



REPORT

of the

ROYAL COMMISSION ON COASTING TRADE

December 9, 1957

*Appointed by
Order in Council P.C. 1955-308
of the 1st March 1955*

EDMOND CLOUTIER, C.M.G., O.A., D.S.P.
QUEEN'S PRINTER AND CONTROLLER OF STATIONERY
OTTAWA, 1958

ROYAL COMMISSION ON COASTING TRADE

COMMISSIONERS

The Honourable Mr. Justice W. F. Spence, Chairman

W. N. Wickwire, Q.C.

Marcel Belanger, C.A.

G. Gordon McLeod,
Secretary

David W. Mundell, Q.C.,
Senior Counsel

Paul Cimon,
Assistant Secretary

Paul Gerin-Lajoie, D. Phil.,
Counsel

Hubert R. Kemp, M.A.,
Economic Adviser

Ottawa, December 9th, 1957

TO HIS EXCELLENCY
THE GOVERNOR GENERAL IN COUNCIL:

MAY IT PLEASE YOUR EXCELLENCY,

We the Commissioners appointed as a Royal Commission
in accordance with the terms of Order in Council P.C.
1955-308 of First of March 1955, upon certain matters
related to the coasting trade of Canada,

BEG TO SUBMIT TO YOUR EXCELLENCY

THIS REPORT

Wesley F. Hance
Chairman

W. N. Hickman
Member

J. G. McLeod
Secretary

Manuel Bélanger
Member

Acknowledgments

The difficult task which the Commission was called upon to perform would have been well nigh impossible without the most valuable assistance we received from a host of corporations and citizens throughout the nation. One hundred and seventy-three briefs were submitted, many in great detail and reflecting much expert and concentrated research. Over two hundred witnesses in personal testimony expounded these briefs and gave a most impressive volume of expert testimony on every aspect of the inquiry. This most valuable material was basic to our studies and we acknowledge with gratitude the assistance so freely and ably provided.

Moreover we sought assistance from many officials of the Canadian Government and from many citizens both of Canada and of the United Kingdom. Much important and needed information was provided by the members of the Wheat Board and officials of the Department of External Affairs, the Department of Trade and Commerce and the High Commissioners for the United Kingdom and Australia. Mr. Louis Audette, the Chairman of the Canadian Maritime Commission, on many occasions not only provided us with required information in exact and detailed form but assisted the Secretary and the members of the Commission in many discussions where his broad knowledge of the field and long experience proved invaluable. Mr. W. Graham, C.B., M.B.E., Under Secretary of the United Kingdom Ministry of Transport and Civil Aviation, conferred with the Commission and gave much detailed information as to the operation of United Kingdom registered ships in the coasting trade of Canada as well as the United Kingdom's experience under the Transfer Plan.

Mr. R. A. C. Henry gave to the Commission the benefit of his encyclopædic knowledge of the St. Lawrence Seaway and the connecting channels, putting into proper perspective the problems in relation thereto.

Messrs. Milne, Gilmore & German were requested to advise on the general practicability and technical acceptability of vessels described in submissions made to the Commission, particularly on a most relevant and carefully detailed series by the Canada Steamship Lines Limited. This pre-eminent firm of naval architects and marine surveyors made its report to the Commission. We have accepted it as an authoritative exposition of the various factors dealt with and upon it we based many of our most important calculations.

Our understanding of the practical aspect of ship building was aided enormously by the opportunity given, of which we availed ourselves, to inspect many of the shipbuilding plants throughout Canada and confer with the officials and staffs in those plants.

Royal Commission on Coasting Trade

To all of these persons we are most grateful. Their contributions in their particular fields of endeavor were of the greatest value, their indefatigable industry and outstanding ability most praiseworthy. We are however under a very real obligation to our immediate staff. Small in numbers they have been great in long and cheerful labour. We refrain from mentioning all their names but intend this reference to apply to all whether named or not.

Dr. S. Judek and Mr. George M. Schuthe engaged in specialized research for the Commission as did Mrs. A. F. W. Plumptre and Miss Anne Shaw.

Mr. David W. Mundell, Q.C., and Mr. Paul Gerin-Lajoie acted as counsel for the Commission. As can easily be understood the mere organization of the hearings and the examination of the very many witnesses was, in itself, a major task. In addition to that our Counsel proceeded to elicit from witnesses not only a detailed statement of facts and of their opinions but also broad comments on the problems from those qualified to speak. Further, they engaged in much research into the many problems of law with which our deliberations were concerned. Finally they have been of very valuable assistance to the Commission in assembling and marshalling its views.

Mr. Hubert Kemp was loaned to us by the Department of Trade and Commerce as Economic Adviser and continued to perform that duty until he was required to go overseas upon his appointment as Economic Research Consultant to the Government of Ceylon. His ability in research seemed to know no bounds and the stream of information he supplied was constant, voluminous and relevant.

Mr. Paul Cimon, our Assistant Secretary, has from the outset handled all the administrative duties arising in connection with the Commission's work so smoothly we only know by hearsay that the performance of such duties was required.

The basic translation of the report into the French language was done efficiently and expeditiously by the General Translation Division under Mr. Pierre Daviault. Mr. Cimon and Mr. Cyrille Felteau, kindly loaned to us by the Seaway Authority, then undertook the revision of the translation so that it might truly reflect the many technical references both to economics and maritime practice inevitable in such a document. The excellence of the translation is due to their skill and meticulous devotion.

Mr. G. Gordon McLeod was loaned to this Commission by the Department of Transport to act as its Secretary. We had not been concerned with our duties for more than a few days before we realized how fortunate we were. From that day to this Mr. McLeod has performed a task which merely from the point of hard unceasing labour has been unequalled. Moreover he has done so with such penetrating intellect and with such critical and analytical ability that we can only characterize his contribution to this Commission's work as brilliant.

Acknowledgments

The drafting of our report itself was a matter of considerable difficulty and in that task we received the invaluable assistance of both Mr. Mundell and Mr. Gerin-Lajoie as well as the constant day-to-day cooperation and counsel of Mr. McLeod. We welcome our opportunity to express our gratitude to the staff who have rendered such yeoman service.

Table of Contents

Letter of Transmittal	vii
Acknowledgments	ix
CHAPTER I—INTRODUCTION	
1. Terms of Reference	1
2. Background of the Inquiry	2
3. The Commission's Inquiry	5
CHAPTER II—PRESENT LEGISLATION AFFECTING COASTING TRADE AND SHIPBUILDING	
A. Provisions Restricting Coasting Trade	7
B. Relevant Tariff and Tax Provisions	11
C. Regulation of Canadian Coasting Trade	12
I. Regulation of Carriage of Bulk Cargoes	12
II. Regulation of Carriage of General Cargo and Passengers	13
III. Regulation of Special Aspects or Particular Services	14
D. General	15
CHAPTER III—THE CANADIAN COASTING TRADE	
Bulk and Package Freight	18
Cargo and Ballast Movements	19
Cargoes Moved in Coasting Trade	19
Regional Distribution of Coasting Trade	22
Coasting Trade by Nationality of Ships	22
Waterborne Trade Between Canada and the United States	24
The Great Lakes	26
Trade Between the Great Lakes and Eastern Canada	29
Eastern Canada	30
The Pacific Coast	35
Intercoastal Trade	37
Subsidies to Assist Coastal Shipping	38
CHAPTER IV—WATERWAYS OF THE GREAT LAKES AND ST. LAWRENCE RIVER	
A. Present Facilities	39
1. The St. Lawrence Canals	39
2. The Welland Ship Canal	40
Traffic Problems in Welland Canal	41
3. Sault Ste. Marie Canals	44

Royal Commission on Coasting Trade

CHAPTER IV—*Continued*

B. The St. Lawrence Seaway	44
1. Montreal to the Head of Lake St. Francis	45
2. International Rapids	46
3. Thousand Islands	46
4. The Welland Ship Canal	46
5. Additional Works	46
C. Harbours and Port Facilities	47
1. General	47
2. St. Lawrence Ports: Preparation for Seaway Changes	47

CHAPTER V—THE CANADIAN MERCHANT FLEET

A. Early History of the Canadian Shipping Industry	50
B. Vessels Employed in Ocean Trades	52
I. First World War to 1939	52
II. Second World War and After	54
The "Park" Ships	54
The Canadian Maritime Commission	55
The Replacement Plan—Escrow Fund	55
The Transfer Plan	56
Composition of Fleet	58
Nucleus of Shipping	59
C. The Coasting Fleet	60
I. The Great Lakes	61
II. Eastern and Pacific Regions	64

CHAPTER VI—PROSPECTS FOR CANADIAN REGISTERED SHIPPING IN THE COASTING TRADE

A. Introduction	65
B. East Coast, Gulf and St. Lawrence River Below Montreal	68
General Cargo Services	68
Bulk Cargo	69
C. The West Coast	71
D. The Great Lakes	72
I. Introduction	72
II. General Cargo	74
III. Bulk Cargo	76
1. Vessel Size and Design	76
2. Vessel Capacity and Voyage Time	80
3. Costs Per Ton	81

Table of Contents

CHAPTER VI—Continued

4. Return on Investment	87
Profit Before Taxes	87
Profit After Taxes	90
5. Competition for Inland Trades	98
6. Competition for Export Cargoes	100
Grain Exports by General Cargo Liner	100
Grain Exports by Ocean Tramp	101
Summary Respecting Grain Exports	105
E. Summary of Conclusions Respecting Prospects for Canadian Registered Shipping in Coasting Trades	107

CHAPTER VII—PROPOSED RESTRICTION OF COASTING TRADE TO VESSELS REGISTERED IN CANADA

A. Introduction	109
B. The Economics of the Proposed Restriction	112
I. East Coast, Gulf and St. Lawrence River Below Montreal	112
1. Bulk Cargoes	113
2. General Cargo Services	116
3. Canadian Registered Shipping	119
II. The Pacific Coast	120
III. The Great Lakes	120
1. Transportation Costs	120
2. Canadian Registered Shipping on the Seaway	123
C. Availability and Stability of Service	125
D. Cabotage in Other Forms of Transportation	134
E. Governmental Control of Shipping	136
F. National Defence	136
G. Conclusions Respecting Proposed Restriction of Canadian Coasting Trade to Vessels Registered in Canada	139
H. Proposed Treaty with United States Respecting Trans-Boundary Trades	139
I. Retention of Present Restriction on the Coasting Trade	140

CHAPTER VIII—THE SHIPBUILDING AND REPAIRING INDUSTRY IN CANADA

A. History	141
1. Early Days to 1917	141
2. World War I to 1939	142
3. World War II and After	145
B. Government Policy Respecting Shipbuilding	146
Financial Contribution	146
Protection Policies	147

Royal Commission on Coasting Trade

CHAPTER VIII—*Continued*

Canadian Maritime Commission	148
Co-ordination of Government Orders	148
Replacement Plan	149
Canadian Vessel Construction Assistance Act	150
C. Prospects	151
Shipbuilding	151
Ship Repairing and Miscellaneous Production	155

CHAPTER IX—PROPOSED RESTRICTION OF COASTING TRADE TO VESSELS BUILT AND REGISTERED IN CANADA

A. Introduction	157
B. Shipbuilding and National Defence	159
C. The Effects of the Proposed Restriction	161
I. Atlantic Coast and Gulf of St. Lawrence	161
1. Transportation Costs	161
2. Economic Adjustments	165
3. Ship Construction	166
II. The Pacific Coast	167
1. Transportation Costs	167
2. Ship Construction	168
III. The Great Lakes and St. Lawrence River	169
1. Transportation Costs	169
2. Ship Construction	172
D. Alternative Methods of Assisting the Shipbuilding Industry	173
1. The Cost of Restriction	174
2. Subsidized Ship Construction	175
3. Tariffs	176
4. Operating Subsidy to Owners of Canadian-built Ships	176
5. Taxation Devices	177
6. Conclusion	178

CHAPTER X—REGULATION OF CANADIAN COASTING TRADE

A. Present Regulations	179
B. Regulation under Transport Act	180
C. Central Transportation Authority	182

CHAPTER XI—OTHER SUBMISSIONS

New or Improved Port Facilities or Coasting Trade Services	185
Safety Equipment and Qualifications of Officers on Coasting Vessels	187
The Importation of Ships into Canada	188
Allocation of Cargoes	190
Government Loans to Assist Small Ship Construction	190

Table of Contents

CHAPTER XI—*Continued*

Labour Relations	191
Free Ports	192
Tolls and Charges for all Port and Canal Facilities	192
Additional Government Agencies	193
Extension of Existing Regulation	194
Withdrawal of Income Tax Exemption to Non-resident Operators	194
Exemption of Ship Operators from Combines Investigation Act	194

APPENDICES

I—Commission of Appointment and Order in Council P.C. 1955-308	195
II—List of Briefs	200
III—List of Exhibits	206
IV—Hearings of the Royal Commission: Place, Date, and Transcript Reference	230
V—Witnesses, Counsel, and Others Appearing	231
VI—List of Organizations, Briefs, Representatives, Witnesses, and Counsel Appearing	238
VII—Chronological Table of Selected Statutes	251
VIII—British Commonwealth Merchant Shipping Agreement	254
IX—General Plan of Great Lakes and St. Lawrence River	260
X—Canadian Merchant Fleet (Vessels of 1,000 gross tons and over), December 31, 1956. Canadian Maritime Commission	261
XI—Evidence on the Cost of Operating Former Park Vessels (10,000 dead- weight tons) on Canadian and on United Kingdom Registry (from Exhibits 171, 172, 191)	285
XII—Extracts from "Estimated Cost of Operating in the Great Lakes" (Exhibit 248), submitted by the Canadian Shipowners Association	290
XIII—Report to the Royal Commission on Coasting Trade by Messrs. Milne, Gilmore and German	300
XIV—Vessel Earnings After Payment of Corporation Taxes, Canadian versus United Kingdom Tax Liability	323
XV—Cost Differentials in the Export of Wheat After the Seaway Is Completed, Direct Overseas Shipment versus Transshipment at Montreal	344
XVI—Ocean and Lake Freight Rates (Statistical Series for Figures 1 to 6 of Chapter VII)	348
XVII—Bibliography	355

CHAPTER I

Introduction

1. Terms of Reference

Under the terms of reference (Commission of Appointment and Order in Council, printed in full as Appendix I to this report), the Royal Commission is required —

“to inquire into and report upon all questions within the jurisdiction of Parliament, including questions with respect to Part XIII of the Canada Shipping Act, Coasting Trade of Canada, arising out of the transportation by water, or by land and water, of goods and passengers from one place in Canada to another place in Canada, including the Great Lakes, and upon relevant matters which may in the course of the inquiry arise or develop and which, in the opinion of the Commissioners, should be included within the scope of the inquiry and report and, without restricting the generality of the foregoing, the Commissioners shall inquire into and report upon the following matters:

- (a) the relationship of the coasting trade of Canada, including the Great Lakes, to Canadian shipping and ship building, and the effect on such shipping and ship building of the participation in the coasting trade of Canada, including the Great Lakes, of ships or other marine craft registered or built outside of Canada;
- (b) the probable effects of the development of the St. Lawrence Seaway upon the coasting trade of Canada, including the Great Lakes;
- (c) the relationship of the coasting trade of Canada, including the Great Lakes, to the domestic and international trade of Canada and to Canada's external relations; and the effect of the participation in the coasting trade of Canada, including the Great Lakes, by ships or other marine craft registered or built outside of Canada upon the domestic and international trade of Canada and Canada's external relations; and
- (d) the necessity, if any, of establishing different policies and prescribing special conditions with respect to the coasting trade of Canada, including the Great Lakes, applicable to particular parts of Canada.”

An examination of the terms of reference discloses that the coasting trade of Canada should be considered to include the transportation by water, or by land and water, of goods and passengers from one place in Canada to another place in Canada, either directly or by way of a foreign port. It may be noted

that such a definition corresponds to the wording used in the Canada Shipping Act.¹

The coasting trade of Canada (cabotage) thus covers transportation on both salt and fresh water, including the Great Lakes, the St. Lawrence River and other inland waterways, as well as the ocean coasts of Canada. It includes shipping between eastern Canadian ports and Canadian ports on the Pacific through the Panama Canal or by any other route, commonly known as intercoastal trade. It also includes the water component of a movement by land and water originating at one Canadian point and terminating at another Canadian point, even if the water movement itself is not between two Canadian ports.

2. Background of the Inquiry

Ever since the Treaty of Paris in 1763, all British ships (for practical purposes all vessels registered in the Commonwealth) have been permitted to engage in the Canadian coasting trade whether registered in Canada or elsewhere in the Commonwealth. A British vessel built in a country outside the Commonwealth, whether registered in Canada or elsewhere, is subject to a duty of 25% *ad valorem* upon engaging in the coasting trade. The preamble to the instrument appointing the Royal Commission states that "representations have been received respecting the coasting trade of Canada." These representations included requests that the coasting trade be restricted to vessels built and registered in Canada, notably in submissions made to the Government by the Canadian Shipbuilding and Ship Repairing Association, whose members include virtually the entire industry, and by the Dominion Marine Association, whose members include almost all the operators of Canadian registered ships on the Great Lakes, both canallers and lakers.

It is an accepted fact that the cost of operating a vessel on Canadian registry is substantially higher than the cost for a similar vessel on other registries, with the significant exception of United States registry, irrespective of how or at what cost the vessel be acquired. Obviously this is a serious handicap in a business as competitive as shipping. Thus the experience of more than two generations has been that it is not profitable to operate Canadian vessels in the deep-sea trades, except in periods when world freight

¹Section 2 provides:

(13) "coasting trade of Canada" includes the carriage by water of goods or passengers from one port or place in Canada to another port or place in Canada.

Section 671 provides:

(1) No goods shall be transported by water or by land and water, from one place in Canada to another place in Canada, either directly or by way of a foreign port, or for any part of the transportation in any ship other than a British ship.

(2) No ship other than a British ship shall transport passengers from one place in Canada to another place in Canada either directly or by way of a foreign port.

rates are comparatively buoyant. The most recent confirmation has been found in the past few years. After the end of the second world war over two hundred publicly owned cargo vessels were sold to private operators with the requirement that they be maintained on Canadian registry. In 1948 a "replacement plan" was announced which permitted the vessels to be sold for transfer to other registries provided the proceeds were placed in escrow for the building of new tonnage for Canadian registry; the hope was expressed that the plan would enable owners to modernize their fleets with faster and more specialized tonnage and thus remain in a position to meet foreign competition. By 1949 ocean freight earnings had so declined that a general lay-up of the vessels was in prospect. The Government approved a one year programme of operating subsidies for a number of vessels and initiated what came to be called the transfer plan, an inter-governmental arrangement under which owners were permitted to transfer their vessels from Canadian to United Kingdom registry. Many owners made the transfer at once, others subsequently. By the end of 1956 only eleven of such war surplus vessels remained on Canadian registry. Five of them formed part of the Canadian National's West Indies fleet, most of the others being employed at least part of the time in the coasting trade.

Canadian registered shipping has been more successful in the coasting trade. The trade is open on equal terms to all British ships, but in practice the competition comes almost entirely from vessels registered in the United Kingdom, which enjoy an operating cost advantage almost as great as in the ocean trades. Moreover, the competition is not limited to that of vessels managed from overseas. Canadian shipping firms can and do make extensive use of United Kingdom vessels, the common practice being to take them on charter for the shipping season or for an agreed number of seasons. Despite these circumstances, Canadian registered vessels carry virtually all the coasting cargo on the West Coast, the Great Lakes, and the St. Lawrence River above Montreal, and about three-quarters of that on the East Coast and lower St. Lawrence. Of the tonnage carried by United Kingdom vessels in the latter waters (in 1955 about ten per cent of Canada's total coasting trade) a major portion consists of coal, iron ore, ilmenite and other bulk cargoes for which the general purpose type of ocean vessel is well suited.

More than a third of the total tonnage of coasting trade is carried on the Great Lakes and St. Lawrence River. The limitations of the present canals have kept out all ocean vessels except the smaller, less efficient and less common ones and hence have precluded any extensive or effective competition from United Kingdom vessels. It was the prospect of the removal of this natural protection by construction of the St. Lawrence Seaway that prompted the Dominion Marine Association to make in 1954 the submission referred to above. Expressing fear of such competition not only in coasting but in

Royal Commission on Coasting Trade

the inland trades between Canada and the United States, the submission stated that "... Canadian shipowners would be driven from the inland waters of Canada and the shipyards and ancillary services which sustain them would be without business."²

Turning to Canadian shipbuilding, its history during the present century has shown that it cannot compete on a cost basis with that of the United Kingdom and other overseas countries. Quebec and Maritime shipyards had flourished on the building of wooden ships for a world market, but market and industry disappeared together with the advent of iron and steel ships. The coasting trade afforded no better market, except within the Great Lakes, since ships built anywhere in the Commonwealth (chiefly in the United Kingdom, in practice) could be acquired or employed without payment of duty. Shipbuilding was revived and reached considerable proportions to meet the demands of the first world war, only to relapse in the early 1920's. During the second world war it was revived again and achieved the phenomenal output of 791 steel vessels, of which 398 were merchant and the others naval. A high world demand for tonnage kept the Canadian yards active on both export and domestic orders for another three years. By 1949 employment in the yards was falling, but the outbreak of hostilities in Korea brought substantial defence orders, which arrested or reversed the trend for the time being. By the time the Royal Commission was appointed the number employed in shipbuilding was once more decreasing and several wartime yards had ceased to exist.

Shipbuilding within the Great Lakes has been an exception in that it has been able to develop on a peacetime basis. The Canadian yards have had a substantial but not a complete natural protection from United Kingdom competition because of the limitations of the St. Lawrence canals, and they have a cost advantage as well as tariff protection against competitors in the United States. The natural protection does not extend to canallers (lake-type vessels capable of passing through the existing St. Lawrence canals), important units in lakes operations. Many canallers have been built in various Canadian yards, especially since the war, but over the years far more have been built in the United Kingdom. With respect to the larger lakers ("upper lakers") there has been strong competition in the form of over-age United States vessels available at attractive prices. The present Canadian fleet of upper lakers was built up as much or more by such importations as by new construction. This form of competition was brought under control in 1950 by an amendment to the Canada Shipping Act (now Section 22) providing that "a ship built outside of Canada shall not, without the consent of the Minister [of Transport], be registered in Canada". In 1954, however, construction began on the new St. Lawrence canals, with the

²The same argument was advanced in the Association's brief to this Commission.

prospect that the Canadian shipbuilders on the Great Lakes may expect to face the same United Kingdom competition as those elsewhere in Canada.

As early as 1944 the Canadian Shipbuilding and Ship Repairing Association presented to the Government a brief outlining the fears that the industry had for its survival after the war and making proposals for its preservation. Restriction of the coasting trade to vessels built and registered in Canada was one of the proposals. Parliament did not impose the restriction but it adopted a series of measures to assist the industry when orders began to decline. The association having asked "that Canadian shipbuilding and shipping policies be controlled through one government authority", Parliament in 1947 set up the Canadian Maritime Commission "to consider and recommend to the Minister from time to time such policies and measures as it considers necessary for the operation, maintenance, manning and development of a merchant marine and a shipbuilding and ship repairing industry commensurate with Canadian maritime needs". A plan was adopted of co-ordinating all orders for naval work and allocating them among various yards. Orders for naval vessels at the time of the Korean episode were distributed under this plan. The Canadian Vessel Construction Assistance Act of December 1949 allowed a more rapid rate of depreciation on vessels built or conversions carried out in Canada, thereby encouraging the placing of such orders in Canadian shipyards. The enactment in 1950 of what is now Section 22 of the Canada Shipping Act was referred to above; in practice it has had the effect of restricting the importation of ships over five years old into Canada.

This introductory review has attempted to highlight some of the problems of Canadian shipping and shipbuilding and some of the relationships within the coasting trade. Read in the light of these circumstances, and considering the representations that had been made to the Government, the terms of reference indicate that an important reason for ordering the present inquiry was a desire to have a full and public examination of the various consequences that might be expected to follow upon alternative courses with respect to participation in the coasting trade.

3. The Commission's Inquiry

The Commission was appointed on March 1, 1955. Interested parties were invited to submit briefs, by advertisements in a number of Canadian cities and by direct invitation where possible. The original date fixed for submission of briefs, April 30, 1955, was postponed to June 30, 1955, following requests from interested parties. Briefs were received, however, after that date.

The total number of briefs filed with the Commission was 173. These included representations from shipping and shipbuilding interests (including suppliers of materials and components), provincial governments, municipal

Royal Commission on Coasting Trade

authorities, chambers of commerce and boards of trade, trade associations, labour organizations, major Canadian railways, representatives of the agricultural, mining, fishery, pulp and paper, and other industries dependent to a greater or less extent upon water transportation, as well as a wide variety of other interests. A list of all briefs received will be found in Appendix II to this report.

Public hearings of the Commission were held in Ottawa, provincial capitals or other centres where hearings were requested — 17 places in all. The formal hearings occupied 48 days, and the record fills over 6000 pages of transcript with 257 exhibits, listed in Appendix III. A list of places and dates, together with reference to transcript pages relating to each hearing, will be found in Appendix IV. A complete list of some 200 witnesses and counsel who appeared before the Commission will be found in Appendices V and VI.

During the course of these inquiries the Commission inspected major Canadian shipyards, harbours and port facilities from coast to coast, the St. Lawrence Seaway, and the Welland and Sault Ste. Marie Canals, and conferred with experts available in each locality. Valuable technical assistance was received from many outside sources. A large number of additional technical studies were prepared by the staff.

The terms of reference confine the inquiry of the Commission to questions, within the jurisdiction of Parliament, arising out of the coasting trade and to matters relevant thereto. Water transportation in international trade is excluded except in so far as it may have a bearing on coasting trade. Despite the wide scope of the terms of reference, the events leading up to the appointment of the Commission and the arguments before it establish that the basic study has to do with questions which stem from two factors, namely, the participation in the coasting trade of ships registered or built outside of Canada, and the construction of the St. Lawrence Seaway. The findings of the Commission with respect to these questions are set out in Chapters VI to IX of this report.

The many other questions brought to the attention of the Commission are considered in Chapters X and XI. In a substantial number of cases the matters at issue were technical or administrative rather than involving government policy. The Commission has received and considered the briefs and evidence presented on questions of this kind and has taken the view that it should refer them to the specialized governmental agencies concerned.

CHAPTER II

Present Legislation Affecting Coasting Trade and Shipbuilding

A. Provisions Restricting Coasting Trade

Under Part XIII of the Canada Shipping Act¹ only British ships may engage in the coasting trade of Canada. For practical purposes, British ships are ships registered anywhere in the British Commonwealth of Nations.

The restriction of Canadian coasting trade to British ships has its origin in legislation in the United Kingdom enacted long before Confederation². Until 1849 all trade out of ports in the United Kingdom and out of ports in virtually all British overseas possessions, including the North American colonies, whether international or coasting, was restricted under the Navigation Acts to British ships. In 1849 the Navigation Acts were repealed but at the same time new provisions were enacted restricting coasting trade, between ports in the United Kingdom and between ports in the overseas possessions, to British ships. In 1854 the restriction on coasting trade between ports in the United Kingdom was repealed, but the restriction continued to apply to the coasting trade of the overseas possessions, including Canada, subject to a power to make exemptions by Order in Council at Westminster.

When the British North America Act was passed in 1867 the Parliament of Canada was given authority to legislate in relation to "Navigation and Shipping", but by reason of the Colonial Laws Validity Act, 1865, it could not legislate inconsistently with United Kingdom legislation applying to Canada. The United Kingdom laws restricting the coasting trade of Canada to British ships therefore could not at that time be repealed by the Canadian Parliament.

In 1869 the United Kingdom Parliament amended the law dealing with coasting trade in the overseas possessions. The amendment repealed the existing restriction imposed by the United Kingdom legislation, after one year, and empowered the local legislatures in the overseas possessions, including Canada, to make laws on coasting trade subject to approval by the

¹Revised Statutes of Canada, 1952, Chapter 29, Part XIII, Sections 669-673.

²A chronological list of statutes, both United Kingdom and Canadian, affecting the coasting trade of Canada is set out in Appendix VII. The starting point of this list is the repeal of the Navigation Acts of the United Kingdom, in 1849. It is complete thereafter. The statute relevant to any statement made in this Report may be found by reference to the date.

United Kingdom Government and so long as all British ships were treated equally. In 1869 the Canadian Parliament enacted legislation continuing the restriction of the coasting trade of Canada to British ships.

The status of a "British ship" was acquired throughout this period by registration under the Merchant Shipping Acts of the United Kingdom. Ships owned by British subjects or corporations having their principal place of business in the Crown's possessions, whether in the United Kingdom or elsewhere, were eligible for registration under those Acts. After Confederation, the Canadian Parliament enacted several statutes relating to shipping, including provisions for registration of ships in Canada, which were ultimately consolidated in 1906 in the first Canada Shipping Act. The legal effect of this Act was uncertain owing to possible conflict with the United Kingdom Merchant Shipping Acts of 1894 and thereafter. Consideration of it has now become academic.

No change in principle was made in either United Kingdom or Canadian legislation relevant to the coasting trade until after 1931. The 1926 Imperial Conference had recognized the political autonomy of the Dominions. However, much United Kingdom legislation, and particularly shipping laws, applied to the Dominions. The establishment of complete legal autonomy corresponding to the political autonomy recognized in 1926 contemplated that this United Kingdom legislation cease to apply to the Dominions and that they substitute their own legislation for it. A "Conference on the Operation of Dominion Legislation and Merchant Shipping Legislation" between the Governments of the Dominions and the United Kingdom therefore was convened. This Conference reported in 1929 and, among other things, recommended that an agreement be reached between the Governments in the Commonwealth for the maintenance of uniform shipping legislation.

Pursuant to this recommendation, the Governments of the members of the Commonwealth negotiated and entered into "The British Commonwealth Merchant Shipping Agreement" in 1931. The terms of this Agreement, set out in full in Appendix VIII, establish a uniform basis for registration of ships in all countries of the Commonwealth and a common status for all ships so registered as "British ships". Each member of the Commonwealth may regulate its own coasting trade but undertakes to treat all British ships alike. Each member of the Commonwealth may enact its own customs tariff on ships. The Agreement bound each member for five years from December 10, 1931. Any member may thereafter withdraw from the Agreement or from any article thereof on twelve months notice.

The Statute of Westminster, 1931, of the United Kingdom Parliament, enacted to complete the legal autonomy of the Dominions, authorized the Parliament of Canada to repeal any United Kingdom legislation applicable to Canada. It removed the restrictions on the legislative authority of the

Present Legislation Affecting Coasting Trade and Shipbuilding

Parliament of Canada to regulate the coasting trade, including the requirement that all British ships be treated equally.

The Parliament of Canada enacted the Canada Shipping Act, 1934, which came into force in 1936, placing the shipping law of Canada on a wholly Canadian legal basis and giving effect to the terms of the Merchant Shipping Agreement of 1931. Part XIII of this Act continued in operation the previous law relating to coasting trade in Canada. This Part³ now provides that "no goods shall be transported by water or by land and water from one place in Canada to another place in Canada either directly or by way of a foreign port, or for any part of the transportation in any ship other than a British ship . . . No ship other than a British ship shall transport passengers from one place in Canada to another in Canada either directly or by way of a foreign port." No ship other than a British ship may tow any ship, vessel or raft from one place in Canada to another place in Canada, except in case of distress. Penalties are provided for infringement of these provisions.

Non-British ships may be exempted by Order in Council declaring that these prohibitions do not apply, for a specified period, either throughout Canada or in any specified waters in Canada, to specified ships or to ships of specified countries. The provision for exemption was first enacted in 1869, but it then authorized the Governor in Council to exempt only ships of foreign countries who extended reciprocal permission to British ships to engage in their coasting trade. The present provision authorizing the Governor in Council to exempt foreign ships generally was enacted in 1923, after a Royal Commission investigating shipping of grain had found that a combine had existed on the Great Lakes in 1922. The purpose at that time was to permit exemption whenever it appeared that reasonable service was not being furnished at reasonable rates. The power to exempt has been used sparingly to meet emergencies.

Before the union of Newfoundland with Canada on April 1, 1949, the coasting trade of Newfoundland was restricted to British ships. At that time transportation between Newfoundland and Canada was not coasting trade of either country and was free to ships of any nationality. Since the union this trade is coasting trade of Canada and is restricted to British ships.

Part XIII also provides that no "foreign-built British ship", that is a British ship built outside the Commonwealth, is entitled to engage or take part in the coasting trade of Canada unless a licence has been obtained for that purpose from the Minister of National Revenue. The Minister is required to issue the licence upon payment of a duty of 25% *ad valorem* on the fair market value of the vessel's hull, machinery, furniture and appurtenances. Since the granting of a licence is mandatory upon payment

³R.S.C., 1962, c. 29, ss. 669-673.

Royal Commission on Coasting Trade

of the duty, this provision although in form regulative is in reality a customs duty of 25% on foreign-built British ships engaging in the coasting trade.⁴ Its effect is considered later in this chapter together with other customs duties on ships and on repairs and equipment on vessels.

Under the Canada Shipping Act, a ship has the status of a "British ship" if two requirements are met: first as to the persons who may own interests in it, and second as to registration.⁵

Only a British subject, or a corporation incorporated under and subject to the laws of some part of "Her Majesty's dominions" and having its principal place of business in one of those dominions, can own an interest in a British ship. As to individuals, for practical purposes all citizens of any country of the Commonwealth are recognized in Canada as "British subjects".⁶ With respect to corporations, a significant point to note is that so long as a corporation is incorporated and has its place of business in "Her Majesty's dominions", it may own a British ship even though its shares are wholly owned by aliens.

