2	103·9	100·0	102·1	102·8	104·3	104·9	101·3	103·9
1941...	111·6	113·3	109·1	109·4	109·4	112·2	115·2	114·0	106·4	113·1
1942...	118·6	125·8	115·8	114·8	113·1	118·7	125·5	125·9	112·0	122·5
1943...	127·7	138·8	121·2	125·5	124·8	123·1	135·6	143·1	121·9	132·8
1944...	129·6	142·2	125·7	125·5	146·0	125·2	141·1	146·1	122·4	137·5

[1] Includes laundries.

Hours.—In 1944 the standard working hours were still rather high, usually 48 to 54 per week in textile mills, 44 to 48 in clothing factories, 48 in pulp and paper mills, 44 to 55 in paper-products, 47 to 55 in woodworking plants, 44 to 60 in metal-products plants and in shipyards, 45 to 55 in boot and shoe factories, and 37½ to 55 in rubber factories. Hours were reduced somewhat during 1945, Alberta imposing a 48-hour week on all workers in that year. In logging a 10-hour day was common in most provinces except British Columbia and Ontario. The eight-hour day prevalls in construction in cities, on steam railways and in mining. Towards the end of 1944, a statutory 48-hour week became effective in Ontario as it had been in British Columbia for some years.

* Wage controls were removed by the Dominion Government on Nov. 30, 1946.

In 1946, however, British Columbia adopted a 44-hour week. These statutes permit exceptions to be made by the administrative authorities and war industries were excepted.

Organized Labour in Canada

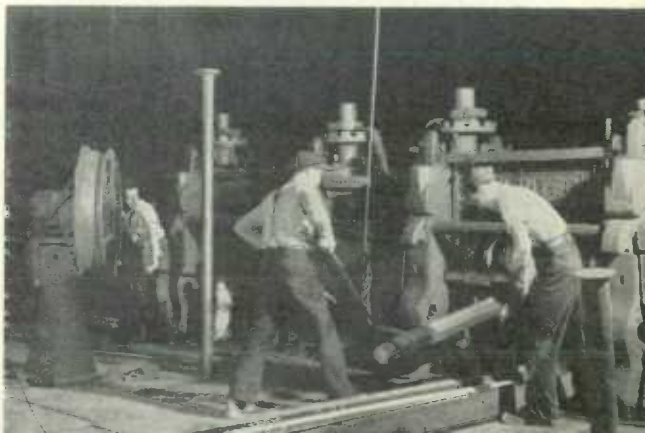
Before the middle of the nineteenth century there were in Canada only a few local unions of craftsmen. After 1850, organization was stimulated by increased industrial activity and by the marked progress of the union movement in both Great Britain and the United States. The recently formed national unions, beginning with the printers and moulders, in the United States began to accept the "cards" of Canadian union men seeking work in that country and the Canadian unions took in United States craftsmen. The next step was for the Canadian local unions to affiliate with the national union. Thus began the "international unions", the Canadian membership of which makes up so large a part of Canadian trade unions. At the present time, the majority of local trade unions are branches of international organizations, both craft and industrial, with headquarters in the United States.

Trade unions in Canada are now divided into four principal groups: those affiliated with the Trades and Labour Congress of Canada and in the United States with the American Federation of Labour; those affiliated with the Canadian Congress of Labour and in the United States with the Congress of Industrial Organizations; those unions in the Province of Quebec that are linked with the Canadian and Catholic Confederation of Labour; and the railroad brotherhoods of men in train and engine service in the United States and Canada.

At the end of 1945, there were 711,117 union members reported to the Department of Labour, a decrease of 13,071 from the 1944 figure. This decline was due mainly to the drop in employment in certain large war plants, which affected some of the largest unions. The number of local unions in Canada increased from 4,123 in 1944 to 4,329 in 1945.

According to the reports submitted by the Congresses or Federations of unions, by the headquarters of the national and international unions and also by independent local unions, there were, at the end of 1945, 312,391 members of unions affiliated with the Trades and Labour Congress, 244,750 affiliated with the Canadian Congress of Labour and 68,205 affiliated with the Canadian and Catholic Confederation of Labour.

Unemployment in Trade Unions.—Reports from trade unions indicated that unemployment among their members has been somewhat greater since the end of the War than during the preceding three years, but was less than at



A high degree of co-operation is required in rolling operations in a steel plant.

any other time in the record begun in 1919. At the close of June, 1946, reports from 2,326 local branches of labour organizations, of which the total membership was 408,002, showed 5,347 or 1·3 p.c. as unemployed. In the same months of 1945, the percentage of unemployed was 0·5, but increased to 3·0 p.c. at the end of the year. The highest level of unemployment indicated by union returns was at the end of 1932 and the beginning of 1933 when the percentage was 25·5, while the period of lowest unemployment was during the summer of 1944 when the percentage was 0·3.

Strikes and Lockouts

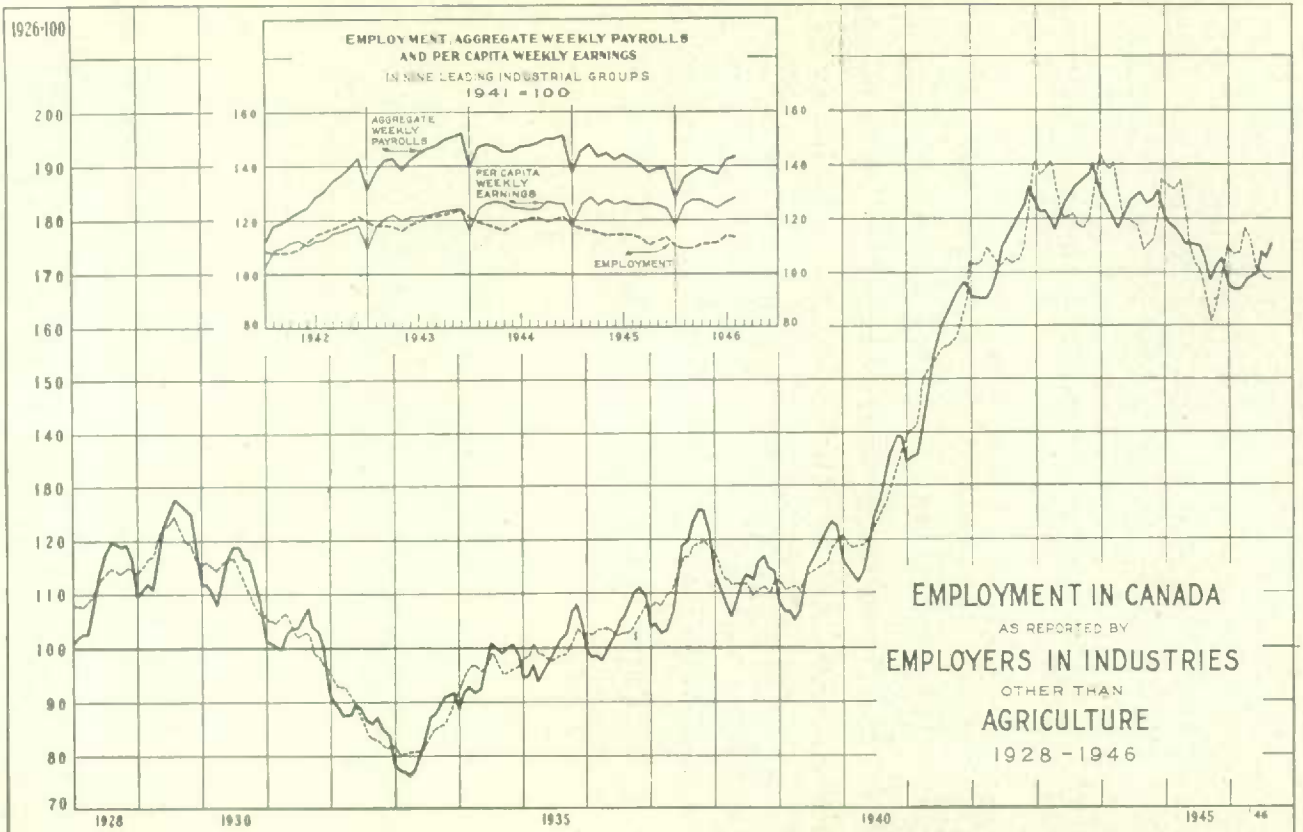
The year 1946 was marked by the occurrence of an unusually large number of strikes of exceptional length and involving relatively large numbers of workers. The loss of working time due to these disputes during the first nine months of the year was much greater than for any similar period since the record was begun in 1901. The most important single cause of strikes during the year was the demand for increased wages, often linked with demands concerning other conditions. Preliminary figures show the loss of working time during the first nine months as more than four million man-working days. During a similar period in 1945, the loss was about 354,000 man-days and for the entire year 1,457,000 days. In 1919 idleness from strikes amounted to about 3,400,000 working days. The number of strikes during the nine-month period in 1946 was 178 and the number of workers involved, 126,436. For the similar period in 1945 the number of strikes was 155 and the number of workers, 65,753.

Wartime Labour Relations Regulations.—The Regulations of 1944 were designed to facilitate collective bargaining and to aid in settling disputes. Made under the War Measures Act and continued under the National Emergency Transitional Powers Act, they apply to transport and communication agencies, specified war industries, important in the transition from war to peace, and to such other industries as may be brought within their scope by provincial legislation. Legislative action to this effect was taken by British Columbia, Manitoba, New Brunswick, Nova Scotia and Ontario.

Employers are required to negotiate with the properly chosen representatives of their employees. The National and Provincial Labour Relations Boards, each representing equally employers and employed, provide machinery for certifying such representatives where there is a difference of opinion, and for a conciliation officer or conciliation board to assist the parties in coming to an agreement. Pending settlement and, in case of failure to agree, for an additional 14 days after a report of a conciliation board has been received by the parties, there may be no strike or lockout.

The Regulations forbid, too, any interference by an employer with a trade union or an employee organization, refusal to employ a person because he is a member of a union or employee organization and intimidation with a view to preventing a worker joining or refusing to join a trade union or employee organization.

From Mar. 20, 1944, when the Regulations went into effect, to Nov. 9, 1946, the National Labour Relations Board received 443 applications for certification of bargaining representatives of which 247 were granted, 25 referred to Provincial Boards and 55 rejected. During the same period, the Board ordered



The heavy curve is based upon the number of persons employed at the first day of the month by the firms reporting compared with the average employment they afforded in the calendar year 1926 as 100. The broken curve shows this crude curve corrected for seasonal variation as determined by the experience of the years 1929-1937.

85 votes to be taken to determine the proper representatives. From decisions of Provincial Boards there were 109 appeals to the National Board of which 28 were granted and 75 denied or withdrawn.

★ *Employment and Unemployment*

Employment in 1946

During the first ten months of 1946 industrial employment in Canada was maintained at a high level comparing favourably with the post-war months of 1945. The index of employment in this period averaged 171·0 compared with 175·7 in the same period of the preceding year, and 112·0 in 1939. Strikes in major industries in Canada and the United States have had a decidedly retarding influence on employment, many establishments being affected either directly by labour disputes or indirectly by the resulting shortages of materials.

Employment varied from month to month as a result of seasonal factors and labour and material tie-ups during the period of conversion. At Oct. 1, 1946, the index based on the 1926 average as 100, was 177·9 compared with 168·7 one year previously. The Sept. 1 index had also exceeded that indicated for twelve months earlier. Since March, 1944, these were the first occasions on which the monthly index was higher than the same date one year previously. Although the index was lower than that of Oct. 1 of the war years of 1942, 1943 and 1944, it was, with these exceptions, the highest for October in 26 years.

The staffs of 15,860 establishments in the eight leading industries averaged 1,746,000 in the first ten months of 1946 compared with 15,320 establishments and 1,793,000 employees reported during the same period in 1945. The weekly salaries and wages paid to these workers averaged $56,111,000 compared with $57,424,000 in the first ten months of 1945. Thus, despite substantial wage increases in many industries, the average weekly payrolls for the ten-month period declined by over $1,000,000. On the other hand, the typical average weekly earnings in the eight leading industries were $32·12 per person compared with $32·02 in the same period in 1945.

The improvement in employment at Oct. 1 as compared with a year earlier, was fairly general in all areas. The indexes for Ontario, Quebec and the Prairie provinces were well over their level at the same date in 1945. Recorded employment in the cities showed varying trends during 1946 compared with 1945 depending on whether peacetime expansion was great enough to counteract declines in war industries. The existence of industrial disputes and shortages of labour and materials were also important contributing factors. Montreal, Winnipeg and Ottawa, in particular, showed considerable gains over the preceding year.

During the war years manufacturing establishments had employed an unduly large proportion of all workers, the peak being reached in 1943 when 64 p.c. of the total personnel were employed in factories compared with 52 p.c. in 1939. In the past few years this trend was reversed and at Oct. 1, 1946, the number of employees reported in this industry constituted 54 p.c. of the reported total.

All industries showed improvement over the preceding year with the exception of manufacturing which showed no general change, the index remaining constant at 188·3. As previously stated, peacetime expansion in this industry has been curbed by many strikes. At Oct. 1, 1946, the index increased appreciably when compared with the immediately preceding months; it is a safe assumption that if it had not been for labour disputes, employment in this industry would have been well over its level a year earlier.

Distribution of the Persons in Recorded Employment at Oct. 1, 1939, 1943, 1945 and 1946

Industrial Group—	October 1—			
	1939	1943	1945	1946
	p.c.	p.c.	p.c.	p.c.
Durable manufactured goods	20·1	36·3	26·7	24·1
Non-durable manufactured goods	30·0	26·9	29·5	28·9
Central electric stations	1·6	0·9	1·2	1·3
All Manufacturing Industries	**51·7**	**64·1**	**57·4**	**54·3**
All Reporting Industries	**100·0**	**100·0**	**100·0**	**100·0**

From the above table it is evident that there was a pronounced shift out of manufacturing accompanied by important changes within the industry itself. The trend has been out of durable manufactured goods industries, which expanded so much during the War, back into the non-durable goods. As a result, the establishments reporting in the latter group as at Oct. 1, 1946, employed 53 p.c. of all persons on the payrolls of the co-operating manufacturers, compared with 42 p.c. in 1943 and 58 p.c. in 1939.

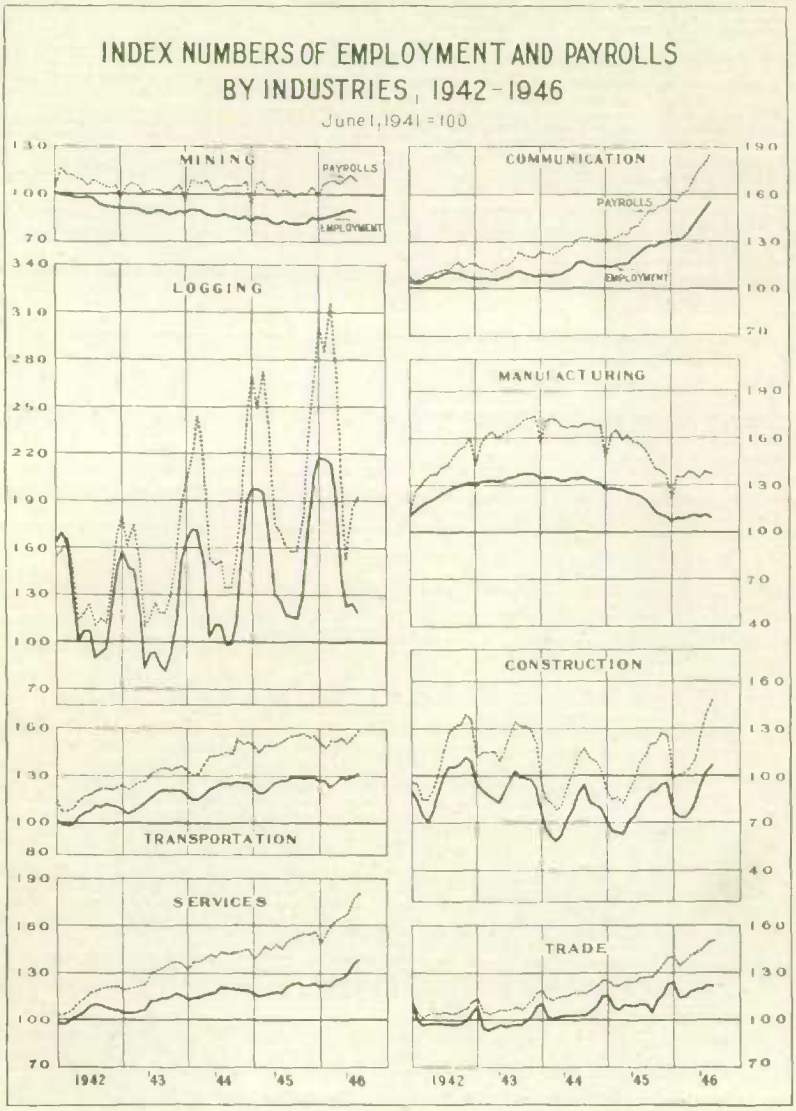
In non-manufacturing industries the greatest gains in employment were made in construction, services and trade. Expansion in these industries, too, has been hampered by a shortage of materials and also of labour in some areas. This is especially true of the construction industry. The index for this industry, was 151·9 at Oct. 1, 1946, compared with 124·7 one year earlier. With the exception of Sept. 1, 1946, this is the highest point reached since 1941 when wartime construction was at its peak.

