

important, these non-financial arrangements should not be used as a substitute for money wages. In addition they should be definite in what they offer; they should be formalized and announced in advance; and they should operate automatically and consistently without any personal bias or prejudice.

In the final analysis, the interests of labour and management are the same

within a large area; in fact, it can perhaps be said that the area of common interests is much larger than the area of diverse interests. So it is that the effective understanding and widespread application of incentives—financial as well as a more explicit regard for the non-financial—will contribute much to the achievement of successful industrial relations in any industry.

The Maritimes: A Vital Region in War and Peace

By A. M. CHIPMAN

DURING the past decade, industry in the Maritime Provinces, as elsewhere, has experienced the test of a national emergency and the difficulties of transition to a peacetime basis. It may be recorded that, after playing a vital part in Canada's war effort, the several groups of industrial enterprises are making a significant contribution to the economy of the region and of the Dominion as a whole.

Maritime plants, in respect to war needs, processed agricultural and fisheries products in major quantities, turned out basic and finished forestry products, manufactured steel, built steel and wooden ships in substantial numbers, produced a wide variety of textile goods and wearing apparel, and manufactured an impressive array of guns, small arms and aircraft. Maritime establishments also repaired and serviced the ships and aircraft so necessary to defence and to the effective transportation of personnel and supplies to Britain and Europe.

With a return to peace, the more traditional of the region's leading industries have again become pre-eminent, and these have continued to operate at high levels of output. Demobilization of war plants and certain recessions in transportation have unfortunately created unemployment which has not been entirely taken

up by expansion in manufacturing and other industries. Post-war developments have nevertheless been significant and encouraging, and opportunities may well exist for still further extensions.

Manufacturing's Leading Position

Manufacturing stands high in importance among the generative industries of the Maritime economy.

According to the Dominion Bureau of Statistics Census, manufacturing provided gainful employment to some 52,300 persons in 1941. These formed some 14 per cent of the 369,000 persons employed at home in gainful occupations, and placed manufacturing second only to agriculture with its 96,000 persons gainfully employed who comprised 26 per cent of the Maritime total. Forestry with 20,200 persons, mining with 18,600 and fishing with about 16,700 followed in order.

Transportation, a semi-generative industry because of the national traffic passing through Maritime ports and over the area's rail system in addition to Maritime traffic as such, actually ranked third in the overall activity classification with 28,500 persons gainfully employed in 1941.

On the basis of gross value of production, manufacturing outranked all other generative industries. In 1939 its gross output totalled \$152,700,000 against forestry at \$51,200,000, agriculture at \$46,600,000, mining at \$32,900,000, and fisheries

at \$19,600,000. As the war progressed the differences between manufacturing's value output and those of the other generative industries widened sharply.

Primary Manufacturing Importance

In its structure, manufacturing in the Maritimes is rather closely related to the extractive industries of agriculture, forestry, fishing and mining as the initial processes of their products. In a number of instances, such as railway rolling stock, castings, and certain other steel products, the utilization of by-products from steel making, and in such fields as wooden ship and boat building, and making of paper from wood pulp, the manufacturing process is carried still further. In general, however, ties between primary manufacturing's output and its utilization in several succeeding stages of processing and fabrication are not as close as in Central Canada. The steel industry is a fair example.

Manufacturing industries based on imported raw materials make up another group. Cotton yarn and cloth, the miscellaneous foods industry, sugar and oil refining, and woollen yarns and cloth to a lesser degree, are prominent in this category. Steel shipbuilding, based between wars on plate brought into the area from other points, cooking and heating apparatus, and boots and shoes can also be included. Factory clothing, sails and awnings, and knit plants derive their raw materials in considerable degree from the primary textile group, and the confectionery industries, of course, from the sugar refineries.

The leading types of manufacturing industries in Nova Scotia and New Brunswick differ widely in raw material usage and products made. In Nova Scotia the steel group of primary and fabricative units, including ship building and chemicals which are related to primary steel production, is pre-eminent, while pulp and paper and sawmilling are outstanding in New Brunswick. Fish curing and packing, though somewhat larger in Nova Scotia,

is highly important in both provinces. The two areas are similar in that a relatively few industries account for a major proportion of the total output, and in that each of these predominating industries have been peculiarly susceptible to seasonal and longer term changes in economic activity.

Table I, presenting comparative data on selected leading industries in 1939 and 1945 for the two Provinces, outlines these characteristics and shows in part the peculiar impact of war development. The table further demonstrates the potential and importance, as of 1945, of the ship building, aircraft, and war-weighted "iron and steel products, n.e.s." industries which suffered severe contractions at the close of the war.