The second requirement for a British ship is registration in some part of "Her Majesty's dominions".

The requirement of incorporation and registration in "Her Majesty's dominions" may raise some question with respect to countries of the Commonwealth that have become republics. In this connection no problem relevant to the coasting trade has been drawn to the attention of the Commission.

In laying down these requirements, the Canada Shipping Act gives effect to the British Commonwealth Merchant Shipping Agreement. By the terms of the Agreement the requirements are uniform throughout the Commonwealth countries so that all ships registered in any of these countries have common status as "British ships". Since only ships owned by qualified persons may be so registered, a sufficient test as to whether a ship is a "British ship" is whether or not it is registered in a country of the Commonwealth.

The practical result of Part XIII of the Canada Shipping Act is to restrict the coasting trade of Canada to Commonwealth registered ships, all of which are equally free to engage in it whether registered in Canada or not. A significant point is that this equality of treatment is required by the terms of the British Commonwealth Merchant Shipping Agreement. To exclude British ships registered outside of this country from its coasting trade, Canada would have to withdraw from Article 11 of the Agreement which provides for the equality of treatment.⁷

⁴This duty is also specified in the Customs Tariff, R.S.C., 1952, c. 60, sch. "A", item 440.

⁵Canada Shipping Act, ss. 6-7.

⁶Canadian Citizenship Act, R.S.C., 1952, c. 33, ss. 21-23, and 44. The Canada Shipping Act applies to citizens of the Republic of Ireland who are not British subjects in like manner as it has effect in relation to British subjects.

⁷See Appendix VIII Article 24.

B. Relevant Tariff and Tax Provisions

Vessels wherever built or registered that enter and leave Canada on international voyages are not considered as imported for customs purposes. Vessels built outside of Canada that are regarded as imported are those which engage in the coasting trade or are brought into the country for some other use in Canadian waters, such as fishing, dredging or pleasure. The terms of reference of the Commission do not require consideration of these uses, being other than coasting trade.

Vessels brought to Canada to engage in the coasting trade, if built in a country of the Commonwealth, are free of duty. If "foreign-built", they are subject to duty which is payable in the form of a licence fee of 25% of the fair market value.⁸

Duty is also imposed on repairs and alterations to vessels. Where a ship that engages in the coasting trade of Canada, whether of Canadian or other Commonwealth registry, has been repaired or altered in a country outside the Commonwealth within the year before her entry into the Canadian coasting trade, a duty of 25% is payable on the value of the repairs or alterations. The duty may be remitted where the repairs could not be made in Canada because of emergency or lack of adequate docking facilities.⁹

Normal duty under the Customs Tariff is payable upon equipment purchased for a vessel in a "foreign" country within the year before its entry into the coasting trade and upon expendable stores purchased outside of Canada and brought into Canada aboard a ship that comes to engage in the coasting trade. The duty on stores may be avoided to the extent that they are surplus if they are warehoused while the vessel is in Canada. When the vessel leaves Canada they may then be released without payment of duty.¹⁰

These provisions afford to Canadian shipbuilders protection by tariff against the import of vessels built outside the Commonwealth to engage in the coasting trade, and repairs done and equipment purchased outside the Commonwealth for vessels in the coasting trade. This tariff however is not an effective protection for Canadian shipbuilders as it admits the products of their chief competitors, i.e. those in the United Kingdom, duty free.

Canadian shipbuilders receive certain relief from customs and sales tax. Where duty has been paid on goods or materials that are used in the construction of a ship a drawback of 99% of the duty is permitted.¹¹ Ships licensed to engage in the Canadian coasting trade and materials used in the construction, equipment and repair of ships are exempt from sales tax.¹²

⁸Canada Shipping Act, ss. 669-670; Customs Tariff, above, sch. "A", item 440.

⁹Customs Act, R.S.C., 1952, c. 58, ss. 54-55.

¹⁰Ship Construction Drawback Regulations, Order in Council P.C. 1954-835, June 3, 1954, Statutory Orders and Regulations, 1955, vol. 1, p. 722, made under s. 273 (k) of the Customs Act, above.

¹¹Excise Tax Act, R.S.C., 1952, c. 100, sch. III, under head "Marine and Fisheries".

Royal Commission on Coasting Trade

Encouragement to Canadian shipbuilders is afforded by the Canadian Vessel Construction Assistance Act.¹² For income tax purposes, the normal annual rate of capital cost allowance for ships is 15% on the reducing balance principle. This Act permits a shipowner to deduct an increased annual capital cost allowance for ships built and major alterations made in Canada. The special annual rate is 33 $\frac{1}{3}$ % of the actual capital cost until the latter has been fully written off. While this relief is given to the shipowner and not the shipbuilder, the effect is to encourage the building and conversion of ships in Canada. The shipowner of course eventually has to pay tax on his income from the operation of the ship but he has the advantage of being able to recover his capital much earlier than he otherwise would. This advantage is discussed more fully in Chapter VI and Appendix XIV. As a further encouragement to Canadian shipbuilders a shipowner who disposes of his ship for a price greater than its depreciated value is not required to bring the difference into his income, as he otherwise would, if he retains the proceeds for the purpose of replacing the ship. Such replacement must be under conditions satisfactory to the Canadian Maritime Commission. In view of the title of the Act the Commission requires construction in Canada.

C. Regulation of Canadian Coasting Trade

The coasting trade of Canada is not subject to overall regulation as to services or charges, although several services are regulated extensively in these respects. In the services that are regulated, a distinction has been drawn between carriage of bulk cargoes and carriage of other cargoes variously described in the trade as "package freight" or "general cargo". Certain passenger services are also regulated.

1. Regulation of Carriage of Bulk Cargoes

Continuing legislation provides for regulation of the carriage of bulk cargoes in the coasting trade in two instances, both limited geographically.

First, the carriage of grain from Fort William and Port Arthur to other ports in Canada or in the United States is subject to regulation as to the maximum rates that may be charged under the Inland Water Freight Rates Act.¹³ Shippers of grain are required to file with the Board of Grain Commissioners for Canada before the grain is loaded a copy of the charter party, bill of lading or contract under which the grain is shipped. The Board of Grain Commissioners is required to tabulate and analyse the tariffs and freight rates and to keep itself informed as to freight rates and availability of cargo space. When in the opinion of the Board the rates which any operator is charging a shipper are unreasonable, excessive or discrimina-

¹²Canadian Vessel Construction Assistance Act, R.S.C., 1952, c. 43 (effective January 1, 1949).

¹³Inland Water Freight Rates Act, R.S.C., 1952, c. 153.

Present Legislation Affecting Coasting Trade and Shipbuilding

tory, the Board is empowered to prescribe maximum rates in an amount that it considers reasonable. At the present time the maximum rate for the carriage of grain from Fort William or Port Arthur to Montreal except for December loadings, is per bushel: wheat 16c, oats 14c, rye 16c and barley 15 $\frac{1}{4}$ c, with appropriately graduated rates for carriage to intermediate points.

The Inland Water Freight Rates Act was enacted in 1923 following the report of the Royal Commission previously mentioned. When first enacted the Act, in addition to authorizing the fixing of maximum rates, also provided that grain carriers should fix and publish a tariff of tolls on the carriage of grain from Fort William or Port Arthur to ports either in Canada or in the United States. Much Canadian grain was previously moved by U.S. ships from Fort William and Port Arthur to Buffalo. These vessels withdrew from the trade as they refused to publish tariffs. The statute was amended in the following year to eliminate the requirement of publishing tariffs in advance, requiring merely that copies of every contract be filed by the Canadian shipper with the Board of Grain Commissioners. The power to fix maximum rates was continued.

Second, under the Transport Act,¹⁴ the carriage of goods in bulk on the Mackenzie River is subject to complete regulation by the Board of Transport Commissioners. The ship operator must obtain a licence to engage in this trade and his rates, tolls, tariffs and services are subject to its direction.

Legislation due to expire May 31, 1958 authorizes the Governor in Council to establish a Transport Controller with power to regulate and control the carriage of goods in bulk for the purpose of ensuring the prompt, efficient and orderly transport by ship or rail. This power does not extend to the regulation of tariffs and tolls. Under existing regulations a Transport Controller has authority to order any person dealing in or with bulk transportation facilities to transport goods in bulk in priority over any other goods in bulk, or other goods. The power was designed to ensure efficient and orderly transportation of the western grain crop. The office of Transport Controller has been vacant since December, 1956.

II. Regulation of Carriage of General Cargo and Passengers

Under the Transport Act, the carriage of general cargo and passengers in the coasting trade of Canada is subject to regulation in the following instances:

- (a) on voyages beginning and ending in the waters of the Great Lakes and St. Lawrence River west of the Island of Orleans; and
- (b) on the Mackenzie River.¹⁵

¹⁴Transport Act, R.S.C., 1952, c. 271, s. 12.

¹⁵Transport Act, above, s. 12.

The carriage of general cargo and passengers in vessels over 500 gross tons (10 tons in the waters of the Mackenzie River watershed) in these areas is subject to extensive control. The carrier must first obtain a licence from the Board of Transport Commissioners to engage in the trade. Before any licence is granted the Board "... shall determine whether public convenience and necessity require the transport, and in so determining the Board may take into consideration, *inter alia* . . ."

(a) Any objection by persons already providing facilities, whether by rail or by water on the proposed routes on the ground that suitable facilities are, or if the licence were issued would be, in excess of requirements;

(b) Whether or not the service would tend to develop the complementary rather than competitive functions of the different forms of transport, if any, involved in any objection;

(c) The general effect on other transportation services or any public interest that may be affected; and

(d) The quality and permanence of the service to be offered and the financial responsibility of the applicant.¹⁰

The Board of Transport Commissioners is required to carry out its duties with the object of co-ordinating and harmonizing the operations of all carriers engaged in transport by railways and ships.

The licence may specify the ports to be served, the services to be provided and the ships to be employed. No ship imported into Canada after 1938, other than a British ship, may be licensed if it is more than ten years old.

When a licence has been granted, the licensee is required to file a standard tariff or tariffs of tolls with the Board for approval. In addition, the carrier may file special tariffs or competitive tariffs. All tariffs are subject to approval by the Board and no tolls may be charged except in accordance with these tariffs. Extensive provisions are made to ensure that the tariffs are fair, reasonable and non-discriminatory.

The carrying of general cargo and passengers between ports on the Pacific Ocean, or between ports on the Atlantic Ocean, by vessels engaged in the intercoastal trade, may also be brought under these provisions of the Transport Act by proclamation of the Governor in Council. At present it is not subject to regulation.

III. Regulation of Special Aspects or Particular Services

There is no restriction, on a basis of nationality, of the persons who may be employed either on Canadian ships or British ships engaged in

¹⁰Transport Act, above, s. 5.

Present Legislation Affecting Coasting Trade and Shipbuilding

the coasting trade except that officers must be properly certificated and only British subjects may be certified under Canadian legislation as qualified officers. A similar restriction applies under the United Kingdom legislation. Certificates obtained under United Kingdom legislation or Canadian legislation are, by reciprocal arrangements, interchangeable. Restrictions are imposed however on persons who may be employed on Canadian ships in the Great Lakes.¹⁷ No person may be so employed unless he has obtained a Seaman's Card from an office of the National Employment Service. The issue of a Seaman's Card is under the direction of the Minister of Labour, who may refuse to issue a card if he is satisfied that the presence of the seaman on board a Canadian ship in the Great Lakes would prejudice the security of Canada.

Where a railway company operates vessels as part of its system connecting any point on its railway with any other part of Canada, such service by ship is subject to the same regulation under the Railway Act as if it were part of the railway. The provisions of the Railway Act relating to tariffs, joint tariffs, tolls and similar matters, apply to this part of the coasting trade of Canada.¹⁸

The Maritime Freight Rates Act,¹⁹ the general effect of which is that the freight rates in the Maritime Provinces are fixed at 20 per cent below the normal rates that might be charged, the cost of the reduction being borne by the Federal Government, also has an effect in the coasting trade in certain instances. The services between Sydney, N.S., and Port aux Basques, Nfld., and between Cape Tormentine, N.B., and Borden, P.E.I., are deemed to be part of the railway service of the Canadian National Railways, and the service between Saint John, N.B., and Digby, N.S., is deemed to be part of the railway service of the C.P.R. The tariffs and tolls charged for this portion of the service are, therefore, subject to the general regulation under the Railway Act and to the reduction required under the Maritime Freight Rates Act.

Finally, certain essential shipping services in the coasting trade of Canada are subsidized by the Government of Canada as the services would not be performed on a normal commercial basis. Where services are subsidized they are subject to requirements imposed by the contracts under which the subsidies are payable.²⁰

D. General

Certain other legislation affecting ships engaging in the Canadian coasting trade and their operation should be noted.

¹⁷Great Lakes Seamen Security Regulations, Order in Council P.C. 1954-262, Statutory Orders and Regulations, 1955, vol. 3, p. 2464, made pursuant to the Navigable Waters Protection Act, R.S.C., 1952, c. 193, as amended by Stat. Can., 1953-54, c. 37.

¹⁸Railway Act, R.S.C., 1952, c. 224, s. 363.

¹⁹Maritime Freight Rates Act, R.S.C. 1952, c. 174.

²⁰Provision for these subsidies is made in the annual Appropriation Acts. The subsidies are administered by the Canadian Maritime Commission.

Royal Commission on Coasting Trade

Extensive provisions of the Canada Shipping Act deal with the manning and equipment of ships. These are however technical matters relating to the safety of the vessels, crews, passengers and cargoes, and, as indicated later, do not appear to require consideration by this Commission in relation to coasting trade or shipbuilding policy. They are therefore not outlined here.

All ships entering or leaving Canadian ports are required to comply with certain customs procedures in reporting their cargoes, stores and other matters. A ship engaged in the coasting trade may be relieved from compliance with these procedures if a licence is obtained for its operation in the coasting trade from the Minister of National Revenue under the Coasting Trade (Customs) Regulations.²¹ If the vessel carries only domestic goods or duty-paid imported goods then the licence may be obtained without any further requirements. If she carries goods that are "in bond" for customs purposes, then, to obtain the licence, a guarantee bond as security for adherence to the customs laws must be posted. A licence is not required but it facilitates operation of the vessel in the coasting trade.

All vessels built in Canada and owned by qualified persons may be registered in Canada. Since 1950, however, Section 22 of the Canada Shipping Act provides that "a ship built outside of Canada shall not, without the consent of the Minister, be registered in Canada". It is understood that the main purpose of the provision was to prevent the overloading of the Canadian Great Lakes fleet with over-age vessels. In practice, the consent is always granted where a ship is less than five years old. Where the ship is older a restrictive policy is followed and very cogent special reasons for the registration are required. Since any British ship can enter the coasting trade, this restriction does not prevent over-age British vessels of non-Canadian registry from doing so. The requirements of other countries of the Commonwealth as to the registration of vessels built outside of their territories depend upon their local laws. In the United Kingdom there is no restriction. Thus vessels built outside of Canada, even though not registerable in Canada owing to age, may be registered in other parts of the Commonwealth and may thereafter engage in the Canadian coasting trade. If built in some country of the Commonwealth they may do so without restriction. If built outside the Commonwealth they may do so upon payment of the 25% duty on foreign-built British ships.

Income earned by a non-resident through the operation of ships in the Canadian coasting trade is exempt from Canadian income taxes if the country in which the person resides extends a reciprocal exemption to Canadian residents operating ships in that country.²² This provision was introduced

²¹Order in Council P.C. 1955-222, February 17, 19, Statutory Orders and Regulations, 1955, vol. 1, p. 766, made under authority of the Customs Act, above, ss. 287 and 273.

²²The Income Tax Act, R.S.C., 1952, c. 148, s. 19(1)(c); United Kingdom convention approved by Stat. Can., 1946, c. 38; United States convention approved by Stat. Can., 1950, c. 27.

Present Legislation Affecting Coasting Trade and Shipbuilding

in 1928 as a result of an exchange of notes between Canada and the United States providing for such reciprocal exemptions as part of a general scheme for the avoidance of double taxation. It now applies to the United Kingdom and several other countries with which Canada has agreements for the avoidance of double taxation. One valuable effect of this provision is that Canadian ship operators on the Great Lakes can engage in international trade to and from United States ports without incurring any liability for United States income tax. On the other hand it also permits United Kingdom ship operators to engage in the coasting trade of Canada without incurring Canadian income tax liability.

The tolls to be charged for the use of canals in Canada or in the United States forming part of the St. Lawrence Seaway may well affect coasting trade in the St. Lawrence River and Great Lakes area. Since 1903 no tolls (as distinct from charges for some services) have been exacted by either the Canadian or United States Governments for passage through canals on the St. Lawrence or Great Lakes in their respective territories. Both Governments however, now have provided for charging tolls for the use of the canals that will form part of the Seaway. In Canada the administration of the Seaway is placed under the St. Lawrence Seaway Authority by the St. Lawrence Seaway Authority Act in which extensive provisions are made to regulate the tolls.²³ Corresponding legislation has been enacted in the United States.

Finally, provisions of the Combines Investigation Act and the Criminal Code prohibit combinations or conferences amongst ship owners in the coasting trade such as are common in international shipping. By the Combines Investigation Act it is an offence to form a combination having or designed to have the effect of limiting facilities for transporting, or fixing a common cost of transportation, or enhancing the price of transportation, or preventing or lessening competition in transportation, to the detriment of the public interest. By the Criminal Code it is an offence to agree to limit unduly the facilities for transporting articles that are the subject of trade and commerce or to prevent or lessen unduly competition in the transportation of such articles.²⁴

²³St. Lawrence Seaway Authority Act, R.S.C., 1952, c. 242.

²⁴Combines Investigation Act, R.S.C., 1952, c. 314; Criminal Code, Stat. Can., 1953-54, c. 51, s. 411.

CHAPTER III

The Canadian Coasting Trade

Waterborne transportation is the cheapest and in some cases the only practicable means of carrying a wide variety of goods from one place to another in Canada. Passengers are also carried in the coasting trade, but cargo movement predominates in the amount of shipping space utilized and the revenue derived. Hence the emphasis of the present chapter is on cargo movements.

Bulk and Package Freight

About nine-tenths of the tonnage of cargo in the coasting trade consists of bulk commodities of relatively low value in proportion to volume or weight, and for which low-cost transportation is of the greatest economic importance to Canada. The remaining one-tenth includes a wide variety of miscellaneous goods of varying size, weight and composition, of higher unit value than most bulk commodities; these are commonly termed "general cargo", or in the Great Lakes trade "package freight". In the case of bulk cargoes, an entire shipload of a single commodity may be transported on behalf of a shipper from one loading port to one discharging port. On the other hand general cargo comprises a large number of individual shipments and may be loaded and discharged at various ports on the vessel's pre-arranged itinerary.

The different crafts engaging in the coasting trade are almost as varied in appearance and functional characteristics as the kinds of cargo they carry. There are passenger liners and bulk freighters, some of the latter with a cargo capacity greater than that of most ocean-going cargo ships. There are specialized vessels for carrying coal, cement, or petroleum. There are barges and rectangular scows, dependent on tug boats for propulsion. The cargo may itself form the vessel, as in the case of log rafts assembled for towing on the British Columbia coast. The vessel designed to carry general cargo usually has more decks and more elaborate cargo-handling equipment than the bulk carrier, and may also be fitted to accommodate passengers. While the special design features of coasting vessels represent adaptations to the requirements of particular trades, they also impose limitations on the flexibility of employment in operations other than those for which the vessels were intended.

Cargo and Ballast Movements

The optimum utilization of the cargo capacity of ships would be realized only if there were a balance of outgoing and returning cargoes on the routes on which the ships are engaged. Such a balance is seldom achieved. On the Great Lakes, where the eastward movement of grain is the predominating feature of the coasting trade, ships generally leave the lakehead ports fully loaded and return in ballast. Even when operations in the coasting trade are integrated with voyages to United States ports, downbound cargoes of grain and ore considerably outbalance upbound cargoes of coal and pulpwood.

A sampling survey conducted for the Commission showed that in June 1956 more than 40% of the distance travelled by 28 Canadian upper lake bulk freighters represented voyages in ballast from ports where cargo had been discharged to ports where the next cargo was to be loaded. Until iron ore from Quebec and Labrador became available for shipment from Contrecoeur to ports on the Great Lakes, the small bulk freighters operating through the St. Lawrence Canals experienced a similar lack of balance between downbound cargoes, consisting chiefly of Canadian grain and United States coal, and upbound cargoes usually of pulpwood or newsprint. The transshipment at Contrecoeur of iron ore from Sept-Iles has now augmented the upbound cargo tonnage. A study of the operations of 20 canal-type bulk freighters, selected at random, showed that during June 1956 less than 20% of the distance travelled by these vessels represented trips in ballast.

On the Pacific Coast, the uneven utilization of cargo capacity is especially apparent in towing operations, where scows and barges used in the bulk carrying trades generally are towed back light after discharging their cargoes. However, a major economy of this form of water transportation lies in the fact that the tug which provides motive power is not permanently attached to its cargo space, which is provided by one or more scows or barges. A single tug can therefore service a number of scows or barges in turn, dropping some of them off where required to be loaded or unloaded, taking others in tow, and spending more of its time in profitable employment than would be possible if motive power and cargo space formed parts of a single vessel.

Cargoes Moved in Coasting Trade

No official statistics of Canadian coasting trade cargoes are available for the period before 1952. From 1952 onwards, the Dominion Bureau of Statistics has compiled data which are presented in the annual *Shipping Report*. The total tonnage however has never been precisely determined as only data from ports at which there is a customs official are reported,

TABLE I
Estimated Tonnage of Coasting Trade Cargo Showing the Major Commodities
Transported in 1952, 1953, 1954 and 1955¹

	1952		1953		1954		1955	
	Thousand Short Tons	%	Thousand Short Tons	%	Thousand Short Tons	%	Thousand Short Tons	%
Grain	12,779	36.1	12,934	34.1	10,324	31.9	10,019	27.5
Petroleum Oils and Products	8,792	24.9	9,082	23.9	6,411	19.8	7,177	19.7
Pulpwood	2,734	7.7	2,766	7.3	3,344	10.3	4,079	11.2
Coal and Coke	1,999	5.6	2,241	5.9	2,399	7.4	2,101	5.8
Logs and Piling	1,337	3.8	1,554	4.1	1,382	4.3	1,699	4.7
Sand, Gravel and Stone	1,157	3.3	1,248	3.3	1,166	3.6	1,238	3.4
Iron Ore	887	2.5	1,125	3.0	794	2.5	2,263	6.2
Cement	546	1.5	650	1.7	621	1.9	765	2.1
Limestone	435	1.2	414	1.1	375	1.2	341	0.9
Metallic Ores (except iron ore)	342	1.0	365	1.0	393	1.2	483	1.3
Hogged Fuel	332	0.9	615	1.6	629	2.0	707	1.9
Newsprint and Paper	267	0.8	250	0.7	236	0.7	242	0.7
Gypsum	216	0.6	233	0.6	310	1.0	315	0.9
Lumber	163	0.5	185	0.5	140	0.4	381	1.0
All other Cargo	3,375	9.6	4,248	11.2	3,822	11.8	4,637	12.7
Total	35,361	100.0	37,910	100.0	32,346	100.0	36,447	100.0

¹This table has been derived primarily from statistical data presented in Section III of the *Shipping Report* for the given years. The Dominion Bureau of Statistics prefaces Section III with the following qualification: "The totals are incomplete . . . as the data are received only from Canadian ports at which there is a collector of customs and excise. The shipping activity carried on at the numerous small ports across the country which do not have a resident customs collector is not available and therefore the totals are understated to this extent. This also results in a difference between the total amounts of cargo loaded and unloaded." To cite examples, in 1954 more than 300,000 tons of limestone, unreported as cargo loaded, were shown as unloaded at Sydney, N.S.; and more than 500,000 tons of pulpwood and pulpwood chips were shown as loaded at Vancouver in the coasting trade although only a fraction of this amount was reported as subsequently unloaded at British Columbia ports.

It is assumed for practical purposes that in the coasting trade cargo tonnage loaded will equal cargo tonnage unloaded. The commodity tonnages shown are basically the greater of those indicated in Table II (cargoes loaded) and Table XII (cargoes unloaded) of the *Shipping Report*. No attempt has been made to account for cargo losses in transit or cargoes which are en route at the beginning and at the end of the calendar year (e.g., wheat stored afloat during the winter). In addition, the tonnage of Alberta crude oil shown in Table IV of Section I of the *Shipping Report* has been incorporated with "Petroleum Oils and Products" as being a part of coasting trade by definition. Those cargoes which are both loaded and discharged at non-reporting ports and for which no reliable data have been collected are necessarily omitted.

A certain amount of coasting trade cargo is transhipped on the way to its destination, and in such cases is counted separately in each of the carrying vessels, with some resulting duplication of reported traffic. Wheat, for instance, may be loaded into an east-bound upper lakes bulk freighter at Fort William, unloaded at Port Colborne, and subsequently loaded again into canal-type vessels to be discharged at Montreal. Statistically, the wheat is counted each time it is loaded. Such duplication will be avoided if, following the completion of the Seaway, wheat thereafter moves without transhipment from the head of the Lakes to Montreal or below.

Statistics of waterborne traffic are not available on a ton-mile basis.

TABLE II
Regional Distribution of the Coasting Trade, Showing the Major Commodities Transported in 1952, 1953, 1954 and 1955.¹
(Million short tons)

	1952					1953					1954					1955				
	Great Lakes	Between Gt. Lakes and E. Canada	Eastern Canada	Pacific Coast	Total	Great Lakes	Between Gt. Lakes and E. Canada	Eastern Canada	Pacific Coast	Total	Great Lakes	Between Gt. Lakes and E. Canada	Eastern Canada	Pacific Coast	Total	Great Lakes	Between Gt. Lakes and E. Canada	Eastern Canada	Pacific Coast	Total
Grain	9.2	3.6	—	—	12.8	8.8	4.1	—	—	12.9	6.3	4.0	—	—	10.3	6.4	3.6	—	—	10.0
Petroleum Oils and Products	4.6	1.5	2.1	0.6	8.8	4.9	1.1	2.5	0.6	9.1	2.1	1.0	2.5	0.8	6.4	2.3	1.4	2.6	0.9	7.2
Pulpwood	0.2	0.2	2.0	0.3	2.7	0.2	0.2	2.1	0.3	2.8	0.2	0.2	2.4	0.5	3.3	0.2	0.2	3.0	0.7	4.1
Coal and Coke	—	—	1.8	0.2	2.0	—	—	2.0	0.2	2.2	—	—	2.3	0.1	2.4	—	—	2.0	0.1	2.1
Logs and Piling	—	—	—	1.3	1.3	—	—	—	1.6	1.6	—	—	—	1.4	1.4	—	—	—	1.7	1.7
Sand, Gravel, Stone	0.7	—	—	0.5	1.2	0.5	—	—	0.7	1.2	0.6	—	—	0.6	1.2	0.5	—	—	0.7	1.2
Iron Ore	0.2	—	0.7	—	0.9	0.3	—	0.8	—	1.1	0.2	—	0.6	—	0.8	0.1	0.4	1.8	—	2.3
Cement	0.1	—	0.2	0.2	0.5	0.2	—	0.1	0.3	0.6	0.2	—	0.2	0.2	0.6	0.2	—	0.2	0.4	0.8
Limestone	—	—	0.4	—	0.4	—	—	0.3	0.1	0.4	—	—	0.3	0.1	0.4	—	—	0.3	—	0.3
Metallic Ores (other than iron ore)	—	—	0.2	0.1	0.3	—	—	0.3	0.1	0.4	—	—	0.3	0.1	0.4	—	—	0.4	0.1	0.5
Hogged Fuel	—	—	—	0.3	0.3	—	—	—	0.6	0.6	—	—	—	0.6	0.6	—	—	—	0.7	0.7
Newsprint and Paper	—	—	—	0.3	0.3	—	—	—	0.3	0.3	—	—	—	0.2	0.2	—	—	—	0.2	0.2
Gypsum	—	—	0.2	—	0.2	—	—	0.2	—	0.2	—	—	0.3	—	0.3	—	—	0.3	—	0.3
Lumber	—	—	0.1	0.1	0.2	—	—	0.1	0.1	0.2	—	—	0.1	0.1	0.2	—	—	0.2	0.2	0.4
All Other Cargo	0.6	0.6	1.1	1.1	3.4	0.5	0.7	1.4	1.7	4.3	0.5	0.7	1.2	1.4	3.8	0.6	1.2	1.2	1.6	4.6
Total	15.6	5.9	8.8	5.0	35.3	15.4	6.1	9.8	6.6	37.9	10.1	5.9	10.2	6.1	32.3	10.3	6.8	12.0	7.3	36.4

¹Table II has been derived primarily from statistical data presented in the *Shipping Report* and *Canal Statistics*, prepared by the Dominion Bureau of Statistics. An explanation of the statistical adjustments is given in the footnote to Table I above.

Royal Commission on Coasting Trade

and consequently the Bureau's compilation omits a significant amount of coasting trade activity. A reasonable estimate of coasting trade cargoes is presented in Table I on page 20, based on data published by the Dominion Bureau of Statistics (DBS). The table shows the major commodities carried as coasting trade cargoes from 1952 to 1955 inclusive, together with the tonnage and the percentage of the total tonnage. The method of derivation is indicated in the footnote to that table.

Regional Distribution of Coasting Trade

The regional distribution of the coasting trade in terms of commodity tonnages is shown in Table II for 1952 to 1955 inclusive. The average for the four years was 35.5 million short tons. Of this total, 36.1% was carried within the region between the head of the Lakes and a point immediately west of Montreal (all of which region is briefly referred to in Table II as "the Great Lakes"), 28.7% within the region extending from the Atlantic Coast to and including Montreal (all of which region is referred to in Table II as "Eastern Canada"), 17.6% between these two regions, and 17.6% between Pacific Coast points. A negligible amount was carried on coastal voyages through the Panama Canal. Statistics have not been compiled to permit comparisons on other bases, such as the ton-miles of cargo carriage or the amount of revenue earned thereby.

Coasting Trade by Nationality of Ships

Before discussing further the regional distribution of coasting trade in Canada, it is important to know the nationality of the ships taking part in it and the extent of their participation. Table III presents this breakdown of the total tonnages from Table I. Although the *Shipping Reports* give the amount carried by vessels of various registry, the Commission has used figures prepared by the Canadian Maritime Commission which had access to more extensive information than that available to the Dominion Bureau of Statistics prior to 1957.

TABLE III
Canadian Coasting Trade by Nationality of Ships 1952 to 1955¹

Vessels	1952		1953		1954		1955	
	Thousand Short Tons	%	Thousand Short Tons	%	Thousand Short Tons	%	Thousand Short Tons	%
Canadian	33,637	95.1	36,136	95.4	30,061	93.0	32,931	90.4
Commonwealth other than Canadian	943	2.7	1,755	4.6	2,278	7.0	3,460	9.5
Foreign other than Commonwealth	781	2.2	19	—	7	—	56	0.1
All vessels	35,361	100	37,910	100	32,346	100	36,447	100

¹Based on Table I and on information obtained from the Canadian Maritime Commission.

Table III shows that the part taken by foreign ships was negligible, hence suspensions of the coasting law are not a major consideration. On the other hand the part taken by non-Canadian Commonwealth ships (coming mainly from United Kingdom) represented nearly 10% of the total tonnage moved in the coasting trade during 1955. Moreover the part taken by these ships increased from year to year, from 2.7% in 1952 to 9.5% in 1955. This percentage jumped to about 14% in 1956, the non-Canadian Commonwealth ships having moved 5.8 million tons.¹ The very sharp increase from 1955 to 1956 is mainly due to the heavier shipments of iron ore from Sept-Iles to Contrecoeur. It must be noted that after the opening of the Seaway these shipments of ore will become international.

The part taken by United Kingdom ships in Canadian coasting trade was confined almost exclusively to Eastern Canada. Within the Great Lakes and Pacific areas it was practically non-existent, and between the Great Lakes and Eastern Canada it was very small, being almost exclusively limited to the moving of general cargo to and from Newfoundland. In Eastern Canada, as indicated in Table IV below, the part taken by British ships in the coasting trade increased from 10% in 1952 to 28% in 1955. For 1956 it is estimated that the figure will be about 40%.¹ The trades in which United Kingdom vessels are major participants are coal, iron ore, ilmenite, gypsum and general cargo.

TABLE IV
Participation of Non-Canadian Commonwealth Vessels in the Coasting Trade
of Eastern Canada, 1952 to 1955¹

Year	Total Coasting Trade Tonnage in Eastern Canada	Tonnage Carried by Commonwealth Vessels other than Canadian	Proportion of Total
	(million short tons)		%
1952	8.8	0.9	10
1953	9.8	1.7	17
1954	10.2	2.2	22
1955	12.0	3.4	28

¹Based on Table II and on information obtained from the Canadian Maritime Commission.

Comparisons might be found more meaningful if cargo statistics were available on a ton-mile basis, to give weight to the distance cargoes were carried, or if data were to be had on vessel earnings by nationality. Lacking such information, another comparison may be made in terms of the tonnage of United Kingdom vessels in the coasting trade as compared with that of ships on Canadian registry. The Canadian Maritime Commission

¹Based on estimates, as the official figures on the volume of coasting trade for 1956 are not yet available.