With the extensive demand for lumber for construction and pulp and paper, employment in logging, in which production has been affected during the past few years by a shortage of workers, was higher at Oct. 1 than it has been at that same date for any other year on record.

Great expansion was made in the service industries during the War in spite of the shortage of labour, and employment has continued to increase in this group following the cessation of hostilities. At Oct. 1, 1946, the employment index was 235·3 compared with 209·9 on Oct. 1, 1945, and 136·1 in Oct. 1, 1939. Employment in communications and mining has made rapid gains during the early post-war period; transportation showed only a small change during the ten-month period.

Conversion to a peacetime economy necessitated the frequent collection of statistics showing the number of female workers in recorded employment and since Feb. 1, 1946, figures for these workers have been collected on a

monthly basis rather than semi-annually as in the previous few years. At Oct. 1, 1944, employment of women had reached its peak with 261 women per 1,000 persons in recorded employment. With the completion or curtailment of war work the ratio of women workers declined, and at Oct. 1, 1946, it was 24·2 p.c. This decline in the percentage of female workers was general in all industries between 1944 and the present; trade showed the greatest change, the proportion dropping from 493 to 468 per 1,000 employees. Relatively, the greatest loss in employment for women took place in manufacturing.



Unemployment Insurance and National Employment Service

Unemployment Insurance.—The Unemployment Insurance Act, 1940, providing for a co-ordinated program of unemployment insurance and employment offices, is administered by an Unemployment Insurance Commission consisting of a Chief Commissioner and two Commissioners (one appointed after consultation with employees and one after consultation with employers).

All employed persons are insured unless specifically excepted. Exceptions include certain employments, such as agriculture, fishing, domestic service, which present difficult administrative problems, workers paid weekly who are employed at a rate of more than $3,120 a year, and those paid monthly or semi-monthly who are employed at a rate of more than $2,400.

On Aug. 31, 1946, the number of registered employers with insured employees was 171,116 and the number of insured persons registered was 2,679,951.

Contributions to the Unemployment Insurance Fund became payable on July 1, 1941. Employers and their insured workers make contributions according to a graded scale, but in the country as a whole they contribute approximately equal amounts. The Dominion Government adds one-fifth of the total amount contributed and, in addition, pays the cost of administration. War veterans who enter insured employment are deemed to have been in such employment throughout the period of their war service and contributions are paid on their behalf by the Government.

From July 1, 1941, to Aug. 31, 1946, $392,981,046 was deposited in the Unemployment Insurance Fund. This amount includes contributions from employees, employers and the Government, and interest. Employer and employee contributions to the fund were $309,776,270 and Dominion Government contributions $61,955,254.

Sewing lingerie on electrically operated shaft-driven sewing machines of the latest type.

Weekly Rates of Contribution and Benefit under the Unemployment Insurance Act

Class	Earnings in a Week	Weekly Contributions[1]		Denomination of Stamp[2]	Weekly Benefits[3]	
		By Employee	By Employer		Single Person	Person with One or More Dependents
		$	$	$	$	$
0	Less than 90 cents daily (or under 16 years of age)	[4]	0·27	0·27	[4]	[4]
1	$ 5·40 to $ 7·49	0·12	0·21	0·33	4·08	4·80
2	$ 7·50 to $ 9·59	0·15	0·25	0·40	5·10	6·00
3	$ 9·60 to $11·99	0·18	0·25	0·43	6·12	7·20
4	$12·00 to $14·99	0·21	0·25	0·46	7·14	8·40
5	$15·00 to $19·99	0·24	0·27	0·51	8·16	9·60
6	$20·00 to $25·99	0·30	0·27	0·57	10·20	12·00
7	$26·00 or more	0·36	0·27	0·63	12·24	14·40

[1] The daily rate of contribution in respect of each class is one-sixth of the weekly rates. [2] Unemployment insurance stamps combine both employer and employee contributions. [3] Rates calculated on assumption that person is in the same class for two years. Daily or weekly benefit for an insured person without dependents is 34 times his average daily or weekly contributions, and 40 times the average employee contribution for married persons mainly or wholly maintaining one or more dependents. [4] Workers in this class make no contributions and are not eligible for benefit. They may, however, accumulate benefit rights on the basis of employer contributions.

From the first date on which claimants could qualify for benefit, Jan. 27, 1942, to Aug. 31, 1946, the amount paid in benefit was $59,556,873. In this period 765,836 claims were received by insurance officers for adjudication, 605,493 of which were allowed, 154,045 not allowed, and 6,298 were pending. In this period the number of appeals by claimants to Courts of References, and the number of cases referred to such Courts was 26,187, of which 15,852 were disallowed.

Employment Offices.—In the first eight months of 1946, Employment Offices received 1,302,785 applications for employment, were notified of 1,232,723 vacancies and effected 560,177 placements. During the same period of 1945, 1,592,497 applications, 1,692,437 vacancies, and 1,039,479 placements were reported.

Vocational Training

The Training Branch of the Department of Labour is responsible for the administration of the Vocational Training Co-ordination Act, 1942, which makes available to the provinces moneys for various types of training under certain conditions. Agreements between the Dominion and the Provincial Governments set out the conditions to be observed. The Director of Training at headquarters is assisted by a regional director in each province. An Advisory Council representing workers, veterans, employers, etc., advises the Minister on policy and procedure in connection with training projects.

The Youth Training Agreements, concerning young people between 16 and 30 years, have been renewed with all provinces, and the Dominion appropriation of $500,000 is distributed among them, expenditure being shared equally by the Dominion and Provincial Governments. Financial assistance is pro-

Grinder operators removing irregularities from castings. The grinding wheels, of a composition entirely free of silica, together with the cabinets specially designed to draw off the flying dust and steel particles, afford maximum protection to the operators.

vided for university students, nurses, teachers-in-training and, in addition, thousands of young people, particularly in rural areas, have benefited by training applicable to agricultural pursuits.

Apprenticeship training in skilled trades has been made possible by agreements that have been in effect in several provinces for nearly two years. Apprenticeship Acts are now in effect in all provinces except Prince Edward Island. The Dominion funds have been used to provide class training of a practical and technical nature. This arrangement has been particularly valuable to the building and construction trades and to motor mechanics.

During the past three years over 110,000 industrial supervisors and foremen have been given training at the Dominion's expense. For the year ending Mar. 31, 1947, the Department has agreed to bear half the expense of this training and, to date (October, 1946), four provinces have indicated a wish to take advantage of the joint scheme.

Training of industrial workers over 16 years of age who have previously been gainfully employed has been undertaken in order to expedite the conversion of war industry into peacetime employment. Agreements were submitted to all provinces to provide for re-training those released from wartime employ-

ment. Approximately 75 p.c. to 80 p.c. of the cost of this type of training will be borne by the Dominion and the balance by the Provincial Governments.

Vocational and technical training on the secondary school level is being assisted in each province for a ten-year period. A $10,000 grant is made to each province and, in addition, if the province appropriates an amount equal to the Dominion's contribution, a total of $1,910,000 is available to the provinces on a *pro rata* basis. On the same condition, a special Dominion contribution of $10,000,000 is allotted for capital expenditures.

The War Emergency Training Scheme has now become Re-establishment Training and continues to expand. From the commencement of the War Emergency Training to Sept. 30, 1946, 534,320 persons received training of whom 442,626 were trained for war industry and the Armed Service trades or were given supervisory training. To that date, 91,694 war veterans had received training as compared with 17,531 at Sept. 30, 1945. This rapid expansion gave rise to numerous problems concerning, particularly, accommodation, staff and lodging facilities.

In order to give careful supervision and guidance to women discharged from the Armed Forces, certain positions on the establishment of Rehabilitation Centres have been filled by women. It is the intention to make the rehabilitation of women an integral part of the entire program. Up to Sept. 30, 1946, about 7,000 women, or over 15 p.c. of those discharged from the Armed Forces, have been enrolled under C.V.T. program.

A self-propelled harvester machine, with pick-up attachment. This type of machine has helped substantially to meet the labour shortage on the land.

Welfare Services
Veterans Affairs

★ *Welfare Services*

HISTORICALLY, welfare work in Canada began with the care of the most needy and the care of the indigent, aged and infirm, homeless orphans, dependent, neglected and delinquent children, and the dependent deaf and blind. These classes have been recognized as a public responsibility since the earliest days, but the actual work of caring for them was, in great degree, undertaken by religious and philanthropic bodies, of which many were incorporated during the latter part of the nineteenth century. In many cases, government aid was granted, with official inspection as the natural corollary. As early as 1752 an orphanage was opened at Halifax, N.S., for orphans and deserted children and towards the end of the eighteenth century an Act was passed in Upper Canada to provide for the education and support of orphan children. In the different colonies before Confederation, under various Acts of the Legislatures, houses of refuge, homes for the aged, orphanages and other charitable institutions were provided. From these early beginnings, public welfare organizations of a wide variety have grown up in every province of Canada.

The Dominion Government extended its responsibilities in the welfare field after the War of 1914-18 by the establishment of a Department of Soldiers' Civil Re-establishment which was responsible for the welfare of ex-service men and fitted them into the general economic system. Resolutions, memorials and petitions to Parliament culminated in 1919 in the creation of a Federal Department of Health, made specifically responsible for the administration of the Food and Drugs Act, the Opium and Narcotic Drug Act, the Quarantine Act, the Public Works Health Act, the Leprosy Act and the Proprietary or Patent Medicine Act, and, in general, "co-ordination of the efforts proposed or made for preserving and improving the public health, the conservation of child life and the promotion of child welfare".

The next major step on the part of the Federal authority in the welfare field was taken in 1927 with the adoption of the Old Age Pensions Act. Further responsibilities were accepted in the 1930's by unemployment and farm relief measures and pensions for the blind, followed in 1941 by a national system of contributory unemployment insurance. In 1928 the Departments of Health and

A Victorian Order Nurse makes one of her regular visits to the Vancouver waterfront where many families live in boats.

of Soldiers' Civil Re-establishment were merged to create the Department of Pensions and National Health. With the dissolution of the latter Department in 1944, the Department of National Health and Welfare was set up.

The Second World War emphasized the need for a broader system of social welfare as part of the post-war rehabilitation and economic readjustment program. The post-war objective of a planned domestic policy must provide conditions under which all men and women may look forward to an increasing degree of economic security. From the financial aspect, the heavy obligation assumed as a result of six years of enormous expenditure presupposes a high level of national income if this is to be met. The present welfare program of the Dominion Government is linked closely with this objective.

Dominion Welfare Services

Family Allowances.—The Family Allowance Act, 1944, was introduced for the purpose of equalizing opportunity for the children of Canada. The allowances are paid monthly to parents (to mothers, except in unusual circumstances) and must be spent exclusively for the maintenance, care, training, education and advancement of the child. If it is satisfactorily shown to the authorities that the money is not being spent for this purpose, payment can be discontinued or made to some other person or agency on behalf of the child. It is further set out in the Act that if any person is dissatisfied with a decision as to his right to be paid an allowance or as to the amount of an allowance payable to him or as to any other matter arising under this Act, he may appeal against such decision to a tribunal established for that purpose.

In general, all children under sixteen years of age are eligible for an allowance, including Indians and Eskimos. To be eligible a child must be registered for the allowance and be maintained by a parent, who is defined in

the Act. For registration purposes a child must be under the age of sixteen years, must reside in Canada and, in addition, must have (*a*) been born in Canada and resident since birth or (*b*) lived in Canada for the three years preceding registration. Residence provisions do not apply to children born to parents domiciled in Canada but temporarily out of the country on war service or other similar duties. A further important clause in the eligibility regulations concerns education. The allowance is not payable to a child who, being of an age when he is required to attend school by the laws of the province where he resides and physically fit to attend school, fails to do so or to receive equivalent training.

The allowances, which are tax free, are paid by cheque monthly at the following rates:—

Children under 6 years of age	$5
Children from 6-9 years of age	$6
Children from 10-12 years of age	$7
Children from 13-15 years of age	$8

The allowances are reduced after the fourth child as follows: one dollar reduction for the fifth child, two dollars each for the sixth and seventh child, and three dollars for each additional child.

Family Allowance Statistics, October, 1946

Province or Territory	Families to Whom Allowances Were Paid	Total Children	Average Allowance per Family	Average Allowance per Child	Total Allowances Paid October, 1946
	No.	No.	$	$	$
Prince Edward Island	12,118	30,806	15·22	5·99	184,410
Nova Scotia	78,070	185,195	14·17	5·97	1,106,145
New Brunswick	60,981	160,418	15·45	5·87	942,188
Quebec	417,714	1,164,641	16·37	5·87	6,837,031
Ontario	471,527	961,734	12·31	6·04	5,807,050
Manitoba	90,808	191,610	12·68	6·01	1,151,108
Saskatchewan	108,507	248,918	13·83	6·03	1,500,764
Alberta	106,844	234,134	13·29	6·07	1,420,596
British Columbia	112,296	213,750	11·50	6·04	1,291,142
Yukon and N.W.T.	1,974	4,457	13·14	5·82	25,950
Totals	**1,460,839**	**3,395,663**	**13·87**	**5·97**	**20,266,384**

It is expected that a gross disbursement of over $250,000,000 will be distributed annually under the Family Allowance Act. The net additional cost to the country is estimated at $200,000,000.

Unemployment Insurance.—In 1940, by an amendment to the British North America Act, the Dominion Government was given complete jurisdiction in the field of unemployment insurance and since that time a national system of unemployment insurance administered by the Unemployment Insurance Commission has been in operation. (*See* Labour Chapter, pp. 203-204.)

Old Age Pensions and Pensions for Blind Persons.—The Old Age Pensions Act was adopted by the Dominion Parliament in 1927 and under the provisions of this statute, the Dominion Government, through the Department of National Health and Welfare, contributes 75 p.c. of provincial disbursements for old age pensions. (*See* p. 211.) In 1937 the Act was amended to provide pensions for the blind under certain conditions.

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Physical Fitness.—A program of physical fitness for Canada was introduced with the proclamation on Oct. 1, 1943, of the National Physical Fitness Act. The Act provides for the establishment of a National Council on Physical Fitness to promote the physical well-being of the people of Canada through the extension of physical training and sports. The Council, set up on Feb. 15, 1944, consists of ten members, including representatives of the participating provinces and the National Director of Physical Fitness.

The Act provides that a province which undertakes to develop a satisfactory plan of physical fitness and establishes an organization suitable for the purpose may enter into an agreement with the Dominion by which it will receive financial assistance. The sum of $225,000 is available each year to be apportioned among the nine provinces on a per capita basis. Provinces entering into agreement with the Dominion receive their share to the extent to which they match it dollar for dollar. The amounts of annual financial aid available and the expiry dates of agreements in force are shown below.

	*Maximum Amount of Financial Grant**	*Expiry Date of Agreement*
	$	
Prince Edward Island	1,861	Jan. 1, 1947
Nova Scotia	11,318	Jan. 1, 1948
New Brunswick	8,957	No Agreement
Quebec	65,248	No Agreement
Ontario	74,174	No Agreement
Manitoba	14,290	May 1, 1947
Saskatchewan	17,546	Jan. 1, 1954
Alberta	15,590	Jan. 1, 1947
British Columbia	16,016	Apr. 1, 1947
TOTAL	225,000	

* Calculated by the Dominion Bureau of Statistics on the basis of the 1941 Census.

Canadian Government Annuities.—The Canadian Government Annuities Act was passed in 1908 to authorize the issue of Government annuities, it being considered "in the public interest that habits of thrift be promoted and that the people of Canada be encouraged and aided thereto so that provision may be made for old age".

Any resident of Canada may purchase a Canadian Government annuity of from $10 to $1,200 either payable for life or guaranteed 10, 15 or 20 years and payable for life thereafter, or for the lives of joint annuitants with continuation to the survivor.

Annuities may be deferred or immediate. Deferred annuities are intended for purchase by younger persons desiring to provide for their old age by monthly, quarterly, yearly or by single payments. Immediate annuities are for purchase by older persons no longer gainfully employed who wish to obtain immediate incomes in return for their accumulated savings. Employers of labour may contract for annuities for their employees and societies incorporated for fraternal or other purposes may contract for annuities for their members. In the former case the purchase money required is ordinarily derived partly from the wages of employees and partly from employer's contributions.

Mass chest X-ray surveys have been conducted at many centres all across Canada. These services to combat tuberculosis are provided by the provincial boards of health, free of charge, to those who wish to take advantage of them. The above mobile unit, touring Greater Vancouver, handles 102 examinations per hour.

From the inception of the Act until Mar. 31, 1946, the total number of individual annuity contracts and certificates under group contracts issued was 151,038. The net receipts for the entire period totalled $318,780,755.