Against this structural background, it is probably quite right to assert that the outbreak of war found not only a rather narrowly based and comparatively un-integrated manufacturing economy but also a level of activity somewhat below the rest of Canada and particularly that of the Central Provinces. Notwithstanding a population about 10 per cent of the Dominion, manufacturing employment formed only 5.1 per cent of that of the nation while the gross value of manufactured output amounted to 4.4 per cent of the Canadian total. As a further fact, the D.B.S. monthly index of employment at 104.4—on the basis 1926 equals 100—was somewhat lower than the Dominion figure of 112.3, and considerably below the employment indexes for either of the Central Provinces.

War Record

Apart from construction, which creates facilities required by economic extensions and replacements, manufacturing and transportation were two of the major segments of the Maritime economy to receive the full expansionary impact of wartime needs. In both of these, the Maritimes contributed magnificently to the war effort.

TABLE I
Selected Principal Maritime Industries, 1939 and 1945
NOVA SCOTIA

	1939		1945	
	Employees	Gross Output (dollars)	Employees	Gross Output (dollars)
Primary Iron and Steel.....	2,252	15,224,000	5,421	24,419,000
Fish Curing and Packing.....	1,944	6,532,000	3,108	27,800,000
Pulp and Paper.....	742	5,523,000	724	5,839,000
Other Leading Industries (a).....	1,266	19,327,000	2,898	34,912,000
Shipbuilding and Repair.....	(b)	(b)	6,349	26,667,000
Sawmills.....	(b)	(b)	2,956	11,395,000
Railway Rolling-Stock.....	(b)	(n)	1,172	10,161,000
TOTALS: Selected Industries.....	6,204	46,606,000	22,628	141,193,000
TOTALS: All Industries.....	17,627	83,140,000	33,432	199,775,000
Percentage: Selected Industries to Total	35%	56%	68%	71%

(a) In 1939 this group included sugar and oil refining, coke and gas, wire and wire goods. In 1945 war-stimulated accessions included cotton yarns and cloth, aircraft, and war-weighted iron and steel products not reported under other headings.

(b) Gross value of output for the three groups was less than \$3,000,000 in 1939; sawmills employed nearly 1,800 workers.

NEW BRUNSWICK

	1939		1945	
	Employees	Gross Output (dollars)	Employees	Gross Output (dollars)
Pulp and Paper.....	2,434	15,631,000	3,272	35,684,000
Sawmills.....	2,404	5,626,000	2,901	14,641,000
Miscellaneous Foods.....	258	4,163,000	407	8,741,000
Fish Curing and Packing.....	953	3,469,000	1,896	11,629,000
Other Leading Industries (a).....	2,358	14,230,000	3,475	25,789,000
Shipbuilding and Repair.....	(b)	(b)	828	7,033,000
Slaughtering and Meat Packing.....	(b)	(b)	3,921	5,169,000
TOTALS: Selected Industries.....	8,407	43,119,000	16,700	108,686,000
TOTALS: All Industries.....	14,501	66,058,000	22,503	156,623,000
Percentage: Selected Industries to Total	58%	65%	74%	70%

(a) In 1939 this group included sugar refineries, railway rolling-stock, and cotton yarn cloth; 1945 additions included silk and artificial silk goods, and veneer and plywood.

(b) Shipbuilding was not included among New Brunswick's leading industries in 1939 reports of the Dominion Bureau of Statistics; output value for slaughtering and meat packing was less than \$2,000,000.

The transportation industry in the area, as in others, was taxed to capacity with material and personnel movements within the area, from the region to Central Canada and from Central Canada to the Maritime ports which were the nation's springboard to Britain and Europe. It is well to remember that these ports were the principal outlets and reception points for our heavy overseas traffic throughout the war years. The importance of transportation facilities geared

to Canada's Atlantic ports is a factor which is to be considered not only on the occasion of a national emergency but also in the light of the continuing national interest.

The significance of the industry in the regional economy is clearly indicated in employment reports. As a result of major expansion in activity for wartime requirements, the total number of workers in transportation reached 26,800 for the three provinces in 1941. Still further in-

creases were in prospect, as the following indexes prepared by the Dominion Bureau of Statistics reveal:

TABLE II
Annual Indexes of Monthly
Employment in Transportation
(1926=100)

	Maritimes	Canada
1939.....	76.1	85.6
1941.....	103.1	98.9
1943.....	154.1	114.4
1945.....	156.0	124.5
1946.....	133.3	128.4
1947.....	133.1	136.9

The shifts in the relationship between the regional and the national indexes should be emphasized. In 1939 the index for the Maritimes was somewhat lower than that for the Dominion as a whole but rose considerably higher during the war. In the two most recent years, there has been a decline in the regional average while successive increases were reported in the Canada index. Further, changes within the region have not been uniform: war-time increases and subsequent lay-offs have quite naturally been concentrated in key centres.