Royal Commission on Coasting Trade

has provided a list of non-Canadian vessels engaged in the coasting trade during 1955. The Commonwealth vessels of over 1,000 gross registered tons were all registered in the United Kingdom and numbered 44, aggregating 210,602 gross registered tons, including some vessels that served partly in international trade as well. The Atlantic Coast fleet on Canadian registry at the end of that year numbered 37 vessels of 106,698 gross registered tons, to which may be added 4 vessels of 24,386 gross registered tons classed as ocean-going but employed mostly in the coasting trade, to make a total of 41 vessels of 131,084 gross registered tons.² Thus, out of 348,926 gross tons of shipping largely employed in the coasting trade of Eastern Canada, about 62% was registered in the United Kingdom.

This latter comparison is admittedly a very rough measure of the participation of U.K. ships in the coasting trade. The much greater U.K. tonnage is doubtless due in large part to the fact that many of these vessels were employed in the coasting trade for only a comparatively brief part of the season, in some cases only a voyage or two. The two comparisons together, however, show the extensive use of United Kingdom vessels.

Waterborne Trade Between Canada and the United States

Canadian registered ships find a considerable employment in trade with the United States. In 1955 the total of this waterborne trade was 44.9 million tons, as shown in Table V below. (The coverage may be accepted as complete, as the trade is international and must be reported to a Customs Officer.) According to the *DBS Shipping Reports*, from which the data are taken, ships of Canadian registry carried 24.5 million tons or 54.7%.

The amount of transborder trade varied greatly between the four regions, the largest part being the 26.1 million tons carried within the Great Lakes, of which Canadian ships carried 19.4 million tons or 74.3%. In this area, it is important to note that the advantage of Canadian ships in competition with United States vessels for transborder trade brought the Canadian operators a much larger quantity of cargo than did their almost exclusive enjoyment of coasting trade—19.4 million tons of international trade as against the 10.3 million tons of coasting trade shown in Table II. Thus the international trade provided 65% of the cargoes carried by Canadian ships within the Great Lakes.

The transborder trade between the Great Lakes and the eastern region consists chiefly of iron ore, pulpwood, pulp and paper moving upbound and coal moving downbound. The volume is small at present compared to that within the Lakes, but it is growing rapidly and is expected to become much greater when the St. Lawrence Seaway is completed. Canadian ships

²From *Canadian Merchant Fleet*, December 31, 1955, a periodic bulletin issued by the Canadian Maritime Commission.

TABLE V
Waterborne Trade between Canada and U.S.A., 1955¹
(Thousand short tons)

Trade Movement	Cargo Tonnage by Country of Vessel Registry									
	Canada		U.K.		U.S.A.		Others		Total	
	Tonnage	%	Tonnage	%	Tonnage	%	Tonnage	%	Tonnage	%
Within the Great Lakes	19,382	74.3	1	—	6,712	25.7	1	—	26,096	100
Between Great Lakes and Eastern Region (including Gulf of Mexico)	3,225	88.4	17	0.5	386	10.5	22	0.6	3,650	100
Eastern Regions (including Gulf of Mexico)	516	4.5	996	8.6	3,758	32.5	6,292	54.4	11,562	100
Pacific Coast	1,403	39.5	83	2.3	1,267	35.7	801	22.5	3,554	100
Total	24,526	54.7	1,097	2.5	12,123	27.0	7,116	15.8	44,862	100

¹From *Shipping Report*, 1955, DBS.

Royal Commission on Coasting Trade

in 1955 carried 3.2 million tons, or 88.4%. This traffic was responsible for 32% of their business in these waters.

Within eastern waters, Canadian registered ships carried very little of the substantial transborder trade. The bulk of this international trade is carried by sea-going vessels under the flags of the United Kingdom (most of them chartered to Canadian interests), the United States and other maritime countries.

On the Pacific Coast Canadian vessels obtained 84% of their cargo from the coasting trade, in which they have very little competition from other Commonwealth shipping. The transborder trade of this region is comparatively small and there is stiff competition from vessels of United States and other registries, which collectively carried in 1955 almost 60% of the cargo.

The Great Lakes

Now that the main characteristics of the Canadian coasting trade have been indicated, it is appropriate to describe briefly the nature of the coasting trade in the different regions, and the ships carrying it. It will also be in order to remark on the role of the related transborder trades which provide important employment for many Canadian shipping concerns and contribute to the economy of their operations as a whole.

The waters of the Great Lakes as far east as Prescott have in the past become the almost exclusive preserve of ships on Canadian and United States registry, because the locks of the St. Lawrence canals prevent the entrance of vessels drawing more than 14 feet with dimensions exceeding roughly 255 feet in length and 43 feet in breadth, whereas cargo movements have developed which make it more economic to use much larger ships. Canadian vessels thus dominate the coasting trade and share largely in the transborder trade not only in these waters but also between this area and the eastern seaboard area. During the 1920's the coasting laws frequently were suspended to enable U.S. ships to enter the Canadian coasting trade for winter storage and subsequent delivery of cargoes of grain. Suspensions for this purpose are now rarely necessary because of the expansion of the Canadian upper lakes fleet, while the steady acquisition of larger, more efficient upper lakes bulk freighters together with the specialized knowledge acquired in the Great Lakes trades have effectively protected Canadian shipping from competition in the coasting trade by British ocean-going vessels capable of navigating the St. Lawrence Canals.

Seventy-six Canadian ships,^a representing more than a half million gross tons of shipping, at present operate only within the Great Lakes above Prescott. Sixty-five of these ships are bulk dry-cargo carriers, four are classed as package freighters, two are tankers, and five are passenger vessels. All except two passenger vessels are too large to traverse the St. Lawrence Canals. Five companies—Canada Steamship Lines Ltd., N. M. Paterson and

^aAs of December 31, 1956.

Sons Ltd., Upper Lakes and St. Lawrence Transportation Company Ltd., Colonial Steamships Ltd., and Algoma Central Steamships Ltd.—operate a total of 61 of the ships, representing 84% of the aggregate gross tonnage.

The 65 bulk cargo ships range from 300 feet in length and 5,000 tons dead-weight capacity for older vessels to over 700 feet and about 23,000 tons for those of the most recent construction. They are designed with the pilot house forward and the engine room aft, leaving a maximum of unobstructed space for loading and discharging cargo. With the exception of two self-unloading colliers which carry their own handling equipment, they are without winches and derricks, and rely upon the provision of loading and discharging facilities at the ports they serve.

The four package freighters operate between Fort William and Kingston. The most recent vessel of this type is 445 feet in length and carries about 3,500 tons of general cargo. Her advanced cargo handling arrangements are based upon a concept of palletized cargo and the use of fork lift trucks, side ports, and elevators, to transport pallets between the wharf and the ship's holds.

The two tankers, surviving units of a fleet of four built to transport Alberta crude oil, are over 600 feet in length and have a capacity of 120,000 barrels each. One is even now being converted into a dry-cargo carrier. Two of the five passenger steamers remaining in the coasting trade of the Great Lakes are operated by the Canadian Pacific Railway Company, providing sailings twice weekly during the tourist season between the Lakehead, Sault Ste. Marie, and Port McNicoll; another by the Cayuga Navigation Company Limited between Toronto and Niagara-on-the-Lake. Two newer, smaller ships, operated by the Owen Sound Transportation Company, furnish a subsidized passenger and cargo service between Owen Sound, Manitoulin Island, and Sault Ste. Marie.

In the Canadian Great Lakes coasting trade, shipments of western Canadian grain from Fort William and Port Arthur predominate. About 41% by bulk of the grain shipped from Fort William-Port Arthur in 1955-56 went to Georgian Bay and Lake Huron ports, principally Midland, Tiffin, Port McNicoll, Collingwood, Goderich, and Sarnia, about one-quarter to Port Colborne and Humberstone at the Lake Erie end of the Welland Canal, and 31% to Toronto, Kingston, and Prescott, at or near the eastern limit of the navigation system for the big freighters. Petroleum products contributed the second-largest tonnage in 1955.

The Canadian fleet of Great Lakes bulk freighters however relies heavily for employment on the international movement of commodities, principally iron ore, coal, and grain, between Canada and the United States. Shipments of these commodities across the Great Lakes constitute almost two-thirds the entire tonnage carried by the Canadian ships in a season. Canadian blast furnaces located at Sault Ste. Marie, Port Colborne, and Hamilton,

Royal Commission on Coasting Trade

are still fed very largely with United States ore, while most of the ore produced in Ontario is exported to the United States. In fact, during 1955, 4.6 million tons of ore from U.S. mines was exported to Canadian ports, while 3.7 million tons of Canadian ore was sent to the United States. Part of the production from the Steep Rock area, however, is used by the Canadian steel industry, and provides upper lake bulk freighters with eastbound coasting trade cargoes from the Canadian National ore loading dock at Port Arthur. A relatively small tonnage of iron sinter enters the coasting trade from Michipicoten Harbour, on the north shore of Lake Superior, though most of the Michipicoten sinter used in Canada is shipped by rail to Sault Ste. Marie.

There is little Canadian coasting movement of coal on the Great Lakes. In international trade, however, bituminous coal from the United States is a very important cargo exceeding Canadian grain in tonnage carried. DBS reports indicate that 13.6 million tons of U.S. coal was landed in Canada during 1955, 12.4 million tons of it being landed at Canadian ports in the highly industrialized area of the Great Lakes and upper St. Lawrence River above Montreal, and 1.2 million tons at Montreal and points east. Canadian registered ships are reported to have carried more than three-quarters of the United States coal landed in the Canadian Great Lakes area.

With the completion of a pipeline from Edmonton in 1950, Alberta crude oil began to flow to Superior, Wisconsin, from where it was shipped in specially constructed tankers to refineries at Sarnia, Corunna, Clarkson, and Port Credit, constituting a large coasting trade movement. The tonnages thus carried were 2,868,917 in 1952, 3,365,157 in 1953, and 543,283 in 1954. The abrupt drop in the tonnage of crude oil shipped in tankers in 1954 resulted from the extension of the pipeline from Superior to Sarnia. Fleets of small tankers ranging up to 2,500 gross tons, in most cases owned by or under the immediate control of the oil companies, distribute petroleum products in bulk from the refining centres to the various ports in the Great Lakes region during the season of ice-free navigation.

Smaller bulk freighters and specially equipped barges engage in the carriage of pulpwood chiefly from loading points on the north shore of Lake Superior and on the North Channel of Lake Huron to Thorold. A great part of Canadian pulpwood shipments crosses the Lakes to United States destinations. Other commodities moving in bulk in the coasting trade of the Great Lakes are cement, salt, and quartzite.

Sand, gravel and crushed stone for construction purposes account for a large cargo tonnage, much of it loaded in small ports and very likely understated in official statistics. The cargo is low in unit value and is usually carried in scows on relatively short hauls.

General cargo moves in upper lakes package freighters between various ports from the Lakehead to Kingston, including Sault Ste. Marie, Sarnia,

Windsor, Thorold, Hamilton, and Toronto. Calls are also made periodically at Detroit to deliver Canadian newsprint from the Lakehead. Parcels of grain and flour are frequently included in shipments down the Lakes.

European tramp steamers began to come into the Great Lakes in the 1920's to load grain for overseas destinations, and Norwegian interests inaugurated a regular overseas shipping service from the Great Lakes in the mid-1930's. In 1953 two small cargo steamers registered and manned in the United Kingdom engaged in the grain trade between Fort William and Collingwood, transporting 1.5 million bushels. This venture, while not repeated, emphasized the possibility that large sea-going ships, when enabled to enter the Great Lakes upon the completion of the Seaway, might profitably exploit opportunities to compete with domestic shipping in coasting as well as in transborder trade in the Great Lakes region.

Trade Between the Great Lakes and Eastern Canada

One hundred and ninety-three Canadian ships⁴ (whose dimensions are just within the limits imposed by Lock 17 of the Cornwall Canal) are employed, for the most part, in the carriage of cargo between ports on the Great Lakes and on the lower St. Lawrence River. One hundred and thirty-nine of these "canallers" are bulk dry-cargo carriers, including thirteen self-unloaders, seventeen are package freighters, and thirty-seven are tankers. Three companies—Canada Steamship Lines, Colonial Steamships, and N. M. Paterson and Sons—operate a total of seventy-six canallers, approximately one-half of the dry-cargo fleet of canal-sized vessels.

Of the cargo tonnage carried by the Canadian canaller fleet, two-thirds or more is coasting trade cargo with grain the major commodity. Much of the cargo is transhipped from upper lakes bulk carriers to be taken to Montreal and ports farther east, and some from inbound ocean vessels to be delivered to ports in the Great Lakes. Many of the bulk-carrying canallers depend for steady employment on trade between Canada and the United States, carrying coal down-river and iron ore, newsprint, and pulpwood up.

About one-third of the total tonnage of grain composing coasting trade cargo consists of shipments transferred from storage elevators at Sarnia and ports farther east into canallers for carriage to terminal elevators at Montreal, Sorel, Trois-Rivières, and Quebec City. Also in the coasting trade, westbound Labrador iron ore is transhipped into canal vessels at Contrecoeur, Florida phosphate fertilizer at Sorel, and Nova Scotia gypsum at Montreal, the ore and phosphate for delivery at Hamilton, and the gypsum at Belleville. Other canal vessels load pulpwood at such places as Shelter Bay, Franquelin and Forestville, on the north shore of the lower St. Lawrence River, for Thorold, and sulphur at Sorel for Cornwall, Hamilton, and Thorold.

⁴As of December 31, 1956.

Royal Commission on Coasting Trade

The operations of canal-type package freighters are flexible enough to meet varying demands of traffic. While some vessels are employed in carrying general cargo between Montreal, Toronto, and Hamilton, others go as far west as Fort William. Package freighters, in addition to handling individual small shipments of miscellaneous goods, may in typical operations load flour at Fort William for Sarnia or grain for Walkerville, call at Red Rock for consignments of paper, take automobiles on board at Windsor, and perhaps carry grain from Kingston to Trois-Rivières. Canal-type package freighters, chiefly because of features of their design best adapted to loading and discharging in non-tidal waters, rarely proceed below Trois-Rivières.

Traffic between the Great Lakes and tidal ports in eastern Canada, favouring the employment of small vessels having sea-going characteristics, attracts during each season a few ships from the United Kingdom. Two regular steamship lines base their operations between the Great Lakes and Newfoundland on the use of United Kingdom shipping. One, the Newfoundland-Great Lakes Steamships Ltd., of Toronto, inaugurated a service from Hamilton and Toronto to St. John's immediately after Newfoundland entered Confederation in 1949. The company uses three vessels of the Dundee, Perth and London Shipping Company, of Dundee, Scotland. The other line, known as Constantine Canadian Services (not incorporated in Canada), began its operations from Hamilton and Toronto to Corner Brook and St. John's in 1953 with two vessels furnished by the parent company, Joseph Constantine Steamship Line, Ltd., of Middlesbrough, England.

The operations of canal tankers are carefully ordered to the tasks of distributing the various kinds and grades of oils and lubricants to where they are in demand, and of preserving a balance of the stocks of petroleum distillates at the major distributing centres. The versatility of many of the tankers enables them to be employed either in the Great Lakes or on the seacoasts, and, when the need is indicated, to transfer surplus stocks from one region to another.

Eastern Canada

On the St. Lawrence River, general navigation is limited to a period of about eight months in the year. Ice forms early in December, and the river has been virtually closed to shipping until channels are again clear around mid-April. During the navigation season, regular coastal steamship service is provided by Canada Steamship Lines between Montreal and Quebec and down the St. Lawrence River to Tadoussac and into the Saguenay River. Other summer services are provided by the Clarke Steamship Co. to points on the north shore of the St. Lawrence as far east as Blanc-Sablon and along the south shore to Gaspé and the Magdalen Islands, and by the Anticosti Shipping Co. to Anticosti Island, and, commencing in 1957, by

Federal Intercoastal Line to Forestville, Baie-Comeau, and Sept-Iles. After the suspension of regular navigation from Montreal and Quebec City, Clarke Steamship Co. maintains a winter service from Pointe-au-Pic along the north shore to Havre St-Pierre. Ports from Forestville to Sept-Iles are linked with Rimouski and Matane in the navigation season, by services operated by the Lower St. Lawrence Transportation Company, Limited. These several shipping operations constitute the major coasting liner services within the lower St. Lawrence River region, utilizing a dozen vessels, most of which carry passengers as well as general cargo. In addition, a new service is being offered by Quebec Steamship Lines between Montreal and Halifax with calls, when there is sufficient inducement, at Sydney and Charlottetown.

On the entry of Newfoundland into Confederation in 1949, it was expected that the coasting trade would be affected by the influence of new tariff relationships on the pattern of the island's commerce, and by the exclusion of ships other than British from the carrying trade between the new province and the rest of Canada. The removal of former tariff barriers to trade with the other Canadian provinces has resulted in a greater flow of Canadian manufactured goods into Newfoundland—shipments from Canadian ports on the Great Lakes to Newfoundland, for instance, were 30,000 tons greater in 1954 than in 1948—but has not strikingly altered the aggregate tonnage of the cargo shipped, consisting in the main of bulk raw materials not previously dutiable and fuels. While the change in total volume of shipments between Newfoundland and the Canadian mainland has not been of major proportions, the extension of the Canadian coasting laws to Newfoundland brought about a pronounced shift of traffic from foreign to British carriers. In 1948, half the tonnage of Canadian exports to Newfoundland was being shipped in foreign bottoms which, in the following year, were to be deprived of the right to engage in the trade. Since then, the traffic has gravitated to vessels registered in the United Kingdom.

In 1949, there were seven steamship lines regularly in service between Newfoundland and the Canadian mainland, two of which used United Kingdom vessels. At the present date, the total number of services has increased to eleven, of which five use United Kingdom vessels. The service known since 1947 as the Furness Warren Line, between Liverpool, England, and St. John's, Halifax, and Boston, derives in part from the Canada and Newfoundland Line of steamers, which in 1912 came under the control of Furness, Withy and Company, Limited, a British corporation.⁵ Furness, Withy and Company further expanded their interests in the trade of Newfoundland in 1929 by acquiring the Red Cross Line, operating between New York, Halifax and St. John's. With the changed status of Newfoundland, both steamship lines found themselves combining coasting and inter-

⁵The Furness Warren Line and its predecessors have been operating in the trade between Liverpool St. John's, Halifax and Boston since about 1839, i.e. well over a century.

Royal Commission on Coasting Trade

national trading during the course of a voyage. Reference has previously been made to the new services introduced from the Great Lakes to Newfoundland by the Newfoundland-Great Lakes Steamships, Ltd., and Constantine Canadian Services. The Canadian National Railways furnishes steamship service between North Sydney and Port-aux-Basques and between North Sydney and Argentia, linking the railway transportation system of Newfoundland with that of the mainland. Two lines operating from Montreal are associated with Clarke Steamship Company, one serving Corner Brook and the other St. John's. Ferguson Industries, Ltd., operates a cargo steamer between Charlottetown and St. John's. Newfoundland Canada Steamships, Ltd., and Blue Peter Steamships, Ltd., provide service between Halifax and St. John's, although Blue Peter Steamships has reduced its service in 1957 to occasional voyages only.

Colliers of the Dominion Steel and Coal Corporation's fleet ply regularly between Sydney and the major ports of the lower St. Lawrence and Saguenay Rivers, carrying bituminous coal from Cape Breton Island to westward points and returning in ballast. While substantial tonnages of Cape Breton Island coal also move by sea to Halifax and to St. John's, and there are important local movements from distribution centres to outports, the traffic to the St. Lawrence River ports, assisted by a Canadian Government subvention, constitutes the major coal movement in the coasting trade. In common with the iron ore, ilmenite, and gypsum trades in the lower St. Lawrence River, the coal trade is particularly attractive as a chartering operation, owing to the limited navigation season and the requirement for ocean-going types of steamers: United Kingdom vessels are generally utilized, often on long term charters, leaving very limited opportunities for the employment of Canadian ships at remunerative rates.

In the history of the transportation of coal from Cape Breton Island to Montreal and other Quebec ports are to be found the most interesting examples of the use of non-Canadian ships in the Canadian coasting trade. Fifty years ago, Norwegian colliers, chartered at lower rates than British owners were willing to accept, held a predominant position in the coal trade. A succession of Orders in Council, waiving the coasting trade provisions of the Canada Shipping Act in respect of voyages between Nova Scotia and Quebec, made it possible for Norwegian ships to continue to engage in the carriage of Cape Breton Island coal to St. Lawrence River ports until World War I. The Dominion Coal Company, apparently to lessen its dependence on chartered tonnage, acquired a small fleet of colliers of its own in the years that followed, and during the 1920's operated the ships on Canadian registry, though, for a time, with Chinese crews under occidental officers, in the manner of some of the chartered British vessels of those years.

In 1930 the management and registry of the Canadian colliers were transferred to Great Britain in the hope of developing off-season employment. Two of the ships were returned to Canadian registry in 1939, in time to become useful additions to Canada's small merchant marine at the outbreak of war. Only one-fifth to one-quarter of the total tonnage of coal shipped from Cape Breton Island in the coasting trade in recent years has been carried in Canadian-flag ships.

Twenty-one ships of United Kingdom registry participated in the Cape Breton coal trade in 1953, eighteen in 1954, and eighteen in 1955, carrying 79%, 75% and 75% of the total tonnage of coal in the respective years. Most of the chartered ships are engaged for a period of time or for a number of consecutive voyages, spot charters being arranged only occasionally for vessels which, coming in from sea, would otherwise steam up the St. Lawrence River with their holds empty.

Bell Island in Conception Bay and Aguathuna (Port-au-Port), both in Newfoundland, are the respective sources of the iron ore and the limestone used in the steel furnaces at Sydney. In the three years 1952, 1953, and 1954, close to three-quarters of all the iron ore entering the coasting trade came from Bell Island, the crushed ore, hematite, having been shipped from Wabana in Canadian-flag, single-decked ocean-going steamers owned by a subsidiary of the Dominion Steel and Coal Corporation. The same vessels carried limestone from Port-au-Port, the shipping point for 85% of the reported total tonnage of limestone which moved in the coasting trade.

With the first shipment of ilmenite from Havre St-Pierre to Sorel in 1950 and of iron ore from Sept-Iles in 1954 the metallic mining industry began to contribute a more substantial tonnage of cargo for both coastal and transborder shipments in the eastern region. Table II shows that the 1955 shipments of iron ore in the coasting trade amounted to 1.8 million tons and those of other metallic ores (chiefly ilmenite) were in the order of 400,000 tons. In 1956 there was a sharp increase in this coasting trade movement as indicated below:^a

	<i>Short Tons</i>
Ilmenite from Havre-St-Pierre to Sorel	627,600
Iron ore from Wabana to Sydney	548,700
Iron ore from Sept-Iles to Contrecoeur for transshipment	3,088,600
	<u>4,264,900</u>

The carriage of iron ore from Sept-Iles to Contrecoeur as a coasting operation is essentially a constituent part of an international movement to supply the great United States steel industry bordering on Lake Erie. Only the physical and economic limitations of direct shipment in vessels small

^aFrom *A Survey of the Iron Ore Industry in Canada during 1956* by T. H. Janes, Department of Mines and Technical Surveys, Ottawa.

enough to negotiate the St. Lawrence canals have channelled the ore, until now, into the Canadian coasting trade for nearly five hundred miles of its journey to the smelters of the U.S. interior. With the opening of the St. Lawrence Seaway, this movement will become part of the transborder trade.

Iron ore is also a major and increasing item in the waterborne trade between Canada and the United States within the eastern region. During 1956, 7.5 million short tons of ore were shipped from Sept-Iles to the U.S. Atlantic seaboard.

Shipments of iron ore from the Quebec and Labrador deposits are expected to increase substantially during the years to come. Total shipments from Sept-Iles which amounted to 13.5 million short tons in 1956 are expected to exceed 20 million tons in the early 1960's. Wide-scale explorations are being conducted in Quebec as well as in Labrador. For instance, the Quebec Cartier Mining Company, a wholly-owned subsidiary of United States Steel Corporation, announced early in 1957 that it will spend an estimated \$200 million to bring into production its deposits situated 150 miles north of Shelter Bay on the St. Lawrence. Initial production is expected to be 3 million tons in 1961, to be subsequently increased up to 10 million tons.⁷ Shelter Bay will be the shipping port for the ore.

Approximately one-third of the cement carried in the coasting trade is shipped from Montreal, chiefly to down-river ports and to Halifax. Much of the cement is in bulk, in which form it is handled by a self-unloading vessel carrying about 3,000 tons. Gypsum from Little Narrows, in the Bras d'Or region, and from the recently developed mines near Halifax, is available to provide an important return cargo.

Pulpwood has for years been a staple cargo of the shipping of the St. Lawrence region and Newfoundland, employing canal-type vessels, converted war-surplus landing craft, motor schooners, and towed barges. These vessels load at various points along the St. Lawrence River and Gulf and discharge at Port Alfred, Quebec City, Trois-Rivières and Donnacona, ports which, together with Corner Brook receive more than four-fifths of the reported tonnage of pulpwood in the coasting trade. The Corner Brook supply comes from harbours on the Newfoundland coast, hauled under contract by Branch Lines Ltd., a Canadian company using vessels of Canadian registry, to Bowater's Newfoundland mill in towed barges. These barges, converted for the purpose from surplus naval tank landing ships from which the propelling machinery has been removed, are capable of stowing nearly 4,000 tons. Two of the major paper companies, Anglo-Canadian Pulp and Paper Mills, Ltd., and Consolidated Paper Corporation, Ltd., among others, have resorted to surplus United States naval craft for pulpwood carriers.

The motor schooners, or *goélettes*, which engage in the *petite navigation* of the St. Lawrence River, are commonly about 90 feet in length and around

⁷Janes, op. cit.

150 gross tons. Besides pulpwood, they carry lumber, potatoes, or whatever offers. They represent, in many cases, family enterprises with a tradition descending from the time of sail.

Newfoundland is a source of fluorspar as well as iron ore and limestone. The fluorspar is used principally as a solvent for the removal of impurities in the production of aluminum. Smaller quantities are used in the production of special grades of steel at Sydney. Some of this is carried by Clarke Steamships Ltd. and associated companies, which use both Canadian and United Kingdom ships, and some by Saguenay Terminals using United Kingdom vessels.

Petroleum products make up about one-quarter of the total tonnage of cargo carried in eastern Canadian waters. Halifax serves as the regional supply centre for an area extending from the Bay of Fundy to Labrador in the same way that Montreal supplies the requirements of the St. Lawrence. Participating carriers include not only the ubiquitous canal-type tankers but also smaller craft for entering shallow, confined harbours on the Atlantic coast and larger vessels for supplying major consuming centres with gasoline, furnace oil, diesel oil, and other petroleum derivatives. All the tankers currently used on coasting trade are on Canadian registry.

Relatively minor tonnages of bulk salt are distributed to fisheries outports which themselves furnish cargoes of fish. Some lumber also enters the coasting trade of the region, particularly in the Bay of Fundy area.

Several of the coasting liner services of eastern Canada are vital ferry links between the Atlantic provinces for cargo as well as passenger traffic. These include the Canadian Pacific Railway Company's Bay of Fundy service between Saint John, N.B., and Digby, N.S., Canadian National Railways' Northumberland Straits service between Cape Tormentine, N.B., and Port Borden, P.E.I., the independently operated service between Wood Island, P.E.I., and Caribou, N.S., and the Canadian National Railways' Cabot Straits service, between North Sydney, N.S., and Port-aux-Basques, Nfld. Small motor vessels transport general cargo on a number of routes, frequently with subsidy assistance, from distribution centres to coastal outports, relying usually on fish and fisheries products for return cargo. Along the coasts of Newfoundland and Labrador, the Canadian National Railways' Newfoundland steamship services operate a fleet of cargo and passenger ships from St. John's, Argentia and Lewisporte, while throughout the Atlantic coastal region diesel-powered adaptations of the traditional Nova Scotia sailing schooner are to be found engaging as itinerant trading vessels.

The Pacific Coast

Along much of the coast of British Columbia, barges and scows have very considerably supplanted coasting steamers in the bulk carrying trades and have made inroads into the general cargo trades as well. With the

Royal Commission on Coasting Trade

growth of air transportation, coastal passenger shipping, too, has had to accept a smaller share of traffic.

The major passenger-and-cargo liners in the British Columbia coasting trade are those operated by Union Steamships, Ltd., Black Ball Ferries, Ltd., and the two transcontinental railway companies. The Canadian Pacific Railway, with the largest single fleet, while concerned principally with the Vancouver-Victoria-Seattle and Vancouver-Nanaimo trades, also provides service to the west coast of Vancouver Island and to ports of the Alaskan Panhandle offering access to northwestern British Columbia and the Yukon Territory. The Canadian National, with only one coastal steamer now remaining under its colours, has its coasting trade interests chiefly in summer cruise traffic and in a joint operation with the Canadian Pacific to northern British Columbia ports. Union Steamships serves many small coastal communities, including those situated in the Queen Charlotte Islands, which depend for supplies upon Vancouver. The Black Ball Line operates two vessels in a ferry service between Horseshoe Bay, near Vancouver, and Nanaimo.

More than one-half of the annual passenger movement in coasting vessels on the Pacific Coast takes place in the four months from June to September. Thus, in spite of a climate permitting year-round navigation, passenger operations can be maintained near to capacity only in the summer season, and it is the regular practice to withdraw a number of vessels from service when traffic declines.

Sharing in the general cargo trades with the major passenger-and-cargo lines are the operators of a few coasting freighters, the barge lines, and the fishing companies. The bulk cargo trades have become virtually the preserve of the towing companies, whose fleets of tug boats, scows and barges have grown with the industrial expansion of the Pacific coastal region, and whose supremacy is apparently in doubt only on the longer routes.

Over short distances, scows, which can be towed in tandem, furnish economical transportation for such commodities of low value in relation to their bulk as rock, sand, gravel, hogged fuel, coal and coke, ores and concentrates, scrap metal, and bricks. Hogged fuel (waste wood chips) is a characteristic Pacific Coast cargo, shipped from Vancouver and New Westminster in scows fitted with bins, the wood chips being used chiefly for industrial heating. Nearly one-third of the cement carried in the Canadian coasting trade comes from Bamberton, on southern Vancouver Island, and is barged to Vancouver, New Westminster, and other points. Scows carry limestone from Texada Island, and sand and gravel from Howe Sound to Vancouver. Covered scows, like floating warehouses, protect rolls and flats of newsprint and paper on their way from mills at Ocean Falls and Powell River to Vancouver.

Transfer barges are used to transport railway freight cars between terminals on the provincial mainland and Vancouver Island and also to and from industrial plants in coastal locations where there are no direct railroad connections. The use of transfer barges materially reduces the amount of handling to which shipments would otherwise be subjected were they to be stowed in and discharged from vessels as well as loaded into and unloaded from freight cars.

The problem of transporting logs economically and safely on exposed sections of the Pacific Coast has for years been a challenge to the lumber industry, and the relative merits of barging and rafting have been much debated. New techniques of raft-building and new designs of log barges are periodically devised and tried out. From camp sites where the logs are floated, the tows are made to booming grounds or to sawmills in the vicinity of Vancouver, Victoria, New Westminster, Powell River, and Ocean Falls. Sawn lumber may then be loaded into scows, many of which are towed to the sides of ocean-going ships which carry the lumber to export markets.

Coal is shipped in scows to consuming centres from Union Bay, on Vancouver Island but in dwindling volume, in marked contrast with the increasing demand for petroleum fuels from the refineries and storage depots near Vancouver. Towed tanker barges carry roughly one-third of the tonnage of petroleum products moving in the British Columbia coasting trade, small self-propelled tankers handling the remainder.

Few ships except those Canadian vessels regularly in operation on the Pacific Coast enter the coasting trade in British Columbia. This absence of competition from other Commonwealth shipping is due, very likely, to a combination of circumstances: a climate permitting year-round navigation, sheltered channels favouring towing operations, loading and discharging facilities and techniques adapted to the use of scows and barges, and remoteness from the home base of potential competitors.

Intercoastal Trade

Occasional voyages were made in the intercoastal trade between eastern Canada and British Columbia even before the completion of the Panama Canal, although a regular service was not established until early in the 1920's. An intercoastal service was inaugurated by the Canadian Government Merchant Marine in 1924. The CGMM gave a measure of stability to the trade until 1932, when Canadian-flag service was relinquished in favour of more modern United Kingdom shipping taken on charter by Canadian Transport Company Ltd., of Vancouver, and operated until World War II as the Vancouver-St. Lawrence Line. During these years the frequency of sailings was closely related to the transportation requirements of the British Columbia lumber trade.

Royal Commission on Coasting Trade

In 1949 the intercoastal trade was revived under difficult conditions by the Atpac Line, of Montreal, the venture proving short-lived. At present, intercoastal service is offered by Saguenay Terminals Limited, a subsidiary of the Aluminum Company of Canada, whose own transportation requirements help to make the operation feasible. On the way between eastern and western Canada the ships call at Caribbean and United States ports. The company uses its own as well as chartered ships, all used in this service being registered in the United Kingdom. Although the volume of intercoastal trade is negligible, the railways recognize that it represents real or potential competition in the carriage of transcontinental freight traffic.