Dependents' and Veterans' Allowances.—Allowances paid to veterans' dependents and to certain non-pensionable veterans are dealt with under Veterans Affairs, p. 218.

Provincial Welfare Services

The field of provincial welfare work is a very wide one. It includes Homes for the Aged and Infirm, Children's Aid Societies, Reformatories, Day Nurseries, Homes for Child Delinquents, Training Schools for Mentally Defective Children, Psychiatric Services, and Industrial Schools. These are in some provinces maintained solely by provincial funds, in others by municipal, public or joint municipal and provincial funds. The Provincial Governments also supervise the institutions operated by cities, counties, districts and religious and benevolent societies; provide mothers' allowances, old age pensions, and pensions for the blind, in co-operation with the Dominion; and many other social services.

Old Age Pensions.—All provinces and the Northwest Territories now co-operate with the Dominion legislation covering old age pensions. By authority under the War Measures Act the maximum pension paid at the age of 70 years to persons, based upon a means test, has been increased from $240 to $300 a year and the maximum income (including pension) from $365 to $425 a year.

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Saskatchewan's Air Ambulance. The Department of Public Health of Saskatchewan has inaugurated an air-ambulance service for the benefit of outlying districts of the Province. Emergency cases can be brought quickly and comfortably to hospital.

Summary of Old Age Pensions, by Provinces, as at Dec. 31, 1945

Province or Territory	Total Pensioners	Average Monthly Pension	Pensioners to Total Population	Persons 70 Years of Age to Total Population	Dominion Government's Contribution 1927–45
	No.	$	p.c.	p.c.	$
Prince Edward Is.	1,982	18·91	2·18	6·59	2,483,542
Nova Scotia	14,625	22·60	2·39	5·23	23,532,806
New Brunswick	12,653	22·33	2·74	4·55	15,877,839
Quebec	50,644	23·94	1·45	3·20	74,103,047
Ontario	59,774	24·50	1·51	4·99	139,833,924
Manitoba	12,669	24·51	1·73	4·10	29,929,919
Saskatchewan	13,193	24·59	1·56	3·43	28,494,772
Alberta	11,884	24·12	1·45	3·06	23,204,495
British Columbia	16,213	24·37	1·74	4·94	31,998,301
Northwest Territories	11	24·09	0·09	1·52	30,251
Canada	**193,648**	—	—	—	**369,488,896**

Pensions for Blind Persons.—Under an amendment to the Old Age Pensions Act in 1937, provision was made for payment of a pension to every blind person who complied with certain conditions at the date of proposed commencement of pension.

Mothers' Allowances.—Eight of the provinces provide allowances to mothers who are widowed or who, under certain circumstances, are without means of support. Except in Alberta, where 25 p.c. of the allowance is borne by the municipality, and in Manitoba, where part of the cost is charged back to

Sports and creative handicrafts form a large part of the active programs of Canadian welfare clubs. These children are learning carving and mask-making at a welfare centre.

the municipalities through an equalized assessment, the whole cost is provided from provincial funds. The Acts of the respective provinces stipulate that the applicant must comply with certain conditions at the time of application.

In Nova Scotia the exact amount paid is determined by the special circumstances of each case, with a monthly maximum of $80 per family. In New Brunswick the maximum allowance is $27·50 per month for a mother and one child, and $7·50 per month for each additional child. Under certain circumstances an additional $7·50 per month may be paid, provided the total amount payable per month does not exceed $60. Under the British Columbia regulations the amount that may be paid is $42·50 per month for mother and one child and $7·50 for each additional child and for an incapacitated husband in the home. In Ontario the maximum rate for mother and child is $42 in a city, $36 in a town and $30 in a rural district, with $6 for each additional child. An additional $10 per month per beneficiary may also be paid where need is evidenced. In Quebec a mother with one child receives $35 per month if living in a city or town of 10,000 or more, $30 per month if living elsewhere. An additional one dollar per month each is paid for the second, third, fourth and fifth child, $2 each for the sixth and seventh and $3 each for the eighth and subsequent children. Manitoba pays a maximum monthly allowance for a mother and one child of $40, excluding winter fuel, with additional allowances for children up to a total per family of $110 plus supplementary grants for a disabled father. The maximum monthly allowance, excluding winter fuel, granted to any size of family with or without the father in the home, is $121. In Saskatchewan, a maximum allowance of $10 is paid for the mother, $10 for an incapacitated father living with the family, $15

for the first child, $10 for the second and $5 for each succeeding child for a maximum of 10 children. The maximum monthly allowance for a family is $85. Alberta pays a maximum of $35 per month to a mother and child, with the amount rising to $100 for a mother with nine children. The exact amount of allowance is set by the Department after consideration of circumstances in each case.

Workmen's Compensation.—For accidents occurring in the course of employment, compensation is payable in accordance with the law of every province, except Prince Edward Island, to workers or, in fatal cases, to their dependents. The entire cost of compensation and medical aid is borne by employers through a collective liability scheme administered by the province. Monthly pensions at a fixed rate are paid to widows and children; injured workmen receive two-thirds of their earnings (three-quarters in Saskatchewan) during total disablement.

The Care of Dependent and Handicapped Groups.—The work of the various institutions and agencies for dependent and handicapped groups under custodial care may be classified under two main headings: the care of adults and the care of children (including minors under 20 years of age). At the date of the Census, June 2, 1941, there were 16,523 adults under care. Of these 11,358 or 68·7 p.c. had attained the age of 60 years or over, and 13,171 were maintained from public or private charity funds. In regard to mental and physical conditions, 1,855 or 11·2 p.c. were either blind, deaf and dumb or crippled, while 3,890 or 23·5 p.c. were feeble-minded or subnormal. At the date of the Census of 1941 there were 6,104 persons from 0-20 years of age under the care of homes for adults and children; 14,669 in orphanages; 16,991 cared for by Children's Aid Societies; and 282 by juvenile immigration societies.

Other Welfare Services

Other welfare services include the Canadian Red Cross, the Victorian Order of Nurses, and the St. John Ambulance Association. Each of these organizations carries an important responsibility in the welfare field but their major activities are related more directly to public health than to welfare. During the war years 1939-45 these societies devoted much of their work, which is furnished voluntarily, to the aid of the sick and wounded of the Armed Forces. In peacetime, however, their organizations are devoted to the promotion of good health, good citizenship, international friendship and first aid and home nursing.

★ *Veterans Affairs*

The Second World War was only a few months old when Canada began planning for the re-establishment of her ex-service men and women in civilian life. During the War this planning continued and a comprehensive program, justly termed one of the most extensive and generous in the world, was in effect when victory became a fact.

At the First Session of Canada's Twentieth Parliament a Special Committee on Veterans Affairs, made up of Members who were themselves veterans, was constituted to review the whole program. This review continued its work at the Second Session during the summer of 1946, and before that Session

Ajax, on the site of a war industry, takes care of the overflow of students from the Faculty of Applied Science and Engineering, University of Toronto. The rooms have been arranged with a view to efficiency and suitability and contain the finest equipment. In its first year, 1945-46, it accommodated 1,500 students, 80 p.c. of whom were veterans.

prorogued, several amendments to legislation already in existence were passed, as well as certain additional legislation enacted to complete a well-rounded program designed to assist veterans to re-establish themselves in civil life.

Space in this publication does not permit more than a mere outline of the highlights of each piece of legislation making up the program. The majority of the program is administered by the Department of Veterans Affairs, which Department has prepared and distributes considerable informative material, and may be contacted either at their district or head offices for specific information concerning any aspect of the rehabilitation program.

Reinstatement in Civil Employment Act.—This Act, which is administered by the Department of Labour, entitles veterans, who were bona fide employees, to reinstatement in their former position within three months of discharge in Canada or four months of discharge overseas, with a six-month extension granted, if necessary, on medical grounds. The Act provides for reinstatement on terms no less favourable than would have prevailed had the period of employment not been interrupted by war service.

War Service Grants Act.—This Act provides for gratuities to honourably discharged veterans, calculated on length, type and category of service. It provides a basic gratuity of $7·50 for every thirty-day period of qualifying service, plus 25 cents for each of those days served overseas, for all ranks, except those enlisted and remaining under the NRMA, who are eligible under this Act in respect to their service in the Aleutians or outside the Western Hemisphere only. In addition to the basic gratuity there is a supplementary gratuity of seven days' pay and allowances of rank upon posting for discharge for each six-month period of overseas service; or proportionately for lesser

Shaughnessy Hospital, Vancouver, one of a chain of treatment centres spanning the Dominion to serve the casualties of war.

periods. The basic and supplementary gratuities are lumped together and paid in equal monthly instalments. This money may be spent in any way the veteran wishes. In addition, the Act also provides for a re-establishment credit, which is equal to the basic gratuity, but may be authorized only for certain re-establishment purposes.

Veterans' Rehabilitation Act.—Under this Act veterans may receive monthly allowances: single $50, married $70, plus allowances for dependents, if they are: (1) temporarily incapacitated through casual illness; (2) unemployed, although fit and available for work; (3) awaiting returns from a farm or business on their own account.

This Act also permits suitable veterans to receive vocational or university training with monthly allowances of: single $60, married $80, plus allowances for dependents. Fees connected with tuition are also paid.

The Department of Veterans Affairs authorizes veterans to receive vocational training provided by an organization known as CVT (Canadian Vocational Training). Training may be taken in an institution or on-the-job. In the latter case the wages paid by the employer during the training period may be supplemented by an allowance from the Department of Veterans Affairs. At the end of September, 1946, a total of 35,000 veterans had been authorized to receive vocational training, and 40,000 veterans were taking university training (pre-admission, undergraduate or post-graduate).

The Veterans' Rehabilitation Act also provides for the payment of necessary contributions under the Unemployment Insurance Act, to give veterans full rights under this Act for the period of their service since June 30, 1941, when they have worked fifteen weeks in insured employment.

Treatment Regulations.—The majority of veterans receive treatment under five of the twelve classifications contained in these regulations.

Class I provides treatment for pensioners for their pensionable disability. If hospitalized, the veteran receives the equivalent to 100 p.c. pension rate less $15 per month, and if an out-patient, the equivalent to 100 p.c. pension rate.

Class II provides treatment shown to be required at the time of discharge. Such treatment must be commenced generally within thirty days following dis-

Seven centres for active convalescent cases have been provided: the Centre at Billings Bridge, near Ottawa, is shown to the right.

charge and may be continued for the period of a year, or the period of service if less than a year, with allowances equal to the pay and allowances of rank in effect at the time of discharge. If pension entitlement has been granted, treatment may be continued to finality.

Class III provides treatment for veterans for any disability not a result of misconduct arising during the year following their discharge. While receiving such treatment, monthly allowances of: single $50, married $70, plus allowances for dependents, may be paid.

Class V provides treatment for veterans with meritorious service for the remainder of their lives, where it is shown that the veteran is unable to afford the treatment required. No allowances are paid, except, where necessary, a "comforts and clothing" allowance of up to $10 a month.

Class VI provides domiciliary care for totally disabled aged veterans who require some one to look after them, but who do not require active treatment.

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Veterans are also entitled to any dental treatment required during the year following discharge. They are provided, free of charge, with prosthetic appliances which they require and these appliances are serviced and renewed for life.

The Pension Act.—Under this Act pensions are paid to veterans as a compensation for loss or lessening of normal abilities incurred during service. The 100 p.c. pension rates per annum for ranks equivalent to Lieutenant (Military) or lower are: man, $900; wife, $300; first child, $180; second child, $144; each subsequent child, $120; widows, $720. Higher rates are in effect for higher ranks. Pensions vary from 5 p.c. to 100 p.c. based on assessed percentage of disability. The insurance principle applies for service in Canada and overseas. Under this principle the disability need not be directly a result of service duties.

The Canadian Pension Commission examines the medical boards of all discharged members of the Forces. If a disability is found on discharge, a decision on pension entitlement is rendered. Adequate provision exists for unfavourable decisions to be reviewed, and veterans may have the assistance of the Veterans' Bureau in preparing and presenting such claims for review at no cost to the veteran.

War Veterans' Allowance.—Veterans become eligible for an allowance under this Act when they reach the age of 60 or, due to physical or economic reasons, or a combination of both, become incapable of supporting themselves before reaching that age. The age limit for widows of veterans who might have qualified is 55. To qualify, veterans must have served with the Canadian Forces in a theatre of war, or on active service with the Canadian Forces in two wars. The maximum annual allowances are: single $365, married $730. Reductions in these allowances are made for other income, although the exemptions to this rule were recently increased to permit single veterans a maximum annual income of $640, and married veterans $1,130, inclusive of allowances, without the allowances being reduced.

Veterans' Land Act.—This Act offers three main types of assistance to qualified veterans for settling on the land: full-time farming, small holdings in connection with industrial or other employment, or small holdings in connection with commercial fishing. Maximum assistance allowed is $6,000, of which up to $1,200 may be spent for stock and equipment. The veteran pays down 10 p.c. of the cost of land, buildings and permanent improvements, and contracts to repay two-thirds of that cost over a period of not more than twenty-five years at 3½ p.c. interest. The remainder of the cost becomes a grant from the State, but may not be realized until the veteran has satisfactorily fulfilled the terms of his contract for at least ten years.

The Act also contains provision for assistance to veterans settling on Provincial Crown lands and Indian Reserves, and to veterans holding farms under lease or by agreement of sale. There is also provision for fully repayable loans at 3½ p.c. interest to veterans who own their own farms.

The Veterans' Business and Professional Loans Act.—This Act enables veterans to obtain loans through the chartered banks of Canada up to a maximum of $3,000 at not more than 5 p.c. interest for business or professional purposes. The amount of the loan may not exceed two-thirds of the total

The Canadian Vocational Training Branch of the Department of Labour, in co-operation with the Provincial Governments, sponsors projects for the rehabilitation of ex-service men and women. Top: A group of students at work on calculating machines. Bottom: Ex-service men being trained as carpenters, brick-layers, electricians, draughtsmen, linemen, etc.

amount to be invested in the business by the veteran. The chartered banks follow normal lending practices, but the Government guarantees each individual bank at the rate of 25 p.c. on any loss incurred on the first million dollars loaned by each bank, and 15 p.c. on loans in excess of the first million dollars. The total amount of loans by all banks to which such guarantee extends is $25,000,000.

In addition to the above legislation constituting the Canadian rehabilitation program, there are a number of Acts entitling, to a greater or lesser degree, former members of Auxiliary Services, Merchant Navy, South African Nurses, Special Operators, etc., to benefits under all or part of this program.

To administer this program, the Department of Veterans Affairs has an organization extending from Halifax to Vancouver, including hospitals in all the large centres. Close liaison is maintained between the Department of Veterans Affairs and other Dominion and Provincial Departments and community organizations.

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National Accounts
Public Finance

★ *Gross National Product and Expenditure*

Gross National Product at Market Prices.—The tremendous expansion in production that has taken place as a result of the stimulus of wartime demand is illustrated by an increase in the gross national product from $5,075,000,000 in 1938 to $11,771,000,000 in 1944, an increase of 132 p.c. Preliminary estimates place the figure for 1945 at $11,359,000,000. It must be noted, however, that this expansion reflects increase in prices as well as growth in real production. With existing information it is not possible to judge precisely how much of the increment in gross national product is due to rising prices and how much to growth in the physical volume of production. Some indication can, however, be obtained from the fact that the index of wholesale prices went up 32 p.c. for the period 1938-45 while the index of retail prices increased 23 p.c. and the cost-of-living index 17 p.c.

The first step in compiling the gross national product is to add up all the incomes earned by labour, capital and enterprise for their share in the current production of goods and services. This aggregate is known as net national income at factor cost and includes labour income, broadly interpreted as salaries, wages and supplements; military pay and allowances; investment income inclusive of interest rents and corporate profits; and net income of individual enterprise such as farming where earnings are a mixture of labour income and investment income. In each case, these earnings are calculated before deduction of income taxes.

Net national income at factor cost measures the net value of production and fluctuations in this total from year to year are perhaps the best single indicator of economic conditions. The net national income expanded from $3,940,000,000 in 1938 to $9,685,000,000 in 1944, and dropped slightly to $9,627,-000,000 in 1945. The proportionate distribution among the various categories has shown little change if military pay and allowances are regarded as labour income. In 1938, salaries, wages and supplementary labour income were 62 p.c. of national income at factor cost, while investment income represented 18 p.c. and net income of individual enterprise 20 p.c. The proportions in 1945 were as follows: salaries, wages and supplementary labour income 52 p.c., military pay and allowances 11 p.c., investment income 19 p.c., net income of individual enterprise 18 p.c. It should be noted, however, that the fact that the relative

share of each category has remained about the same provides no information as to the rate of remuneration for various types of productive service because there has been considerable change in the numbers of individuals receiving income under the various categories.