War-Time Production

Maritime manufacturing activity, as in other periods of war or major economic expansion in Canada, responded to the challenge of the all-out national effort by attaining historic peaks in gross value of

output although not in employment¹. As Table III portrays, slightly over 300 additional establishments entered the industry between 1939 and 1945, employes nearly doubled, and gross value of output more than doubled reaching nearly \$368 millions in the last year of the war. Salaries and wages, not shown in the table for reasons of space, rose from \$30,929,000 in 1939 to \$85,970,000 in 1945. Capital invested comprising total business assets increased by nearly \$100 millions to the end of 1943; this sum, however, does not clearly measure the increase in capital invested in plant and equipment, but a calculation from detailed Bureau statistics suggests a figure of about \$29,500,000.

Table III also indicates that, overall Maritime manufacturing just about maintained its pre-war relative position within the national manufacturing economy. Gross value of production as a percentage of the national total dipped from 4.4 per cent in 1939 to a low of 3.9 per cent from which it recovered to 4.5 per cent in 1945. Employment followed a similar course, closing the war also slightly above the 1939 percentage. Capital invested, on the other hand, dropped from 5.4 per cent in 1939 to 4.7 per cent in 1943 as war-induced capital expansion in the rest of Canada moved sharply upward. Salaries and wages as percentages of national totals naturally followed a pattern similar to employment.

1. Dominion Bureau of Statistics, "The Maritime Provinces in Their Relation to the National Economy of Canada," Table 36, pp. 98-100.

TABLE III
Manufacturing Industries of the Maritime Provinces 1939-1946

	Establishments		Capital Invested		Employees		Gross Value of Production	
	No.	Per Cent of Canada	\$ (000)	Per Cent of Canada	No.	Per Cent of Canada	\$ (000)	Per Cent of Canada
1939.....	2,108	8.5%	\$195,808	5.4%	33,216	5.1%	\$152,741	4.4%
1941.....	2,181	8.3%	225,469	4.6%	45,282	4.7%	249,957	4.1%
1943.....	2,370	8.6%	294,533	4.7%	62,222	5.0%	338,975	3.9%
1945.....	2,420	8.3%	(a)	57,777	5.2%	367,991	4.5%
1946.....	2,636	(b)	(a)	54,211	5.1%	360,747	4.5%

(a) Discontinued at end of 1943.

(b) Not available at time of writing.

Industrial Contributors To Major Manufacturing Expansion

While most manufacturing enterprises recorded increases in gross value of output and employment, an examination of Table I indicates that the major contributors to expansion were of two principal types, i.e., the leading traditional industries of the pre-war period, and the specialized new industries, engaged for the most part in supplying goods and services for war-time purposes.

Those comprising the first group included pulp and paper, fish curing and packing, primary iron and steel and its related primary chemicals industries, railway rolling stock, wire and wire goods, cotton and woollen textiles, sawmills, petroleum and sugar refining, etc. Apart from a few industries such as primary iron and steel the substantial increases in employment and output resulted from a more intensive use of existing facilities.

Steel shipbuilding and repairing is, of course, an essentially traditional manufacturing industry to the Maritimes. It was distinguished during the war years, however, not only by its outstanding record of war production but also by a major though temporary increase in productive capacity, which was confined to a few centres.

The new or significantly expanded industries² in the region for the most part included aircraft manufacture and repair, guns and small arms, ammunition components, instruments and communications equipment, and possibly ship plate and veneers and plywoods. Specific figures on their employment and output unfortunately are not readily available but it is evident that they were major industries during the war period. Of these only veneers and plywoods has remained as a valuable addition to the basic materials industries of the region. All of these war industries made a vital contribution to the war effort, created new labour

skills and provided expanded employment and earning power. It is therefore no belittlement of their accomplishments to record that the products of all but the ship plate and veneer and plywood units were not readily convertible to peacetime purposes, and that they did not contribute in general to a diversification of raw or primary processed materials upon which new industries could readily be built.

With the discontinuance of manufacture of war products, the shut-down of the ship plate mill and cutbacks in shipbuilding, the Maritime economy returned in the main to its pre-war dependence upon the primary processing of its raw materials. The war years demonstrated, however, that substantial war production was both possible and effective, and carried the strong indication that further manufacturing based on the area's resources of raw or basic materials, labour and geographical position, or otherwise appropriate to the economy, can be achieved.