Subsidies to Assist Coastal Shipping

Ever since Confederation the federal government has provided financial assistance for coasting trade services. The amount voted for this service in the fiscal year 1956-57 was \$14.5 million. This amount included \$7 million for services the provision of which became a federal responsibility under the terms of union for the entry of Prince Edward Island and Newfoundland into Confederation, and \$5.5 million in freight assistance for the waterborne movement of Nova Scotia coal to St. Lawrence River ports and its transshipment to destinations beyond Montreal. The remaining \$2 million represented subsidies for some twenty coasting services and was distributed regionally as follows:

Nova Scotia	\$228,000
New Brunswick	95,000
Quebec	842,000
Ontario	135,000
British Columbia	325,000
Interprovincial services	370,000

Federal subsidies are awarded to assure that reasonably adequate waterborne transportation is available in regions which, though dependent upon coastal shipping services, are unable to pay their full cost. Some of the provinces also support or assist coastal shipping operations of special significance in the development of their trade.

CHAPTER IV

Waterways of the Great Lakes and St. Lawrence River

In recent years more than half of the total tonnage moved in the Canadian coasting trade has been carried on the waterway stretching from the Gulf of St. Lawrence to the head of the Great Lakes. Most of these cargoes have been carried in Canadian ships. In addition, very large tonnages have been moved by Canadian ships in the international or transborder trade in this region. The importance of this waterway to Canadian shipping in both the coasting and international trades is at once apparent.

As has been shown in Chapter III the present navigation facilities of part of the waterway restrict the size of vessels which can proceed above Montreal. The isolation of the large lakers in the Great Lakes, together with the present legislation controlling the Canadian coasting trade, have given to operators of Canadian ships a virtual monopoly of the coasting trade on the Lakes. The ship operators contend that the improvement of navigation facilities through the construction of the St. Lawrence Seaway will, while allowing their lakers a wider movement, also threaten the secured position of their carrying trade. The ending of the isolation of the Great Lakes on the completion of the St. Lawrence Seaway is one of the issues before the Commission and will be dealt with in detail in subsequent chapters. The present chapter will be confined to a brief review of the present navigation facilities of the waterway and the projects for the St. Lawrence Seaway.

A. Present Facilities

To overcome the difference of approximately 600 feet between the water levels of Lake Superior and the ocean, vessels sailing from Montreal to Lake Superior must pass through eight canals. They are the six canals on the St. Lawrence River, the Welland Ship Canal between Lake Ontario and Lake Erie, and one of the Sault Ste. Marie Canals between Lake Huron and Lake Superior.

1. THE ST. LAWRENCE CANALS

Proceeding upstream from Montreal, vessels first pass through the six St. Lawrence Canals, built to by-pass the rapids in the St. Lawrence River between Montreal and Chimney Point. The governing depth of the canals is 14 feet, and as a result of the size of Lock 17 of the Cornwall Canal (effective length 255 feet), the maximum cargoes which can presently

pass through are between 2,400 and 3,000 tons, carried by canallers which have been designed specially for this trade. The cargo loads carried through the canals by ocean-going vessels usually do not exceed 1,500 tons.

Since the end of World War II, the amount of traffic on the St. Lawrence canals has more than doubled, from about 5.8 million tons of cargo in 1946 to 13.5 million tons in 1956. The greatest increase in traffic has been in the Canadian coasting trade, which in 1956 amounted to 7.8 million tons. The international trade passing through the canals between Canada and the United States decreased from about 2.9 million tons in 1946 to 2 million in 1954; in 1956, chiefly as a result of shipments of iron ore from Sept-Iles to the U.S. steel industry, these international shipments rose to 4.8 million tons. Direct shipments to overseas ports have shown a steady increase and in 1956 amounted to almost 800,000 tons, about 6% of total traffic. Shipments in the U.S. coasting trade increased in post-war years until 1954, when they accounted for about 4% of total traffic. Since then they have decreased, and in 1956 amounted to only 50,000 tons.

Shipments of agricultural products, amounting to 4.5 million tons in 1956, account for about 36% of the total traffic through the canals. Most of these shipments are Canadian grain moving down to deep-water St. Lawrence ports for transshipment to ocean-going vessels for export to overseas markets. More than a million tons of petroleum and other oils are usually shipped annually in the Canadian coasting trade through the canals. The other chief commodities carried by canallers are iron ore, soft coal and forest products. More than 90% of the coal shipments through the canals (1.8 million tons in 1956) move downstream from U.S. lake ports to Canadian ports on the St. Lawrence. All shipments of iron ore passing through the canals move upstream. In 1956 these shipments amounted to 2.6 million tons.

Proceeding upstream from the St. Lawrence canals, the route passes through channels dredged to a depth of 27 feet through the Thousand Islands section of the St. Lawrence to Lake Ontario, and thence through the Welland Ship Canal, which by-passes the falls and rapids of the Niagara River to overcome the difference in level between Lake Ontario and Lake Erie.

2. THE WELLAND SHIP CANAL¹

This canal extends 27.6 miles across the Niagara Peninsula from Port Weller on Lake Ontario to Port Colborne on Lake Erie. It was constructed with a controlling depth of 25 feet and with 30 feet on the lock gate sills. There are eight locks—seven lift locks and one guard lock—all of which

¹For fuller description see:

The Canals of Canada, Dept. of Transport, Ottawa, 1946.

The Welland Ship Canal 1913-1933, Dept. of Railways and Canals, Ottawa, 1935.

Great Lakes-St. Lawrence Waterway, Dept. of Transport, Ottawa, 1949.

Map of Welland Canals No. 27, Dept. of Transport, January 1954.

Waterways of the Great Lakes and St. Lawrence River

are 80 feet wide. The lifts of the seven range from 43.7 to 47.9 feet aggregating a total lift of 327 feet. The length clearance of the locks is 765 feet. At present depths, existing lakers can pass through the canal carrying cargoes of almost 22,000 tons.

The canal is 310 feet wide at the surface of the water and 200 feet at the bottom, and is now being deepened to a controlling depth of 27 feet. It is crossed by 6 railway bridges and 14 highway bridges. Priority is given to traffic in the canal over traffic on railways or highways.

The amount of freight carried through the canal and to ports on the canal has more than doubled since the war, from 10.5 million tons in 1947 to a peak of 23.1 million tons in 1956, with downbound cargoes amounting to 18.0 million tons and upbound to only 5.1 million tons. This traffic is nearly twice as much as that shipped through the St. Lawrence canals, and in contrast to the traffic through these latter canals, a much larger proportion, nearly 63%, is international, mostly Canadian-U.S. trade, chiefly in coal, iron ore, petroleum and other oils, paper and some grain. Nearly one-third of the total traffic is Canadian coasting trade, amounting usually to about 7 million tons per year. Nearly three-quarters of this Canadian traffic consists of downbound shipments of agricultural products, mostly grain. The U.S. coasting trade, 1.3 million tons in 1956, accounts for only about 6% of total traffic through the canal.

Traffic Problems in Welland Canal

According to the calculations of the Department of Transport, uninterrupted passage through the canal would take about 8 hours. However, records of the Control Office of the canal and evidence submitted to this Commission by some Canadian ship operators indicate that the average time taken to complete a passage through the canal in recent years has been considerably longer. Some indication of this increase in transit time is given in Table I below, presenting statistics from the canal records.

Average gross transit time includes the time which vessels must wait to enter the canal as well as the transit time through the canal. Since many other factors, including delays due to bad weather, breakdowns of vessels or canal equipment, obstructions in the canal, heavy traffic, etc., affect the time which vessels take to pass through, canal records of gross transit time should be interpreted with caution.

From this Commission's inquiries as to the operations of the canal, it would seem that most of the increase in gross transit time has been due to delays awaiting entrance. With the exception of some crowding at single locks at times of heavy traffic, the passage of most vessels through the canal appears to be efficiently and smoothly handled by those in control of operations. Any delays in traffic in the canal seem to be due chiefly to factors beyond the control of officials, such as fog and wind,

TABLE I
Average Gross Transit Time Through the Welland Ship Canal¹
(Including time waiting to enter)
(hours : minutes)

	Upbound		Downbound	
	June	October	June	October
1946	7:49	8:09	8:45	9:49
1950	8:37	9:18	9:01	9:13
1952	9:22	9:32	9:39	9:44
1956	9:04	9:00	11:44	10:17

¹1946 and 1956 data supplied by Dept. of Transport; 1950 and 1952 data supplied by Canada Steamship Lines from Canal records, Exhibit 104.

breakdowns in vessels or equipment, etc. Such delays are carefully checked and, on the whole, traffic in the canal appears to be well controlled. Total delays to all vessels inside the canal, apart from those caused by bad weather, for the 1955 season amounted to 115 hours, for the 1956 season 97½ hours.

Ship operators assert that most of the increase in gross transit time has been due in recent years to increasing delays at the entrances to the canal, especially on the upbound passage. Until recently, canal statistics did not segregate the time lost by vessels waiting to enter the canal, and therefore do not show changes in the situation in the post-war years. Canada Steamship Lines submitted to this Commission a table from the Company's records, showing time lost by their vessels waiting to enter the canal, from the opening of navigation in April to August 31, 1955. In these five months, in 883 passages, vessels of this line lost 1195 hours waiting to enter the canal, an average of 1 hour 21 minutes per passage. The greater delays at the entrances in recent years appear to have been chiefly due to the increased number of passages through the canal. The number of passages by vessels increased from 5,555 in 1946 to 9,360 in 1956, as shown in Table II below.

A contributing factor to crowding at the entrances to the canal is the number of small vessels, both foreign and Canadian, operating on this route. Of the 9,360 passages in 1956, 6,812 were made by vessels not exceeding 259 feet in length, chiefly freight and tanker canallers. Even if these small vessels are locked in pairs, their passage tends to slow down the movement of traffic through the canal, as well as reducing considerably the amount of cargo which can be carried through the canal. According to a sample check of actual locking times during one month, the average time to lock two canallers with a combined capacity of not more than 6,000 tons through a lock together, was 33.7 minutes, compared with an average of 28.9 minutes to lock a single laker capable of carrying up to 22,000 tons through the same lock.

TABLE II
Vessels Using the Welland Ship Canal¹
Through and Way Passages

Year	Canadian Vessels	U.S. Vessels	Overseas Vessels	Total
1946	4,369	1,134	52	5,555
1948	4,879	1,554	138	6,571
1950	5,504	1,716	216	7,436
1952	6,959	1,885	314	9,158
1954	6,220	1,736	523	8,479
1956	6,664	1,970	726	9,360

¹From DBS *Canal Statistics*.

Another factor likely to slow down traffic is the increasing number of overseas vessels using the canal. Masters and crews of these ships, less experienced in negotiating the locks than those of Canadian and U.S. vessels regularly using the canals, are often unable to manœuvre their vessels as quickly or as dexterously through the locks. Some foreign masters will not take their ships through the canal at night, and until recently used to tie up in the canal until daylight. Masters not wishing to complete the passage at night must now tie up their ships at the entrance and enter the canal at daybreak.

The opinion was expressed in evidence that, in the period immediately following the opening of the Seaway, increased traffic will cause further congestion and delay in the passage through this canal. The Commission believes that increased tonnage could be carried through this canal without congestion if most of it were transported in large vessels—a development discussed in Chapter VI. In the period immediately following the opening of the Seaway, however, the situation should be carefully watched. At that time a large number of canallers probably will still be using the canal and, with the possible increase (of which there is already evidence) in the number of overseas ships seeking passage, serious congestion may result. It may be that for a time a complete system of traffic control with priorities will have to be introduced, if full benefit of the Seaway is to be derived.

The prospective increases in traffic, notably in iron ore, may before long render the facilities incapable of handling the volume efficiently. This can only be assessed after the Seaway is in operation, the toll pattern established, and the increased traffic moving.

3. SAULT STE. MARIE CANALS

From Lake Erie the westbound route follows channels through the Detroit River to Lake St. Clair, through the St. Clair River to Lake Huron and

Royal Commission on Coasting Trade

through St. Mary's River to the Sault Ste. Marie canals. At present the downbound channels in these rivers are approximately 25 feet deep and the upbound channels 21 feet. One-way channels are 300 feet wide and channels allowing two-way traffic have a minimum width of 600 feet. To by-pass the Sault Ste. Marie rapids in order to enter Lake Superior from Lake Huron, vessels may pass either through the Canadian lock on the north side of the rapids or through one of the four parallel locks on the U.S. side of the river.

The Canadian canal is 1.38 miles long with one lock 900 feet in length, 60 feet wide at low water level and a normal depth of 18.25 feet, to give a total rise of 19 feet. One U.S. lock has a similar depth: two have a depth of 23.1 feet, and the fourth, the MacArthur Lock, has a depth of 31 feet on the sills. This lock, which is 800 feet long and 80 feet wide, makes it possible for the largest vessels at present on the Lakes to pass between Lake Huron and Lake Superior.

Traffic through these canals reached a peak of 128.5 million tons in 1953, of which 117.8 was downbound cargo and only 11.7 upbound. In 1956 total traffic was 109 million tons. Only a very small percentage of the traffic, 3 million tons in 1956, about 3%, passes through the Canadian canal. In marked contrast to the traffic through the St. Lawrence and Welland Canals, most of the traffic through these canals is United States coasting trade, the predominating freight being iron ore moving down from the Mesabi Range to U.S. steel mills. Traffic in the Canadian coasting trade in recent years has amounted to less than 10 million tons per year, mostly grain shipments downbound to lake and river ports. International shipments, chiefly U.S.-Canadian trade, have averaged slightly more than 12 million tons in recent years, nearly 9 million tons of downbound shipments and about 3 million tons upbound, the latter being chiefly bituminous coal.

The following Table III summarizes the traffic through all the canals on the Great Lakes-St. Lawrence waterway in 1956.

B. The St. Lawrence Seaway²

Most ocean-going vessels can enter the Port of Montreal using the St. Lawrence Ship Channel, which has a depth of 35 feet. To overcome the

²For history and full description of the Seaway see, *inter alia*:

The St. Lawrence Seaway, maps and commentary by the Hon. Lionel Chevrier, President, The St. Lawrence Seaway Authority, Queen's Printer, Ottawa, 1955.

The St. Lawrence Seaway—An investment in Canada's Future, The Canadian Bank of Commerce Commercial Letter, March 1955.

The St. Lawrence Seaway and Power Projects, Department of External Affairs, Ottawa, Nov. 1954.

The Great Lakes-St. Lawrence Deep Waterway, Department of Transport, Ottawa, 1949.

Historical chronology on the St. Lawrence project, including references to the principal surveys, reports, treaties, agreements, and legislation 1907-47, U.S. Congressional Record, Proceedings and Debates of the 80th Congress, Second Session.

Hearings before the Sub-committee of the Committee on Foreign Relations, U.S. Senate, 83rd Congress, First Session, April 14, 15, 16, May 20 and 21, 1953.

Waterways of the Great Lakes and St. Lawrence River

limitations above Montreal, the Canadian and U.S. Governments are constructing a deep waterway providing navigation channels of 27-foot depth between that port and Lake Erie (see map, Appendix IX). Under this scheme, the following projects have been agreed upon and are under construction.

TABLE III

Traffic Through the St. Lawrence, Welland, and Sault Ste. Marie Canals, 1956¹
(Million short tons)

Canal	Canadian Coasting			United States Coasting			International			Total		
	Up	Down	Total	Up	Down	Total	Up	Down	Total	Up	Down	Total
St. Lawrence	2.6	5.3	7.9	—	²	²	3.2	2.4	5.6	5.8	7.7	13.5
Welland	1.1	6.1	7.2	.5	.8	1.3	3.5	11.1	14.6	5.1	18.0	23.1
Sault Ste. Marie ³	.7	9.5	10.2	9.2	75.3	84.5	4.6	9.8	14.4	14.5	94.6	109.1

¹From DBS *Canal Statistics*, 1956, Table 3.

²50,414 short tons.

³Four United States canals and one Canadian.

1. MONTREAL TO THE HEAD OF LAKE ST. FRANCIS

The part of the Seaway from Montreal to the head of Lake St. Francis lies wholly in Canada, and all the works in this section are being carried out entirely by the St. Lawrence Seaway Authority for the Canadian Government. This Authority is now building an 18-mile canal from deep water in Montreal Harbour to Lake St. Louis above Caughnawaga, by-passing the Lachine Rapids. Two locks in this canal overcome the drop of about 45 feet in the level of the water between Lake St. Louis and Montreal Harbour. All locks on canals in the Seaway conform in general dimensions to the locks on the Welland Ship Canal.

To provide for 27-foot navigation to the head of Lake St. Louis, the channel through the lake is being dredged from the Caughnawaga end of the canal. In some places islands are being cut through or removed altogether. From the head of the lake, the Seaway proceeds through the Beauharnois Power Canal which surmounts the Cascade, Split Rock, Cedars and Côteau Rapids. This canal, which is 16 miles long, has a navigable channel with a depth of 27 feet. To by-pass the power installation at the eastern end of the canal, two single locks are being installed to lift vessels 84 feet from Lake St. Louis to the level of the canal. From this canal the

Royal Commission on Coasting Trade

Seaway continues across Lake St. Francis, a distance of some 29 miles. Various shoal areas in the lake are being dredged to provide a navigation channel of the required depth and width.

2. INTERNATIONAL RAPIDS

From the head of Lake St. Francis to Chimney Point, 4 miles east of Prescott, the navigation works in the territory of the United States are being constructed by the St. Lawrence Seaway Development Corporation. Apart from the navigation facilities, works for generation of electricity are being constructed by the Hydro-Electric Power Commission of Ontario and the Power Authority of the State of New York. This project entails the construction of a main dam below the Long Sault Rapids and an upper control dam in the vicinity of Iroquois Point.

The essential navigation works in this area consist of two canals to by-pass the dams. The Long Sault Canal to by-pass the main dam is being built in U.S. territory, south of Barnhart Island. It has a guard gate and two locks to overcome the total difference in water level of about 83 feet between the dam and head of Lake St. Francis. From this canal the navigation channel continues through the pool created by the main dam for about 25 miles to the Iroquois Canal on the Canadian side. The latter canal, by-passing the control dam, has one lock which will have a lift of about 4 feet to the level of the water of the Thousand Islands section.

3. THOUSAND ISLANDS

The channels through this section have been dredged to a depth of about 27 feet by the Canadian and U.S. Governments since 1926. The U.S. Government has undertaken to improve the channel to conform with Seaway requirements.

4. THE WELLAND SHIP CANAL

After crossing Lake Ontario, vessels will use the Welland Ship Canal. The St. Lawrence Seaway Authority is responsible for dredging this canal to the controlling depth of 27 feet.

5. ADDITIONAL WORKS

In addition to these projects, both the Canadian and United States Governments have authorized further projects to facilitate navigation below and above the Seaway. In May 1956 the Canadian Government authorized a four-year dredging programme to widen and deepen the St. Lawrence Ship Channel from Montreal to deep water below the city of Quebec, to allow

safer and faster navigation. The Government of the United States is undertaking additional projects in the connecting channels of the Great Lakes. The U.S. Congress has authorized works³ to widen and deepen the channels in the Straits of Mackinac, St. Clair River, Lake St. Clair, Detroit River and the South Canal's westerly approach to locks in Sault Ste. Marie. These works will provide "controlling depths of not less than 27 feet",⁴ which will make these channel depths commensurate with those authorized for the St. Lawrence Seaway.

C. Harbours and Port Facilities

1. GENERAL

Efficient and economical water transportation depends, to a large extent, on harbour and port facilities, such as channels of adequate depths, docks, wharves and piers, transit sheds, grain elevators, warehouses, loading equipment, terminal railways, dry dock accommodation, etc. The National Harbours Board, a Crown Corporation, administers and operates the port facilities at eight harbours in Canada—Halifax, N.S., Saint John, N.B., Chicoutimi, P.Q., Quebec, P.Q., Trois-Rivières, P.Q., Montreal, P.Q., Churchill, Man., and Vancouver, B.C. These ports handle about one-third of the total tonnage, both coasting and international, handled at all Canadian ports. Seven other harbours—Toronto, Ont., Belleville, Ont., Hamilton, Ont., Winnipeg-St. Boniface, Man., New Westminster, B.C., North Fraser, B.C., and Port Alberni, B.C.—are under the supervision of the Department of Transport, and are administered by commissions composed of municipal and federal government appointees. The Department of Transport also directly supervises about 300 additional public harbours, which are administered under regulations approved by the Governor General in Council. At most ports shipping and other private corporations, such as railway, oil, pulp and paper companies, etc., own dock and handling facilities, in addition to those operated by public authorities.⁵

Evidence submitted to the Commission and an inspection of some of the major ports by the Commission indicate that in general the facilities at most mainland ports have been and are at present adequate for the handling of the coasting trade. At some ports in Newfoundland additional facilities and some improvement in the handling of cargoes appear to be desirable. (See also Chapter XI.)

In relation to seaway development, consideration of port facilities falls naturally into two categories: first, ports in the Great Lakes, and second, ports on the St. Lawrence. Regarding the first, plans are under way at some ports, such as Toronto and Hamilton, to improve and extend exist-

³Public Law No. 434: 84th Congress, Chapter 90, 2nd Session, N.R. 2552.

⁴Public Law No. 641: Public Works Appropriation Bill 1957.

⁵*Canada Year Book 1955*, p. 872. A commission also was authorized for Windsor, Ont. in 1957.

ing facilities. These Great Lakes ports are more concerned, however, with competition for international trade than service to the coasting trade, and therefore will not be considered further. Regarding the second, some ports on the St. Lawrence serve and will continue to serve Canadian coasting trade, and hence should be geared to the efficient handling of this traffic.

2. ST. LAWRENCE PORTS: PREPARATION FOR SEAWAY CHANGES

The major ports of the St. Lawrence region are Sept-Iles, Port Alfred, Montreal, Quebec, Trois-Rivières and Sorel; of these, the ports of Sept-Iles and Port Alfred are mainly concerned with international trade and the Seaway will provide no particular problems. On the other hand, Montreal, Quebec, Trois-Rivières and Sorel serve a highly industrialized area, in which a large part of their business is generated. This factor of local generation portends the coming and going of considerable shipping and makes these ports attractive as transshipment points, which in turn involves both coasting and international shipping (i.e., coasting to export, import to coasting). Accommodation facilities necessary or to become necessary as a result of Seaway changes for that part of the traffic generated locally are matters which may be left to the ordinary pattern of harbour development. The adequacy of transshipment facilities, however, including ability to handle efficiently increased tonnages of bulk cargo delivered in lakers to St. Lawrence River ports, are matters of national concern.

There would seem to be little doubt that under the existing coasting law the Seaway will change the existing pattern of moving grain in two respects; first, more grain will move by large vessels for transshipment at Montreal and other St. Lawrence ports, and second, more grain will move from the Lakehead directly to overseas ports. The volume of grain moved in the coasting trade to that moved directly overseas may vary from year to year. Nevertheless, there will be need for new and increased facilities at St. Lawrence ports.

A programme has been announced for improvements and extensions of facilities at ports under the jurisdiction of the National Harbours Board, namely Montreal, Quebec and Trois-Rivières.

For Montreal, a programme of capital works totalling \$57 million has been approved. These works are classified as follows: "Grain Elevators \$27,000,000; Wharves and Piers \$17,000,000; Transit Sheds \$5,000,000; Dredging and Navigation Channels \$7,500,000; and Miscellaneous Items \$500,000".

"Grain Elevator System"—The expenditure of \$27,000,000 on the grain elevator system is (1) to equip the present four grain elevators with facilities for the rapid unloading of the large lakers which, it is expected, will, on the opening of the Seaway, be bringing the bulk of waterborne grain shipments to Montreal; (2) to provide for the construction of two new grain elevators, with a total capacity of 6,600,000 bu. (bringing the

Waterways of the Great Lakes and St. Lawrence River

total capacity of harbour elevators to 21,762,000 bu.); (3) to make changes and additions to shipping facilities to expedite the loading of ocean vessels; and (4) to allow for miscellaneous changes and additions to machinery and equipment, and repairs to structures to place present facilities in sound operating condition. There will be four unloading berths to accommodate large lakers and three grain loading berths will be added. The result of these additions and betterments will be to increase storage capacity by 44% and to increase both the unloading and loading capacity in the order of about 80% . . .

"Wharves and Piers— . . .

The projects include 3,110 linear feet of wharf . . . ; extensions to oil wharves totalling 1,540 linear feet . . . ; the raising from low to high level of Laurier and Sutherland piers . . . ; a grain jetty, 700 feet in length at Elevator No. 1 for large lakers . . . ; a wharf 1,600 feet in length . . . to provide a terminal . . . ; a wharf 1,350 feet in length . . . to provide additional open wharf space for expanding bulk commodity traffic, including cement and petroleum products . . . ; a new wharf (at the site of one of the new elevators) providing a grain unloading berth, 800 feet in length, and 1,800 feet of wharf for grain loading and other purposes.

*"Transit Sheds—*The expenditures of \$5,000,000 for transit sheds cover three sheds, each about 500 feet long by 150 feet wide, two shed extensions, and a particularly large shed, 1,500 feet by 100 feet, to be used as a package freight terminal . . . In all, these sheds will provide an addition of about 589,000 square feet to the harbour's shed floor area . . . The net addition to shed floor space will be about 23% . . .

*"Dredging of Navigation Channels—*The expenditure of \$7,500,000 for dredging is required to provide approach channels to new wharves and wharf extensions and to enlarge the turning basin in the upper harbour to accommodate large lakers and passenger vessels.

*"Miscellaneous Items—*This expenditure of about \$500,000 covers additions to the electric power system required by the added facilities and other minor items."

At the port of Quebec works have been announced to provide for the construction of a grain elevator annex with grain gallery and marine towers for unloading grain, an oil wharf at Wolfe's Cove, the reconstruction of Berth 8 at Pointe-à-Carcy, and the reconditioning and widening of Berth No. 18.

At the port of Trois-Rivières a new transit shed will be constructed. In addition, private interests are installing additional elevator facilities.

CHAPTER V

The Canadian Merchant Fleet

Chapter III dealt mainly with the commodities entering the Canadian coasting trade. Brief reference was also made to the ships which engaged in it and in the waterborne traffic between Canada and the United States. In the present chapter, it is proposed to discuss more fully the composition of the Canadian merchant fleet. The term "Canadian merchant fleet" as used here covers all merchant vessels registered in Canada, engaging either in ocean or in coasting activities. Until 1934 registration was accomplished under the Merchant Shipping Acts of the United Kingdom. Since then, registry has been regulated by the Canada Shipping Act.

A brief history of the Canadian shipping industry up to the beginning of World War I is followed by the more recent history of the ocean-going and the coastal fleets in turn, giving the present composition of each.

A. Early History of the Canadian Shipping Industry

Canada's merchant fleet has had a long history, sometimes successful but more often troubled. From the earliest days of the French and British settlements wooden sailing ships were built for fishing and for use in local trade. They were also built on the Great Lakes to serve the fur trade as it developed, and later to serve the spreading settlements. The shipping industry of the colonies was limited at first to such coastal and inland services by the maritime policies of both the French and British regimes.

The merchant fleets of the colonies began to increase more rapidly when they were permitted to trade with foreign countries. By the middle of the 19th century numerous shipyards had been established in Quebec, New Brunswick, and Nova Scotia. While many of the larger ships were loaded with timber and exported to the United Kingdom along with their cargo, many others were retained by local owners and operated in deep-sea trades, including the lucrative trade with the West Indies. The peak of these shipping activities was reached about 1880, when the Canadian fleet numbered 7,377 vessels aggregating 1,311,218 net registered tons, with Canadian sailing ships known the world over.

Canada's many rivers and lakes afforded the easiest means of movement and transport throughout the lengthy period of exploration, fur trade, and settlement. A growing volume of merchandise was carried between Upper and Lower Canada first by canoes and then in turn by bateaux, schooners, Durham boats and steamers. As early as 1680 the Sulpician Order of

Montreal attempted a 11½-foot canal past the Lachine rapids, though it was not completed. By 1783 the Royal Engineers completed a series of 21½-foot canals at Lachine and Soulanges, capable of handling bateaux carrying about 31½ tons, and in 1798 the Northwest Fur Company completed a 11½-foot canal at Sault Ste. Marie. The construction of ship canals began with the introduction of steam navigation. By 1850 there were 9-foot canals from Montreal to Lake Erie, enlarged to 14 feet by 1900, and in 1855 an 11½-foot canal was opened at Sault Ste. Marie on the U.S. side. Other developments included larger canals at Sault Ste. Marie, programmes of river dredging, and the opening of the present Welland Ship Canal in 1932.

Lake shipping progressed steadily with the development of Central Canada and the settlement of the American and Canadian west. While railway building after 1850 in eastern Canada brought a new form of competition that took away some of the traffic and lowered freight rates, it was the railways that opened up the western regions to settlement and brought a great new traffic to the Lakes, leading in turn to the introduction of larger and more efficient ships.

There were few ships in the Pacific coasting trade before 1850. Prior to this date the British Columbia trade was associated with the fur trade and the activities of the Hudson's Bay Company. Thereafter trade on the Pacific Coast increased with the discovery of gold on the Fraser River and later in the Klondike, and with the development of fishing, forest, and mining industries.

While wooden sailing ships remained strongly competitive for more than fifty years after the introduction of steam navigation, from about 1880 on they lost ground rapidly to steel steamers. Within the course of a single generation the Canadian ocean-going fleet declined from its greatest glory to near extinction, paralleling a like decline in the building of wooden ships, with almost all of the larger sailing vessels sold abroad by 1900. From then until 1914 there were few Canadian registered ships in overseas trade, principally those of William Thomson of Saint John, N.B., operating on the Atlantic, and the Dollar ships on the Pacific, while the Canadian Northern Railways operated fortnightly passenger liner services to Bristol, England. The Canadian Pacific Railway also owned a shipping enterprise, the Canadian Pacific Steamships Limited, but it was incorporated in Britain and its ocean-going ships sailed under United Kingdom flag, as they do today.

Table I below shows the number and net registered tonnages of vessels on Canadian registry at five-year intervals from 1875 to 1914. It is not possible to determine accurately the number employed in ocean-going services in each year, as the records do not include this detail, but it is apparent that the composition of the fleet was changing markedly. Thus while the number of vessels registered in 1900 was only 9% less than in 1880, the net registered tonnage decreased by 50% in the 20-year interval.

Royal Commission on Coasting Trade

Again, from 1900 to 1914 the numbers increased by 30%, the net tonnage by 41%.

TABLE I
Number and Net Registered Tonnage of Steamers and Sailing Vessels
on Canadian Registry, as of December 31, 1875-1914¹

Year	Number of Vessels	Net Registered Tonnage
1875	6,952	1,205,565
1880	7,377	1,311,218
1885	7,315	1,231,856
1890	6,991	1,024,974
1895	7,262	825,776
1900	6,735	659,534
1905	7,904	669,825
1910	7,325	750,929
1914	8,772	932,421

¹List of Registered Vessels, Department of Marine and Fisheries, 1914, p. ix.

Read in the light of earlier records, the 1914 *List of Registered Vessels*, published by the Department of Marine and Fisheries, shows clearly the changes that had taken place. The list includes only 179 vessels of 1,000 gross tons or over. Of these, 15 can be identified as in ocean employment, 164 in coasting employment. The distribution of the coasting vessels was as follows:

Region	Number	Net Registered Tons
Atlantic Coast	28	31,155
Pacific Coast	19	18,776
Great Lakes (including St. Lawrence canals)	110	166,901
Other Inland Waters	7	5,733
Totals	164	222,565

The total number of vessels on Canadian registry at the end of 1914 was 8,772, aggregating 932,421 net registered tons. Table II below shows that almost 50% of this tonnage was from Ontario and British Columbia.

B. Vessels Employed in Ocean Trades

1. FIRST WORLD WAR TO 1939

The number of ocean-going vessels on Canadian registry remained few until after the end of World War I. The British Ministry of Shipping having placed orders in Canada in 1917, the Canadian Government initiated a shipbuilding programme early in the following year. The ships were intended for the carriage of war supplies. Though the war ended before the Gov-

TABLE II
Number and Tonnage of Steamers and Sailing Vessels on Canadian Registry
as of December 31, 1914¹

Region	Number of Vessels			Total Net Registered Tonnage
	Steamers	Sailing ²	Total	
Maritimes	695	2,604	3,299	200,603
Quebec	590	1,073	1,663	259,143
Ontario	1,492	608	2,100	314,660
British Columbia	1,173	418	1,591	147,192
Others	104	15	119	10,823
Total	4,054	4,718	8,772	932,421

¹From *List of Registered Vessels*, Department of Marine and Fisheries, 1914.

²Including unriggered craft.

ernment took any deliveries, the building programme was continued. The Canadian Government Merchant Marine was incorporated on December 30, 1918, to operate the ships on completion.

The Canadian Government ordered in this country's shipyards 63 vessels of several types, ranging from 2,800 to 10,500 deadweight tons, totalling 380,736 deadweight tons. All these ships were delivered by 1922. They were built during an inflationary period and consequently their capital cost of \$78,439,000 proved a serious handicap to their economical operation. The Canadian Government Merchant Marine Limited also acquired three vessels from the Department of Railways and Canals at a cost of \$1,223,000. The total deadweight tonnage of the 66 vessels was 391,202 tons and their capital cost amounted to \$79,662,000.

During the first two years, 1919 and 1920, owing to a great shipping demand, the Company's operations showed profits. However, by 1921 sharply reduced ocean freight rates wiped out these profits. Costs were relatively high, largely because of high interest and depreciation charges on the inflated capital cost. Moreover the vessels proved uneconomic in liner services in competition with more modern ones. Most of the services initiated were consequently discontinued after a few years of unprofitable operations or were taken over by other shipping companies. The private companies, using more suitable vessels, were able to benefit from trade routes pioneered by the government line.