Since net national income at factor cost is a compilation of the amounts earned by factors of production for their services, it excludes certain items of cost which cannot be regarded as the return to any factor of production but which enter into market prices. These are: indirect taxes, such as sales and excise taxes, offset by Government subsidies which enable the public to buy at prices less than those that would otherwise prevail; and appropriations for depreciation and similar business reserves. To arrive at gross national product at market prices, the above items are added to net national income at factor cost.

Gross national product at market prices is therefore defined as the money value of all goods and services produced in a year by Canadian labour, capital and enterprise, measured through a consolidated national accounting of the costs involved in their production. Of these goods and services a portion is purchased directly by individuals for consumption, a portion is purchased by governments, a portion is utilized by the business community to sustain or increase the national stock of plant and equipment and to increase inventories, and a portion is reflected in foreign investment.

Net National Income at Factor Cost and Gross National Product at Market Prices, 1938-45

(Millions of Dollars)

Item	1938	1939	1940	1941	1942	1943	1944	1945[1]
Salaries, wages and supplementary labour income	2,449	2,540	2,860	3,529	4,233	4,790	4,969	5,037
Military pay and allowances	9	32	193	386	641	910	1,068	1,089
Investment income	692	782	1,110	1,518	1,765	1,809	1,785	1,811
Net income of individual enterprise, agricultural and other	790	867	949	1,081	1,638	1,560	1,863	1,690
Net National Income at Factor Cost	**3,940**	**4,221**	**5,112**	**6,514**	**8,277**	**9,069**	**9,685**	**9,627**
Indirect taxes less subsidies	646	743	843	1,062	1,092	1,125	1,125	992
Depreciation allowances and similar business costs	504	528	581	684	771	819	771	750
Residual error of estimate for reconciliation with Expenditure table	−15	+3	+92	+75	+156	+111	+190	−10
Gross National Product at Market Prices	**5,075**	**5,495**	**6,628**	**8,335**	**10,296**	**11,124**	**11,771**	**11,359**

[1]Preliminary.

Gross National Expenditure at Market Prices.—Gross national expenditure at market prices is defined as the money value of all goods and services produced in a year by Canadian labour, capital and enterprise, measured through a consolidated national accounting of the sales of these goods and services. Thus it measures the same total as gross national product but in a different

way. It is termed "gross" because no deduction is made for replacement of existing capital equipment which is used up through "wear and tear" and obsolescence in the course of production.

If all enterprises were to publish accurate accounts on a uniform basis, the two statistical totals—gross national product and gross national expenditure—would, in fact, be equal. These conditions are not fulfilled in practice. National accounts must summarize transactions of enterprises that do not all keep their accounts on the same basis together with the transactions of households and small concerns that may not keep accounts at all. For these and other reasons, some discrepancy between the two sides is inevitable. With reference to the over-all magnitudes involved, it is interesting to note how close a balance is achieved.

Since gross national expenditure is a consolidated national account of all the sales of goods and services in a year, it shows the manner in which the country's production is utilized. Analysis of the distribution of national expenditure reveals tremendous expansion in the share of the country's output absorbed by Government expenditure and the extent to which this expansion was based on war requirements, including Government financing of foreign countries. In 1938, all Governments purchased only 18 p.c. of the total flow of goods and services. In 1944, expenditures by Dominion, Provincial and Municipal Governments were responsible for 45 p.c. of gross national expenditure, while Federal war expenditures alone covered 39 p.c. In 1945 the percentages declined to 39 p.c. for total Government expenditures and 33 p.c. for Federal war expenditures. As war expenditures decline, the problem is whether effective demand will increase sufficiently in the other sections, in the form of consumer expenditure, private investment and exports to balance the decline in Government expenditures. This is of crucial importance in maintaining full employment. In interpreting these figures it must, however, always be kept in mind that they measure increases in prices as well as growth in the physical volume of goods and services.

Gross National Expenditure at Market Prices, 1938-45

(Millions of Dollars)

Item	1938	1939	1940	1941	1942	1943	1944	1945[1]
Government Expenditure on Goods and Services—								
War	37	210	826	1,952	3,585	4,407	4,542	3,726
Non-war	854	880	688	648	738	952	783	667
Gross private investment at home	450	705	1,004	1,122	793	304	620	746
Net private investment abroad[2]	18	−97	−90	−268	−175	−324	−252	−365
Personal expenditure on consumer goods and services	3,700	3,799	4,293	4,956	5,511	5,896	6,268	6,576
Residual error of estimate for reconciliation with previous table	+16	−2	−93	−75	−156	−111	−190	+9
Gross National Expenditure at Market Prices	**5,075**	**5,495**	**6,628**	**8,335**	**10,296**	**11,125**	**11,771**	**11,359**

[1]Preliminary. [2]These figures do not correspond to the net international balance on current account, since a large portion of wartime exports is included in Government expenditure.

Gold-bearing ores from Noranda mines undergo primary crushing underground before being taken to the surface. This plant is hewn out of solid rock.

★ *Public Finance*

Combined Statistics for all Governments

This section presents public finance statistics for all levels of Government in Canada—Dominion, Provincial and Municipal. It should be noted that the revenue and expenditure tables exclude inter-governmental transfers, subsidies, and payments from the Dominion to the provinces under the Dominion-Provincial Taxation Agreement Act. In addition, the revenues and expenditures are shown on a "net" basis, shared-cost contributions of other governments, institutional revenue and certain other sales of commodities and services, and interest revenue being treated as offsets to responding expenditures. Also, since both ordinary and capital expenditure are included, amounts provided for debt retirement have been excluded from the table of expenditures to avoid duplication.

Combined Revenues and Expenditures.—Combined revenues of all Governments exclusive of inter-governmental transfers amounted to $3,114,000,000 for 1943, or over 301 p.c. of the 1939 total of $1,033,000,000. Expenditures, however, increased during this period to $5,509,000,000 for 1943, equal to 448 p.c. of the $1,231,000,000 total for 1939. In the same period the gross national product rose from $5,495,000,000 in 1939 to $11,124,000,000 in 1943, when it amounted to 202 p.c. of the 1939 figure. A comparison of the index of change in these three factors, using 1939 as the base year, is as follows:—

	Gross National Product	Total Revenues	Total Expenditures
		(1939=100)	
1939	100	100	100
1941	152	196	189
1942	187	261	381
1943	202	301	448

These changes reflect the rapid expansion and acceleration in Governmental finances as a whole, as well as in the general economy of the country, during the first four years of the War.

Prior to the War, the revenues and expenditures of Provincial and Municipal Governments together exceeded those of the Dominion. In 1939, revenues of the Dominion accounted for only 46 p.c. of the combined total, while in 1943 they represented 81 p.c. of the total; and expenditures of the Dominion correspondingly changed from 46 p.c. of the total for 1939 to 89 p.c. of the total for 1943. This is accounted for by the fact that the burden of financing Canada's war effort fell upon the Dominion Government, while expenditures of the other Governments decreased slightly. At the same time, the aim of the Dominion Government has been to finance as large a part as possible of the cost of carrying on a total war effort out of current revenues.

Comparative Dominion, Provincial and Municipal Revenues, Selected Years 1933-43

NOTE.—Figures are for fiscal years ended nearest to Dec. 31. Inter-governmental transfers, subsidies and payments under the Dominion-Provincial Taxation Agreement Act are excluded. SOURCE: Comparative Statistics of Public Finance prepared for the Dominion-Provincial Conference on Reconstruction.

Year	Total	Dominion	Provincial and Municipal		
			Total	Provincial	Municipal
	Revenues				
	$ '000	$ '000	$ '000	$ '000	$ '000
1933	705,501	278,181	427,320	133,252	294,068
1937	986,102	460,544	525,558	221,397	304,161
1939	1,033,214	480,027	553,187	236,223	316,964
1941	2,022,481	1,389,433	633,048	301,842	331,206
1942	2,696,591	2,125,745	570,846	240,098	330,748
1943	3,113,750	2,522,414	591,336	250,646	340,690
	Percentage Distribution				
1933	100·0	39·4	60·5	18·8	41·6
1937	100·0	46·7	53·2	22·4	30·8
1939	100·0	46·4	53·5	22·8	30·6
1941	100·0	68·6	31·3	14·9	16·3
1942	100·0	78·8	21·1	8·9	12·2
1943	100·0	81·0	18·9	8·0	10·9
	Index of Change (1939=100)				
1933	68·2	57·9	77·2	56·4	92·7
1937	93·6	95·9	95·0	93·7	95·9
1939	100·0	100·0	100·0	100·0	100·0
1941	195·7	289·4	114·4	127·7	104·6
1942	260·9	442·8	103·1	101·6	104·3
1943	301·3	525·4	106·8	106·1	107·4

Comparative Dominion, Provincial and Municipal Expenditures (Capital and Current), Selected Years 1933-43

NOTE.—Figures are for fiscal years ended nearest to Dec. 31. Inter-governmental transfers, subsidies and payments under the Dominion-Provincial Taxation Agreement Act are excluded. SOURCE: Comparative Statistics of Public Finance prepared for the Dominion-Provincial Conference on Reconstruction.

Year	Total	Dominion[1]	Provincial and Municipal		
			Total	Provincial	Municipal
	Expenditures				
	$ '000	$ '000	$ '000	$ '000	$ '000
1933	910,221	389,587	520,634	218,864	301,770
1937	1,100,576	444,599	655,977	359,689	296,288
1939	1,230,661	571,198	659,463	354,883	304,580
1941	2,322,564	1,718,787	603,777	311,260	292,517
1942	4,691,206	4,102,441	588,765	293,637	295,128
1943	5,509,051	4,907,475	601,576	300,997	300,579
	Percentage Distribution				
1933	100·0	42·8	57·2	24·1	33·1
1937	100·0	40·4	59·6	32·7	26·9
1939	100·0	46·4	53·6	28·8	24·8
1941	100·0	74·0	26·0	13·4	12·6
1942	100·0	87·4	12·6	6·3	6·3
1943	100·0	89·1	10·9	5·5	5·4
	Index of Change (1939=100)				
1933	74·0	68·2	78·9	61·7	99·1
1937	80·4	77·8	99·5	101·4	97·3
1939	100·0	100·0	100·0	100·0	100·0
1941	188·7	300·9	91·6	87·7	96·0
1942	381·2	718·2	89·3	82·7	96·9
1943	447·6	859·2	91·2	84·8	98·7

[1]Includes war expenditures.

Combined Debt.—As shown in the following table the combined total of direct and indirect debt of all Governments in Canada (exclusive of inter-governmental debt) amounted to $18,591,000,000 at the close of fiscal years ended nearest to Dec. 31, 1944. Large increases in the Dominion debt as a result of war financing have overshadowed reductions in both provincial and municipal debt. However, this increase has been largely in bonds outstanding, and represents additions to internal rather than external debt, as the Dominion was able to finance the war during this period without recourse to the issue of foreign pay bonds. Dominion direct and indirect foreign pay bonds have declined by more than $750,000,000 in the period 1940-44, largely as a result of the repatriation of sterling issues. This policy accounts in large part for the reduction in Dominion indirect debt.

Buoyant revenues resulting in over-all surpluses, together with curtailed capital expenditure programs, necessitated partly by wartime restrictions, have made it possible for Provincial Governments to reduce their outstanding debt, some by fairly substantial amounts. Similarly, the general curtailment by municipalities of capital undertakings and works requiring debenture financing, and increased tax collections resulting from the general improvement and expansion in economic activity, have resulted in progressive reductions in municipal debt.

Combined Dominion, Provincial and Municipal Direct and Indirect Debt, 1941-44

NOTE.—Figures for fiscal years ended nearest to Dec. 31.

Item	1941	1942	1943	1944
	$'000	$'000	$'000	$'000
Direct Debt—				
Dominion	6,399,574	8,676,110	11,784,569	15,104,888
Provincial	1,935,983	1,892,182	1,827,213	1,805,770
Municipal	1,166,128	1,101,077	1,031,429	980,695
Totals	9,501,685	11,669,369	14,643,211	17,891,353
Less Inter-governmental Debt	220,599	217,447	216,602	248,686
Combined Direct Debt	**9,281,086**	**11,451,922**	**14,426,609**	**17,642,667**
Indirect Debt—				
Dominion	1,092,105	885,203	822,904	737,668
Provincial	201,570	189,980	192,310	189,180
Municipal	50,773	49,830	48,497	46,686
Totals	1,344,448	1,125,013	1,063,711	973,534
Less Inter-governmental Debt	61,566	59,555	56,541	25,000
Combined Indirect Debt	**1,282,882**	**1,065,458**	**1,007,170**	**948,534**
Grand Totals, Direct and Indirect Debt	**10,563,968**	**12,517,380**	**15,433,779**	**18,591,201**

Dominion Finance

The year 1946 marked a great transition from a wartime economy. The latest Budget presented by the Minister of Finance on June 27, 1946, was essentially a peacetime budget although provision still had to be made in large amounts for demobilization costs and benefits to veterans. The rapid conversion of industry, the increase of private expenditure of a capital nature and a substantial increase in the expenditure of consumers have made possible a continuing high level of production, employment and incomes. The Government maintained its efforts to meet the continuing great pressure towards higher prices. Recognizing that income from exports is a most important factor in determining the country's prosperity and employment in peacetime, a large program of export credits has been launched.

The Budget of June 27, 1946, upheld production as a primary objective and gave relief and encouragement to Canadians of every class by reduction in taxation. It marked a further step towards a normal post-war tax policy and was designed to clear the way for opportunities to achieve new objectives in Canada's post-war development.

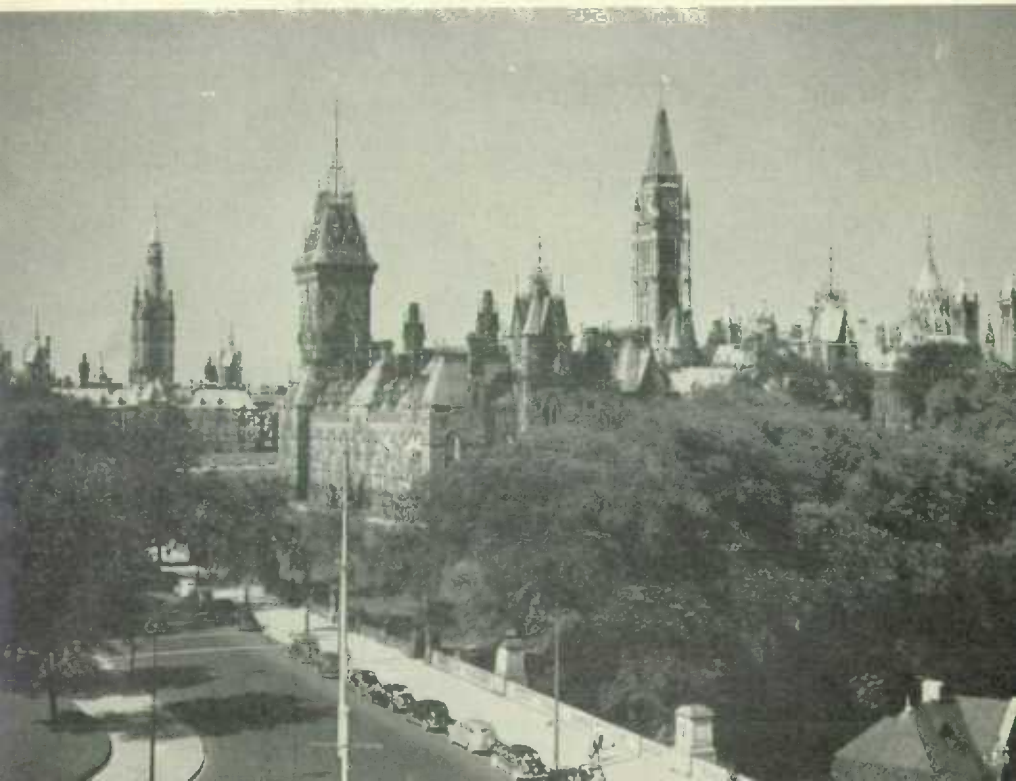
The Budget review of finances disclosed that, at the end of the fiscal year, Mar. 31, 1946, the total Dominion unmatured funded debt stood at $16,807,000,000; with active assets deducted, the net debt on that date was $13,421,000,000, compared with $3,153,000,000 as at Mar. 31, 1939. In the past seven years of war and post-war readjustment the national net debt increased by 325 p.c., a heavy load certainly to carry but not out of proportion to the population and to the burden being borne by other countries. The proportion of the funded debt payable in foreign currencies has steadily and sharply decreased during the years 1939-46, as was inevitable under conditions where almost the entire amount of Canada's war financing was carried out through domestic operations.