Post War Unemployment

The early post war period, of course, was marked by heavy reductions in staff by the war industries and by demobilization of personnel from the Armed Forces. Lay-offs from the war-grown staff of the Maritimes' transportation agencies also occurred though at a slower rate. Heavy unemployment, particularly in the industrial centres of Halifax, New Glasgow, Pictou, Trenton, Sydney, Amherst, Moncton and Saint John therefore resulted. A considerable amount of re-employment subsequently occurred as other manufacturing industries, construction, trade and service establishments restored their war-depleted staffs

Nevertheless it must be noted that substantial unemployment has continued and has been relatively heavier than for the Dominion as a whole. Reports on Canada's labour force³ at June 5th, 1948,

2. Department of Reconstruction & Supply, "Disposal and Peacetime Use of Crown Plant Buildings," p. 28.

3. Dominion Bureau of Statistics, "Canadian Statistical Review," July 1948, p. 15, Table 6.

relatively favourable period for high employment, for example, indicate that about 15,000 of the Maritimes' total labour force of 432,000 were unemployed, a ratio of about 3½ per cent which compares with a national average of almost 1½ per cent. This is an improvement over the situation existing a year earlier when Maritime unemployment amounted to about 5 per cent of its total labour force in comparison with a ratio of about 2 per cent for Canada as a whole.

It is obvious that the higher ratios of unemployment in the region have been due in considerable measure to insufficient compensatory expansion or new growth in Maritime manufacturing as a whole.

Post War Manufacturing Development

Regrettable as unemployment has been and is, the post war manufacturing picture is not without its brighter aspects.

As indicated in Table III a considerable number of new manufacturing units entered production between 1945 and 1946, and the likelihood is that accessions to the industry have continued. A considerable proportion of these probably are relatively small. All, however, are contributing to overall employment and their appearance is evidence of an expansive spirit of enquiry and venture within the region.

Space prevents a detailed tabulation of the individual kinds of manufacturing represented by known new entrants to production, by individuals and firms whose intentions to enter manufacturing have been reported, and by existing firms who have announced expansion plans. They include, however, such lines as pulp and paper, paperboard, furniture, wooden and plywood boats and wood waste products in the forestry group; salt refining, super-phosphates, sulphuric acid and cement, paints, rock wool and brick and tile in the chemicals and non-metallic minerals groups; felt hat bodies, woollen yarn and fabrics, knit goods, clothing and canvas products in the tex-

tile group; pasteurizing equipment, coal loaders, cutlery and edged tools and electric washers in the iron and steel group; a variety of types and sizes in the agricultural and fisheries group; specialized electrical devices; and aircraft repair and possibly assembly.

Among the more notable developments can be cited the major expansion programs by large pulp and paper concerns in Northern New Brunswick, and the reported \$65 million pulp and paper project in the southern part. A \$4 million project for the production of super-phosphates, sulphuric acid and cement from a large anhydrites deposit in the same Province is under development.

A substantial salt refining plant, a factory for the production of felt hat bodies and a plant for the production of a line of electric washers are among the newcomers to the Maritimes. Production rights have been obtained for pasteurizing equipment and mechanical coal loaders.

Recently plans have been announced to establish a cutlery plant, while two British firms propose to start production of specialized electrical devices and the repair and later the assembly of aircraft.

There has also been a recent announcement of a major new development in the fish-processing industry of Nova Scotia. This includes the building of a large fish pier at Louisburg by the Dominion Government, the installation of cold storage units by the Province, and the investment by three companies of at least \$250,000 each in new fresh-frozen processing plants. Employment, it is estimated, will be provided for more than 200 persons.

Heavy Capital Expenditures

To round out the picture, reference may be made to capital investment statistics issued by the Department of Reconstruction and Supply. As an encouragement to industrial expansion "entrepreneurs were given the option of a range of depreciation rates varying between double

and one half of ordinary rates up to 80 percent of the cost of new investment in buildings, machinery and equipment," this option to apply to projects completed between 10 November, 1944, and 31 March, 1949 ⁴.

The national total of capital investment approvals under this measure of national policy totalled \$1,392 millions and included expenditures by mining and woods operating firms and manufacturing by mining and woods operating firms and manufacturing companies. Of this total, \$65 millions, or slightly over 4½ per cent, was represented by the above types of Maritime business. A total of 64 new plants or establishments in the region received approvals for capital investment amounting to \$14 millions, against national totals of 1,174 projects with an estimated cost of \$383 millions.