In the light of mounting losses, the management of the Canadian Government Merchant Marine Limited recommended gradual disposal of its vessels, which process started in 1923 and was completed by 1936. Some of the ships were transferred to another public agency, the Canadian National (West Indies) Steamships Limited. The total capital and operating losses

Royal Commission on Coasting Trade

to the Canadian Government amounted to more than \$82 million. Against the financial losses should be offset the service rendered to Canadian trade in the critical post-war period of shipping scarcity, and the fact that the objective was not to seek the most profitable employment but to develop new trade outlets.

The Canadian National (West Indies) Steamships Limited originated in 1929. Under the West Indies Trade Agreement of 1926, the Canadian Government undertook the responsibility for providing a shipping service to the participating colonies. The latter in turn agreed to contribute annual subsidies to the extent of £45,000. The Company operated eleven ships before the Second World War, having a total of 62,486 deadweight tons. At present it owns eight vessels, with a total deadweight capacity of 45,040 tons. On the whole the operations showed substantial deficits, except during the period 1941-48, when a portion of the Company's fleet was under charter to the Canadian Government for war services. The cost to the Government on operating account amounted to \$6,857,000 from 1929 to 1954.

In 1939 there were only 38 ocean-going Canadian registered vessels of 1,000 gross tons and over, aggregating 241,684 gross tons.¹ Aside from the Canadian National (West Indies) Steamships Limited, the Imperial Oil Company at that time had 10 deep-sea tankers operating under the Canadian flag, mostly carrying crude oil from the Caribbean area to refineries in Eastern Canada. At that time the Canadian Pacific had 2 of its trans-Pacific liners on Canadian registry.

II. SECOND WORLD WAR AND AFTER

The "Park" Ships

Following the outbreak of hostilities in 1939 the United Kingdom and the Canadian Governments again placed orders for the building of ocean-going merchant ships in Canada. The Park Steamship Company Limited was formed in April 1942, charged with the supervision of the management of ships retained on Canadian registry. These government-owned vessels were allocated to private shipping companies on a management-fee basis. The Government realized \$82 million in profit up to the end of 1945, and another \$40 million from them to March 31, 1940.

At the end of the war, the Government owned 258 dry-cargo vessels of 10,000 and 4,700 deadweight tons, mostly of the larger size. It also owned 20 tankers of 10,000 and 3,600 deadweight tons. The Park Steamship Company Limited was responsible for all the tankers and 150 of the dry-cargo vessels. The remainder were on loan or charter to the United Kingdom, except for one on loan to Australia.

¹Second Report of the Canadian Maritime Commission, 1949, p. 18.

In 1943 the Government appointed a Merchant Shipping Policy Committee to recommend a policy for Canada's merchant shipping in the post-war years. The Committee recommended that because shipping business is an international commercial operation it should in peacetime be owned and operated by private companies. The Government, acting on this recommendation, sold most of the war-built vessels on a deferred payment plan to private operators under the so-called "Park formula", an essential feature of which was the requirement that the vessels would be operated on Canadian registry.

The Canadian Maritime Commission

Another recommendation of the above-mentioned committee was the co-ordination of all government machinery dealing with merchant shipping. The Government decided that a new permanent body was required. The Canadian Maritime Commission Act was passed in July 1947 and the Commission established a few months later. The duties of the Commission are summarized in its first report dated July 24, 1948.

"The Canadian Maritime Commission was, therefore, established to co-ordinate the administration of shipping matters and recommend to the Government policies for preservation of the shipping and shipbuilding industries. The Canadian Maritime Commission Act provides that the Commission shall recommend to the Minister of Transport policies and measures which it considers necessary for the maintenance, manning and development of the Canadian merchant fleet and shipbuilding industry; administer steamship subventions voted by parliament; and assume any other powers, duties and functions required by the Minister of Transport or by the Governor in Council. The Act also authorizes the Commission to investigate and study Canadian requirements with respect to shipping services, the type, size and speed of ships required for these services, Canadian shipbuilding and ship repairing facilities and the costs of building ships in Canada and operating them under Canadian flag."²

According to its principal duties and powers as set out in Sections 6, 7 and 8 of the Act, the Canadian Maritime Commission has conducted investigations, made recommendations and performed administrative functions relating to shipping and shipbuilding activities. The history of shipbuilding activities and policies will be discussed in Chapter VIII.

The Replacement Plan—Escrow Fund

Recognizing the desirability of replacing some of the "Park" ships with others better suited to the particular requirements of certain trades and seeing the possibility of thereby securing orders for Canadian shipyards, the Government adopted early in 1948 what is called "the Replacement Plan". Under this plan the owners of "Park" vessels were permitted to sell them to foreign buyers in return for an undertaking to use the proceeds of the sale for the acquisition of new and modern ships to be operated on Canadian registry. These proceeds were to be placed in an escrow fund. If the owner

²*First Report of the Canadian Maritime Commission, 1948, p. 5.*

of such funds failed to use them within a prescribed period, he became liable to a monetary penalty. Permission to sell such ships was obtained through the Canadian Maritime Commission, which administered the escrow fund. In practice replacement was at first required to be from Canadian shipyards.

From the point of view of Canadian operators of deep-sea vessels the benefits of the Replacement Plan have been impaired by the requirement that construction and conversion be carried out in Canadian yards. A number of "Park" vessels were sold in the first years of the plan's operation and escrow funds accumulated in some volume, but orders for ocean-going replacements failed to materialize because of the high construction cost in Canada. In order to put the escrow funds to use, various modifications of the plan were adopted. Owners of escrow funds were permitted to assign them to others, such transfers usually involving a discount ranging from 5% to 10%. The use of escrow funds for the construction of Great Lakes and other coastal vessels was permitted for a time, although not more than one-third of the cost of such vessels was allowed to be met in this manner. For a time ocean-going tankers were also eligible. In 1953 the requirement of construction in Canadian yards was relaxed and a limited amount of funds was used for building or acquisition of ships in other countries.

Additional changes in the Replacement Plan were made in 1956, with renewed emphasis on modernizing the deep-sea merchant fleet. The flag covenant for all replacement ships now runs for only five years, if the vessel was built in Canada, and for ten years in other cases. If during the currency of the flag covenant the owner is permitted to sell his replacement ship off Canadian registry, he becomes obliged to redeposit in escrow funds only a specified portion of the funds that were used for its acquisition, whereas formerly he would have been required to deposit the entire net proceeds of disposition. Finally, escrow funds may again be used for acquiring tankers and may be used for making improvements to vessels in shipyards outside Canada.

On March 31, 1957, the net proceeds of sales deposited in escrow from the inception of the plan amounted to \$77,660,000. Of this, an amount of \$32,307,000 was used for purchase of new ocean-going vessels. About half of this sum was for tankers which remained on Canadian registry and the other half for dry-cargo vessels, the majority of which are now on United Kingdom registry under the Transfer Plan. Further details of the use of escrow funds will be found in Chapter VIII.

The Transfer Plan

Another measure to help Canadian operators of deep-sea vessels is known as the Transfer Plan, which was announced at the end of 1949. In October

of that year there were on Canadian registry 118 former "Park" vessels, owned and operated by private shipping companies, which were bound by the flag restriction clause of the "Park formula". In addition, there were 58 "Park" vessels on British registry under charter to the British Ministry of Transport. The latter were owned by Canadian companies and were to be returned to Canadian registry in 1950.

The owners of "Park" vessels were able to earn profits with them in the years from 1946 to 1948 because of the high freight rates then prevailing. These high rates were the result of the world shortage of shipping facilities combined with heavy demands for transportation service on account of military movements, relief and reconstruction needs.

During 1948 freight rates began to decline when international competition became keener as wartime shipping losses were gradually made up by new construction. Many foreign shippers were unable to pay freight charges in dollars, and Canadian operators were hampered by currency and import controls.

With the growing difficulties facing owners of Canadian registered vessels, it was feared that most of the 118 ships would simply be laid up by the end of 1949. To remedy this situation two measures were announced on December 9, 1949. The first concerned an arrangement for the transfer of an agreed number of ships to U.K. registry. By Order in Council P.C. 1333 of March 16, 1950, the original flag restriction clause was lifted with respect to these ships and many were transferred to U.K. registry. The second measure provided that those owners who kept their ships on Canadian registry might be financially assisted for a period of one year only. As a result 37 Canadian flag vessels received subsidies which amounted to \$2.7 million.

On December 31, 1956, Canadian vessels under the Transfer Plan (which permits transfer of other than Park vessels) were as follows:^a

<i>Type</i>	<i>Number</i>	<i>Gross Tons</i>	<i>Deadweight Tons</i>
10,000-tonners	82	585,806	851,774
4,700-tonners	3	8,656	13,872
Ore carriers	2	42,210	62,000
Other dry-cargo vessels ..	3	16,672	21,358
	<u>90</u>	<u>653,344</u>	<u>949,004</u>

Under the terms of the Shipping Pool Agreement of the North Atlantic Treaty Organization the transferred ships are to be considered as a specific Canadian contribution to the shipping pool. Under the Transfer Plan, Canada reserves the right to transfer them back to Canadian registry.

^aFrom *Canadian Merchant Fleet*, Canadian Maritime Commission, December 31, 1956 (reproduced as Appendix X of the present report).

Royal Commission on Coasting Trade

Composition of Fleet

Under the title of *List of Shipping*, the Department of Transport publishes a list of all vessels on Canadian registry. This document shows that on December 31, 1955, the last year available, they numbered 17,188 vessels. Compared with 1914 (Table II above), this represents an increase of almost 100%. The net tonnage increased from 932,421 to 1,682,949 tons, or 80%.

TABLE III
Number and Tonnage of Vessels on Canadian Registry, December 31, 1955¹

Tonnage Groups	No.	Tonnage	
		Gross	Net
Under 50 tons gross	13,658	172,628	141,058
Of 50 and under 100 tons gross	934	64,446	46,964
" 100 " " 200 " "	898	130,049	99,747
" 200 " " 300 " "	665	158,106	139,407
" 300 " " 500 " "	340	128,477	102,539
" 500 " " 1,000 " "	238	155,633	120,834
" 1,000 " " 1,600 " "	83	103,501	69,929
" 1,600 " " 2,000 " "	128	236,257	148,824
" 2,000 " " 2,500 " "	76	169,255	115,480
" 2,500 " " 3,000 " "	19	53,283	33,622
" 3,000 " " 4,000 " "	42	145,699	108,437
" 4,000 " " 6,000 " "	53	259,988	177,712
" 6,000 " " 8,000 " "	23	159,750	104,338
" 8,000 " " 10,000 " "	6	51,535	34,417
" 10,000 " " 15,000 " "	19	225,296	155,458
" 15,000 " " 20,000 " "	6	102,493	84,183
" 20,000 " above	—	—	—
Totals	17,188	2,316,396	1,682,949

¹*List of Shipping*, Department of Transport, 1956. The above table indicates 455 vessels of 1,000 gross tons and over, while, for the same date, the list prepared by the Canadian Maritime Commission shows only 353 such vessels. The difference is accounted for by the fact that the latter list does not include scows and barges, harbour and inland ferries, icebreakers, floating dry docks, etc.

As shown in Table III, 13,658 vessels were under 50 gross tons, and the Commission is informed that most of them are fishing vessels. Among the vessels over 50 tons there are many scows and barges, schooners, fishing trawlers, etc. Unfortunately the *List of Shipping* has been of very limited use for the present inquiry, as no distinction is made between fishing and

merchant vessels or between vessels engaged in coasting and ocean trades. It is to be hoped that, in the years to come, more statistical analysis will accompany the *List of Shipping*.

In view of the difficulties just mentioned, this Commission has depended on lists prepared periodically by the Canadian Maritime Commission, covering merchant vessels of 1,000 gross tons and over. Unless otherwise stated the subsequent analysis will be confined to these vessels. This limitation has its shortcomings, but the Commission is of the opinion that they are not serious enough to impair the validity of its findings.

The Canadian Maritime Commission lists 358 vessels of 1,000 gross tons or over on Canadian registry as of December 31, 1956. The details are given in Appendix X. Of this total 26 are classed as ocean-going, by reason of their physical characteristics. However, 5 of these 26 vessels are employed mostly in coasting trades; they are owned by Clarke Steamship Company Limited and Dominion Shipping Company Limited. Details of the remaining 21 vessels engaged in ocean-going employment may be summarized as follows:

<i>Type</i>	<i>Number</i>	<i>Gross Tons</i>	<i>Deadweight Tons</i>
Dry-cargo ships	13	62,699	83,793
Tankers	8	96,252	148,915
	<u>21</u>	<u>158,951</u>	<u>232,708</u>

Nucleus of Shipping

Immediately following its establishment, the Canadian Maritime Commission undertook a detailed study of Canada's needs with respect to its ocean-going merchant fleet. In its Second Report it recommended that, for reasons of national security, the Canadian ocean-going fleet should not be less than 750,000 deadweight tons. This nucleus of ships in the Commission's own words, "... would be sufficient for the carriage of essential cargoes in the early stages of an emergency and to act as auxiliaries for Defence Services".⁴ It can be said that this requirement is being met at the present time by virtue of the fact that the Canadian-owned ships which are on U.K. registry under the Transfer Plan may be transferred again to Canadian registry should circumstances warrant, and that these ships would be part of Canada's contribution to the North Atlantic Treaty Organization's Shipping Pool. Moreover, as indicated above, there are 26 ships of 1,000 gross tons and over which are classed as ocean-going by the

⁴Second Report of the Canadian Maritime Commission, 1949, p. 53.

Royal Commission on Coasting Trade

Canadian Maritime Commission. Thus, on December 31, 1956, the deep-sea fleet can be said to be of 1,219,007 deadweight tons made up as follows:

	Deadweight Tons
90 ocean-going vessels under the Transfer Plan	949,004
26 ocean-going vessels on Canadian registry	270,003
<u>116</u>	<u>1,219,007</u>

C. The Coasting Fleet

In contrast with the history of the ocean-going fleet, the growth of the coasting fleet has been more regular and closely related to the growth of the country. Moreover, in terms of number as well as tonnage, the coasting fleet by far exceeds in importance the ocean-going fleet on Canadian registry. On December 31, 1956, vessels of over 1,000 tons in the coasting fleet numbered 337, an aggregate of 1,102,212 gross tons and of 1,483,032 deadweight tons, distributed as shown in Table IV.

TABLE IV
Canadian Coasting Fleet of Vessels of 1,000 Gross Tons and Over
December 31, 1956¹

Region	Number	Gross Tons	Per cent of Gross Tonnage	Deadweight Tons
Great Lakes				
Lakers	76	505,787	46.0	771,187
Canallers	193	381,789	34.6	565,219
Sub-total	269	887,576	80.6	1,336,406
Atlantic Coast ²	42	132,618	12.0	113,344
Pacific Coast	26	82,018	7.4	33,282
Total	337	1,102,212	100.0	1,483,032

¹From Appendix X.

²Includes 5 vessels referred to on page 59.

In Chapter III it was stated that many smaller vessels engaged in the coasting trade of Canada, particularly on the Atlantic and Pacific coasts. Reference was made to the important part played by scows and barges on the Pacific Coast. In December of 1939 there were in the Canadian coasting trade 464 scows and barges of 200 registered tons and over, for a total of 218,941 net registered tons. By 1955, as shown in Table V below, the number had increased to 836 for a total net tonnage of 343,555.

The importance of scows and barges in the coasting trade of different regions can be illustrated by comparing Table V with Table IV. The comparison has its limitations, not so much because one table deals with net and the other with gross tons (the gross tonnage of the scows and barges would be much the same as the net) but because the one covers scows and barges from 200 net tons up and the other covers only the self-propelled merchant vessels of 1,000 gross tons and over. The fact that on the Pacific

TABLE V
Scows and Barges of 200 Net Tons and Over in the Canadian Coasting Trade
1939 and 1955¹

	1939		1955	
	Number	Net Registered Tons	Number	Net Registered Tons
Atlantic Coast	103	41,781	176	73,704
Pacific Coast	270	114,548	558	204,507
Great Lakes	82	59,358	84	59,487
Others	9	3,254	18	5,857
Total	464	218,941	836	343,555

¹From *List of Shipping*, Department of Transport.

Coast the given net tonnage of scows and barges is 252% of the gross tonnage of the larger vessels is nevertheless striking evidence of the preponderant importance of the mode of transport in these waters. In the eastern waters the tonnage of the given scows and barges is 56% of the tonnage of the larger vessels—still a significant ratio—while on the Great Lakes it is only 6½%.

I. THE GREAT LAKES

Lakers and canallers comprise some 80% of the Canadian coasting fleet. The principal types of lake vessels are bulk freighters, package freighters, oil tankers and barges. No data on the Great Lakes fleet as such were published before 1919. Since that year, however, statistical information concerning this fleet has been published in the annual reports of the Lake Carriers' Association, from which Table VI has been derived.

In 1920, as shown in Table VI, the Great Lakes fleet (U.S. and Canadian) consisted of 775 ships having a gross tonnage of 2,708,958 tons. Of this total, Canada owned 195 ships with a gross tonnage of 347,996 tons, i.e. 12.9%. At the end of 1956 the Canadian Great Lakes fleet had reached 940,325 gross tons, which was 27% of the combined tonnage of American and Canadian ships in this region, representing an increase of 170% in the Canadian tonnage as compared with 1920. This remarkable growth did not come about steadily but occurred during periods of expansion in the Canadian economy.

From 1920 to 1930, through new construction and extensive purchasing of second-hand ships from the United States, the Canadian tonnage more than doubled. This expansion reflects the general economic prosperity of the time and the growth of the industries with which these ships were associated. There was in particular a noticeable increase in grain, iron ore, and coal traffic.

TABLE VI
Canadian Great Lakes Fleet, 1920 to 1956¹

Year	Total U.S. and Canadian Fleets		Canadian Fleet		
	Number of Vessels	Gross Tonnage	Number of Vessels	Gross Tonnage	% of Great Lakes Fleet
1920	775	2,708,959	195	347,996	12.9
1925	849	3,064,302	260	514,998	16.8
1930	921	3,395,811	319	747,733	21.8
1935	896	3,359,015	305	741,687	22.0
1940	817	3,238,916	293	737,896	22.8
1945	670	2,973,189	226	611,795	20.6
1950	709	3,076,130	257	716,180	23.2
1955	738	3,484,445	282	926,368	26.5
1956	742	3,486,277	288	940,323	27.0

¹From annual reports of Lake Carriers' Association. For 1920 and 1925, vessels of 300 gross tons and over, for 1930 those of 500 gross tons, for 1935 and thereafter 1,000 gross tons and over.

The great depression changed this state of affairs: during the 1930's the Canadian Great Lakes fleet instead of continuing to grow began to decline. During the Second World War the decrease was accentuated. Some 60 canallers were used for service elsewhere; after the war many of these ships returned to the Great Lakes region, though 21 of them were lost in war service.

Since 1945 the gross tonnage of the Canadian Great Lakes fleet has shown an increase of some 330,000 tons (or of 53%), which from 1945 to 1950 was mostly effected through the importation of second-hand bulk freighters from the United States. For example in 1947 eleven ships representing 24,422 gross tons were imported, including several large vessels having served some 35 years on the Lakes. In 1948, 20 vessels also were imported, having a gross tonnage of 27,956 tons and averaging 16 years of age. In 1950 Section 22 of the Canada Shipping Act was enacted, and since then the increase in the Great Lakes fleet has been mostly in vessels built in Canada. From 1951 to 1956 inclusive, 15 new lakers (all Canadian-built) and 16 new canallers (12 built in Canada and 4 in the United Kingdom) thus were added to the Canadian Great Lakes fleet. Moreover, 3 lakers, representing some 63,000 deadweight tons, and one canaller were in preparation or under construction in Canadian shipyards on March 31, 1957, while one tanker was being converted into a bulk freighter. It is understood that further orders have been placed since that date.

As shown in Chapter III, the Canadian Great Lakes fleet at present operating above the St. Lawrence canals comprises 76 vessels of 1,000 gross

tons and over.⁵ Their age distribution and the country in which they were constructed are given in Table VII. Sixty per cent of these vessels are over 45 years of age. Despite the natural protection of the St. Lawrence River bottleneck against the importation of vessels from overseas and the customs duty of 25% on the vessels imported from the United States, only 34 ships were built in Canada.⁶ Two of the passenger vessels were built in the United Kingdom and taken through the St. Lawrence canals in halves; one cargo vessel, the *Renvoyle*, was also built abroad but was lengthened after importation. Of the 39 vessels built in the United States, 38 are over 45 years old.

TABLE VII
Dates and Places of Construction of Vessels Operating above
the St. Lawrence Canals (Lakers) December 31, 1956¹

Date of Construction	Total	Number of Ships Constructed in		
		Canada	U.K.	U.S.A.
1890 or earlier	1	—	—	1
1891—1900	17	—	—	17
1901—1910	27	5	2	20
1911—1920	3	3	—	—
1921—1930	7	6	1	—
1931—1940	—	—	—	—
1941—1950	6	5	—	1
1951—1956	15	15	—	—
Total	76	34	3	39

¹From Appendix X. Vessels of 1,000 gross tons and over.

The fleet of vessels capable of navigating the St. Lawrence canals, as of December 31, 1956, included 193 vessels of 1,000 gross tons and over. Of the total, 59 were built in Canada, while of the remaining 134 vessels 112 were built in the United Kingdom, 19 in the U.S.A., and 3 in France. The canaller fleet as a whole is of more recent construction than the lakers, although 78% of the canallers are over 25 years old; 60% of them were built during the period 1921-1930. The dates and places of construction of the 193 Canadian canallers are shown in Table VIII.

II. EASTERN AND PACIFIC REGIONS

Table IV on page 60 showed that on December 31, 1956, 68 vessels of 1,000 gross tons and over were engaged in operations on the Atlantic (including the St. Lawrence River up to Montreal) and Pacific coasts, aggregating 214,636 gross tons and a deadweight carrying capacity of

⁵This figure does not include barges and ferries.

⁶Vessels built in the United States and United Kingdom, and later reconstructed or reconditioned in Canada are considered as U.S. and U.K. built vessels respectively.

Royal Commission on Coasting Trade

TABLE VIII
Dates and Places of Construction of Vessels of the Great Lakes Fleet Capable of Traversing the St. Lawrence Canals (Canallers) December 31, 1956¹

Date of Construction	Total	Number of Ships Constructed in			
		Canada	U.K.	U.S.A.	France
1890 or earlier	4	—	—	4	—
1891—1900	3	—	1	2	—
1901—1910	14	1	8	5	—
1911—1920	15	5	5	3	2
1921—1930	115	25	87	2	1
1931—1940	13	3	7	3	—
1941—1950	13	13	—	—	—
1951—1956	16	12	4	—	—
Total	193	59	112	19	3

¹From Appendix X. Vessels of 1,000 gross tons and over.

146,626 tons. Sixty were passenger or dry-cargo vessels, 8 were tankers. Of the 42 vessels engaged in the coasting trade of the Atlantic Coast, 16 were built in Canada, 16 in the United Kingdom, 7 in the United States and 3 in Germany. Of the 26 ships engaged in the coasting trade of the Pacific Coast, 14 were built in the United Kingdom, 9 in Canada and 3 in the U.S.A.

Whereas the majority of the ships plying the Great Lakes are aging, those engaged in the coasting trade in the eastern and Pacific regions are relatively new; as shown by Table IX below, 42 out of the existing 68 vessels (more than 60%) have been built since 1941.

TABLE IX
Dates and Places of Construction of the Eastern and Pacific Coasting Trade Fleet December 31, 1956¹

Year of Build	Total	Number of Ships Constructed in			
		Canada	U.K.	U.S.A.	Germany
1901—1910	2	—	1	1	—
1911—1920	6	2	3	1	—
1921—1930	13	3	8	1	1
1931—1940	5	2	3	—	—
1941—1950	34	14	11	7	2
1951—1956	8	4	4	—	—
Total	68	25	30	10	3

¹From Appendix X. Vessels of 1,000 gross tons and over. Includes 5 vessels referred to on page 59.

CHAPTER VI

Prospects for Canadian Registered Shipping in the Coasting Trade

A. Introduction

Under existing legislation the Canadian coasting trade is open to vessels on the registries of all Commonwealth countries on the same terms as to vessels on Canadian registry. Non-Commonwealth vessels are permitted to participate on occasion, but as such participation is of comparatively small proportion in normal circumstances and was not an issue before the Commission, it may be ignored. In practice the other Commonwealth vessels participating are almost all registered in the United Kingdom, though some few are registered in the West Indies or Bermuda or elsewhere. At the present time the use of these vessels in the coasting trade is virtually confined to the Atlantic seaboard, as was shown in Chapter III. Many of them are employed by Canadian operators on a time charter basis; some are owned by Canadian interests though registered abroad, under the Transfer Plan or otherwise; a small minority are in the direct employ of overseas operators.

The cost of operating a vessel on United Kingdom registry is substantially less than the cost of operating a similar vessel registered in Canada. A round figure of \$100,000 a year was suggested by shipowners as the difference for a typical ocean-going vessel. The Commission asked Saguenay Terminals Limited to give its actual cost experience with its former Park vessels of 10,000 deadweight tons for a year prior to and a year after their transfer to United Kingdom registry, and asked the Canadian Shipowners Association¹ likewise for the cost experience of its members with these standardized wartime vessels. The data and the explanatory comment provided thereon are given in Appendix XI to this report. In all cases the cost of fuel and the depreciation charge are excluded. Fuel is a large item of operating cost, but the amount varies with the nature of employment rather than with the country of registry. A comparison of depreciation charges likewise would be beside the point because of differences in vessel age, condition, and cost to the reporting owner, as well as differences in accounting practices, whereas it may be assumed that in general a Canadian operator can acquire a vessel for the same capital cost as a U.K. operator.

The Saguenay Terminals statement shows that the daily cost for seven vessels on Canadian registry ranged from \$596 to \$932, while for the

¹Described in its brief as an association of 26 companies owning 80 ocean-going cargo vessels of 509,000 gross tons. A high proportion of the vessels are on United Kingdom registry under the Transfer Plan.

same vessels after transfer to United Kingdom registry the range was from \$534 to \$744. Experience with one vessel was exceptional in that the cost was less before transfer than after. The company advised that maintenance expense was lower than usual in the first period and higher than usual in the second. If this non-typical instance is excluded, the average daily cost of six vessels on Canadian registry was \$803, on United Kingdom registry \$593, a difference of \$210 a day. Since a vessel would commonly lose 30 to 35 days of employment per year for repairs and overhaul, including the time proceeding to and from a repair port, the difference would amount to about \$69,000 or more for a 330-day operating year. Saguenay Terminals stated that the normal costs for a United Kingdom operator in other than North American waters would be lower still, and gave estimates of such costs for each of the vessels; the average for the six was \$515 a day. The latter figure is less than the cost on Canadian registry by \$288 a day, or about \$95,000 for a 330-day year.

The vessels covered by the evidence of the Canadian Shipowners Association were employed in a variety of deep-sea trades. The average daily cost was \$860 on Canadian registry, \$565.50 after transfer to United Kingdom registry. This would put Canadian costs higher than United Kingdom costs by \$294.50 a day or about \$97,000 for a 330-day year.

The Canadian Maritime Commission, dealing with the same type of vessel and likewise excluding fuel and depreciation, made cost comparisons in its second, fifth and sixth reports. The latest covered costs in 1952 and was much quoted during the course of the inquiry. It estimated an average cost of \$816 a day on Canadian registry, \$543.50 a day on United Kingdom registry, a difference of \$272.50 a day or about \$90,000 for a 330-day year. Table I below shows the breakdown of the daily cost figures and compares it with the similar detail reported by the Shipowners Association.

Corporate shipowners subject to United Kingdom income and profits taxes have another advantage over their Canadian counterparts, associated with the acquisition of new (not second-hand) ships, amounting in effect to a substantial remission of taxes on vessel earnings. The owner may claim as a deduction from his profit for tax purposes an "investment allowance" which when initiated in 1954 was 20% and now is 40% of the cost of the ship, in addition to the normal depreciation allowance. Unlike depreciation, the investment allowance may be claimed as rapidly as revenues permit. Thus a small-scale operator may escape income and profits taxes altogether for some years, while a large-scale operator with earnings from the new ship added to other taxable income may be able to claim the full tax remission in the first year. One result is that a U.K. operator will realize a greater net profit (after taxes) out of a given margin between costs and revenues. Since the U.K. operator also has the advantage in operating costs, the combined effect of the two factors is to enable him to earn

Prospects for Canadian Registered Shipping in the Coasting Trade

TABLE I
Estimated Daily Operating Costs for 10,000-ton Deadweight Standard
War-Built Vessels
(excluding fuel and depreciation)

	Canadian Maritime Commission ¹	Canadian Shipowners Association ²
<i>Canadian Registry</i>	\$	\$
Wages ³	316.50	372.00
Subsistence	66.00	65.00
Stores and Supplies	66.50	50.00
Repairs and Maintenance ⁴	160.00	160.00
Insurance	129.50	133.00
Sundries	15.50	15.00
Management	62.00	65.00
Total	816.00	860.00
<i>United Kingdom Registry</i>	\$	\$
Wages ³	140.50	165.50
Subsistence	48.00	45.00
Stores and Supplies	52.50	45.00
Repairs and Maintenance ⁴	123.50	140.00
Insurance	119.00	90.00
Sundries	14.00	15.00
Management	46.00	65.00
Total	543.50	565.50

¹Sixth Report, p. 9.
²From Appendix XI.

³Includes allowances, overtime, etc.
⁴Includes allowance for survey.

a satisfactory profit at lower levels of vessel earnings than would be considered minimal by a Canadian operator. Moreover, in periods when vessel earnings are comparatively high the U.K. operator will recover his original investment at a much faster rate and so will be in a better position to withstand later periods of depressed revenues.

The investment allowance was first granted in 1954 at the rate of 20%. It applied generally over a wide field of industry to capital expenditure incurred on the provision of new assets, and may be regarded as a development in a taxation policy initiated in 1945, designed to encourage re-equipment and modernization of productive capacity. The investment allowances were withdrawn in 1956, with certain limited exceptions, of which ships were one. The allowance for expenditure on ships incurred after April 9, 1957, was increased to 40%, under provisions of the Finance Act assented to July 31, 1957. The increase in the investment allowance is for ships only, and was proposed because of the special position of the shipping industry "... faced with severe competition in a world market, often from ships sailing under flags of convenience with small tax liabilities. It finds it increasingly difficult to build up finance for the replacement of its ships when they become obsolete."²

²From the budget address by the Chancellor of the Exchequer, House of Commons Parliamentary Debates, 9th April, 1957.

Royal Commission on Coasting Trade

Large and important as may be the general advantage of the vessel on United Kingdom registry (or on other Commonwealth registry), Canadian registered vessels are nevertheless used to carry a major portion of coasting tonnage even on the eastern seaboard, where there is most ready access to vessels operated from a United Kingdom base. This must mean that there are a number of trades in which the advantage of the overseas vessel is reduced or offset by other considerations. The present chapter therefore comprises a review of the coasting trade in each of the three major areas — the eastern seaboard, the Pacific Coast, and the Great Lakes — appraising the future prospects for the employment of vessels on Canadian registry.

B. East Coast, Gulf and St. Lawrence River Below Montreal

GENERAL CARGO SERVICES

The main general cargo services of Eastern Canada were described in Chapter III. Five of them employ exclusively vessels on United Kingdom registry: the Furness Warren and Furness Red Cross lines, Constantine Canadian Services, Newfoundland-Great Lakes, and the intercoastal service provided by Saguenay Terminals. The first three are the only regular services in the coasting trade provided directly by United Kingdom firms. All the other services are provided by Canadian firms.

The Furness Warren and Furness Red Cross services between Newfoundland and the mainland are each a part of a larger international service long antedating the union with Canada that made them coasting trade. In like manner the intercoastal service provided by Saguenay Terminals is integrated with international trade, the vessels calling at a number of foreign ports in the course of a voyage between the eastern and western coasts of Canada. All three are examples of a type of service in which Canadian registered vessels have been found generally unprofitable.

The Clarke Steamship Company Limited and the associated companies under the same management charter some United Kingdom tonnage as well as Canadian to supplement their own vessels registered in Canada. All the other services use vessels on Canadian registry almost exclusively, including not only Newfoundland-Canada, Blue Peter, Anticosti Shipping, Canada Steamship Lines, and Ferguson Industries but also the various C.N.R. services to Newfoundland and to Prince Edward Island, the C.P.R. service across the Bay of Fundy, and all the various schooner services. The Clarke group of companies advocated restriction of the coasting trade to vessels registered in Canada, although they are now using some United Kingdom vessels. Newfoundland-Canada and Anticosti Shipping opposed restriction and Blue Peter made no representations; all three use only small Canadian vessels.