Dominion Finances, 1868-1945

Year Ended Mar. 31—	Total Revenue	Per Capita Revenue[1]	Total Expenditure	Per Capita Expenditure[1]	Net Debt at End of Year	Net Debt Per Capita[1]
	$	$	$	$	$	$
1868.....	13,687,928	3·90	14,071,689	4·01	75,757,135	21·58
1871.....	19,375,037	5·25	19,293,478	5·23	77,706,518	21·06
1881.....	29,635,298	6·85	33,796,643	7·82	155,395,780	35·93
1891.....	38,579,311	7·98	40,793,208	8·44	237,809,031	49·21
1901.....	52,516,333	9·78	57,982,866	10·80	268,480,004	49·99
1911.....	117,884,328	16·36	122,861,250	17·05	340,042,052	47·18
1921.....	436,292,184	49·65	528,302,513[2]	60·12	2,340,878,984	266·37
1931.....	357,720,435	34·48	441,568,413[2]	42·56	2,261,611,937	217·97
1933.....	311,735,286	29·32	532,369,940[2]	50·07	2,596,480,826	244·19
1936.....	372,595,996	34·03	532,585,555[2]	48·64	3,006,100,517	274·53
1937.....	454,153,747	41·12	532,005,432[2]	48·17	3,083,952,202	279·22
1938.....	516,692,749	46·33	534,408,117[2]	47·92	3,101,667,570	278·13
1939.....	502,171,354	44·57	553,063,098[2]	49·09	3,152,559,314	279·80
1940.....	562,093,459	49·39	680,793,792[2]	59·82	3,271,259,647	287·43
1941.....	872,169,645	75·79	1,249,601,446[2]	108·59	3,648,691,449	317·08
1942.....	1,488,536,343	127·73	1,885,066,055[2]	161·75	4,045,221,161	347·11
1943.....	2,249,496,177	190·44	4,387,124,118[2]	371·41	6,182,849,101	523·44
1944.....	2,765,481,945	240·34	5,322,717,737[2]	462·58	8,740,084,893	659·57
1945.....	2,687,334,799	221·75	5,245,611,924[2]	432·84	11,298,362,018	932·29
1946.....	3,013,185,074	245·37	5,136,228,505[2]	418·26	13,421,405,449	1,092·95

[1] Per capita figures for census years are based on census populations and for intervening years on official estimates. [2] Includes non-active advances to railways and transfers from active to non-active assets.

Towers of the Parliament Buildings at Ottawa. It is from the East Block in the foreground that Canada's finances are directed.



In the year ended Mar. 31, 1946, revenue showed an increase and expenditure a slight decrease in comparison with the previous fiscal year. Accounting for part of the increased revenue was the sum of $650,000,000 "Special Receipts and Other Credits", made up in considerable part of refunds of previous years expenditures and other bookkeeping transactions arising out of the War. Increases in excise duties, customs duties and excess profits tax were offset by decreases in excise taxes and corporation income tax. Revenue from taxation as a whole represented 73·1 p.c. of the total revenue as compared with 86·8 p.c. in the last pre-war year.

Of total expenditures of $5,136,228,505 in the year 1945-46, expenditures attributable to war and demobilization accounted for $4,002,949,197 or 78 p.c. This included $909,714,211 representing Canada's payment for Mutual Aid and UNRRA, and $425,000,000 representing the write-off of Air Training Plan loans and advances. Ordinary expenditures, including interest on the public debt and the cost of family allowances, increased by $294,526,185 to $1,061,902,118. The deficit for the year amounted to $2,123,043, 17·0 p.c. lower than that for 1944-45.

Summary of Total Revenues and Expenditures, Fiscal Years Ended Mar. 31, 1942-46

Item	1942	1943	1944	1945	1946
	$'000	$'000	$'000	$'000	$'000
Revenues					
Customs Import Duties	142,392	118,963	167,882	115,091	128,876
Excise Duties	110,091	138,721	142,124	151,922	186,726
Income Tax[1]	403,606	860,189	1,036,757	977,758	932,729
National Defence Tax	106,637				
Excess Profits Tax[2]	135,168	434,581	428,718	341,305	426,696
Sales Tax	236,183	232,929	304,915	209,390	212,247
War Exchange Tax	100,874	94,553	118,912	98,164	—
Other taxes	125,962	186,784	237,503	260,997	315,084
Totals, Revenues from Taxation	1,360,913	2,066,720	2,436,811	2,154,627	2,202,358
Non-tax Revenues	102,911	116,079	133,283	145,471	160,804
Totals, Ordinary Revenues	1,463,824	2,182,799	2,570,094	2,300,098	2,363,162
Special receipts and other credits	24,712	66,697	195,388	387,237	650,023
Totals, Revenues	**1,488,536**	**2,249,496**	**2,765,482**	**2,687,335**	**3,013,185**
Expenditures					
Ordinary expenditures	444,778	561,251	630,381	767,376	1,061,902
Capital expenditures	3,430	3,276	2,622	3,164	4,508
War expenditures (special)	1,339,674	3,724,249	4,587,023	4,418,446	4,002,949
Other special expenditures[3]	63,976	31,288	37,496	7,506	17,358
Government-owned enterprises	1,214	1,248	1,307	1,358	1,334
Other charges	31,994	65,812	63,889	47,762	48,177
Totals, Expenditures	**1,885,066**	**4,387,124**	**5,322,718**	**5,245,612**	**5,136,228**
Deficits	**396,530**	**2,137,628**	**2,557,236**	**2,558,277**	**2,123,043**

[1] Net after deducting refundable portion of the tax amounting to $50,000,000, $115,000,000, $95,000,000 and $5,000,000 in the fiscal years 1943, 1944, 1945 and 1946, respectively. [2] Net after deducting refundable portion of the tax amounting to $20,000,000, $40,000,000, $124,500,000 and $67,500,000 in the fiscal years 1943, 1944, 1945 and 1946, respectively. [3] Includes $12,600,000 reserve against estimated loss on wheat guarantees for 1941-42.

The 1946-47 Budget

The Budget for the year ending Mar. 31, 1947, was presented in Parliament on June 27, 1946. Tax reductions were announced representing a loss of revenue of $254,000,000 in a full year. An increase in family allowance payments directly related to the tax changes was estimated to cost an additional $12,000,000. As the important tax changes do not become effective until Jan. 1, 1947, their effect on revenue in the fiscal year 1946-47 was estimated to be relatively small. Revenues were estimated at about $2,510,000,000 for the fiscal year before tax changes, as compared with estimated expenditures of $2,769,000,000, leaving an estimated deficit of $260,000,000. The effect of the tax changes was to increase the estimated deficit to $300,000,000.

The principal tax reductions to become effective Jan. 1, 1947, proposed in the Budget Speech were:—

(1) Raising of the exemptions to $750 for single persons and $1,500 for married persons and complete revision of the rate schedules for personal income tax which would bring a reduction of 10 p.c. to 15 p.c. for the majority of the taxpayers.

(2) Changes in the excess profits tax and corporation income tax to result in a reduction of the rates on excess profits from 20 p.c. to 15 p.c. and reduction in rates on corporation incomes from 40 p.c. to 30 p.c.

(3) Exclusion of partnerships and sole proprietors from the excess profits tax.

A proposal was introduced to carry out in general the recommendations of the Royal Commission on Taxation of Co-operatives. This allowed the deduction of patronage dividends and exempted new co-operatives from tax for three years. Several income-tax concessions to mining and oil industries were renewed for another year. Succession duty rates were to be doubled but credits up to one-half the duty were allowed for duty paid to Provincial Governments. Minor changes were proposed in the excise taxes and duties and tariff rates.

A revised offer was made for an agreement with the provinces providing annual payments in return for the relinquishment of certain fields of taxation. The main features of this proposal were that the Dominion would make payments to the provinces of a total guaranteed annual minimum amount of $181,400,000 in place of subsidies totalling $100,600,000 a year paid during the War. The minimum amount is subject to adjustment for increase in population and gross national product and in 1947 would amount to a total of $198,200,000. In return for this compensation each province was asked to enter into an agreement: (*a*) not to levy any personal income tax; (*b*) to levy a 5 p.c. corporation income tax but no more; and (*c*) to elect either to give up or retain its succession duties, in the latter case a reduction equal to its succession duty revenue being made from the amount of its payment from the Dominion. Certain other features of the Dominion's proposal applied equally to agreeing and non-agreeing provinces, and in the case of provinces not entering into an agreement which re-impose their personal income taxes in 1947 and later years, the Dominion proposes to allow a credit up to 5 p.c. of its own personal income tax for personal income tax paid to a province.

An engraver at work on Canada's new savings bonds, which were offered for sale in October, 1946

Borrowings.—Total borrowings during the year, excluding the renewal of treasury bills, deposit certificates and short-term notes held by the Bank of Canada, amounted to $3,750,000,000. The great bulk was obtained from the 8th and 9th Victory Loan campaigns. During the fiscal year $1,813,748,885 of the Dominion's obligations matured or were called for redemption. From 1940 to 1945, Canada issued two War Loans and nine Victory Loans.

The sale of War Savings Certificates and stamps, which commenced in May, 1940, was discontinued at the end of August, 1946. From the former date to Mar. 31, 1946, applications were received for Certificates having a purchase value of $371,920,652.

In order to meet public demand for facilities for the investment of individual savings in peacetime and to enable continuance of savings habits formed during the war years, the Government offered the new Canada Savings Bonds for sale in October, 1946. These bonds are registered as to principal in the names of individual owners. Interest is paid by coupon annually at a rate of 2¾ p.c. Holdings by any one individual are limited to $2,000. The bonds mature in ten years and are available in denominations of $50, $100, $500 and $1,000. The bonds cannot be assigned or transferred but can be converted into cash at any time prior to maturity at any chartered bank at full purchase price plus interest. Thus while there is no possibility of capital appreciation, there is also no chance of loss. They offer a convenient and attractive security for savings

of individual Canadians, backed by all the resources of the Dominion of Canada. As at Nov. 30, 1946, total subscriptions to the new savings bonds reached $487,-401,200. The initiative that Canadians have shown in the field of war finance resulting in the investment of approximately $6,455,000,000 by less than twelve million individuals between 1939 and 1945, is thus provided with an opportunity of continued expression in peacetime.

Income Tax

The Income War Tax Act was introduced during the War of 1914-18 as part of what was known as war-tax revenue. However, it was a war tax in name only, for even before the outbreak of the Second World War it had become a permanent and important part of the taxation structure, and the chief means of raising ordinary revenue.

In order to secure as much revenue from taxation as was desirable for the prosecution of the Second World War, the income tax base was broadened and the rates increased. By 1942 the minimum exemption for single persons had been reduced to $660 from $1,000 prior to the War and to $1,200 from $2,000 in the case of married persons. Rates of tax on income above these exemptions reached a peak in 1943 but a portion of the tax payable was made refundable after the War and, when the refundable feature was dropped in July, 1944, the immediate cash burden on individual taxpayers was reduced. A further reduction of 4 p.c. was made in 1945 and of 16 p.c. in 1946. A new general tax structure for 1947 was introduced in the 1946 Budget which raised the minimum exemptions to $750 for single persons and $1,500 for married. These higher exemptions coupled with a reduced schedule of tax rates on incomes over the exemption levels combined to reduce the burden of tax by approximately 20 p.c. over the preceding 1946 level. Although reductions of income tax have been made in each succeeding year since 1943, the 1947 tax level still remains substantially above the pre-war 1939 level.

Before the outbreak of war the burden of income tax was shared by approximately 250,000 persons; this was expanded to about 2,365,000 by 1945 and is expected to decline to approximately 1,800,000 under the 1947 schedule. The lowering of exemptions mentioned above was, of course, the prime influence in expanding the body of Canadian income taxpayers but the higher level of employment and of wage scales also had an important effect.

Substantially higher taxes were also levied during the War on business profits. The rate of corporation income tax was raised from a pre-war 15 p.c. to 18 p.c. in 1940 and has remained unchanged at that level. The main wartime medium for taxing business profits, however, was the Excess Profits Tax Act, 1940 which, when taken together with the 18 p.c. income tax, combined, in effect, to levy a 40 p.c. tax on all profit plus an additional 60 p.c. on excess profits. A portion of the tax on excess profits was made refundable to the taxpayer after the War.

Collections of individual and corporation income and excess profit tax for the taxation (calendar) years 1939 to 1945 are shown in the table below. These figures represent taxes collected in respect of income earned in the years enumerated and therefore differ from the table on p. 228 where revenues are shown by government fiscal years.

Collections of Income and Excess Profits Tax, Taxation Years 1939-45

Taxation Year	Individuals and Individual Businesses			Corporations		
	Income Tax	Excess Profits Tax	Total	Income Tax	Excess Profits Tax	Total
	$	$	$	$	$	$
1939...	54,781,130	—	54,781,130	90,498,381	—	90,498,381
1940...	152,245,616	4,533,451	156,779,067	133,248,778	120,664,171	253,912,949
1941...	329,333,512	10,148,521	339,482,033	184,188,053	292,654,352	476,842,405
1942...	391,194,438	18,543,654	409,738,092	226,848,767	439,834,553	666,683,320
1943...	825,781,811	25,375,690	851,157,501	225,352,875	512,051,811	737,404,686
1944[1]...	769,030,045	21,895,015	790,925,060	216,048,238	465,703,978	681,752,216
1945[1]...	594,853,854	8,673,086	603,526,940	154,204,362	332,396,069	486,600,431

[1] The accounts for these years are not yet closed and the figures are therefore not complete.

Estimated Number of Taxpayers, Total Income and Tax Collected Thereon, by Income Classes, 1945

Income Class	Taxpayers	Total Income	Total Tax
	No.	$	$
Below $1,000	425,300	349,621,000	18,271,000
$ 1,000–$2,000	1,252,000	1,877,938,000	139,712,000
2,000– 3,000	478,200	1,128,916,000	131,884,000
3,000– 5,000	144,000	526,071,000	97,876,000
5,000–10,000	48,500	324,369,000	92,455,000
10,000–25,000	14,200	204,519,000	87,557,000
Over $25,000	2,800	131,477,000	86,741,000
Totals	**2,365,000**	**4,542,911,000**	**654,496,000**

Estimated Number of Taxpayers, Total Income and Tax Collected Thereon, by Conjugal Status and Number of Dependents, 1945

Class	Taxpayers	Total Income	Total Tax
	No.	$	$
Single, no dependents	903,890	1,225,182,000	219,162,000
Single, one or more dependents	66,880	102,126,000	13,648,000
Married, no dependents	543,355	1,240,668,000	202,821,000
Married, one dependent	390,835	884,647,000	111,989,000
Married, two dependents	269,240	612,967,000	63,461,000
Married, three dependents	128,455	295,327,000	26,068,000
Married, four dependents	44,085	118,162,000	10,799,000
Married, five dependents	12,845	41,561,000	4,009,000
Married, six or more dependents	5,415	22,271,000	2,539,000
Totals	**2,365,000**	**4,542,911,000**	**654,496,000**

Provincial Finance

During 1944 (being the fiscal years ended nearest to Dec. 31, 1944), the provinces continued to show an improved financial condition as was the case throughout all the war years.

Inspecting bank notes before they are placed in circulation.

Gross Ordinary Revenues of Provincial Governments, Selected Years 1921-44 and by Provinces, 1942-44

NOTE.—Figures for 1940-44 are for provincial fiscal years ended nearest Dec. 31; previous to 1940, fiscal years ended in year specified were used.

Year	Gross Ordinary Revenues	Province	1942	1943	1944
	$'000		$'000	$'000	$'000
1921	102,030	P.E.I.	2,278	2,993[1]	2,564
1926	146,451	N.S.	20,462	20,957	22,525
1931	179,143	N.B.	16,216	16,773	17,875
1937	268,498	Que.	114,583	116,856	122,354
1938	287,956	Ont.	132,145	141,268	140,610
1939	296,873	Man.	23,186	24,446	25,669
1940	355,311	Sask.	30,615	37,454	37,420
1941	404,791	Alta.	28,752	30,528	32,553
1942	412,385	B.C.	44,148	44,496	47,295
1943	435,771				
1944	448,865	**Totals**	**412,385**	**435,771**	**448,865**

[1] Fifteen months.

Gross Ordinary Expenditures of Provincial Governments, Selected Years, 1921-44 and by Provinces, 1942-44

NOTE.—Figures for 1940-44 are for provincial fiscal years ended nearest to Dec. 31; previous to 1940, fiscal years ended in year specified were used.

Year	Gross Ordinary Expenditures	Province	1942	1943	1944
	$'000		$'000	$'000	$'000
1921	102,570	P.E.I.	2,273	2,972[1]	2,905
1926	144,183	N.S.	17,737	18,039	20,251
1931	190,754	N.B.	15,056	15,029	17,318
1937	253,444	Que.	101,293	106,180	117,902
1938	273,861	Ont.	114,906	128,923	139,486
1939	289,229	Man.	19,386	20,025	20,646
1940	330,930	Sask.	25,959	27,743	29,404
1941	349,818	Alta.	21,312	22,721	25,002
1942	354,195	B.C.	36,273	37,158	40,623
1943	378,790				
1944	413,537	**Totals**	**354,195**	**378,790**	**413,537**

[1] Fifteen months.

The Queen Elizabeth Highway, Western Ontario.

The details of combined net ordinary and capital revenues for 1944 show that the greatest single item of provincial revenue continues to be derived from the Dominion Government, chiefly as a result of the provisions of the Dominion-Provincial Taxation Agreement Act, 1942. The greatest single item in the net combined ordinary and capital expenditures for 1944 was public welfare.