Unaided by special depreciation allowances, capital investment made further progress in 1947, according to a survey for that year by the same Department ⁵. For both expansion and replacement purposes, capital expenditures on construction and equipment and machinery was estimated at \$24 millions for 1947, against a forecast of about \$24.3 millions for 1948. Comparable Dominion totals for manufacturing amounted to \$513 millions for 1947 and to \$554 millions for 1948.

Expenditures by Maritime manufacturers on equipment—about \$17.9 millions in 1947 and \$18.8 millions in 1948—outranked those on construction. In both categories, the largest outlays by far were reported for the wood and paper product industries, amounting to \$8 millions of the 1947 figure of \$24 millions, and to \$9.2 millions of the \$24.3 total for the following year. Non-metallic mineral products showed an outstanding increase from \$345,000 on estimated actual for 1947 to \$3.3 millions

forecast for 1948. Among the other industry groups, vegetable products, animal products, textiles, and iron and its products ranged downward from \$6.7 millions in 1947 and \$4.0 millions in 1948 to \$1.6 millions and \$1.3 millions, respectively.

Total capital and repair and maintenance expenditures for both construction and equipment were shown at or around \$43 millions in each of the two years.

All of these developments and expenditures, together with modernization programs in various sections of manufacturing, are gratifying evidences of growth and progress. The smaller new businesses, for example, may indicate a widening spirit of enterprise and venture so essential to a dynamic industrial economy, and in the long run so desirable to its health and basic stability. To the extent that they increase overall production and increasingly meet Maritime requirements for products for which the area is now insufficiently supplied, these smaller industries contribute to a desirable decentralization of industry.

The larger ventures such as pulp and paper, fish processing, industrial chemicals, finished secondary iron and steel products, electrical devices, aircraft repair and assembly, and paints, can notably broaden the Maritimes' manufacturing base. Their appearance is psychologically important within the area and their establishment supplies tangible and intangible inducements for other industries to establish related industries or to view more favourably the prospects of successful operation in the area. The establishment of several British plants and the obtaining of production rights for a number of American products provide evidence that manufacturing in appropriate lines is feasible and practical in the area.

There are many potential types of activity in which new growth or expansion can occur. The establishment of decentralized industries to service Mari-

4. "Encouragement of Industrial Expansion in Canada," p. 22.

5. "Private and Public Investment in Canada: Outlook 1947".

time and export markets with products now largely made in other areas of the Dominion is a case in point. Industries based on the region's raw materials are most valuable because of their additional benefits to the primary industries. Specialty manufacturing in which transportation costs do not add disproportionately to overall costs and the processing of raw materials imported by sea for national and export markets and for the Maritimes may well be another sector with real possibilities.

Assistance towards the establishment and expansion of industry in the Maritimes is now available through a number of channels. Private and public research organizations, in collaboration with Federal Government agencies and with Provincial development departments, are making significant contributions in both the technical and practical fields of activity. The various trade associations, as well as individual enterprises with national business contacts, can also play increasingly effective roles in "selling" the advantages of Maritime location to outside firms and in working with Provincial authorities to the same end.

It would appear that industrial development in the region would be facil-

itated by carefully planned expansion in the primary and basic materials sector. Progress in this direction would perhaps stimulate the output of a wider range of products in certain of the older industries, as, for example, in steel, where diversification would be advantageous. At the same time, increased production of selected materials may open up promising avenues for exploration, leading to substantial growth in secondary manufacturing. In this connection, it is possible that today's growing realization of the industrial implications of a modern defence policy—especially the need for dispersal of plants engaged in essential manufacturing—may also contribute to a broadening of the Maritime economy.

Thus, it may be concluded that there is a variety of opportunities to be examined. With a tide-water position, skilled and available labour, quantities of domestic and readily importable raw materials, a wide market to be extended with Newfoundland's entry into Confederation, and a manufacturing industry which can contribute increasingly to the area and to the nation, the Maritime Provinces form a region of significance to the Dominion in peace and of vital importance in times of emergency.

Quebec: Rich Resources For Industry

By MAURICE LAMONTAGNE

ALTHOUGH Quebec's role has always been of decisive importance in the expansion of the Canadian economy, its future contribution to the economic progress of our nation may well be still greater, if its vast natural resources are exploited on a rational basis. This condition is essential, however. Unless the industrial development of the province is conceived according to a well-integrated plan, it will be largely illusory

and will never attain its long-run objectives.

These are precisely the points which will be emphasized in the present article. Because it is impossible to appraise the future without referring to the present and to the recent past, consideration is to be given both to the present stage of economic development and to its probable evolution. Two aspects of the problem will be discussed in particular: the basic economic factors and the nature of the industrial structure.

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