All witnesses were in general agreement that the employment of vessels on United Kingdom registry offered a cost advantage, but the evidence was

more obscure as to why so many operators continued to use Canadian tonnage. The evidence nevertheless suggests that several factors may be involved, including the length of the season, the most suitable size and type of vessel, the availability of suitable vessels and the specific terms on which they might be made available. Thus the two services that do not use Canadian tonnage are seasonal services, linking Great Lakes and Newfoundland ports, a circumstance in which the cost advantage of a United Kingdom vessel might be expected to be greatest. Moreover, suitable vessels were available or were made available. Of the three being chartered by Newfoundland-Great Lakes, one was designed and built for the route, and it was stated that the two vessels used by Constantine were altered "at considerable expense" to make them suitable. In contrast, a considerable proportion of Canadian vessels are employed the year round in the coasting trade, as in the case of the Newfoundland-Canada services between Halifax and St. John's, and the C.N.R. and C.P.R. services. The Clarke group also maintain three of their vessels in Canadian operations during the winter, with the Newfoundland service linked to Halifax, N.S., and Saint John, N.B., instead of Montreal and Quebec, and with a reduced service to the north shore of the Gulf of St. Lawrence. In these circumstances it might be expected that the cost differential would be greatly reduced if not eliminated, in view of the practical difficulties of basing both vessel and crew in the United Kingdom. This will suffice to illustrate the considerations, without an attempt to evaluate the various factors in every instance, which indeed might be found to change with time.

The Commission does not advance a precise prediction as to the future employment of Canadian registered shipping in general cargo services in these waters, should the coasting trade remain open to vessels registered in other parts of the Commonwealth. Nevertheless it suggests that the present pattern might prove to have some continuing validity. It is to be expected that Canadian operators would continue to predominate in the field, because of the advantage of management from a Canadian base, and because general cargo liner services are costly to establish and slow to develop into a paying proposition. Without doubt the operators would keep under continuous review the relative advantages of using Canadian or United Kingdom tonnage and might change their policy accordingly, but on the whole it appears that there would remain substantial scope for the employment of shipping on Canadian registry.

BULK CARGO

The major bulk cargoes moving in the coasting trade of these waters are petroleum oils and products, pulpwood, coal and coke, and iron ore, it about that order.³ Other important bulk cargoes include non-ferrous

³See Table II, Chapter III.

metallic ores (largely ilmenite), limestone, gypsum and cement. In almost all of these trades a high proportion of the movement is in vessels operated by the producing or consuming firm concerned or by an affiliated shipping company. In some cases a contract is made with an independent ship operator for the movement of agreed quantities within a given time. Single voyage charters are not uncommon but are comparatively of lesser importance. At the present time no U.K. operator is participating on a continuing basis in any of these movements, except for "spot" cargoes carried more or less incidentally in the course of other vessel employment. The Canadian operators, including the independents, may own or charter the vessels they require; it is they who employ most of the United Kingdom tonnage that is used in these waters.

The largest single employer of vessels in the coasting trade of Eastern Canada is the Dominion Steel and Coal Corporation Limited (DOSCO). A subsidiary, Dominion Shipping Company Limited, owns three ocean-going vessels on Canadian registry. These three vessels carry most of the iron ore and limestone from Newfoundland mines and quarries for the Sydney furnaces. They also carry some cargoes of coal from Sydney, but the coal movement employs more than twenty chartered vessels. While some of these are on Canadian registry, 75% to 80% of the Cape Breton coal trade is carried in vessels on United Kingdom registry.

The movement of iron ore from Sept-Iles for transshipment at Contrecoeur is a recent development in coasting trade and is due to end with the opening of the Seaway, when large vessels will be able to carry the ore into Great Lakes ports. The volume of the latter movement and its rate of increase will depend on the shipping costs including seaway tolls, for Sept-Iles ore is also being shipped to U.S. seaboard ports for forwarding to the inland market, and that route may continue to be competitive. In any event the shipments will be mostly in international trade, although some comparatively small volume may be shipped to Canadian destinations. The present coasting movement to Contrecoeur is in vessels registered in the United Kingdom and Bermuda, of which at least one has been designed for possible use on seaway routes. When the Seaway is opened, however, lake-type vessels may be expected to compete for the new international carriage, a subject which is considered hereafter.

Petroleum products, pulpwood and cement in bulk are carried almost exclusively in vessels on Canadian registry. Gypsum may provide return cargo for the cement carrier or other Canadian vessels, but a large part is carried in United Kingdom bottoms. Ilmenite is moved from Havre St-Pierre to Sorel by a contract carrier using a U.K. vessel.

It will be seen that the use of United Kingdom and Canadian registered shipping in the bulk trades appears to follow a pattern analogous to that in the general cargo services. While it would appear easier for a United

Prospects for Canadian Registered Shipping in the Coasting Trade

Kingdom operator to compete for contracts to move bulk cargo than to compete in the other liner services, no instance has come to the attention of the Commission in which a U.K. operator has obtained such a contract in the coasting trade in recent years, even in years when ocean trades elsewhere were depressed. The use of United Kingdom tonnage is mostly by Canadian operating firms, as in the case of general cargo services, and appears to be most attractive where the movement to be effected is substantial and where the most common type of ocean carrier is suitable. It appears again that there are numerous trades in which the advantage lies with vessels registered in Canada, presumably for reasons similar to those suggested above.

The Commission therefore believes that not only in general cargo services but also in the bulk trades in these waters there would remain somewhat the same division of use as now obtains between vessels on Canadian and on other Commonwealth registries. It is to be noted, however, that most of the recent increases in coasting trade tonnage (e.g. ilmenite, iron ore) have been in trades served largely by U.K. vessels, and that this may continue to be the case with subsequent increases. Moreover, the recent increase in the U.K. investment allowance may in time make it more advantageous to use U.K. vessels in employments in which heretofore the choice of vessel was a matter of indifference. It nevertheless appears that there would remain a very considerable scope for the employment of vessels on Canadian registry and that such employment may continue to increase, though probably at a comparatively slow rate.

C. The West Coast

Participation of other Commonwealth vessels in the coasting trade of this region is of negligible importance at present and is likely to remain so. The coasting trades are almost completely separate from the international trades that might attract Commonwealth vessels, with the exception of the intercoastal trade dealt with above. The biggest part of the tonnage is carried by towed scows or barges, and it would appear impractical to make use of such vessels and crews based elsewhere than in Canada. Competition for this or other traffic by self-propelled vessels on Commonwealth registry appears little more attractive, if only because of the distance from a suitable base in the sterling area and the fact that cargo movements continue the year round.

Canadian operators have some scows or barges (but not tugs, as far as is known) on United Kingdom registry. There is no difference in operating cost. The reason found was that the vessel itself or the hull from which it was converted had been acquired abroad at an attractive price, but had been refused Canadian registry under Section 22 of the Canada Shipping

Royal Commission on Coasting Trade

Act. In the cases brought to the attention of the Commission the necessary conversion or refit had been done in a Canadian yard. Section 22 is discussed in Chapter XI.

The prospects for Canadian registered shipping on the Pacific Coast are excellent as compared with other Commonwealth shipping. The question is rather the future role of self-propelled vessels in competition with scows and barges, and the latter in competition with log rafting. However, these are not matters on which the Commission is called upon to report.

D. The Great Lakes

I. INTRODUCTION

Construction of the St. Lawrence Seaway brings a wide range of uncertainties to ship operators on the Great Lakes and St. Lawrence River. Out of these uncertainties has arisen fear that Canadian registered shipping will be eliminated from the inland bulk trades, a fear that was a major factor in instituting the present inquiry.

The traffic at stake is not only the Canadian coasting trade but also the even greater volume of transborder trade within the Great Lakes and between the Great Lakes and the Atlantic seaboard region. The tonnages carried in these several trades in 1955 were shown in Chapter III to be as follows:

	<i>Million Short Tons</i>	
<i>Coasting Trade:</i>		
Within the Great Lakes	10.3	
Between the Great Lakes and eastern regions	6.8	17.1
	<hr/>	
<i>Transborder Trade:</i>		
Within the Great Lakes	26.1	
Between the Great Lakes and eastern regions	3.7	29.8
	<hr/>	<hr/>
		46.9

The total of about 47 million tons is large by any standard.

The coasting cargoes of Canadian grain averaged 11.5 million tons for the four years 1952 to 1955, 7.7 million carried from the Lakehead to ports above Montreal and 3.8 million carried from lake ports to Montreal or beyond. The latter figure is largely accounted for by the reshipment of grain in canallers at the various transfer ports. If this grain had been carried from the Lakehead to the downriver ports without transshipment it is apparent that the total would have approximated 7.7 million tons, one-third less than the actual total of 11.5 million. Transshipment within the course of a coasting movement is expected to cease soon after the Seaway is opened, hence a decrease in the total of coasting cargoes is to be expected simply because much of the grain will be moved the full distance in one

Prospects for Canadian Registered Shipping in the Coasting Trade

trip rather than two shorter trips, quite aside from any more significant change in volume that might be measured in terms say of ton-miles of grain carriage in coasting trade.

The limitations of the existing canals have shaped the development of traffic patterns and the composition of the present lake fleet. The grain trade is the notable example. For export or other through movement, grain is transhipped to the smaller canallers at various points from Port Colborne to Prescott, or re-railed at Georgian Bay ports or other transfer points. One result is that most operators moving grain from the Lakehead to Montreal and other St. Lawrence ports command a fleet that includes a number of canallers to complement the upper lakers.

Completion of the St. Lawrence Seaway will bring new opportunities for transportation economies and considerable new traffic as well. For the lakes operator it will mean a two-fold adjustment to major changes in traffic patterns and to a new and formidable source of competition. Thus it will become possible to move grain from the Lakehead to tidewater and iron ore from Sept-Iles to Lake Erie ports in large vessels without transshipment. Ore and grain may be carried with advantage in an extended voyage of one ship, or the ore carrier may load a return cargo of coal at a Lake Erie port. On the other hand typical ocean vessels may load grain and other export cargoes at the inland ports, carrying imports on the inward voyage, so reducing the present volume of coasting trade. If they are British vessels they may participate in the Canadian coasting trade. Other outside vessels may be employed wholly in the inland trades for the season.

Canadian operators of lakes vessels fear the new competition in both the coasting and the transborder trades, because of the lower operating costs of other Commonwealth and foreign vessels. Operation is seasonal and the bulk movements are large, circumstances in which the use of United Kingdom tonnage in the coasting trade has been found advantageous. The upper lakers are of specialized design and the newer ones have larger capacity than general purpose ocean vessels, factors which may offset the latter's operating cost advantage. However, there are already on Commonwealth registries specialized vessels that can carry as much on seaway draughts as a good sized laker, and still bigger ones might be built. The evaluation of the prospects for Canadian registered shipping accordingly reduces largely to a question of the most suitable types and sizes of ocean-going vessels that might be used or might be designed for the major seaway trades, and how they would perform in comparison with the most efficient Canadian lakers. Such comparisons will give some indication of the advantage that might attach to a direct overseas movement to or from the Great Lakes as opposed to transshipment at a St. Lawrence River port, as well as the competitive position of various types of vessel with respect to the inland movements.

II. GENERAL CARGO

General cargo or package freight trades within the Great Lakes have not been isolated by the St. Lawrence canals to the same degree as the bulk trades. Small ocean vessels are not necessarily outclassed; some have traded into the Lakes in the past, and since the war the number of regular services to overseas points has continued to increase. By the 1956 season there were fourteen lines operating, including two from the United Kingdom. So far, however, these services have carried only a negligible volume of cargo between Canadian and U.S. ports or between Canadian ports.

Competition for coasting trade in general cargo is limited by the licensing requirements of the Transport Act, which apply to the carriage of goods other than goods in bulk between Canadian ports west of the Island of Orleans (near Quebec) in vessels over 500 gross tons. "Goods in bulk" is defined⁴ to include flour and mill feeds in bulk or in sacks, ore concentrates in sacks, pulpwood and woodpulp in bales, waste paper loaded as a full ship's cargo, iron and steel scrap, and pig iron. These commodities could be carried without a licence by any vessel otherwise qualified to engage in coasting trade. The practical effect of the requirement is nevertheless an extensive regulation of general cargo services.

One of the purposes of regulation is to prevent destructive competition, and accordingly the statute provides as a condition of granting a licence that the Board of Transport Commissioners be satisfied "that the proposed service is and will be required by the present and future public convenience and necessity". The difficulty of establishing such a proposition must be recorded as providing an established carrier with a very substantial degree of protection from competition, though not necessarily complete protection.

Five operators, all Canadian firms, held licences under the Transport Act for specified services in the Great Lakes-St. Lawrence region during 1956: Canada Steamship Lines Limited, Northwest Steamships Limited, Yank-canuck Steamships Limited, Canadian Pacific Railway Company Limited, and Cayuga Navigation Company Limited. The major package freight operator is Canada Steamships (CSL), with twenty-one package freighters registered in Canada, of which seventeen are of smaller size and four are confined to lake operation. Most of the business is in the coasting trade. Northwest Steamships had two vessels licensed for extensive service, Yank-canuck had two licensed to carry iron and steel products including bars, billets, rod, strip, or skelp, and the C.P.R. its two lake passenger vessels, while the Cayuga vessel carries only a limited amount of cargo in addition to passengers.

The testimony of CSL officials indicated that they have much less fear of United Kingdom competition in package freight than in the bulk trades, quite aside from the question of a licence to operate. Uncertainty was

⁴R.S.C. 1952, c. 271, s. 2(1)(d).

Prospects for Canadian Registered Shipping in the Coasting Trade

expressed with respect to that part of the business consisting of import and export shipments received from or delivered to ocean carriers at Montreal and elsewhere, which might be carried farther through Canadian waters by the ocean vessel. The president of the company nevertheless stated: "The truth about the package freight in this, that a large part of the income dollar must be spent for stevedoring. Therefore, all ships travelling in our coast, on that factor of the cost, would have the same expense as we have. The advantage they would have is entirely afloat".

Table II below is a statement provided by Canada Steamship Lines showing the tonnage of package freight carried in the years 1950 to 1954, and the amount of the tonnage that consisted of goods in the course of export or import. It will be noted that the total tonnage shows a rising trend, the export-import tonnage a falling trend; the latter as a percentage of the total fell from 16.1% in 1950 to 11.8 in 1953, and in 1954 was 12.5%. Perhaps the significance is less in the decline in export-import volume than in the fact that it has remained so high, in view of the many overseas services that might have carried it without transshipment.

TABLE II
Package Freight Tonnage Carried by Canada Steamship Lines Ltd.
1950 to 1954¹

Year	Total Tonnage	Export/Import Tonnage	Percentage Export/Import to Total Tonnage
1950	775,274	124,589	16.1
1951	858,210	130,629	15.2
1952	934,361	117,174	12.5
1953	961,806	113,889	11.8
1954	956,565	119,980	12.5

¹From Exhibit 183.

The advantage of the ocean vessel "afloat" may be more than a matter of lower operating costs per day. It may stem rather from the fact that the vessel would touch at more than one Canadian port in the course of an international voyage, in which case coasting cargo could be carried between these ports at little more cost than that of handling plus any additional ship time spent loading and unloading. With respect to stevedoring, on the other hand, the evidence was that the Canadian operator has lower costs because shore and loading operations are highly mechanized; cargo is placed on pallets which are handled with fork trucks, the vessels have side ports to admit the trucks and elevators to lower them to the hold. By contrast it was stated that in general ocean vessels are loaded and unloaded through top hatches with slings, a slower and more costly operation involving more manual labour.

The Commission is satisfied that such factors constitute reasonable grounds for a lesser concern over possible competition from United Kingdom operators. Further, Canadian operators would appear to be under little inducement to charter United Kingdom tonnage for the service.

III. BULK CARGO

1. VESSEL SIZE AND DESIGN

The fundamental question at issue is whether Canadian registered lakers would be able to recover their operating and capital costs, together with a profit or return on the investment sufficient to ensure their continuance in the trade, at a charge per ton or per bushel of cargo no higher than would be required for a vessel registered in the United Kingdom or other part of the Commonwealth. Related questions arise as to the seaworthiness of the lakers in the Gulf of St. Lawrence as far as Sept-Îles and perhaps as far as Newfoundland, the feasibility of getting them across the Atlantic if built abroad at reduced cost, and the future role of the smaller canallers. There are also questions as to the adaptability of ocean vessel design to seaway limitations, their comparative construction and operating costs, their carrying capacity on the inland waters, and their prospects for profitable winter employment.

The evidence is that most of the canaller vessels will not be replaced on retirement by similar vessels after completion of the Seaway and the provision of appropriate shore facilities for larger vessels. Thus the president of Colonial Steamships Limited stated that it operates 23 canallers and expects to scrap eighty per cent of them. Nevertheless, vessels of this type were still being constructed in 1955 and 1956. One explanation offered was that there would be a continuing use for them—especially “good” canallers with larger capacity than the older ones—carrying bulk cargoes in smaller lots, and serving harbours where bigger ships could not go.

A laker built in the United Kingdom would require a clearance certificate from the Ministry of Transport there for the delivery voyage. For insurance, the underwriters must be satisfied as to the risk; they usually are guided by the opinions of recognized “classification societies”, which have arisen as independent authorities on ship design, construction, and service standards. Certification and insurance are hypothetical questions at the present time, but letters have been filed giving the tentative opinions of two classification societies, Lloyd’s Register of Shipping⁷ and the American Bureau of Shipping.⁸ Without having made a definitive study of a specific vessel, each society expresses the opinion that the delivery voyage could be made safely in ballast.

The seaworthiness of vessels in Canadian waters is a matter for certification by the Steamship Inspection Board, and insurance is again a weighty

⁷Exhibit 74.

⁸Exhibit 78.

Prospects for Canadian Registered Shipping in the Coasting Trade

practical consideration. Two major operators have testified that they are satisfied that most of their upper lakers will meet the requirements for trading to Sept-Iles, the shipping point for Quebec-Labrador iron ore.

It has been suggested that trades to the south or east coast of Newfoundland might develop in which inland vessels might be used to advantage. The above-mentioned letter from Lloyd's Register states that ships in such service would be required to be, to all intents and purposes, up to full sea-going standard. Whether the requirements for service to Newfoundland's west coast would be as onerous is uncertain. It is possible that some existing lakers might serve with little or no modification, should prospects for profitable employment so warrant.

The most comprehensive evidence on the prospective competition between Canadian and United Kingdom vessels in seaway trades was submitted by CSL.⁷ The *Thunder Bay*, one of its large lakers built and registered in Canada, was compared with an identical vessel assumed to have been built and registered in the United Kingdom, and with five ocean vessels built and registered in the United Kingdom. The ocean vessels ranged from a modern tramp type to specialized bulk carriers, the latter with seaway capacities of a little over 17,000 long tons of cargo. The vessels were compared in two operations, assuming return in ballast in each case: the movement of wheat from the Lakehead to Kingston, an operation with which the company is long experienced, and a movement of iron ore from Sept-Iles to Hamilton, a hypothetical case at present but a type of operation with which it is thoroughly familiar. The comparisons were set out in complete detail with an outline of specifications for each ship, estimated capacity, voyage time, vessel construction and operating costs, costs per ton, and (in the case of wheat) profit before taxes at a revenue of seven cents a bushel as then current. Subsequently the company submitted comparable data respecting its newest and largest laker, the *T. R. McLagan*.⁸

The seven vessels compared in the CSL submission were identified by the letters A to G for ready reference, as follows, all except A being built and registered in the United Kingdom:

- A—The existing laker *Thunder Bay*, built and registered in Canada.
 - B—An identical laker built and registered in the United Kingdom.
 - C—A standard modern tramp capable of carrying 12,600 long tons at ocean draught.
 - D—An enlarged version of C in all proportions, conventional in design but less common in size; that is, it is in less demand for ocean service.
 - E—A further enlargement of C with length and beam greater in proportion to depth of hull, to afford greater capacity at seaway draughts.
- These proportions and its size make it a specialized design. While a

⁷Exhibits 200, 201, 202.

⁸Exhibits 222, 254.

number of vessels of this general type and size exist they are not in great demand at present.

F—The same overall dimensions as E, designed as a dry-cargo bulk carrier for ocean or seaway service.

G—The same overall dimensions as E, designed for use alternatively as a tanker or an ore carrier for ocean or seaway service.

The data on the *T. R. McLagan* were used to cover three differing assumptions as to build and registry, the corresponding vessels identified as H, I, and J, as follows:

H—The existing laker *T. R. McLagan*, built and registered in Canada.

I—An identical laker built and registered in the United Kingdom.

J—An identical laker built in the United Kingdom, registered in Canada.

Starting with a published design for a tramp ship for vessel C, the designs for vessels D, E, F, and G were evolved by Richard Lowery, a qualified naval architect of repute, vice-president of CSL and president of Davie Shipbuilding Limited. It was said that many specialized ocean carriers exist of the general types and size of F and G and that the two designs would not be considered unusual.

The submission indicated that vessel F, the dry-cargo bulk carrier, would be expected to offer the most serious competition of the five ocean vessels. The other four would be comparatively less suitable either for seaway or for ocean service or for both, although considered practical.

Other relevant and authoritative evidence included a submission made by the Canadian Shipowners Association⁹ giving an equally thorough analysis of the probable performance of two ocean vessels in typical seaway operations. One was a common ocean type of 9,000 tons deadweight capacity, the other a bulk carrier capable of loading 15,000 long tons at seaway draughts—each a little smaller than the comparable vessel put forward by CSL. The operations considered were wheat from the head of the Lakes to Kingston, iron ore from Sept-Iles to Ashtabula, and coal from Ashtabula to Montreal. The estimates of performance and costs were given in exhaustive detail; pertinent extracts are reproduced as Appendix XII.

The Commission is particularly appreciative of the time and effort that went into the preparation of these submissions by Canada Steamship Lines and by the Canadian Shipowners Association. The greatest importance is attached to them, the one reflecting operating experience with lake vessels in the inland trades, the other ocean experience with vessels on United Kingdom registry. The work of other witnesses on this subject has been most helpful also, all of which has greatly facilitated the course of the inquiry.

The above material together with other relevant evidence was submitted to a well-known firm of naval architects and marine surveyors, Messrs.

⁹Exhibits 248, 252.

Prospects for Canadian Registered Shipping in the Coasting Trade

Milne, Gilmore & German of Montreal, with a request for their opinion as to the general practicability and technical acceptability of the various vessels described by CSL, including costs of construction and operation, capacities, and prospects for winter employment. The Commission directed that the comparison include the *T. R. McLagan*, vessel H, taken as typical of the most efficient lakers, since the ocean vessels presumably include the most efficient competitors that might be built. It also directed that the comparison be extended to an identical vessel built and registered in the United Kingdom (vessel I) and one built in the United Kingdom and registered in Canada (vessel J). The naval architects' appraisal is reproduced as Appendix XIII to this report. The result is a substantial confirmation of the validity of the original comparisons, though significant differences in detail are to be found.

Table III below gives the capacities of the ten vessels reviewed and the costs per ton for the given wheat and ore movements, as derived in the consulting naval architects' report on the CSL submission. The following two sections will examine the more important assumptions and component costs

TABLE III
Estimated Capacities and Unit Costs of Existing and Projected Vessels in Seaway Trades, as Derived in Appendix XIII.

Vessel	Description	Country of Build	Cargo Capacity			Costs per ton	
			Ocean	Seaway		Wheat ¹	Iron Ore ²
				Wheat	Iron Ore		
				long tons		\$	\$
<i>Lakers Registered in Canada</i>							
A	<i>Thunder Bay</i>	Can.	—	16,690	18,000	2.35	1.33
H	<i>T. R. McLagan</i>	Can.	—	20,490	22,200	2.14	1.21
J	<i>T. R. McLagan</i>	U.K.	—	20,490	22,200	1.82	1.00
<i>Lakers Registered in United Kingdom</i>							
B	<i>Thunder Bay</i>	U.K.	—	16,690	18,000	1.88	1.03
I	<i>T. R. McLagan</i>	U.K.	—	20,490	22,200	1.73	.94
<i>Ocean Vessels Registered in United Kingdom</i>							
C	445 ft. shelter decker	U.K.	12,600	10,100	10,100	1.92	1.25
D	495 ft. shelter decker	U.K.	17,450	12,200	12,200	2.02	1.27
E	640 ft. shelter decker	U.K.	24,150	17,500	17,500	1.93	1.18
F	640 ft. ore and grain	U.K.	23,700	17,100	17,100	1.84	1.07
G	640 ft. ore and oil	U.K.	22,500 ³	—	16,750	—	1.11

¹Fort William to Kingston, return empty.

²Sept-Isles to Hamilton, return empty.

³Maximum capacity for oil. Ore holds would be full at 17,600 tons, hence on the ocean the vessel would be more efficient as a tanker.

behind these calculations in the light of the Canadian shipowners submission and of other evidence before the Commission. Succeeding sections will consider what might be the revenue requirement to afford an adequate

return on investment in addition to costs, considering the prospects for winter employment as well, and will draw inferences as to the competitive position within the inland trades and the competition from vessels carrying bulk shipments directly overseas.

2. VESSEL CAPACITY AND VOYAGE TIME

The cost per ton or per bushel of effecting a given cargo movement is the resultant of several factors such as vessel capacity, voyage time, operating costs including capital charges, and any extra expenses that may be associated with the trade. All these factors and their several components must be considered in order to appraise the validity of the costs given in Table III.

The grain and ore capacities of the lake vessels are given facts. The seaway capacities of the five ocean vessels are, for the present at least, more a matter of professional opinion. In all cases the consulting architects have suggested a little greater capacity than the original submission; for working purposes the Commission accepts the consultants' figures. It was pointed out in the original submission that vessel G would not be suitable for moving wheat, because the dry-cargo holds (separate from the oil tanks) have not been given the necessary cubic capacity. As a matter of fact the ocean capacity for such a heavy cargo as ore is given as 17,600 long tons, little greater than the load limit imposed by seaway draughts, whereas the maximum load of oil is given as 22,500 tons. The intent to illustrate alternative use as a seaway ore carrier and an ocean tanker is evident.

The time allowed for loading and unloading cargo is a substantial part of the voyage time and hence an important factor in costs. All the times given are based on the experience of CSL with vessels of comparable size, and are said to represent the best experience in each case. It was stated that average time in port would be considerably longer, particularly for loading wheat when the movement is heavy and the loading ports congested.

The loading time for wheat includes the time taken for the loading operation, which varies in direct proportion to the quantity to be loaded, and an allowance for time lost in the loading port. The time lost occurs partly while awaiting a berth or changing berth, and is also partly due to the fact that work at the elevators stops overnight, during week-ends, and for meal hours. The lost time allowances are 20 hours for vessel C, 31 hours for D, and 34 hours for all the larger ocean vessels and the lakers. This peculiar pattern of lost time according to vessel capacity was given as an observed fact, and is accepted as such in the absence of other evidence. A completely satisfactory explanation could not be obtained, but it is believed to be related to the size of berth required, the number of shifts taken to complete loading, and the elevator working hours. Whatever the reason, it is

Prospects for Canadian Registered Shipping in the Coasting Trade

to be noted that the differing allowances for lost time have a major effect on the costs per ton derived in Table III above. Thus if C were to experience 34 hours lost time as assumed for the large vessels, the cost for wheat would become \$2.02 a ton instead of \$1.92 as in Table III, an increase of 10c a ton.

The lost time allowed for unloading wheat ranged from five hours for vessel C to seven hours for vessels F and H. There is comparatively little congestion of vessels at Kingston and the delay results very largely from the elevator hours. In the ore movement lost time loading and unloading was reported to be proportionately of less importance and independent of vessel size. Ore delivery requirements are known well in advance, the docks work on a 24-hour basis, and the scheduling of vessels is accordingly more effective.

Exclusive of lost time, all vessels were assumed to load at the same rate in bushels or tons per hour. For unloading wheat, the calculated times for vessels C, D and E were increased 10% on account of their less convenient structure and arrangement. For unloading ore, the calculated time was increased by eight hours for C and D, ten hours for E. The Commission has satisfied itself that these penalties represent a reasonable allowance.

Vessel speed is an obvious factor in voyage time. The effect on costs depends not only on the time that might be saved but also on the extra capital cost of more powerful engines, the extra fuel consumption per trip, and the loss of cargo capacity to engine space and perhaps to fineness of hull. The consulting architects advise that, for the three larger ocean vessels, E, F, and G, the assumed speed of 14.4 miles per hour ($12\frac{1}{2}$ knots) is less than would likely be provided under prevailing practice for ocean vessels. A calculation was made for a vessel FF similar to F but capable of a service speed of 17 miles per hour, the speed of the existing *T. R. McLagan* and in line with current trends. The costs per ton with vessel FF in the wheat and ore movements would be \$1.98 and \$1.19 a ton respectively, compared with \$1.84 and \$1.07 for vessel F as in Table III. The power and speed assumptions of CSL will be retained because they give the three large ocean vessels a greater advantage in the comparison. It does not necessarily follow that their winter earnings prospects would be much impaired by this assumption, which implies a less than optimum speed for general ocean operation.

3. COSTS PER TON

Costs per ton have been computed from the tonnage that each vessel could carry in a full season and the total costs (excluding seaway toll) that would be incurred or be chargeable over the season. The season is taken as 230 days for wheat, 210 days for ore. The costs per ton so derived are valid only under the given service conditions, including return in ballast. They

would remain valid for single trips under the same conditions providing the vessels were fully employed in other trades for the balance of the operating season. As some of the costs are fixed annual charges, however, the cost per ton is greater if the vessel is employed less than full time. Since continued operation at capacity is not to be expected, in practice the costs per ton may well be higher. This does not impair their value for establishing comparative vessel economy.

Annual or seasonal charges for capital costs (depreciation and interest) are a major part of operating costs, depending directly on the original construction cost and the probable economic life of the vessel. Construction costs in 1955 have been used as the basis for the estimates, both for lakers built in Canada and lakers and ocean vessels built in the United Kingdom. The Commission is satisfied that the estimates as modified by the consulting architects are reasonable approximations in each case and appropriate for comparison.

It is assumed in each case that the vessel will have no scrap or other value when the time comes for its retirement, hence the whole of the original cost is depreciated over its assumed economic life.

The annual depreciation charged is 4% for lakers, 5% for ocean-going vessels, corresponding to an economic life of 25 years and 20 years respectively. Lake vessels commonly remain in service much beyond the age of 25 years. Of the 69 dry-cargo lakers on Canadian registry at the end of 1956, 51 were 26 years old or more, the oldest being over 65 years. In like manner ocean vessels may and do remain in service after 20 years. At mid-1954 ships over 20 years of age accounted for 21% of the total number of dry-cargo merchant ships of 100 gross tons and over on the registries of countries participating in the Organization for European Economic Co-operation or on United States registry.¹⁰ The additional years of service do not necessarily reduce the average annual cost, however, for repair and maintenance expenses are reported to increase steadily with age, and many of the older lakers have had costly refits at one time or another. On the whole the Commission is satisfied that an assumed economic life of 25 years for lakes vessels and 20 years for vessels serving partly on fresh water and partly on salt affords a reasonable basis for cost comparison.

The costs include an annual interest charge of 2½%, assumed to be roughly the equivalent of 5% interest if the ship were financed entirely by borrowings repaid over the useful life of the vessel. The charge will be accepted as a component of costs for present purposes.

Fixed expenses include not only depreciation and interest but also, in the case of the lakers, the annual cost of fitting the vessel for service and laying it up each season. The lakers are assumed to recover their fixed annual charges during an operating season of 230 days, as with wheat.

¹⁰*Lloyd's Register of Shipping*, quoted in the 1954 Statistical Supplement to the Annual Report of the Maritime Transport Committee, O.E.E.C.

Prospects for Canadian Registered Shipping in the Coasting Trade

In the case of ore the fixed cost apportionment against that carriage is 210/230ths of the annual charge. The ocean-going vessels are assumed to work an operating year of 330 days; the fixed charges to be apportioned to wheat and to ore are accordingly 230/330ths and 210/330ths of the annual fixed charges, respectively.

Besides "fixed expenses" the original submission included "variable expenses" and, for wheat only, "handling expenses". The latter is for such items as elevation and tallying; the amount is taken as one cent a bushel ($37\frac{1}{3}$ cents per long ton), said to be the approximate average at Kingston. The "variable expenses" included wages, fuel, provisions, repair and maintenance, supplies and dues (supplies and tools, canal and dock and harbour dues, towing, pilotage, etc.), overhead and insurance.

The estimates of variable expense are presumably most reliable for the lake vessels, since they are based on the actual experience of CSL. The details were given to the Commission in confidence for that very reason. They conform with other evidence submitted on the cost of operating lakers. For example an extensive exhibit by Dominion Marine Association¹¹ gives the average daily operating costs of four large lakers as \$1,789 exclusive of depreciation, the four vessels having an average capacity of 677,000 bushels of wheat. The comparable figure for the *Thunder Bay* (623,000 bushels) is moderately less, for the *T. R. McLagan* (765,000 bushels) somewhat more.

CSL was less sure of its estimates of variable costs for United Kingdom vessels, particularly wages, overtime and fringe benefits, though the estimates were based on the best information available, including earlier evidence before the Commission. The consulting naval architects had little independent check on these items or on other items except fuel and repairs. The estimates get considerable support from a comment on the original Exhibit 200, made in a letter from the General Council of British Shipping:¹²

"The vessel under the letter heading "C" does seem somewhat comparable with U.K. ships presently in service and the figures for operating expenses recorded in the tables appear to be fair estimates."

The General Council disclaims operational knowledge of any vessels similar to D, E, F, or G, and in fact expresses doubt as to the suitability of the latter three. It would nevertheless appear a reasonable inference that the estimates of the variable expenses for these vessels are likewise fair.