Combined Net Ordinary and Capital Revenues of Provincial Governments, 1942-44 with Details for 1944

Province	1942	1943	1944	Item	1944 Amount	1944 P.C. of Total	1943 P.C. of Total
	$'000	$'000	$'000		$'000		
P.E.I.	2,036	2,617[1]	2,191	Taxes—			
N.S.	16,410	16,937	17,804	Corporation (arrears)	762	0·20	0·17
N.B.	13,136	13,724	14,246	Gasoline	47,082	12·55	12·44
Que.	99,944	99,997	103,893	Income of persons (arrears)	591	0·16	0·30
Ont.	107,825	117,483	115,719	Retail sales	17,856	4·76	4·78
				Succession duties	23,482	6·26	6·66
Man.	19,033	19,995	21,320	Other taxes	21,355	5·69	5·21
Sask.	25,169	30,931	31,586	Motor-vehicle licences	31,217	8·32	8·31
Alta.	24,389	25,920	27,409	Liquor control	70,426	18·77	17·72
B.C.	39,146	39,019	40,962	Dominion of Canada	107,985	28·79	30·40
				Other revenue	54,374	14·50	14·01
Totals	**347,088**	**366,623**	**375,130**	**Totals**	**375,130**	**100·00**	**100·00**

[1] Fifteen months.

Combined Net Ordinary and Capital Expenditures of Provincial Governments, 1942-44 with Details for 1944

NOTE.—Figures are exclusive of debt retirement.

Province	1942	1943	1944	Item	1944 Amount	1944 P.C. of Total	1943 P.C. of Total
	$'000	$'000	$'000		$'000		
P.E.I.	1,965	2,546[1]	2,776	Legislation	3,198	0·91	1·02
N.S.	13,092	13,429	15,146	General government	18,234	5·22	5·96
N.B.	12,173	12,137	15,902	Protection to persons and property	16,487	4·71	4·95
Que.	92,259	94,701	108,091	Highways, bridges and ferries	63,906	18·26	17·74
Ont.	97,173	102,292	113,492	Public welfare	75,376	21·53	21·78
Man.	14,852	14,465	14,572	Education	63,987	18·28	16·00
Sask.	20,179	20,219	22,637	Agriculture	15,664	4·47	4·23
Alta.	18,702	19,890	22,606	Public domain	20,063	5·73	5·50
B.C.	30,385	30,505	34,773	Debt charges	59,173	16·92	19·99
				Other	13,907	3·97	2·83
Totals	**300,780**	**310,184**	**349,995**	**Totals**	**349,995**	**100·00**	**100·00**

[1] Fifteen months.

Reference to the table of debt statistics shows the variation between provinces as well as between provincial direct and indirect debt.

Direct and Indirect Liabilities of Provincial Governments (less Sinking Funds), 1942-44 with Details for 1944

Province	1942	1943	1944	Item	1944
	$'000	$'000	$'000		$'000
Direct Debt—				Direct Debt—	
P.E.I.	9,320	9,118	9,668	Funded debt	1,678,202
N.S.	90,482	88,859	86,399	*Less* Sinking Funds	223,285
N.B.	95,576	93,397	93,403		
Que.	385,897	376,395	375,861	Net Funded Debt	1,454,917
Ont.	705,039	666,757	646,715	Treasury bills	238,970
Man.	110,094	106,444	100,032	Savings deposits	45,771
Sask.	202,345	196,907	205,436	Temporary loans	9,032
Alta.	149,757	148,543	147,507	Due to trust	21,811
B.C.	143,672	140,793	140,749	Accrued expenditure	17,941
				Accounts payable and other liabilities	17,328
Totals, Direct Debt	**1,892,182**	**1,827,213**	**1,805,770**	**Total, Direct Debt**	**1,805,770**
Indirect Debt—				Indirect Debt—	
P.E.I.	241	209	162	Guaranteed bonds	151,023
N.S.	3,002	2,702	2,729	*Less* Sinking Funds	6,371
N.B.	2,050	2,033	2,256		
Que.	24,587	30,107	36,814	Net Guaranteed Bonds	144,652
Ont.	121,604	122,888	127,734	Loans under M.I.A. Act	5,496
Man.	3,414	2,758	2,531	Guaranteed bank loans	9,730
Sask.	19,022	16,217	1,824	Other indirect liabilities	29,302
Alta.	7,105	6,599	6,253		
B.C.	8,956	8,797	8,877		
Totals, Indirect Debt	**189,981**	**192,310**	**189,180**	**Total, Indirect Debt**	**189,180**
Grand Totals	**2,082,163**	**2,019,523**	**1,994,950**	**Grand Total**	**1,994,950**

The gross provincial bonded debt is still largely payable in Canada as has been the case since 1941.

Gross Provincial Bonded Debt, Analysed by Currency of Payments, 1941-44

Payable in—	1941	1942	1943	1944
	$'000	$'000	$'000	$'000
Canada only	934,165	964,860	978,401	979,545
London (England) only	49,633	45,681	45,530	45,415
London (England and Canada)	49,137	27,477	25,609	20,214
New York only	1,225	16,025	19,519	33,905
New York and Canada	398,994	371,907	348,835	355,426
London (England), New York and Canada	270,161	265,943	261,652	238,963
Other	4,958	4,736	4,736	4,736
Totals	**1,708,273**	**1,696,629**	**1,684,282**	**1,678,202**

Stratford, Ontario, has inaugurated a thirty-year municipal planning development project, which calls for zoning, control of building, and elimination of sub-standard housing.

Employees of the planning company working on a topographical map of Stratford.

A view of the beautiful Avon River which, under the project, is to be transformed into one of Ontario's finest parks.

Under the provisions of the British North America Act, the several provinces have jurisdiction and control over their respective organizations of municipal government. Requirements for incorporation vary among the provinces, but there is a distinct division of urban from rural. The former are classed as cities, towns, and villages; the latter have various designations: Townships in Ontario; Districts in British Columbia; Municipal Districts in Alberta; Counties in New Brunswick; Municipalities in Nova Scotia; Parishes and Townships in Quebec; and Rural Municipalities in Manitoba and Saskatchewan. In addition there are counties in Ontario and Quebec; these include local towns or villages, and rural municipalities, which provide funds for county administration. Nova Scotia and New Brunswick counties are essentially rural municipalities. Some non-incorporated rural areas in Saskatchewan and Alberta are organized into "Improvement Districts" administered by the Provincial Governments. In 1944 there were 3,954 incorporated municipalities in Canada.

Municipal Assessments and Tax Levies.—Municipal revenues in Canada are derived almost entirely from direct taxation, chiefly of real property. Tax levies increased from 1940 to 1944 by 4·1 p.c., while improved economic conditions were reflected in an increase in tax collections of 11·8 p.c., which was accounted for chiefly by greatly increased collections in the Prairie Provinces. As a result, total taxes receivable and property acquired for taxes were reduced in this period by 35·9 p.c.

Municipal Assessed Valuations, Tax Levies, Collections and Receivables (less Sinking Funds), by Provinces, 1944 with Totals for 1940-43

Year and Province	Valuations on which Taxes were Levied	Tax Levy	Tax Collections (Current and Arrears)	Percentage of Levy	Total Taxes Receivable and Property Acquired for Taxes
	$'000	$'000	$'000		$'000
Totals, 1940	7,703,973	270,437	230,029[1]	101·2[1]	245,065
Totals, 1941	7,859,415	272,458	237,680[1]	104·6[1]	237,133
Totals, 1942	7,892,698	275,983	239,110[1]	105·0[1]	208,406
Totals, 1943	7,906,826	278,697	298,196	107·0	196,523
1944					
P.E.I.	14,640	337	335	99·3	151
N.S.	187,904	9,584	9,751	101·7	4,029
N.B.	159,166	5,377	5,514	102·5	3,526
Que.	2,343,734	74,428	31,009[1]	91·8[1]	34,310
Ont.	3,066,177	111,381	114,435	102·7	27,400
Man.	445,793	18,885	21,162	112·1	11,910
Sask.	828,035	23,131	32,758	142·6	33,457
Alta.	510,494	18,491	21,884	118·3	28,623
B.C.	407,462	19,789	20,340	102·1	13,667
Totals, 1944	**7,963,405**	**281,403**	**257,188**[1]	**109·2**[1]	**157,073**

[1] Excludes Quebec cities and towns.

Municipal Revenues.—Municipal revenues for 1944 have been estimated at $354,400,000 of which $263,600,000, or 74·4 p.c. represents taxes on real estate, $33,900,000, or 9·6 p.c. other taxes, and the remaining $56,900,000, or 16·0 p.c. other sources of revenue, including provincial subsidies and Tax Agreement subsidies from the Dominion.

Municipal Expenditures.—Preliminary estimates indicate that the support of local schools represented the largest single item of expenditure in 1944, amounting to $94,200,000, or 27·8 p.c. of total municipal expenditure of $337,-900,000. Other services cost $168,200,000, or 49·9 p.c., and debt service charges and the retirement of debt $75,500,000, or 22·3 p.c. of the total. In 1939, total expenditures were $329,038,000, 25·0 p.c. of which went for the support of local schools, 48·3 p.c. for other services, and 26·7 p.c. for debt service and debt retirement.

Bonded Debt and Other Direct Liabilities.—The rapid growth of municipalities, together with increased demands and responsibilities for improvements, schools and other services, has resulted in the incurring of a heavy burden of debt. However, the bonded debt situation of municipalities has undergone substantial improvement since 1932.

Municipal Bonded Debt and Sinking Funds, Selected Years 1919-44 and by Provinces 1932 and 1944

Year	Gross Bonded Indebtedness of Municipalities [1]	Total of Sinking Funds	Province	Gross Bonded Indebtedness of Municipalities	
				1932 [3]	1944 [3]
	$'000	$'000		$'000	$'000
1919.....	729,715	[2]	P.E.I.....	2,129	3,193
1925.....	1,015,950	[2]	N.S.....	31,606	31,883
1930.....	1,271,390	[2]	N.B.....	24,753	22,971
1935.....	1,372,026	267,709	Que.....	463,614	451,666
1938.....	1,302,201	269,736	Ont.....	504,756	260,353
1939.....	1,280,856	272,010	Man.....	92,471	55,465
1940.....	1,244,001	259,343	Sask.....	59,238	38,954
1941.....	1,196,491	261,459	Alta.....	76,892	41,957
1942.....	1,136,897	258,064	B.C.....	129,333	100,494
1943.....	1,074,462	254,864			
1944.....	1,006,936	178,761	**Totals**.....	**1,384,792**	**1,006,936**

[1] Not entirely comparable due to incompleteness of data prior to 1939. [2] Sinking fund totals not available previous to 1934: Alberta showed net debt to 1928. [3] Debt for rural schools in the Maritimes not included.

The reductions in recent years have been due largely to a general curtailment, during the depression years, of capital undertakings and works requiring debenture financing. The extension of provincial control over municipal borrowings has also been a major factor in this regard, as well as the fact that the greater part of the total municipal debt is represented by serial or instalment-type debentures, which require yearly repayments of principal. While certain expenditures have been sorely needed in many communities, such as for the rehabilitation of existing assets and for new improvements as a result of normal

expansion and growth, these were sacrificed in the earlier years in the interests of the taxpayer. Latterly, under wartime conditions this policy of deferment was continued so as to free the financial market to the Dominion Government for its war-financing needs.

Direct and Indirect Liabilities of Municipal Governments (less Sinking Funds), by Provinces, 1942-44 with Details for 1944

Item	1942	1943	1944
	$'000	$'000	$'000
Direct Debt—			
P.E.I.[1]	2,614	2,471	2,396
N.S.[1]	22,510	21,761	20,396
N.B.[1]	19,299	18,310	16,801
Que.	494,770	467,149	455,457
Ont.	284,856	263,094	241,879
Man.	54,694	50,226	46,509
Sask.	82,817	76,085	71,818
Alta.	53,845	51,659	48,280
B.C.	85,672	80,674	77,158
Totals, Direct Debt	**1,101,077**	**1,031,429**	**980,694**
Indirect Debt—			
P.E.I.	[2]	[2]	[2]
N.S.	150 [3]	856	854
N.B.	424	360	214
Que.	3,455	3,226	2,992
Ont.	22,808	22,056	21,420
Man.	10,681	10,217	9,830
Sask.	[2]	[2]	[2]
Alta.	[2]	[2]	[2]
B.C.	12,312	11,782	11,376
Totals, Indirect Debt	**49,830**	**48,497**	**46,686**
Grand Totals	**1,150,907**	**1,079,926**	**1,027,380**

Item	1944
	$'000
Direct Debt—[1]	
Debenture debt	1,006,936
Less Sinking Funds	178,759
Net Debenture Debt	828,177
Temporary loans	28,565
Accounts payable and other liabilities	123,952
Total Direct Liabilities (less Sinking Funds)	**980,694**
Indirect Debt—	
Guaranteed loans, debentures, etc.	54,719
Less Sinking Funds	8,033
Total Indirect Liabilities (less Sinking funds)	**46,686**
Grand Total	**1,027,380**

[1] Excludes rural schools in the Maritime Provinces. [2] None reported.
[3] More complete information available after 1942.

A new courthouse and central police building will be the centre of a Civic Square to be constructed in Toronto.

banks had among them 131 branches (not including sub-agencies) in other countries, mainly in Newfoundland, the West Indies, Central and South America.

The primary function of the bank is to provide a safe repository for savings and surplus funds and to furnish credit for carrying on the business of the country. Credit is given in a variety of ways. Direct loans are made, the proceeds of which customers use for purchasing raw materials, paying wages and other operating expenses or for the purchase of goods for resale. Letters of credit are issued to finance the importation of goods. In this way the bank exchanges its well-known and acceptable credit for the less-known credit of its customers. Apart from the deposit and loan facilities provided, the banks render innumerable services to the communities in which they serve.

Statistics of Individual Chartered Banks as at Oct. 31, 1946, with Totals for Selected Years from 1900

NOTE.—Annual figures are averages from the respective monthly statements except in the case of the numbers of branches which are as at Dec. 31.

Bank and Year	Branches in Canada and Abroad[1]	Total Assets	Liabilities to Shareholders	Liabilities to the Public	Total Liabilities	Loans and Discounts	Total Deposit Liabilities[2]
	No.	$ '000,000	$ '000,000	$ '000,000	$ '000,000	$ '000,000	$ '000,000
Bank of Montreal	444	1,844	78	1,765	1,843	361	1,693
Bank of Nova Scotia	280	696	36	658	694	172	603
Bank of Toronto	166	354	18	335	353	83	326
Provincial Bank of Canada	131	145	5	140	145	30	139
Canadian Bank of Commerce	474	1,442	60	1,379	1,439	295	1,317
Royal Bank	623	2,060	55	2,000	2,055	431	1,867
Dominion Bank	121	340	16	323	339	99	306
Banque Canadienne Nationale	211	374	12	361	373	95	354
Imperial Bank of Canada	167	404	15	387	402	114	373
Barclay's Bank (Canada)	2	34	2	32	34	3	25
Totals, Oct. 1946	**2,619**	**7,693**	**297**	**7,380**	**7,677**	**1,683**	**7,003**
Totals, 1945	**2,619**	**6,743**	**282**	**6,439**	**6,721**	**1,505**	**6,160**
Totals, 1944	**2,593**	**5,990**	**282**	**5,689**	**5,972**	**1,344**	**5,422**
Totals, 1943	**2,589**	**5,148**	**282**	**4,849**	**5,131**	**1,334**	**4,592**
Totals, 1942	**2,642**	**4,400**	**281**	**4,102**	**4,383**	**1,370**	**3,834**
Totals, 1941	**2,830**	**4,008**	**279**	**3,712**	**3,991**	**1,403**	**3,465**
Totals, 1940	**2,846**	**3,707**	**279**	**3,411**	**3,690**	**1,324**	**3,180**
Totals, 1939	**2,861**	**3,592**	**279**	**3,298**	**3,578**	**1,244**	**3,061**
Totals, 1938	**2,875**	**3,349**	**279**	**3,057**	**3,336**	**1,201**	**2,824**
Totals, 1935	**2,978**	**2,957**	**278**	**2,668**	**2,946**	**1,276**	**2,427**
Totals, 1930	**3,598**	**3,237**	**305**	**2,910**	**3,215**	**2,065**	**2,517**
Totals, 1920	**4,876**	**3,064**	**252**	**2,784**	**3,036**	**1,935**	**2,438**
Totals, 1910	**2,621[3]**	**1,211**	**179**	**1,019**	**1,198**	**870**	**910**
Totals, 1900	**641**	**460**	**98**	**356**	**454**	**279**	**305**

[1] As at Dec. 31 of previous year. Does not include sub-agencies which numbered 621 in 1945. [2] Excluding inter-bank deposits. [3] 1911.

Cheque Payments.—Bank debits, or the amount of cheques cashed and charged to deposit accounts, increased continuously year by year during the war period. The standing in 1945 was $68,385,000,000, representing an increase of 121 p.c. over 1938, the last complete pre-war year. The total for the first ten months of 1946 was 6·3 p.c. greater than for the same months of 1945.

It is estimated that about 80 p.c. of Canada's business transactions are financed by cheques, payments in notes and coin being of relatively minor proportions. Thus, the amount of cheques paid through the banks and charged to deposit accounts is widely used as a measure of the volume of financial transactions. A record of such payments is available for the principal commercial centres for a period of more than 20 years.

Cheques Cashed at the Clearing-House Centres, by Economic Areas, 1941-45

Economic Area	1941	1942	1943	1944	1945
	$	$	$	$	$
Maritime Provinces	940,712,152	1,075,736,890	1,243,762,861	1,327,660,964	1,553,590,758
Quebec	11,068,666,580	12,751,093,627	15,373,881,025	17,222,287,360	19,309,332,983
Ontario	18,214,788,841	22,136,164,250	24,681,702,142	26,902,944,561	31,543,361,615
Prairie Provinces	6,591,645,027	6,722,376,622	9,199,963,592	11,488,439,812	11,562,164,231
British Columbia	2,427,144,584	2,840,882,813	3,297,405,107	3,735,621,710	4,416,363,574
Totals	**39,242,957,184**	**45,526,254,202**	**53,796,714,727**	**60,676,954,407**	**68,384,813,161**

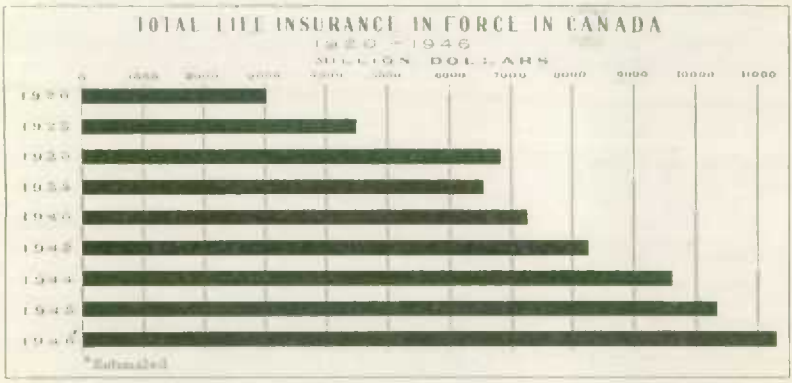
★ *Insurance*

Life Insurance.—The life insurance business was introduced into Canada by companies from the British Isles and the United States of America about the middle of the nineteenth century. By 1875 there were at least 26 companies competing for the available business in Canada, as against 41 active companies

Bills that have passed through many hands and become worn are turned in, counted and burned. The truck on the right holds nearly $1,000,000 in old bills, which will be replaced by new ones.

registered by the Dominion and a few provincial companies in 1945. Of the 41 active companies registered by the Dominion, 28 were Canadian, 3 British, and 10 foreign.

As a result of the adaptation of life insurance policies to the needs of the public and of the growing wealth of the country, the increase in the amount of life insurance in force has been remarkable. In 1869 the life insurance in force in Canada, by Dominion registered companies, was only $35,680,000 as compared with approximately $9,751,000,000 at the end of 1945. This latter figure was equal to $804·6 per head of population. In addition, there was $240,000,000 of fraternal insurance in force by Dominion licensees and $346,000,000 of insurance in force by provincial licensees. Thus the total life insurance in force in the Dominion at the end of 1945 was approximately $10,337,000,000. The premium income from Canadian business of all Dominion registered companies (not including fraternal benefit societies) increased from $90,000,000 in 1920 to $221,000,000 in 1930, and to $261,000,000 in 1945.



Fire Insurance.—As at Dec. 31, 1945, there were 269 fire insurance companies doing business in Canada under Dominion registration, of which 59 were Canadian, 73 were British, and 137 were foreign companies, whereas in 1875, the first year for which authentic records were collected by the Insurance Department, 27 companies operated in Canada—11 Canadian, 13 British, and 3 United States. The proportionate increase in the number of British and foreign companies from 59 to 78 p.c. of the total number is a very marked point of difference between fire and life insurance in Canada, the latter being carried on very largely by Canadian companies.

The enormous increase since 1869 (the earliest year for which statistics are available) in the fire insurance in force is due, no doubt, partly to the growth of the practice of insurance; but it is also important as an indication of the growth of the value of insurable property in the country, and thus throws light upon the expansion of the national wealth of Canada. By 1880, companies with Dominion licences had fire insurance totalling $411,564,271; by 1900, the one-thousand-million-dollar mark had almost been reached, and by 1930, the total stood at $9,672,997,000. At the end of 1945 besides $15,039,214,791 of fire

insurance in force in companies with Dominion registration, there was also $1,702,180,099 in force in companies with provincial licences, or about $16,741,-394,890 in force in companies, associations, or underwriters registered or licensed to transact business in Canada.

Miscellaneous Insurance.—Miscellaneous insurance now includes among other classes in Canada: accident (including personal accident, public liability and employers' liability); aircraft; automobile; boiler; credit; earthquake; explosion; falling aircraft; forgery; guarantee; hail; inland transportation; live stock; personal property; plate glass; real property; sickness; sprinkler leakage; theft; weather; and windstorm. Whereas, in 1880, 18 companies were licensed for such insurance, in 1945 there were 261 companies, of which 53 were Canadian, 68 British and 140 foreign.

The total net premium income of Dominion-registered companies for 1945 was $69,162,838 and the most important class of miscellaneous insurance, according to the amount of premiums received, was automobile insurance, which has greatly increased during the past decade, although decreases were shown for a few years prior to 1935 and for 1942 and 1943 with an increase in 1944 and in 1945. As recently as 1910, the premium income of companies doing an automobile insurance business was only $80,446; in 1916 it was $909,503 and in 1945 $24,141,208. The premium income of combined accident and sickness insurance came second with $12,619,657; personal property insurance was third with $6,623,904.

The new Bank of Montreal building being constructed at King and Bay Streets, Toronto. This project, halted more than six years as a war measure, has been resumed.

Western Mechanical

Education Science Culture

IN August, 1946, Canada became a member of the United Nations Educational, Scientific and Cultural Organization (UNESCO), after having participated in the constitutional conference of November, 1945, at London, England, and in the ensuing work of the Preparatory Commission. In October the Department of External Affairs convened a meeting of representative persons to advise on the composition of a Canadian delegation to the first annual conference of UNESCO, at Paris, Nov. 19-Dec. 10, 1946. Eight delegates and three advisers were subsequently named.

It is the purpose of the present chapter to provide summary information on the range of activities with which UNESCO is concerned.

Education

Six years of war have left an indelible imprint on Canadian education. War conditions were instrumental in reducing the numbers of qualified teachers and creating shortages of supplies and thus the educational facilities offered to thousands of school children were restricted. War demands also impressed upon Canadians the need for increased emphasis on education generally, but particularly on physical education and health, vocational training and training for Canadian and world citizenship.

Nine educational systems (actually ten, as Quebec has two functionally separate units) have for some time been facing post-war problems with a certain degree of success although many makeshifts have been devised as a matter of expediency. Despite such limitations, however, outstanding changes have been effected in reorganizing school administration and in providing added facilities for rural high schools. Attention is still directed towards obtaining sufficient qualified teachers and adequate revenue to implement proposed changes including the provision of schools and other facilities for pupils who lack interest or ability in the usual academic subjects.

Though generally similar, educational problems vary in detail from province to province. Finance is more of a stumbling-block in some provinces than others; also the securing of teachers, which depends to a great extent on ability to pay and on competition from other occupations, also varies considerably between the provinces. Communication may, in certain sections, present

problems, particularly where roads are not surfaced, where districts are sparsely settled or where snowfall is heavy. Satisfactory solutions to such problems in one province would not necessarily be adequate in another.

School Administration.—There are a number of outstanding trends in school administration. Progress has been made throughout Canada in organizing larger units, associated with which has been the formation of rural high schools. Some of these have been of the new "composite" school type with provision for academic, technical, agricultural and home economics courses.

Prince Edward Island favours organizing the whole Province as an administrative unit and is planning an extension of regional high schools. In Nova Scotia the county unit has been accepted generally and an extensive survey has been conducted with a view to implementing the consolidation of high schools. In the meantime, the number of technical schools is being increased considerably. New Brunswick also follows the county unit plan and four regional high schools have been formed with others to follow.

Quebec has five larger units functioning, four of which are rural, while Ontario has 414 township areas with Township School Boards. Manitoba's first larger unit has been established at Dauphin, and in Saskatchewan 45 of the 60 inspectorates have been formed into larger units. In that Province consideration is being given to the provision of adequate high-school facilities for rural pupils on the composite-school plan. Alberta, the first province to be organized into larger units by Act of legislature, is making progress in centralization within the school division. The implementation of the Cameron Report in British Columbia by Act of Parliament resulted in the reorganization of the entire Province, with the exception of 12 isolated school districts, and reduced the number of administrative units from 650 to 74.

Organization of larger administrative units varies in many ways from province to province. In the Eastern Provinces there has been a tendency to use the municipality as unit, this being an advantage for taxation. In the Prairie Provinces the tendency has been to convert inspectorates into single units. In British Columbia topography was one of the chief considerations in the formation of the new divisions where school population was sufficiently large to ensure the expected advantages.

Elementary and High Schools.—During the school year 1945-46, enrolment in elementary and high schools showed an increase. This was due in part to an increase in the number of beginners and also to pupils returning to high school after absence or remaining there for a longer period than was usual, on the average, during the war years. The more regular attendance reported by several provinces, was the result of stricter enforcement of the attendance Acts.

The scope of services rendered by the Departments of Education has broadened considerably during the past 25 or 30 years. Apart from the former services connected with setting a rather rigid and limited curriculum, paying grants to school boards, inspecting schools, licensing teachers, maintaining a limited school accounting, setting papers and conducting final examinations, and providing visiting school nurses, it is now not unusual to find the Departments dealing with such subjects as: music, art, auxiliary classes, textbook service, health service, agricultural classes, correspondence courses, audio-visual instruction, school architecture and construction. Progress has been made in each of these fields; technical, commercial and agricultural courses at the high-school

The atmosphere of the Canadian schoolroom has undergone a definite change during the past few years. Modern teaching methods place greater emphasis on practical work performed by the pupils themselves. Here public school pupils are working out their own experiments in physics.

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level have shown remarkable increases in popularity; film libraries are found in every province; radio programs are prepared by many Departments either singly or in concert. Art is directed towards developing creativeness and other personality factors as well as towards stressing its practical application in everyday life.

The desire on the part of many progressive administrators and teachers for changes in curricula has been curbed somewhat for a number of reasons. These include the difficulty of obtaining new textbooks; the shortage of qualified teachers and the lack of professional and academic preparation of many of the substitutes; the lack of research facilities and of qualified men free to do research; and also the tremendous amount of work involved in reorganization which it is impossible for those already working to capacity on everyday problems to undertake.

Adult education given in night classes in technical and academic high schools is intended to provide opportunity for leadership training, discussion forums, hobbies and crafts—in fact all types of education for adults not ordinarily provided by schools, colleges and universities. Correspondence courses

72235—17

have been used by school boards in districts where teachers could not be obtained so that the children would benefit somewhat from formal education.

Teachers and Teacher-Training.—When the school term began in the autumn of 1946 there was an acute shortage of qualified teachers in all provinces. The shortage was most apparent in the outlying rural elementary schools although shortages of qualified secondary teachers were also experienced. Provinces able to pay the higher salaries had, of course, the best choice of teachers and were in a position to attract qualified teachers from other provinces. Considerable thought has been given to the problem of maintaining the teacher supply. The Canadian Teachers' Federation has advocated a salary schedule for qualified teachers beginning at $1,500 a year so that a desirable type of young person may be attracted to the teaching profession. Also it has been suggested that the Home and School Association work towards effecting a changed social attitude towards the teacher.

A number of changes have been made recently in teacher-training courses. In Alberta all teacher training has been transferred to the Faculty of Education in the University of Alberta. All education classes count towards a degree in education; an interim teaching certificate will be given after the first year and other certificates after the second year of training. Saskatchewan has supplemented the Normal Schools and Faculty of Education with an undergraduate course leading to a bachelor degree in education. Normal School training will give one year's credit towards this degree. Manitoba is the first province to establish a residential school for the training of all teachers. This Normal School has accommodation for some 400 trainees during the school year and short-term teacher courses will be conducted during the summer months in the same building.

There is considerable co-operation in educational matters between the provinces. It is not unusual for regional meetings to be held in connection with radio broadcasting, health education, authorization of textbooks, etc. The Canadian Educational Association, a voluntary group of leading educationalists across the country effect liaison as between the provinces, sponsor research on a national as well as a limited scale and hold an annual convention. To meet other needs, schools trustees are organized in most of the provinces and send delegates to the Canadian School Trustees' Association. Also teachers are federated in each province and send delegates to the Canadian Teachers' Federation. To round out the picture the Home and School Clubs have a Canadian federation. All of these organizations are formed for the purpose of contributing to the advancement of Canadian education.

Higher Education.—The academic programs and administrative systems of the universities and colleges were subjected to considerable re-orientation in 1945-46 due to the influx of some 30,000 student veterans over and above the normal enrolment of 35,000 undergraduates in the regular session.

Problems of staff, space, equipment and living quarters have been solved on an emergency level only and have taxed the resources of the universities heavily. Congestion at the larger universities has been met by decentralization and expansion into neighbouring communities where the Department of National Defence has made available the training camps vacated by demobilization.

Additional courses have been included in the programs of several institutions to meet regional requirements, and new degree courses have been con-

structed to meet the desires of veterans for training in these subjects. Courses in Journalism are now available at Kings, St. Mary's (Halifax), Université de Montréal (French), Carleton College (Ottawa), University of Western Ontario (London) and Mount Royal College (Calgary). Degree courses in Drama have been organized at the University of Saskatchewan and the University of Western Ontario and accredited courses are available as electives in the University of Alberta. In the fields of social and physical welfare the number of schools has been increased. Training schools for social workers have increased from four to eight; university courses in Nursing from 11 schools to 16. A degree course in Pharmacy has been added to the University of British Columbia curriculum and McGill has added a degree course in Physical and

The formal and casual education received by men and women in the Armed Services brought to many the realization of the importance of education, and it is expected that between forty and ninety thousand ex-service personnel will seek entrance to Canadian universities.

The main reading room of Redpath Library, McGill University, one of Canada's main seats of learning.

An instructor conducting a class in biology.

Art galleries in Canadian cities become children's studios where students from the public schools receive instruction. They work in their chosen medium while master paintings look down from the walls, exerting an unconscious influence.

Health education and a diploma course in Physiotherapy. The University of Ottawa has organized a faculty of Medicine and the pre-clinical course at the University of Saskatchewan is in process of development into a full course in Medicine.

The major problem of providing adequate teaching staffs has been met by tapping every available source for part-time instructors to supplement the work of an increased permanent staff. Business, industry, the professional services, and Government Departments, have been called upon for part-time teachers and lecturers. Qualified veteran students have been permitted to supplement their allowances by staff work. Where feasible, as in the case of the French-language universities, professors and specialized instructors give rotation duty to more than one university with similar or duplicated courses of instruction.

Salary schedules have been revised for permanent staffs. In 1944, the latest year for which complete statistics are available, 39 p.c. of the staffs received more than $4,000 per annum as compared with 35 p.c. in 1939. Current expenditures in 1944 rose $1,500,000 over 1939 expenditures and provincial assistance increased $600,000. These figures are exclusive of capital expenditures.

Adult Education.—More than 96 p.c. of adult Canadians are literate, in the sense of being able to read and write. But there has been increasing recognition in the past few years that mere literacy is not enough, that there must be provision for citizenship education in adult years; and several Provincial Governments have recently established adult education agencies. Some of these operate as a branch of the Department of Education, others as independent boards financed by public money. In other provinces inquiries have been proceeding with a view to comparable developments. The movement is assisted in all provinces by the services of the Canadian Association for Adult Education, and since space here does not permit an adequate review of activities, it is suggested that readers interested in these developments request information from the Association, 119 Isabella St., Toronto.

Summary Statistics of Education in Canada, 1944

Type of School or Course	Institutions	Pupils	Teachers	Expenditure
Provincially Controlled Schools—	No.	No.	No.	$
Ordinary and technical day schools	31,399	1,996,807	75,471	140,294,907
Evening schools	378	75,805	—	
Correspondence courses	11	29,808	—	
Special schools	19	5,059	460	
Normal schools	88	7,523	918	
Privately Controlled Schools—				
Ordinary day schools	782	101,147	5,720	6,900,000
Business training schools	180	30,189	757	
Dominion Indian Schools	340	16,587	551	1,929,082
Universities and Colleges—				
Preparatory courses	56	24,660	1,477	23,590,000
Courses of university standard	159	51,400	5,872	
Other courses at university	22 [1]	36,990	—	
Totals	**33,434**	**2,375,975**	**91,226**	**172,713,989**

[1] Affiliated institutions additional to classical and junior colleges included under institutions of university level.