The submission of the Canadian Shipowners Association previously mentioned provides detailed cost estimates for United Kingdom registered vessels somewhat comparable to C and F. Summary data from the submission in question are given in Table IV below. For more ready reference the smaller vessel will be identified as X, the larger as Y. It will be enough to compare the estimates for the wheat movement only, which in both cases

¹¹Exhibit 165. ¹²Exhibit 243.

Royal Commission on Coasting Trade

is from Fort William to Kingston with empty return. The estimated cost per bushel with X is 6.639c, with Y 6.109c. Adding the handling charge of 1c a bushel gives costs per long ton of \$2.85 and \$2.65 respectively, compared with a cost of \$1.92 previously derived for C and \$1.84 for F.

TABLE IV
Selected Data from "Estimated Cost of Operating in the Great Lakes"
submitted by the Canadian Shipowners Association¹

	Ocean Tramp (Vessel X)	Ocean Bulk Carrier (Vessel Y)
Estimated 1955 cost	\$2,200,000	\$4,100,000
Ocean deadweight, long tons	9,000	18,500
Seaway deadweight, long tons	9,000	15,000
Crew	36	38
COSTS PER OPERATING DAY²		
<i>Capital costs</i>		
Construction cost	\$ 328	\$ 597
Interest ³	119	217
Other ⁴	20	34
Total capital cost	\$ 468	\$ 848
<i>Ocean operation</i>		
Insurance	109	166
Repairs and Surveys	169	194
Portage	193	202
Provisions	49	52
Stores	45	72
Superintendence	12	12
Miscellaneous	22	23
Administration and general	36	36
Total of above	\$ 1,102	\$ 1,606
<i>Great Lakes, additional cost⁵</i>		
Insurance	11	15
Portage	30	33
Provisions	18	19
Stores	5	12
Miscellaneous	4	4
Total daily costs	\$ 1,170	\$ 1,688
OTHER VOYAGE COSTS, WHEAT		
Fuel	\$ 5,545	\$ 7,520
Lake Master	300	300
Overtime in canals	40	40
Welland Canal dues	60	60
Agency fees	100	100
Incidentals	25	25
	\$ 6,070	\$ 8,045
VOYAGE SUMMARY, WHEAT		
Voyage time	12.4 days	13.9 days
Voyage cost, total	\$ 20,580	\$ 31,520
Total vessel cost per day	\$ 1,660	\$ 2,268
Bushels carried	310,000	516,000
Cost per bushel	6.639c	6.109c

¹From Exhibit 248; extracts reproduced in Appendix XII. Figures may not add because of rounding.

²Operating 335 days a year for 20 years; 30 days a year allowed for repairs, survey, and deviation.

³Interest at 5% on capital borrowings repaid within 14.3 years (i.e. at 7% a year); total interest charge averaged over life of vessel.

⁴Organization, interest during construction, supervising.

⁵For 185 days per year.

Prospects for Canadian Registered Shipping in the Coasting Trade

In the derivation of these figures the significant differences are those relating to vessel capacity, voyage time, and operating cost. These details are as follows:

<i>Vessel</i>	<i>Wheat Capacity</i>	<i>Voyage Time</i>	<i>Vessel Cost per day</i>
X	310,000 bu.	298 hr.	\$1,660
C	377,100 "	227.2 "	1,655
Y	516,000 "	334 "	2,268
F	638,300 "	255.8 "	2,351

It will be appreciated that the longer voyage time assumed for X and Y is a major factor in their higher costs per ton. This is not for lack of power, as the service speed is 14 knots. Hence, if the crews of such vessels had the experience of one or more seasons in the Lakes, the presumption must be that the voyage would take no longer than with comparable lakers. If the vessel were to enter the Lakes only occasionally in the course of a general tramping operation, however, the inland part of the voyage might be comparatively slow and the costs per ton correspondingly higher, for the Commission has been assured, and has no reason to doubt, that the ready manœuvring of a large vessel through restricted channels and comparatively narrow locks requires a special skill that is not acquired in regular ocean service.

Further testing Appendix XIII, a comparison may be made between the operating cost estimates for X and C, Y and F, having regard to the differences in vessel size. Comparison will be confined to the variable costs as previously described, since the fixed costs derive directly from the costs of vessel construction, which are not here questioned further. The comparisons are made on a daily basis in Table V below, again with respect to the wheat example only. For this purpose the "voyage costs" shown in Table IV have been divided by the voyage time there given; canal overtime and portage have been grouped under the title of wages, agency fees and incidentals included with overhead, and the lake master's retainer with supplies, dues and pilotage.

The estimates for provisions, supplies and overhead agree as closely as might reasonably be expected, considering that the Canadian Maritime Commission has found "a fairly wide disparity" in figures of actual experience submitted to them.¹⁸ Fuel costs are higher for X and Y, whereas the contrary might have been expected; this is doubtless due in part at least to differing assumptions as to motive power and rates of fuel consumption. Repairs are put higher for X and Y, but they are estimated averages over the life of the vessels whereas the estimate for C and F is a figure for early years only. Insurance is put lower for X and Y, but this is partly because of the lower capital cost, partly because the high rates applying to early and late weeks of lake employment are excluded, and may be partly the result of a different

¹⁸Second Report, p. 40.

TABLE V
Comparison of Estimates of Variable Costs per Day¹
Wheat Movement

<i>Tramp Type Vessels</i>	<u>Vessel C</u>	<u>Vessel X</u>
Wages	\$ 167	\$ 226
Fuel	403	447
Provisions	64	67
Repairs and Maintenance	96	169
Supplies, dues, pilotage, etc.	74	79
Overhead	80	84
Insurance	161	119
Total Variable	<u>\$1,045</u>	<u>\$1,191</u>

<i>Bulk Carriers</i>	<u>Vessel F</u>	<u>Vessel Y</u>
Wages	\$ 178	\$ 239
Fuel	520	540
Provisions	64	71
Repairs and Maintenance	152	194
Supplies, dues, pilotage, etc.	121	110
Overhead	104	84
Insurance	246	181
Total Variable	<u>\$1,385</u>	<u>\$1,419</u>

¹Data for vessels C and F from Appendix XIII, for X and Y from Table IV above. For descriptions of vessels C and F see text pp. 77 and 78, vessels X and Y text p. 83.

assumption as to the degree of coverage. For all the foregoing items the comparison either suggests no change in the previous estimates or implies that the estimates might have been calculated on a different basis for all vessels considered, lakers as well as ocean-going. Accordingly, on these elements of costs the estimates derived in Appendix XIII have been accepted.

The comparison in Table V shows a difference in the estimated wage or labour costs of about \$60 a day as between C and X and between F and Y. In the latter case the discrepancy is partly accounted for by the fact that Y is assumed to carry a crew of 38 and F a crew of 36, but C and X are each assumed to carry a crew of 36. Since the Canadian Shipowners Association estimate is based on actual experience with United Kingdom crews, it constitutes weighty evidence that wage costs are substantially higher than those incorporated in Appendix XIII, not only for C and F but also for the other vessels on United Kingdom registry. To put the matter in perspective, an increase of \$60 a day in the operating costs of vessel F would increase the cost per ton of wheat by 3.7c, the cost per ton of ore by 1.1c.

In this connection it is relevant to refer also to the daily wage costs for Park vessels on United Kingdom registry. They are about the same size and general type as C, though slower and less modern. It is reported that they are at present operated with a crew of 33 or 34. Daily wage costs given in

Prospects for Canadian Registered Shipping in the Coasting Trade

Table I are \$140.50 and \$165.50, compared with \$167 for vessel C. It would be reasonable to expect the latter's cost to be even higher by comparison because of the larger crew, and because a crew bonus of about \$20 a day per vessel would be payable (and is included in the estimate for C) for service in Canadian waters. Moreover, the Park data relate to considerably longer voyages on the average, through unrestricted waters; overtime is largely incurred on entering or leaving port or passing through canal locks, and might be expected to be greater for C.

On the whole the evidence suggests strongly that the estimated wage costs for vessels on United Kingdom registry should be increased, though not necessarily by as much as \$60 a day. However, in order to avoid the danger of underestimating the strength of the possible competition from United Kingdom vessels, the Commission accepts for its own purposes the lower estimates set out in the report of the consulting naval architects reproduced as Appendix XIII.

In summary, the Commission accepts the respective costs per ton set out in Table III on page 79 as affording a reasonable appraisal of the comparative performance that might be expected in typical seaway operations with vessels of the types described. The costs derived for vessels on United Kingdom registry are believed to err on the low side in comparison with costs on Canadian registry. Moreover, the costs derived for ocean-going vessels are based on the assumption that the vessels remain in the lakes trades for most of the season and so are operated with the same skill as the lakers, and that they command the services of an equally efficient shore organization for cargo solicitation and other requirements. The reservation is made that an ocean vessel entering the Lakes only on an occasional voyage, as to take on a cargo of grain for overseas, might make slower time and hence experience greater costs for the fresh water movement. Finally, while the costs per ton are accepted for purposes of comparison between vessels, it is emphasized that the costs per ton for the given movements in actual practice would likely be higher for each vessel, since each has been assumed to be gainfully employed every day of the season, a condition which will not be typical experience.

4. RETURN ON INVESTMENT

Profit Before Taxes

The original CSL submission included a calculation of the seasonal profit before taxes that would be earned by each of the vessels in the hypothetical wheat movement at a revenue of 7c a bushel (\$2.61 $\frac{1}{3}$ a long ton), as the freight rate then was for the movement from Fort William to Kingston. The same calculation has been made in the naval architects' report, Appendix XIII. The latter's figures are reproduced in column 3 of Table VI below.

The lakers may earn additional revenue from the storage of grain. The common contract price has been a flat 3c a bushel for whatever period may

Royal Commission on Coasting Trade

be arranged¹⁴. Officials of CSL testified that for the four years 1951 to 1954 the net revenue from winter storage averaged about 2¾c a bushel and that they were able to earn such revenue with about 70% of their fleet¹⁵. Accordingly an additional allowance is made in column 4 of Table VI for net earnings from winter storage on an average of 70% of the vessels' capacity at 2¾c a bushel, to derive a total annual profit and rate of return on the original investment. The ocean-going vessels normally would move out to other trades for the winter; their seasonal profit on the Lakes is converted to an annual rate of return for ready comparison with the lakers.

TABLE VI
Profit Before Taxes as a Percentage Return on Original Investment
Wheat Movement Fort William to Kingston

1	2	3	4	5	6
Vessel ¹	Capital Cost ²	Profit before taxes, revenue 7c per bushel ³	Net Earnings winter storage, av. ³	Annual Profit or annual equivalent ⁴	Rate of return per annum ⁵
	\$	\$	\$	\$	%
<i>Lakers Registered in Canada</i>					
A	4,850,000	94,290	11,990	106,280	2.2
H	5,820,000	223,390	14,725	238,115	4.1
J	3,880,000	375,370	14,725	390,095	10.1
<i>Lakers Registered in United Kingdom</i>					
B	3,230,000	264,170	11,990	276,160	8.5
I	3,880,000	417,590	14,725	432,315	11.1
<i>Ocean Vessels Registered in United Kingdom</i>					
C	2,680,000	169,250	—	242,837	9.1
D	3,510,000	163,040	—	233,927	6.7
E	4,800,000	255,000	—	365,884	7.6
F	4,250,000	286,390	—	410,907	9.7

¹For description of vessels see Table III p. 79, also text pp. 77-78.

²From Appendix XIII.

³Seventy per cent of lake vessels' capacity at 2¾c per bushel; see text p. 88.

⁴For lake vessels, sum of columns 3 and 4; for ocean vessels, column 3 x $\frac{330}{230}$

⁵Column 5 as a percentage of column 2.

The reservation must be made at once that, while comparisons of profit before taxes are useful and meaningful where the basis of taxation is the same or closely similar, they may be misleading if this is not the case. In the present instance the tax liabilities are substantially different, not only between the Canadian registered and the U.K. registered vessels but also between Canadian-built and U.K.-built vessels on Canadian registry. In spite of this limitation, Table VI may be used with Table III on page 79 to show that attention may be narrowed to comparisons between four vessels: H and J on Canadian registry, C and F on U.K. registry.

It will be apparent from both Tables III and VI that a laker of the size of the *T. R. McLagan* is a more efficient and more profitable carrier in the given

¹⁴Transcript page 3690.

¹⁵Transcript pages 5191-2.

Prospects for Canadian Registered Shipping in the Coasting Trade

wheat and ore movements than one of the *Thunder Bay* class. Data with respect to the latter have been carried this far because, up to the end of the 1956 season, there were only two larger lakers on Canadian registry. Moreover, it is believed that vessels of the *Thunder Bay* size will continue in demand to meet some service requirements. It is nevertheless in order, for present purposes, to omit further consideration of vessels A and B.

Among the remaining vessels on United Kingdom registry the one showing the highest rate of return in Table VI is vessel I, a large laker, which would remain in the inland waters after its delivery voyage but would be manned from the United Kingdom and technically would be based there. Even if such an operation did not prove impractical for other reasons, it is highly doubtful whether a U.K. shipowner would choose to invest in a vessel confined in its use to the Lakes, rather than in ocean-going vessels, for the profitability of vessel I would depend entirely on the varying levels of activity on the Great Lakes from year to year. Vessels C and F appear less profitable in the given seaway movements, but when the inland trades turned slack—and the grain trade for one shows great variation—they could be directed into other employment in world trading, hence in practice it is likely that the shipowner would prefer them for this element of flexibility.

Vessels D and E, enlarged versions of the tramp-type vessel, will be seen from Table VI to be considerably less profitable than either C or F in typical seaway employment, and the CSL witness and the naval architects agree that there would be less assurance of profitable winter employment. The latter opinion gets support from the fact that there are comparatively few vessels of this general type and size in ocean service. It therefore appears highly doubtful that any vessels D or E would be built specifically for seaway service, though some of the similar vessels in ocean trading might find occasional seaway employment.

Vessel G, the ocean ship suitable for carrying either ore or oil, is not listed in Table VI as its dry-cargo space is insufficient to make it suitable for carrying grain. This very fact suggests that it would not be well adapted to service on the Great Lakes. The preponderant tonnages to be carried in the Canadian coasting or the international trades are grain, iron ore, and coal. There is some considerable movement of crude petroleum and refined products but not such as to give much scope for a vessel the size of G. In the dry-cargo trades it is found of advantage to use vessels that are more or less equally suited to the carriage of either ore or grain to ensure a fuller degree of employment, and with the Seaway open there is expected to be a further advantage in ability to carry either coal or grain and ore on a round trip. Vessel G would not have this flexibility and would appear from Table III to be a less efficient ore carrier than F.

Finally, while Table III shows that C has higher costs per ton than F in both the wheat and the ore movement, Table VI shows that it is almost as

Royal Commission on Coasting Trade

profitable as F in the wheat movement. Vessel C is the typical ocean tramp; its prospects for alternative employment outside of the Great Lakes are at least as good and perhaps better than those of vessel F, the specialized seaway-ocean carrier of dry cargo in bulk. This high degree of flexibility means that it must be considered as a possible competitor of vessel F and of the Canadian lakers even for cargoes to be moved within the confines of the inland waters. Moreover, it may be taken as typical of the vessels that may seek grain cargoes at the Lakehead for direct movement overseas, a separate aspect of the new pattern of competition. For both of these reasons it is necessary to continue the comparison of C as well as F with the two Canadian lakers, H built in Canada, J built in the United Kingdom.

Profit after Taxes

It is to be expected that the long-term trend in lakes freight rates will be towards a level that yields a return on investment that is considered by the operators concerned to be adequate and normal. At higher levels there would be a strong incentive for the operators or new competitors to put more vessels into the service, which would tend to reduce the average profit. Lower levels would discourage the acquisition of new vessels even for replacements, and if any ocean-going vessels were participating some might be withdrawn for more profitable employment elsewhere, both of which reactions would tend to raise the average profit for remaining vessels. The Commission is not in a position to suggest what is an adequate return. It is therefore necessary to make a reasonable assumption as to what might be an acceptable return on investment in order to deal with the fundamental question, raised at the outset of the discussion on bulk cargo trade, whether Canadian registered lakers would be able to earn a sufficient profit at revenue levels no higher than would be required for competing vessels registered in another part of the Commonwealth. For this purpose it is the profit after taxes that must be considered.

The lower incidence of taxation is a major factor in the popularity of such "flags of convenience" as Panama and Liberia, and in the growing practice among United Kingdom owners of registering vessels in Bermuda or parts of the British West Indies. The Commission understands that, at present, a ship on United Kingdom registry is not permitted transfer to these registries. Newly acquired vessels may be so registered. Earnings become subject to United Kingdom taxation only if transferred to an owner's account there, hence a common current practice is to reinvest the earnings in fleet expansion. The ultimate outcome of such developments is uncertain, though the recent increase in the investment allowance for U.K. shipping shows that counter measures are being undertaken. In any event the immediate concern is less with competition from vessels on other Commonwealth registries than with the fact that a United Kingdom operator is subject to taxation on a different basis than a Canadian operator.

Prospects for Canadian Registered Shipping in the Coasting Trade

The Canadian federal income tax levy on corporations is at present 20% on the first \$20,000 of taxable income and 47% on the remainder. Among the expenses and other items deducted in arriving at taxable income, a shipping company may claim a depreciation allowance on the cost of its vessels at the rate of 15% of the diminishing balance. A special concession is available under the Canadian Vessel Construction Assistance Act to ships built and registered in Canada since January 1, 1949. The original purchaser of such a vessel may claim a depreciation allowance of up to one-third of the cost each year until the total cost has been written off for tax purposes.

Two provinces, Ontario and Quebec, levy corporation income taxes, with the result that a given corporate income would be subject to somewhat higher taxes than elsewhere in Canada. The federal tax rate is reduced by 9% where a provincial tax is levied. Under the Ontario law the calculation of taxable income is the same as the federal, for practical purposes, but the tax rate is 11%, so that the total of corporate taxes is increased by 2% of the taxable income. Under Quebec law the tax rate is 9% but the calculation of taxable income differs; in particular there is no allowance of $33\frac{1}{3}\%$ straight line depreciation on Canadian-built ships and the allowance for ships in general is less favourable than the federal allowance of 15% on the diminishing balance. There is also a problem with respect to the provincial allocation of corporate income. In order to simplify the analysis it will be assumed that the total liability to provincial and federal tax in these two provinces is the same as the liability to federal tax elsewhere in Canada. It follows, however, that the revenue requirements so calculated for the Canadian registered vessels may be unduly low, a reservation that may become more significant should the provincial tax levies be increased without a corresponding abatement of the federal tax.

The United Kingdom levy differs not only by reason of the 40% investment allowance described in the introduction to this chapter, but also with respect to both depreciation allowances and tax rates.

Depreciation may be claimed on vessels like C and F above at the rate of $12\frac{1}{2}\%$ of the diminishing balance. The depreciation and investment allowances together provide tax-free deductions which total, over a vessel's life, 140% of the vessel's original cost.

On a corporation's taxable income after these deductions two taxes are levied, standard income tax and a profits tax. The standard income tax rate is $42\frac{1}{2}\%$. The profits tax is 3% of the undistributed portion and 30% of the portion distributed as dividends. While the corporation pays both taxes directly, the standard income tax on the distributed portion is regarded as a withholding tax paid on behalf of the shareholders and is claimable by them as credits against their personal tax liabilities.

Royal Commission on Coasting Trade

Two examples will show the operation of the U.K. income and profits taxes with a given profit for tax purposes of £100,000:

Example 1. No dividend declared.

Profit for tax purposes	£100,000
Taxes payable:	
Income tax 42½ %	
Profits tax 3 %	
Total tax 45½ %	45,500
Undistributed profit after taxes	<u>£ 54,500</u>

Example 2. Declared dividend £30,000.

Profit for tax purposes	£100,000
Declared dividend	£30,000
Less 42½ % withheld as shareholders' personal income tax	12,750
Net to shareholders	17,250
Sub-total	<u>£ 82,750</u>
Taxes:	
Corporate income tax 42½ % of £70,000	£29,750
Corporate profits tax:	
3% of £70,000	2,100
30% of £30,000	9,000
Total corporate taxes	<u>£40,850</u>
Shareholders' personal tax above	12,750
Total tax payments	53,600
Undistributed profit after taxes	<u>£ 29,150</u>

It will be seen from the second example that the shareholders receive the full value of the dividend, with personal income tax deducted at the source. It will be seen also that the amount of tax paid by the corporate entity as such (£45,500 in the first example, £40,850 in the second), exclusive of any "withholding tax" on behalf of the shareholders, is 45½ % of the undistributed portion of the profit for tax purposes plus 30 % of the dividend distributed.

A number of witnesses before the Commission mentioned the United Kingdom investment allowance, usually referring to it as "overdepreciation" of 20 %, as the allowable rate then was. Comment was limited, beyond making it clear that the allowance was a valuable consideration to the recipient. No attempt was made to compare a U.K. operator's net earnings after tax with those of a Canadian operator, or to indicate the effect of tax policy in permitting realization of an adequate profit from lower levels of income than would be required otherwise.

The two questions of what net earnings after tax might be considered adequate and what are the corresponding revenue requirements are examined in Appendix XIV. The four vessels that remain of concern here are dealt with:

H—Large laker built and registered in Canada.

J—An identical laker built in the United Kingdom, registered in Canada.

Prospects for Canadian Registered Shipping in the Coasting Trade

- C—Tramp-type ocean vessel built and registered in the United Kingdom.
- F—Specialized seaway-ocean carrier of dry cargo in bulk, built and registered in the United Kingdom.

The analysis is made from the point of view of an operator at the time he decides whether or not to invest in a new vessel. The basis of the analysis is the year to year excess of vessel income over actual out-of-pocket expenses and taxes during the year, this excess being the funds that comprise both recovery of investment and net profit. A major consideration is the treatment of dividends, whether any part of them is to be apportioned to the earnings of the new vessel, and if so how much. The assumption is made that each vessel would be expected to earn a fixed amount in dividends each year, the amount in each case to be what a representative shareholder would regard as equivalent in personal income to an interest yield of 5% on the average book value of the vessel over its life (half the original cost). In addition to the dividends it is assumed that each vessel would be expected to earn for the corporate owner something substantially more than the original cost of the vessel, not only to provide for the vessel's eventual replacement in 20 or 25 years time at a cost that will probably be several times as great as the original cost, as has been the case in this generation, but also to provide for innumerable other contingencies that may arise during the period. In short, the additional return here assumed includes the "risk premium" that must be in prospect in order to induce investment in the vessel.

The assumption that the vessels have no scrap or other terminal value is maintained, as in the original CSL submission.

The term *retained funds* is used in Appendix XIV and hereafter in the text to designate the part of a vessel's gross revenue that remains in corporate hands after the payment of out-of-pocket expenses, corporate income and profit taxes, and dividends. It is to be emphasized that the *retained funds* comprise both accumulated depreciation (recovery of the original investment) and undistributed earnings.

An operator would not invest in a vessel unless the prospective *retained funds*, as just defined, were sufficient to afford what was in his judgment a minimum rate of return, which will be no less than the going rate of return on similar alternative investments. This requirement is formalized in Appendix XIV by capitalizing the prospective *retained funds* at the required rate of return on investment. If the value so obtained is equal to the original cost, the vessel would earn the required return on the capital invested in it, while a value less or greater than the cost would indicate that the vessel would earn a lower or a higher rate than the required rate of return. This method of evaluating an asset in terms of the prospective income it will earn is particularly appropriate for comparisons among the vessels being considered, with a different earning life for ocean and lake vessels, with *retained funds* accruing in

Royal Commission on Coasting Trade

decreasing annual amounts (because of the decreasing tax exemption from year to year) even if the vessels' gross revenues remain unchanged, and with the rate of accrual differing according to whether the operation is subject to taxation in Canada or in the United Kingdom. Capitalization is simply the calculation of the present value of the prospective income at the given rate of return; in the present case it therefore evaluates automatically not only the amount of the total tax exemption, the tax rate, and the length of the earning period (20- versus 25-year vessel life), but also the rapidity with which exemptions may be claimed, hence the rapidity with which capital may be recovered and profit earned.

Canadian law permits claiming the depreciation on vessel H at 33 $\frac{1}{3}$ % a year for three years, and U.K. law permits claiming the investment allowance for vessels C and F all in the first year. If one of these vessels were the only source of income for the respective owners it is highly doubtful if the allowances could be claimed as rapidly as this, unless revenues were unusually high. A more typical instance would be the addition of one of these vessels to an existing fleet, in which event the total earnings of the whole fleet might well be great enough to claim the full allowance in three years or in one year, as the case may be. It is assumed in Appendix XIV that the latter circumstance obtains.

The final assumption made in Appendix XIV is that each vessel will be required to earn an amount of *retained funds* that will afford a return of 7% on invested capital. This is a rate of return on the decreasing value of the vessel, as distinct from a fixed annual return on the original investment. The basis for this choice of rate is set out in the appendix; it is believed to be a reasonable requirement for the hypothetical wheat and ore movements under consideration.

The Commission does not suggest that a shipowner would go through the calculations of Appendix XIV before deciding to purchase a vessel. It believes that the factors involved in the decision are the ones dealt with in the appendix, however, and that the formalization of this investment decision affords as fair a basis of comparison as is to be had for the purpose at hand.

TABLE VII
Required Revenue per Ton to Yield a Return of 7% After Taxes and Dividends¹

Vessel	Description	Registered in	Built in	Required Revenue per ton ²	
				Wheat	Iron Ore
H	Lakes bulk carrier	Can.	Can.	\$2.95	\$1.74
J	Lakes bulk carrier	Can.	U.K.	2.47	1.42
C	Ocean tramp-type	U.K.	U.K.	2.35	1.58
F	Seaway-ocean bulk carrier	U.K.	U.K.	2.29	1.39

¹Hypothetical wheat and ore movements as described in Appendix XIII. See Appendix XIV for derivation, including assumptions respecting dividends.

²In the case of the lakes vessels H and J it is assumed that part of the required yearly revenue is earned in the winter storage of wheat.

Prospects for Canadian Registered Shipping in the Coasting Trade

In order to meet the requirements that have been enumerated, it is shown in Appendix XIV that the vessels engaging in the given wheat and ore movements would require the revenues per ton set out in Table VII.

It will bear repeating that the required revenues presented in Table VII are based on the assumption, among others, that each vessel is one of a fleet whose earnings are large enough to claim depreciation and investment allowances at the maximum rate permitted by law. Somewhat different figures might be derived on the assumption that each vessel was its owner's only income-producing asset, because it would take a longer period for the full tax benefits to be realized. On this assumption, however, neither owner need pay corporate income or profits tax during that interval, and hence the present value of the tax provision would be little less than in the case of the fleet-owner. In particular, the relative position among those who own only one ship would be much as shown in Table VII.

It will be apparent from Table VII that the Canadian-built laker H will not normally be an attractive investment if its physical counterpart J can be acquired as readily from a United Kingdom yard at two-thirds the cost. The effect of the Canadian Vessel Construction Assistance Act is to reduce considerably the required prospective revenues of a Canadian-built vessel from what they would otherwise be, but it alone is not enough to make H competitive with J, which does not qualify under the Act. When Canadian yards can offer prompt delivery whereas U.K. yards are booked far in advance, as in recent years, and when shipping revenues are comparatively high and are expected to remain so for some time, there may be enough of a premium on early delivery to induce the placing of orders in Canadian yards. Nevertheless it is clear that the Canadian registered laker is to be typified by vessel J, built in the United Kingdom or otherwise acquired at U.K. prices.

Vessel F is shown to be the most economical carrier of the four in the hypothetical movements of both wheat and ore. While its advantage over C is only 6c a ton with wheat, it is 19c a ton with ore. Vessel C in turn, the unspecialized ocean tramp, has an advantage of 12c a ton over the specialized laker J in the wheat movement, but in the ore movement would require more revenue by 16c a ton in order to be as profitable as J.

The specialized seaway-ocean carrier F on U.K. registry emerges as the most formidable competitor of the lakes-type vessel among all those considered in the foregoing analysis, as was argued by CSL in the course of the hearings. The main concern of the CSL submission was to show the advantage of a U.K. vessel over a laker built as well as registered in Canada (vessel H). The comparative data in Table VII not only confirm this argument but also show that the U.K. vessel F has a competitive advantage over a laker built at U.K. costs (vessel J). Vessel F could earn the given return on investment at freight rates lower than would be required for J by 18c a ton of wheat and 3c a ton of ore in the movements chosen for comparison.

Royal Commission on Coasting Trade

In these circumstances most of the freight rates on seaway movements of dry cargo in bulk would tend to decline to levels set by competition between numerous vessels F. At such levels the annual revenue realized by the laker J would fall short of the required amount by somewhere between \$20,000 and \$85,000, judging by the ore and the wheat comparisons.

The 40% investment allowance now claimable under U.K. tax law is the decisive factor in the advantage of vessel F over vessel J and in the competitive position of vessel C. If no investment allowance were claimable, vessel F would require higher revenues than shown in Table VII by 24c a ton of wheat and 17c a ton of ore, in which event it would be the laker J that enjoyed the substantial competitive advantage. Again, had the investment allowance remained at 20% as it was prior to April of 1957, vessel F would enjoy an advantage of about 6c a ton in the wheat movement but in the ore movement vessel J would have an advantage of about 5c a ton; in such circumstances the laker J would have some competitive advantage on the whole, if only because it is to be expected that the seaway movement of iron ore from Sept-Îles will exceed that of grain from the Lakehead.

The question arises as to whether the operator of a Canadian registered vessel might be satisfied with a lower rate of return than a U.K. operator, and so continue to replace or even expand his fleet at revenue levels set by U.K. competition. This might well be the case for considerable periods at a time, given a strong and sustained world demand for shipping with the going rate of return on shipping comparatively high. The fact that Canadian operators have found ocean-going vessels an attractive investment at times is doubtless explainable in part by this consideration. The proposition is a most doubtful one on which to base long-term shipping policy, however, as experience with ocean vessels suggests and analysis confirms.

Because Canadian income tax law allows a credit of 20% of the dividends received from a taxable Canadian corporation, it has been assumed in Appendix XIV that the dividends to be earned by a Canadian shipowning corporation would be equivalent to those of a U.K. corporation if the two yields on a given investment were in the ratio of 4:5. Thus the comparisons made above already incorporate the assumption of a somewhat lower rate of return for a Canadian owner. Assuming that dividends represent only a part of the usual return on investment (the other part being included with the *retained funds*), there is no reason to assume that the bare minimum rate of return necessary to induce investment under given conditions would be less by any further amount for a Canadian than for a U.K. owner. To suggest that, as a continuing phenomenon, Canadian owners' profits might be above the bare minimum and yet less than those of U.K. owners by a greater differential than already assumed is to imply that the going rate of return for the latter would be abnormally high for lengthy periods of time. However, the shipping business is notoriously one of feast or famine. During slump periods in the

Prospects for Canadian Registered Shipping in the Coasting Trade

past U.K. operators, like others elsewhere, have ceased ordering new vessels even for replacements let alone for fleet expansion, which means that bitter competition reduced the going rate of return *below* the acceptable minimum. A more reasonable assumption for the longer-term view is therefore that competition among U.K. operators themselves would be keen enough to eliminate any substantial abnormality of profit margin, and that Canadian operators would require much the same overall rate of return on investment.

From the foregoing analysis it follows that the U.K. ocean vessel F, enjoying a 40% investment allowance, would have a competitive advantage over the Canadian registered laker J built at United Kingdom costs. While the comparison is based partly on operating cost assumptions in which vessel F was given the benefit of some doubts, the cost uncertainties amounted to less than 4c a ton of wheat and 1c a ton of ore, not enough to invalidate the result.

The comparative examples of vessel economics which have been developed at such length entail the employment of many assumptions, estimates, and approximations. These were chosen and utilized after very considerable investigation and the Commission believes that they constitute the most reasonable basis of comparison. It is emphasized, however, that they cannot be advanced as precise predictions of future experience. With due regard to its limitation, the comparison does establish the probability that a specialized seaway-ocean vessel on U.K. registry will have a competitive advantage over a modern laker on Canadian registry, even if the latter is acquired at U.K. costs.

In point of fact, Canadian lakers may continue to be profitable for an indefinite period and operators may continue for a time to maintain or expand their fleets. It may take some time for rates to reach their ultimate levels. Keener competition for cargoes must be expected sooner or later, however, in which case it is probable that Canadian lakers would cease to be competitive and would not be replaced on retirement, their place being taken by U.K. vessels employed either by the same operators or by overseas competitors or by both. The next few years may prove decisive because of the high average age of the present lakes fleet. Decisions on whether to invest in replacements for the older vessels must be made fairly soon; indeed some replacements are now under construction. An adequate replacement programme alone—quite aside from fleet expansion—might tax the financial resources of the industry, including its borrowing power, unless the profit prospects are favourable. At best, therefore, operators may do well to keep the lakes fleet at its present capacity through this critical period. At the worst, the lakes fleet may decline at a rapid rate in the years immediately ahead.

The foregoing conclusion must remain subject to modification with any material change in taxation policy, which is a creature of government. In the past both Canada and the United Kingdom have used taxation as a means of influencing investment in desired directions. Thus the investment allowance, a major factor in the above comparisons, was introduced in 1954 at 20% and

applied to most types of physical asset; in April of 1956 it was withdrawn from all except a limited range including shipping, and as of April 1957 the rate for shipping only was increased to 40%. However, the reason given for the latter increase was to assist U.K. operators in meeting competition in a world market, including competition from ships sailing under flags of convenience, a matter which must be regarded as of continuing concern. Again, a Royal Commission on Taxation of Profits and Income in the United Kingdom has recommended among other things that the existing profits tax be converted into a flat-rate tax on total profits¹⁰. But there was no suggestion that the U.K. treasury would require any less revenue from corporation taxes, no matter what change might be made in the basis on which it be levied. Accordingly there is no particular reason to look for an early change in the tax impact on U.K. shipowners, nor to suppose that any change would reduce rather than increase the latter's advantage in the previous comparison.