Public Libraries

The 1942-44 survey of Canadian libraries reports returns from 63 city libraries, some 400 libraries located in the incorporated towns and villages, and about 250 rural and suburban district libraries. The total expenditures of these libraries was just under $2,400,000. Of this amount 52 p.c. was assigned to salaries and wages; 30 p.c. to books and repair; and the balance to other current expenses. There were 1,106,000 registered borrowers. The regional libraries reported just under 300 agencies or branches serving about 50,000 registered borrowers. The book circulation reported for these libraries was 645,000.

According to the survey, 30 p.c. of the personnel of public libraries have had training in library science; the percentage for city libraries is 42. These percentages are based on total personnel, which includes full-time clerical workers and part-time assistants. Exclusive of such workers, about 52 p.c. of the city library staffs are professionally trained librarians. Ten years previously, in 1933, the percentage was 43.

A conference of historic interest in the progress of Canadian libraries was held in June, 1946, when the Canadian Library Association was organized.

This meeting culminated several years of work by librarians in Canada with the aim of promoting the professional status of librarians and the service of libraries in the educational and cultural advancement of the country. Provision was made for the formation of working committees to deal with such subjects as salary schedules, standards of professional service and training, executive responsibilities and international relationships.

Media of Mass Communication

Motion Pictures.—There were 1,323 motion picture houses operating in Canada in 1945 with box office receipts (including amusement taxes) amounting to $69,485,732 for the year, or $5·77 per capita of the population. The average admission price was 25·7 cents, allowing about 22 shows per capita, or more than 30 for those of age to attend.

The non-theatrical use of motion pictures increased greatly during the war years, due in large part to the work of the National Film Board. The average monthly audience for the Board's rural and urban circuits in 1944-45 was 465,000. More recently special attention has been paid to assisting the establishment of volunteer projection services in urban communities. Regional film libraries, of which there are now about 50, are variously operated by Departments of Education, university extension departments, public libraries, Y.M.C.A.'s, etc. The policy of the Film Board is to stimulate the organization and growth of film libraries in various centres in every province.

Of major assistance to the regional libraries and users of films, especially in the matter of obtaining films from outside Canada, is the National Film Society at Ottawa. A new and similar organization in the specialized field of scientific films, the Canadian Scientific Film Association, was formed at Ottawa in September, 1946.

Radio.—The number of radio receiving sets in Canada is probably not far below two million, or about one per six persons in the population. Private receiving licences number about 1,800,000 and many of these cover more than one set. New receiving sets, impossible of purchase during the later war years, have come on the market in considerable number again in 1946. The operation of broadcasting facilities is described at pp. 144-146 of this Handbook.

The Press.—There are nearly 100 daily newspapers published in Canada, counting morning and evening editions separately. The circulation of English-language dailies is reported to be approximately 2,400,000, French-language about 500,000, other languages (Yiddish and Chinese) about 30,000. Foreign-language newspapers are more generally published as weeklies or semi-weeklies; the circulation of these is in excess of 100,000, Ukrainian and German accounting for the largest number.

English and French magazines of general circulation (mainly monthlies) produced in Canada have, by coincidence, a circulation approximating that of the daily newspapers, i.e., nearly 2,500,000 and 500,000, respectively. Canadian publications of this type, however, are largely supplemented by imports from the United States.

Book publishing in Canada increased substantially in importance during the war years, due in large part to the difficulty or impossibility of importing books from Great Britain and France. A considerable export trade in French-language books was developed.

Actors, script editor and producer-director rehearse for a radio drama.

Creative Arts

A development of special interest in the field of the creative arts was the establishment, in December, 1945, of the Canadian Arts Council. The Council grew out of the united action taken by its constituent associations in the spring of 1944, when they presented an integrated series of briefs to the Special Committee of the House of Commons on Reconstruction and Re-establishment. These briefs looked forward to a post-war society in which the arts would be "more widely distributed and more closely integrated with the life of our people". The Council has accordingly taken a very active interest in the development of the Community Centre idea.

The basic situation claimed by the Council is that "in Canada there are millions who have never seen an original work of art, nor attended a symphony concert or a professionally-produced play, while in our largest cities thousands of professional creative artists enjoy a field so limited that they are forced into activities unsuited to their talents". Chief among the proposals for remedying the situation is the establishment of "a government body to promote a national cultural program and provide music, drama, art, and film services for all our people". Other proposals have in view the improvement of industrial design, and housing and town planning.

To list the names of the sixteen bodies constituting the Council is to give some indication of the range of professional organization in the field of the Arts in Canada :—

The Royal Canadian Academy of Arts
The Royal Architectural Institute of Canada
The Sculptors' Society of Canada
The Canadian Society of Painters in Water Colour
The Canadan Society of Painter-Etchers and Engravers
The Canadian Group of Painters
The Canadian Society of Graphic Arts
The Federation of Canadian Artists
The Canadian Authors' Association

The outdoor theatre in Stanley Park, Vancouver, is the scene of many cultural activities. Light operas, musical comedies, dramas and symphony concerts are presented in the evenings and on Saturday afternoons throughout the summer months.

La Société des Ecrivains Canadiens
The Music Committee
The Canadian Society of Landscape Architects and Townplanners
The Dominion Drama Festival
The Canadian Handicrafts Guild
The Canadian Guild of Potters
The Arts and Letters Club

Regional drama and music festivals, significant features of community life in the 1930's, suffered some setbacks during the war years when people had so many other pre-occupations. But the revival is in progress and there promises to be a number of provincial festivals in 1947.

National Gallery.—A greatly enlivened interest in the graphic arts is reflected in the work of the National Gallery. The latest Annual Report of the Gallery shows that it has experienced the most active year in its history, employing several major channels of art education: special and regular exhibitions and lectures at Ottawa; loan exhibitions to other centres; distribution of 163,210 prints (including the large silk-screen reproductions), eight times the number distributed two years previously; broadcasts to schools on Canadian artists, arranged in collaboration with the CBC; lectures and film showings in all parts of the country.

The war years demonstrated in the most forceful manner the importance of scientific research in the life of the modern nation, its necessity in fact for survival. The principal lesson to be learned from these and earlier years has been expressed by one writer, Professor J. B. Brebner, as follows: "Canada needs to detect, train, encourage, and retain every scholar she can find, for they will constitute the principal group who will keep Canada up with a rapidly changing world, who will bring Canadian brains and experience to bear on Canadian problems, and who will pass on to youth and to the nation at large the vital tradition from the past".

There has been considerable evidence of desire to apply the lesson in the past two years. From the employer's standpoint the action of the Dominion Government in establishing in 1946 a Royal Commission on Administrative Classifications in the Public Service may be cited. To attack the problem from the side of training, the National Conference of Canadian Universities established a Committee on Post-Graduate training in 1945. In June, 1946, the Bureau of Technical Personnel in the Department of Labour launched an inquiry, on instructions from a Committee of the Cabinet and with the assistance of an Inter-departmental Advisory Committee, on requirements throughout Canada for professionally trained persons in the next five years.

The Humanities.—A significant development for scholarship in the whole range of humanistic studies has been in process of development since the winter of 1944-45 when the Humanities Research Council of Canada was established. With the aid of a grant from the Rockefeller Foundation, the Council has been conducting a survey of the humanities in Canadian colleges and universities, which is to be published in 1947, and may be expected to suggest lines of policy to strengthen scholarship in language, literature and philosophy.

The Social Sciences.—The Canadian Social Science Research Council in its fifth annual report, describes its policy of grants in aid of research and publication made possible by funds from the Carnegie Corporation and the Rockefeller Foundation, and discusses other means for the promotion of research in social and economic problems.

For a longer period the Canadian Institute of International Affairs has encouraged or made possible the prosecution and publication of scientific studies of a variety considerably wider than its name might imply. The Chairman of the National Executive Committee states in his annual report: "Our paramount job, it seems to me, is to search out the truth wherever it can be found, through the promotion of conferences and study groups; by obtaining expert speakers; by serious and exhaustive reading; and then to spread the knowledge of that truth through the medium of our publications and by whatever means present themselves as being best suited to the attainment of our purpose".

The Natural Sciences.—Previous editions of this Handbook have reviewed the activities of the National Research Council, with which are associated many research workers in Government Departments, universities and industry, and which resulted in the growth of its budget during the war years from less than $1,000,000 to nearly $6,000,000. Of special importance in the matter of

ensuring a continuing supply of trained scientists is the Council's program of scholarships and bursaries, for which there is no counterpart in the fields of the social sciences and humanities. Some 160 scholarships and bursaries were awarded in 1946 of the value of about $120,000 for post-graduate studies at Canadian universities, and seven for studies outside Canada.

The meetings of various technical and professional societies in the past two years have given evidence of increased concern for long-term planning for research. A symposium on *Research in Canada: Planning for the Coming Years,* for instance, was given a central position in the first annual program of the Chemical Institute of Canada, 1945, and attention was directed to the problems of providing for fundamental as well as applied research. These and related common problems have recently brought together in a Canadian Council of Professional Engineers and Scientists the following organizations:—

Agricultural Institute of Canada
American Institute of Electrical Engineers (Canadian District)
Canadian Association of Professional Physicists
Canadian Institute of Mining and Metallurgy
Canadian Institute of Surveying
Canadian Society of Forest Engineers
Chemical Institute of Canada
Dominion Council of Federated Professional Employees
Dominion Council of Professional Engineers
Institute of Radio Engineers (Canadian Council)
Royal Architectural Institute of Canada.

Dancing is an expressive art that knows no national boundaries and the modern ballet is followed with enthusiasm in Canada no less than in other countries. This Canadian group is performing a ballet inspired by the austere and mystic Toccata and Fugue in D Minor by Bach.

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COMPILED AND DRAWN AT THE OFFICE OF THE SURVEYOR GENERAL AND CHIEF HYDROGRAPHIC SERVICE OTTAWA

DISTANCES BETWEEN PRINCIPAL POINTS IN CANADA.*

NOTE.—Generally, the distances given are the shortest by railway.

A knowledge of distances in miles between principal points constitutes very useful information in these days of wide travel, but when an attempt is made to compile such data difficulties are at once encountered. Railway distances are the logical choice, even though road distances are of increasing interest to a vast body of travellers by automobile and are a useful alternative. Railway distances represent usually the shortest practicable land distances between two points and even to-day the bulk of freight and passenger traffic is by rail. Again, distances by air (sometimes called 'bee-line' distances) are only useful in practice to those who travel by air. This is a growing phase of transportation, of course, but has not yet assumed such proportions that its tabulation should displace the more usual one. Again, it is not a difficult matter to estimate air-line distances from a map made to convenient scale, whereas the ordinary reader is not able to obtain railway distances easily.

Even though it be decided to adopt railway distances as most useful, it is necessary to decide whether the most travelled route between two places or the shortest railway route should govern. In the tables given below, the distances between points are the shortest distances by railway and not necessarily the most travelled routes or the routes by which main trains travel. They are compiled principally from the railway time tables. The main table includes the capital of each province and some of the main shipping points chosen principally, but not altogether, by population; the subsidiary tables include distances of local importance. Included in the distances from Charlottetown is the distance from Borden to Cape Tormentine, over which the trains are transported by ferry; similarly, the train ferry distance between Mulgrave and Point Tupper is included in the distance from Halifax to Sydney. In the main table all the distances from Victoria include the distance travelled by boat from Victoria to Vancouver. However, wherever possible, railway distances only are used. In certain distances from Three Rivers and from Quebec it is possible, by the use of ferries, to travel by shorter routes than those given in the tables, the rail route only being taken in these cases.

Where boat routes are given, the best approximation of the distance travelled is used.

The air-line distances used are not necessarily the straight-line distances between points, but are the distances over the routes usually travelled by aeroplanes in good weather.

Place.	Halifax.	Moncton.	Charlottetown.	Saint John.	Fredericton.	Quebec.	Montreal.	Sherbrooke.	Three Rivers.	Ottawa.	Kingston.	Toronto.	Hamilton.	London.	Windsor.	Fort William.	Winnipeg.	Brandon.	Churchill.	Regina.	Saskatoon.	Calgary.	Edmonton.	Vancouver.	Victoria.	Prince Rupert.
Halifax	0	189	239	278	292	662	747	646	740	858	920	1081	1120	1196	1306	1716	2012	2146	2991	2367	2483	2834	2813	3475	3560	3769
Moncton	189	0	126	89	104	473	558	457	551	669	731	892	931	1007	1117	1527	1823	1957	2802	2178	2294	2645	2624	3286	3371	3580
Charlottetown	239	126	0	215	230	600	684	583	677	795	857	1018	1057	1133	1243	1653	1950	2084	2929	2305	2421	2772	2751	3413	3498	3707
Saint John	278	89	215	0	67	426	476	375	503	587	649	810	849	925	1035	1445	1776	1910	2755	2131	2247	2598	2577	3239	3324	3533
Fredericton	292	104	230	67	0	403	454	353	481	565	627	788	827	903	1013	1423	1753	1887	2732	2108	2224	2575	2554	3216	3301	3510
Quebec	662	473	600	426	403	0	169	127	78	280	342	503	542	618	728	1079	1350	1484	2329	1705	1821	2172	2151	2813	2898	3107
Montreal	747	558	684	476	454	169	0	101	95	111	173	334	373	449	559	969	1353	1486	2331	1707	1823	2174	2153	2815	2900	3109
Sherbrooke	646	457	583	375	353	127	101	0	196	212	274	435	474	550	660	1070	1454	1587	2432	1808	1924	2275	2254	2916	3001	3210
Three Rivers	740	551	677	503	481	78	95	196	0	206	268	429	468	544	654	1064	1448	1581	2426	1802	1918	2269	2248	2910	2995	3205
Ottawa	858	669	795	587	565	280	111	212	206	0	112	247	286	362	472	858	1242	1375	2220	1596	1712	2063	2042	2704	2789	2998
Kingston	920	731	857	649	627	342	173	274	268	112	0	161	200	276	386	908	1292	1426	2270	1647	1763	2113	2093	2754	2839	3049
Toronto	1081	892	1018	810	788	503	334	435	429	247	161	0	39	115	225	811	1207	1340	2185	1562	1677	2028	2008	2670	2755	2964
Hamilton	1120	931	1057	849	827	542	373	474	468	286	200	39	0	80	190	850	1246	1379	2224	1601	1716	2067	2047	2709	2794	3003
London	1196	1007	1133	925	903	618	449	550	544	362	276	115	80	0	110	926	1322	1455	2300	1677	1792	2143	2123	2785	2870	3079
Windsor	1306	1117	1243	1035	1013	728	559	660	654	472	386	225	190	110	0	1036	1432	1565	2410	1787	1902	2253	2233	2895	2980	3189
Fort William	1716	1527	1653	1445	1423	1079	969	1070	1064	858	908	811	850	926	1036	0	419	552	1397	774	889	1240	1220	1882	1967	2176
Winnipeg	2012	1823	1950	1776	1753	1350	1353	1454	1448	1242	1292	1207	1246	1322	1432	419	0	133	978	355	470	821	801	1463	1548	1757
Brandon	2146	1957	2084	1910	1887	1484	1486	1587	1581	1375	1426	1340	1379	1455	1565	552	133	0	937	221	384	688	715	1330	1415	1671
Churchill	2991	2802	2929	2755	2732	2329	2331	2432	2426	2220	2270	2185	2224	2300	2410	1397	978	937	0	845	813	1217	1144	1859	1944	2100
Regina	2367	2178	2305	2131	2108	1705	1707	1808	1802	1596	1647	1562	1601	1677	1787	774	355	221	845	0	163	467	493	1108	1193	1449
Saskatoon	2483	2294	2421	2247	2224	1821	1823	1924	1918	1712	1763	1677	1716	1792	1902	889	470	384	813	163	0	404	330	1046	1131	1287
Calgary	2834	2645	2772	2598	2575	2172	2174	2275	2269	2063	2113	2028	2067	2143	2253	1240	821	688	1217	467	404	0	194	642	727	1150
Edmonton	2813	2624	2751	2577	2554	2151	2153	2254	2248	2042	2093	2008	2047	2123	2233	1220	801	715	1144	493	330	194	0	761	846	956
Vancouver	3475	3286	3413	3239	3216	2813	2815	2916	2910	2704	2754	2670	2709	2785	2895	1882	1463	1330	1859	1108	1046	642	761	0	85	1158
Victoria	3560	3371	3498	3324	3301	2898	2900	3001	2995	2789	2839	2755	2794	2870	2980	1967	1548	1415	1944	1193	1131	727	846	85	0	1243
Prince Rupert	3769	3580	3707	3533	3510	3107	3109	3210	3205	2998	3049	2964	3003	3079	3189	2176	1757	1671	2100	1449	1287	1150	956	1158	1243	0

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* Prepared under the direction of F. H. Peters, Surveyor General and Chief, Hydrographic Service, Department of Mines and Resources, Ottawa.

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