5. COMPETITION FOR INLAND TRADES

The analysis up to this point has dealt with the costs incurred and the revenues required by lakers and ocean vessels in moving a cargo of wheat and a cargo of iron ore, on the assumption that each vessel is already on the scene and is engaging in the trade or ready to engage in it. In practice the lakers will always be on the scene because they cannot be withdrawn readily, whereas the ocean vessels may be absent at the beginning and the end of the season and may be withdrawn at any time. This is particularly significant because the total tonnage of cargo carried on the waterway has varied widely from season to season, the opening and closing weeks of a season are usually the busiest, and business may be comparatively slack at mid-season. The significance lies not only in the fact that periods of enforced idleness increase a vessel's costs per ton and required revenues per ton, but also in the fact that lake and ocean vessels do not have the same choice of employment.

The ocean vessel has the obvious advantage that it can seek more remunerative employment elsewhere in seasons when the inland trades are comparatively slow. It may enjoy a similar advantage within a given season in that it can be withdrawn from the Great Lakes when slackness develops, whether or not it is brought back again before the season closes. The latter advantage would be greater if the vessel could book an outbound cargo en route to its new employment, for otherwise the advantage would be reduced by reason of the loss of earning time while en route to the alternative area of service.

The laker on the other hand will have the advantage of being in position to operate throughout the busiest and presumably the most profitable months of the season, whereas the ocean vessel must inevitably arrive a little late and leave a little early in these periods. The submission of the Canadian Shipowners Association previously referred to assumed that the ocean vessel

¹⁰Final Report, June 1955, p. 164.

Prospects for Canadian Registered Shipping in the Coasting Trade

would operate only 185 days in the Lakes out of a total season that has been given as 230 days with wheat and 210 days with ore. Doubtless this assumption is conservative. Nevertheless the season at Montreal is usually a little shorter than on the Lakes. With uncertainty as to the opening date and with other factors in vessel deployment it would be unusual for an operator to have his vessel ready to enter on the first day, and certainly he would wish to have it leave before there was serious danger of his ship being frozen in for the winter.

It is difficult to assess these respective advantages of lakers and ocean vessels in quantitative terms. Each advantage may prove to be significant. Since they are opposing factors and perhaps offsetting, it does not appear that the conclusion of the preceding section requires modification.

The comparisons have dealt with typical movements in Canadian coasting trade. They are relevant also for transborder trade with the United States, a still larger source of employment for Canadian lakers at the present time. Looking at the inland trades as a whole, it appears that British vessels other than Canadian would be in the best position to realize long-term benefits from the Seaway, for British vessels would find a practical advantage over other competitors in having more varied opportunities for employment and for securing two-way cargoes. Thus any vessel could carry iron ore from Sept-Îles to a United States port and grain or coal from the United States to a Canadian port, whereas only British vessels may combine such movements with Canadian coasting movements of grain or other commodities.

United States vessels operate at a cost disadvantage compared with Canadian vessels, and at present Canadian lakers carry more transborder cargoes. The United States vessels have and will retain an advantage in carrying such of these cargoes as can be handled along with their own very substantial coasting movements, notably iron ore on the Upper Lakes. However, the U.S. coasting movement of grain—largely to Buffalo—is less than the Canadian and may decrease further with the opening of the Seaway, while most of the downbound coal moves to Canadian ports. With respect to trades extending into the Lower Lakes and the St. Lawrence River, therefore, the participation of United States vessels may be comparatively limited; Canadian registered lakers would have an advantage over them and other British vessels an even greater advantage.

A reservation must be made with respect to competition from vessels on United States registry. The payment of operating subsidies to United States ships has been authorized for overseas services from Great Lakes ports on two routes identified as numbers 32 and 33. It is vain to speculate whether or not this is the forerunner of assistance to vessels in the transborder trades, from which Canadian vessels now earn a substantial part of their total revenue. It is to be expected that the Canadian Government will continue to keep the situation under review.

Royal Commission on Coasting Trade

6. COMPETITION FOR EXPORT CARGOES

The Seaway will permit imports and exports to be carried between inland and overseas ports without transshipment. The main bulk cargo that would benefit from this advantage is export grain.

The volume of Canadian grain moved east from Fort William-Port Arthur by water in the 1954-55 crop year was as follows:

	<i>Bushels¹⁷</i>	<i>Long tons</i>	<i>Equivalent in cubic requirements to long tons of wheat</i>
Wheat of all kinds	164,700,000	4,410,000	4,410,000
Other grain	149,400,000	2,990,000	4,000,000
	<u>314,100,000</u>	<u>7,400,000</u>	<u>8,410,000</u>

The total of 7,400,000 long tons represents the same demand for cubic cargo space as would 8,410,000 long tons of wheat. Of these quantities about 114,600,000 bushels of wheat and 49,800,000 bushels of other grain can be traced as having moved overseas. In other words the overseas exports accounted for about 52% of the grain volume shipped from the Lakehead in the crop year 1954-55. The remaining 48% represented shipments to Canadian and United States destinations. While the volume of grain to be moved overseas through the Seaway may be expected to increase, and perhaps also the volume of domestic shipments, this rough comparison will give some indication of the volume open to the competition of carriers proceeding directly overseas from the Lakehead.

Grain Exports by General Cargo Liner

A considerable amount of export grain is carried by cargo liners in scheduled services to Europe and elsewhere, as well as by tramp vessels. Liner parcels at present constitute a high proportion of the total shipments from Montreal. With the opening of the Seaway other inland ports may also become important for liner grain, judging by the post-war growth in the number of lines extending service through the existing canals, and by the United States decision to subsidize services over the new route. It is reasonable to expect that there will be an overall growth in general cargo traffic through the St. Lawrence River, with some services continuing to terminate at Montreal and others at various ports from Toronto to Chicago or on Lake Superior.

Grain is an attractive cargo for liners, partly because of its usefulness as ballast and partly as a source of revenue from space that otherwise would go unused. If the grain can be loaded and unloaded at regular ports of call the cost to the carrier is little more than that for any additional time required in port. Under these conditions the liner has a great advantage in competing with

¹⁷DBS *Grain Trade of Canada, 1954-55*, table 46.

the most efficient bulk carrier. It might under-bid the carrier even if a minor deviation were required in its route, but a major deviation or route extension would hardly be warranted. Liner competition is therefore not likely to be a major factor at Fort William-Port Arthur or Duluth-Superior, the main grain loading ports, but may well become important at Chicago, where additional grain loading facilities might be provided. The result might be a reduction in the possible use of Canadian St. Lawrence ports for the transshipment of U.S. export grain. However, other services might terminate at Detroit or at ports on Lake Erie or Lake Ontario, possibly giving rise to new demands for grain at present transfer points such as Sarnia or Port Colborne.

Against this view must be stated the fact that present cargo services, numerous as they have become, have not carried a significant volume of grain from lake ports. With the opening of the Seaway the service may be in larger vessels, though the most economic size will depend on the development of business, and it is a question whether grain parcels would be sought within the Lakes or only at a later port of call on the St. Lawrence River. At all events it appears that liner movements of grain may compete only in part with lakers for export grain. A liner demand for grain will continue at Montreal and may arise also on the Lower Lakes, supporting a considerable and complementary movement to the transfer ports in an inland fleet of bulk carriers.

Grain Exports by Ocean Tramp

It is assumed that a purchaser of grain for export will be able to take delivery in ocean vessel either at the head of the Lakes or at any lower transfer port, and that the price differentials as between grain in store at Fort William and in store at transfer port will represent the cost to a shipper of moving grain from the one storage elevator to the other. Presumably the latter movement would be by vessels of the inland fleet, of whatever composition. The exporter's incentive to take delivery in ocean vessel at Fort William would then depend on the freight rate quoted for an ocean shipment from there as compared with the rate from a transfer port. If the extra charge to the shipper were less than the price differential between the loading ports the ocean vessel would be brought to Fort William, but if these circumstances were reversed it would be hired only from the transfer port.

The critical price differentials will depend directly on the freight rates quoted by vessels of an inland fleet which in time may come to be composed in some large part of vessels as yet untried (e.g. vessel F of the earlier discussion) operating in a new physical environment and in the face of new forms of competition. Any forecast of the price differentials must therefore be largely hypothetical. A forecast of ocean freight rates at any given time must be even more uncertain, as they may vary more widely from vessel operating costs than in the case of vessels committed to a particular service or under

contract for given periods. For both inland and ocean vessels, however, freight rates over a period of time must be related to costs of vessel operation and to a return on investment that is considered normal. A reasonable approximation of the future competitive position may thus be had by projecting further comparisons on the same basic assumptions that have been evolved heretofore. On this basis Appendix XV presents estimates of the possible differences in cost to the shipper exporting grain in a direct overseas shipment and in a movement involving transshipment at Montreal. It is assumed that the transshipment is from a vessel F employed on the inland waters for the season, and that the direct overseas carriage is by vessel C, both from Appendix XIII.

Appendix XV deals only with two main costs to the shipper of grain, an estimated charge for vessel time and the elevation charge at Montreal. It is assumed that the per ton charges for other services are the same for direct export as with transshipment. The differences will serve to indicate the competitive possibilities but the estimates are not to be construed as rate predictions.

A tramp vessel that had carried an inbound cargo for discharge at a lake port would be in the best position of all to quote a low rate for an overseas grain cargo. If it had booked its next cargo at or near the overseas delivery port, it might be in almost as strong a competitive position as the general cargo liner. It would appear, however, that the cargo liners will have the advantage in obtaining most of the inbound shipments that might be available. Full vessel loads for a tramp may be restricted to a limited volume of chrome or other specialty ores, sulphur, and other industrial materials, hence this aspect of tramp competition is not likely to be a major factor and is not considered further.

The first example of the appendix considers the charge per ton of wheat that would be appropriate for the time vessel C might spend above Montreal, after discharge of other cargo there, if it proceeds in ballast to Fort William for an overseas cargo of grain. The figure derived is \$2.24 a ton of wheat. This is 11c less than the figure of \$2.35 a ton given in Table VII on page 94 for movement in the same vessel to Kingston; though Montreal is 182 miles farther from Fort William, there is a saving of the vessel's time unloading at the transfer port and a saving of the elevation charge associated with transshipment.

Vessel F in the second example is also assumed to make the voyage from Montreal to Fort William in ballast. The transfer charges include not only that for vessel F's unloading time and the elevation charges at Montreal, but also the charge for an ocean vessel's time spent loading, which brings the total of the charges to \$2.97 a ton up until the latter vessel is ready to clear for overseas. Accordingly the economy to be realized in a direct overseas

Prospects for Canadian Registered Shipping in the Coasting Trade

movement would be $\$2.97 - \$2.24 = 73c$ a ton of wheat or about 2.0c a bushel.

The above comparison and the following ones are subject to two main reservations. The ocean vessel C has been assumed to make the lakes voyage in 10.7 days, as might be expected with an experienced lake crew, whereas in fact an outside vessel might well make slower time through the restricted channels. An additional day in the Lakes, for example, would add 21c a ton to the costs with this vessel. Again, in the case of transshipment it has been assumed that the unloading and loading times at Montreal will be the same as the unloading time given for Kingston. If congestion were to develop to the point where vessel F would spend an extra day waiting to unload and the ocean vessel C another day waiting to load, the cost of the transshipment would be increased by a total of 39c a ton. These reservations do not alter the obvious conclusion that, if loading port price differentials were to be based on the cost of moving grain in vessels without benefit of return cargo, it would be more economic to load a tramp cargo at the Lakehead than at a transfer port unless the tramp rates were unusually high.

The prospect is, however, that a considerable economy can be realized by two-way cargo movements in the course of a single round trip. The outstanding example in the terms of quantities involved and the one of interest here is a combination of grain and ore movement. Appendix XV shows that an extended voyage from Sept-Iles to Fort William might perform this service at a saving of something like 22% of the ship hours that would be required to carry the cargoes in separate voyages.

The opportunity for economy is not limited to vessels of the inland fleet, but they would have a substantial advantage for carrying ore over an ocean tramp, not only in the matter of costs per ton of ore carried but because the volume to be moved in a season requires that vessel arrivals and departures be scheduled, perhaps within narrow time limits. The long-time practice on the Upper Lakes and the present practice at Sept-Iles is to contract with one or more carriers to move all or most of the season's requirements, and in fact the contracts may extend for more than one year with provisions for rate adjustment from time to time. Spot cargoes might be booked with tramp carriers seeking them, but the tramp arrivals might be intermittent and might tend to bunch, reflecting the vagaries of grain and other demands, and hence there must be doubt as to how much dependence an ore shipper might be willing to place on such movements.

Attention will be given first to vessel F employed on the inland waters for the season. The appropriate charge for vessel F's time on an extended round trip carrying wheat one way and ore the other would be about 22% less than the total charge for two separate movements. This raises at once the question of which cargo would get the greatest benefit in lower freight rates from a combined movement. There may be an initial period or recurrent periods of

rate instability, with ore carriers competing among themselves not only for grain but also for coal and perhaps other downbound cargoes, and with actual or potential competition from ocean vessels seeking overseas cargoes. If a substantial volume of grain must be moved without delay, shippers might have to pay a comparatively high rate to effect the movement in vessels of the inland fleet, yet this might be to their advantage if ocean freight rates are also high at the time. When grain cargoes are few, on the other hand, competition for them may reduce the rates to comparatively low levels.

In view of the latter possibility it is assumed for the third example of Appendix XV that the freight rate on ore would approximate the charge for moving it independently, that is to say \$1.71 per ton. Assuming that vessel F earned this revenue with upbound ore, it would require to earn only \$1.41 per ton of wheat in order to realize the necessary total revenue to cover a complete round trip from Sept-Iles to Fort William. To this must be added 70c a ton to cover the cost of putting the wheat on an ocean carrier at Montreal. Hence the charge per ton at that point would be \$2.11 compared to a charge of \$2.24 for an ocean vessel proceeding in ballast to the Lakehead as above. Accordingly, if the grain price differentials at the loading ports were based on the lowest rates that it would be feasible to charge for grain in a combined movement with ore, a tramp lacking an upbound cargo would be more likely to load export grain at a transfer port, unless ocean freights were unusually low.

A number of other conclusions follow directly from this third example:

- (1) There will be a strong incentive to stock the transfer elevators only with grain moved at the lowest seasonal rate per bushel, doubtless associated largely with the movement of iron ore on the same voyage, otherwise these ports would be more likely to be by-passed by ocean tramps, and grain transfers there limited to liner demands.
- (2) The St. Lawrence River transfer ports may require a greater storage capacity in proportion to deliveries than heretofore, if sufficient stocks to meet the variable overseas demands are to be built up when lakes freight rates are low, thus maximum advantage taken of the cheapest transport.
- (3) The price quoted for grain in store may be much the same at each of the various transfer ports, for the additional charge for carrying wheat as an extension of a voyage with ore may differ little whether the wheat is unloaded at any port from Port Colborne to Quebec, assuming that the unloading time and elevation charges are the same.
- (4) A tramp unable to book an inbound or upbound cargo would usually load grain at the lowest transfer port at which the desired types and quantities of grain were available.

Ocean vessels that have discharged at Montreal or other St. Lawrence ports would find an advantage somewhat comparable to vessel F in doubling back

Prospects for Canadian Registered Shipping in the Coasting Trade

to Sept-Iles for spot offerings of iron ore, should such be available without involving undue loss of time for loading or unloading. The fourth example in Appendix XV considers this possibility for an ocean vessel on discharge of cargo at Montreal. The charge for the wheat transportation would be \$1.48 per ton by the time the vessel had again reached Montreal, as compared with a charge of \$2.11 per ton if taken on board from a Montreal elevator, giving an advantage of 63c in favour of direct overseas shipment. The advantage of so employing an ocean vessel after it had discharged at Sorel, Trois-Rivières, or Quebec, would be the same as compared with the cost of grain loaded from these elevators, that is to say, 63c a ton or about 1.7c per bushel. However, if the ocean vessel were unable to book an ore cargo or were to find the delays with ore too costly, it would be even less likely that it could be employed economically in the voyage beyond the transfer port than in the case of discharge at Montreal.

The threat of delay for an unscheduled vessel seeking to load or unload iron ore may prove a very real disadvantage, especially if there is a tendency for a number to be seeking spot cargoes at the same time. Doubtless there will be some leeway available in loading schedules at Sept-Iles. For example, to ship 10 million tons in a season of 210 days would require daily shipments of over 47,600 tons, that is to say, the equivalent of about 4.7 vessels of the capacity of the tramp being considered, whereas the loading rate indicates that at least seven such vessels could be handled a day with existing facilities. However, unscheduled vessels might be subject to serious delays at busy unloading ports. At the present time therefore it is not certain whether the hypothetical voyage is a practical one for a tramp or for very many tramps per season. It may take several seasons' experience to determine how much of a season's ore requirements might safely be left to spot carriage by tramps and consequently how effective and how extensive might be their competition for grain at the Lakehead.

Summary Respecting Grain Exports

The conclusions of this section are subject to the reservation that it may take some time before new traffic patterns become established with any degree of stability. Thus there may be an initial period of uncertainty as to whether additional transfer facilities are required and at what locations it would be most appropriate to expand. This may be of particular importance in that a development of congestion at transfer ports may prevent realization of maximum economy in the transport of grain. Other uncertainties that can be resolved only with experience are the most efficient patterns of two-way cargo movements of ore and wheat, ore and coal, and other combinations, and the schedules of freight rates per ton of these cargoes which will emerge. Experience alone can answer such further questions as

the time taken for a lakes voyage by an itinerant ocean vessel, and the role and effectiveness of unscheduled tramps in the ore movement. With these reservations the following conclusions emerge:

- (1) General cargo liners may be expected to compete effectively for export cargoes of grain. However, they may complement more than they compete with the inland bulk carriers, in that a considerable volume of inland grain movement may be required to meet liner demands at terminal ports or ports of call.
- (2) Ocean tramps entering the Lakes with inbound cargo will be in a position to quote comparatively low rates for overseas grain shipments, but will not necessarily be in a better competitive position than the cargo liners, whether the latter take on grain at Chicago or Montreal or another transfer port. Tramps with this advantage may be comparatively few in number, aside from the possibility of carrying iron ore from Sept-Iles to lake ports.
- (3) If a tramp vessel can secure an ore cargo at Sept-Iles without incurring undue delay there or at the unloading port, whether the ore cargo is loaded on entering the Gulf of St. Lawrence in ballast or after discharge of other cargo at a St. Lawrence port, it will be in a strong competitive position to quote a comparatively low rate for moving grain from the Lakehead directly overseas, as compared with grain shipped via a transfer port. Whether this advantage will materialize in fact, and for how many vessels per season, will depend on experience with spot cargoes of ore. If the experience proves favourable, tramp competition on this basis can be expected except at times when ocean rates are high enough to make other employment even more profitable.
- (4) Tramp vessels not carrying iron ore or other cargo into the Lakes would be most likely to load at the most convenient transfer port at which the required cargo could be had. For example, if the vessel became available on discharge of other cargo at or near Montreal it would likely load grain there or at Sorel, or if the vessel were to be brought into the St. Lawrence in ballast it would likely load at Quebec or Trois-Rivières.

On the whole the inland fleet (which may include other vessels as well as Canadian lakers) may expect to carry not only all the domestic grain movement but also considerable quantities of export grain to be transferred to liners and other ocean vessels at various transfer ports, although direct overseas shipments may be keenly competitive, and there may be a considerable variation from season to season in the proportion of exports that are handled at the transfer ports as compared with the proportion shipped directly overseas.

E. Summary of Conclusions Respecting Prospects for Canadian Registered Shipping in Coasting Trades

The most common employment in the coasting trade of vessels on United Kingdom and other Commonwealth registries is at present by Canadian operators, who may charter the vessels by the season. This employment is confined largely to the Atlantic seaboard and the St. Lawrence River below Montreal. Three regular general cargo services are operated directly by United Kingdom interests, but no United Kingdom operator competes directly in bulk trades except on an *ad hoc* basis incidental to other vessel employment. It would appear reasonable to expect that future employment of United Kingdom vessels will continue to be largely by Canadian ship operators.

On the East Coast and on the Gulf and River St. Lawrence, in the absence of a change in the present coasting law, it is probable that Commonwealth and Canadian vessels would continue to divide the field, the Commonwealth vessels being used in particular for those volume movements of bulk cargo for which general purpose ocean vessels are well suited. While the proportion of the total trade carried in U.K. vessels may continue to increase, there would nevertheless appear to be good prospect for continued employment of vessels on Canadian registry in most of their present uses.

On the Pacific Coast the use of other Commonwealth vessels is of negligible importance and is likely to remain so.

With respect to the Great Lakes, it appears that Canadian package freighters may lose to overseas carriers some of that portion of their present business consisting of goods that are only in the Canadian coasting trade in the course of a longer export or import movement. However it appears that something like 85 to 90% of the package freight business consists of goods moving from point to point in Canada. The major Canadian operator did not fear the loss of this business to ocean competitors and the Commission finds no reason to suggest otherwise.

The greatest concern expressed was with respect to the future of Canadian registered lakers in competition for inland bulk cargoes, including the inland movement of grain destined for export. The trades at stake are both coasting and international. The fears appear justified. Under present tax structures, a specialized ocean-going bulk carrier on U.K. registry may have an advantage not only over a Canadian registered laker built in Canada but also over one built in the United Kingdom or otherwise acquired at comparable costs. While existing lakers would be operated for their remaining useful life, competition may force Canadian operators to arrange in future for the seasonal chartering of suitable United Kingdom vessels built for the purpose.

Besides opening the inland trades to competition from large vessels on United Kingdom and other registries, completion of the Seaway will permit the exportation of grain in regular ocean vessels loading at Fort William-Port Arthur, Duluth-Superior, Chicago, or elsewhere. The competitors for export grain will therefore include not only the vessels of the inland fleet but also vessels in international trade to overseas ports. Among the latter vessels may be general cargo liners on regular schedules, as well as tramps. However, the liners may remain as much complementary to the inland fleet as they become competitive with it, for liner shipments from Montreal and perhaps other grain transfer ports may be expected to support a continuing movement to those ports by the inland fleet.

The incentive for tramp vessels to seek overseas grain cargoes within the Lakes at any given time will depend in the first instance on whether freight rates in regular ocean employment are comparatively low or high. The incentive will depend also on the freight rates on grain movements to transfer ports that emerge from the new patterns of seaway cargo movements, such as moving grain east and ore west in one round trip of an inland vessel, and on whether it would be practical for very many ocean tramps to pick up spot cargoes of ore at Sept-Iles on their way to the Lakehead, ore shipments being as closely scheduled as they are. While the volume of grain shipped directly overseas may therefore vary considerably from year to year, on the whole this form of competition is likely to be keen. Canadian operators in the inland trades will find it necessary to use the most economic type of vessel available and to deploy them with the greatest efficiency in order to remain competitive.

The volume of export grain handled by the inland fleet and the transfer ports will depend also on the adequacy of the facilities at these ports for unloading, storing, and reloading. Should any substantial delay be experienced in unloading the inland vessels or loading ocean vessels at the transfer port, the additional cost in vessel time may make the operation uneconomic. Again, greater storage space in proportion to sales may be required than has been the case heretofore. For the transfer elevators must be stocked with grain moved at the lowest freight rates obtainable if the price is to be competitive with that at the Lakehead, which means it must be moved more at the convenience of the carrier and in conformity with other cargo movements. With this limitation, larger stocks might have to be built up if maximum economy is to be realized despite the periodic surges in demand for grain.

CHAPTER VII

Proposed Restriction of Coasting Trade to Vessels Registered in Canada

A. Introduction

Many submissions to the Commission advocated the restriction of the coasting trade to vessels registered in Canada, as a means of ensuring the survival of a substantial Canadian registered fleet. Some advocated that the trade be restricted to vessels built as well as registered in Canada, so as to also assist the shipyards. However, it is convenient for the sake of clarity to consider this latter proposal separately in Chapter IX of this report, which deals with the shipbuilding and ship repairing industry, since there are important divergencies of interest between shipyards and ship operators.

The general argument for restriction of registry was to the effect that Canadian registered ships faced elimination by lower cost ships on United Kingdom registry, whereas the public interest would be better served by an all-Canadian coasting fleet. It was conceded that the public interest was largely but not exclusively in low-cost service. It was argued that there must also be assurance of adequate and reliable service available in peace or war. The Commission was therefore asked to recommend appropriate changes in Part XIII of the Canada Shipping Act to limit participation in the coasting trade to vessels registered in Canada.

The advocates of this proposal recognized that it would require a modification of the terms of the British Commonwealth Merchant Shipping Agreement, or Canadian withdrawal from it in part or wholly. The Agreement is reproduced as Appendix VIII. Article 11 provides that coasting laws or regulations treat all British ships similarly. Article 24 provides that any of the parties may withdraw from the Agreement or from any Article on twelve months notice, and Article 25 provides for variation of the Agreement by common accord. There are thus established procedures for effecting a change.

Ship operators themselves were divided on the proposal to restrict the coasting trade to Canadian vessels. The Dominion Marine Association and the St. Lawrence Shipowners Association asked for the restriction, as did eleven ship operators appearing on their own behalf. The Dominion Marine Association described itself as an association of Canadian shipowners trading on the Great Lakes, with 24 members and 3 associated companies representing over 816,000 gross registered tons or some 98% of the

Canadian Great Lakes fleet. This association took a position with respect only to trades on the Great Lakes and the St. Lawrence River as far as the west end of Anticosti Island. For these inland waters they advocated not only restriction of registry for the coasting trade but also the negotiation of a treaty with the United States which would have the effect of restricting the purely trans-boundary trades to "... vessels of the United States and Canadian ships." The St. Lawrence Shipowners Association is comprised of owners of small coasting vessels, generally under 200 gross registered tons, trading mainly in the Gulf and River St. Lawrence. The eleven operators included Canada Steamship Lines, Branch Lines, Clarke Steamships, and Union Steamships.

On the other hand the Canadian Shipowners Association, the Shipping Federation of Canada, the B.C. Towboat Owners' Association, and 17 ship operators appearing separately opposed any such restriction of the Canadian coasting trade. The Canadian Shipowners Association described itself as an association of 26 companies owning 80 ocean-going cargo vessels of 509,000 gross tons; it may be added that the members generally are more interested in international trade than coasting and that owners of vessels now on United Kingdom registry under the Transfer Plan are strongly represented. This association was in general agreement with the objective of maintaining a Canadian fleet, not only coasting but ocean-going, but differed as to the method; it contended that

"... the maintenance of adequate Canadian-controlled and -operated shipping services and their attendant shipbuilding and ship repairing facilities, sufficient to insure that water-borne transportation services to, from and within Canada cannot be exploited to the advantage of foreign competitors for Canadian overseas and domestic trade and which will be available in times of emergency (when non-Canadian services may not be), is a national responsibility the costs of which should be borne by the nation as a whole and not by any particular section of the country, nor made an enforced burden on users."

The Shipping Federation of Canada described itself as an association of steamship owners and steamship agencies whose members are mainly operators of Canadian, British and foreign deep-sea vessels that trade between eastern Canadian ports and countries overseas, and stated that the tonnage entered in the federation for the year 1954 was over 5,500,000 gross tons. A number of firms are members of both the Canadian Shipowners Association and the Shipping Federation. The latter association made no alternative suggestions for assistance to the shipping industry, nor did the B.C. Towboat Owners' Association. The individual companies opposing the restriction included Furness Withy, Newfoundland Canada, Newfoundland-Great Lakes, Constantine Lines, Iron Ore Transport, Dingwall, Saguenay Terminals and subsidiary companies of pulp and paper firms.

The preceding chapter establishes that the future of Canadian registered shipping is uncertain, particularly in the Great Lakes area. In general the

Proposed Restriction of Coasting Trade to Vessels Registered in Canada

cost of operating a given vessel on Canadian registry is considerably higher than on United Kingdom and other registries. This handicap has resulted in the virtual disappearance of Canadian registered ships from the high seas, and has led Canadian operators to make extensive use of United Kingdom tonnage in coasting trades on the Atlantic seaboard and the St. Lawrence River below Montreal. More recently the U.K. owner has been given substantial tax relief with respect to vessel earnings, associated with the acquisition of new ships, to enable him to maintain his fleet at low revenue levels set by world competition.¹

On the Atlantic seaboard 42 Canadian vessels of 1,000 gross tons and over are now employed despite the general advantages of U.K. registry. It is to be expected that many would continue to be employed in any event, for it is by no means certain that the new tax concession will lead to a significant change in the level of U.K. charter rates in comparison with the cost of operating a Canadian vessel.

By far the greatest tonnage of Canadian registered shipping is employed in the bulk trades, both coasting and international, of the Great Lakes and St. Lawrence River. Upon completion of the Seaway it appears probable that U.K. registered vessels of special design, suitable for service on the ocean as well as on the Great Lakes, would have an advantage over Canadian registered vessels competing in these trades. The advantage would derive partly from lower operating costs on U.K. registry and partly from the U.K. owner's lesser tax liability with respect to new ships. These two factors may be expected to outweigh the greater carrying capacity of the largest Canadian laker. In this event most Canadian operators would find it more profitable to employ specialized vessels on U.K. registry than to acquire new ships to be registered in Canada. Hence, the tonnage on Canadian registry would decline to a low level as existing lakers were retired in due course.

Canadian registered shipping appears secure from other British competition only on the Pacific Coast, and there the trend is towards towed scows and barges for the heavy bulk movements.

The question arises of how effective the restriction would be in providing cargoes for Canadian registered ships. It will be recalled from Chapter III that Canadian vessels in 1955 carried 24.5 million tons of cargo in water-borne trade with the United States, as well as carrying 32.9 million tons out of a total coasting trade of 36.4 million tons; vessels registered in the U.K. or elsewhere in the Commonwealth carried 3.5 million tons of coasting trade. The proposed restriction might affect the volume of cargo to be carried and hence the net gain to be expected in the coasting trade, while all the transborder trade would be open to foreign competition. Competition from other routes and other means of transportation must also be taken into account.

¹The investment allowance. See Chapter VI.

B. The Economics of the Proposed Restriction

It will be apparent that the result of restricting the coasting trade to vessels registered in Canada will be higher charges than now obtain or than might have come into effect after the opening of the Seaway for the shipment of a wide range of commodities. The Commission will examine the probable magnitude of these differences in shipping costs and their economic significance for the various interests affected, including the shipping industry itself.

Reasonable notice would have to be given before the restriction could be made effective, to allow operators to acquire suitable vessels and have them accepted on Canadian registry, for the present pool of Canadian shipping is not large enough to take over the additional service. The emergence of settled freight rate patterns in the new circumstances might well take somewhat longer, and even then the rates might be expected to vary from year to year as they do now. The following discussion will assume that these adjustments have taken place. The comparisons will be in terms of the general trends in freight rates, which must be toward levels high enough to induce the vessel replacements required to maintain the service.

I. EAST COAST, GULF AND ST. LAWRENCE RIVER BELOW MONTREAL

The effect of the proposed restriction may be judged by reference to the volume of coasting trade carried during 1955, the latest year for which complete data are available. In that year vessels on United Kingdom and other Commonwealth registries carried 3.5 million tons within the eastern region, 28% of the total of 12.0 million tons. Both figures include some 800,000 tons of iron ore shipped from Sept-Iles to Contrecoeur, a movement that is expected to be replaced by shipments direct to ports on the Great Lakes, largely in international trade. Exclusive of these shipments the U.K. registered vessels carried 2.7 million tons, 24% of the remaining 11.2 million tons. This represents the volume of business that would be affected at once by the proposed restriction.

The effects on transportation cost would not end there. The Canadian coasting fleet includes a number of vessels acquired from the Government at the end of the war and maintained on Canadian registry by agreement. The years of useful life remaining to these vessels are numbered. When the time comes for their retirement it is to be expected that some owners would find it more economical to employ U.K. vessels in their place. In particular, a subsidiary of DOSCO owns three such vessels, used to transport iron ore and limestone to the Sydney steel plant. A company official made the following comment in the course of testimony on the increases in

Proposed Restriction of Coasting Trade to Vessels Registered in Canada

transportation costs that would be caused by excluding U.K. vessels from the coasting trade:

"It is true that under the abnormal conditions following the war, DOSCO, in order to have transportation for ore and limestone, found it necessary, by force of circumstances, to acquire and convert into a suitable type for their trade, three ships built during the war and disposed of by the Canadian Government under special terms. We could not, of course, duplicate this arrangement today."

The "special terms" included not only the price but the undertaking to retain the vessels on Canadian registry. The implication is that the enforced employment of replacement vessels on Canadian registry would add substantially to the cost of transporting the company's ore and limestone, a movement that amounts to over a million tons a year. It follows that the proposed restriction would materially affect coasting movements that in 1955 accounted for more than 3.7 million tons of cargo, 33% of the 11.2 million tons of typical coasting trade.

1. Bulk Cargoes

Coal, iron ore, and limestone are the major bulk cargoes that would be affected. Movement is largely by the ship-load in general-purpose ocean vessels which may be typified by "vessel C" of Chapter VI and Appendix XIII. Comparisons will be made between the revenue per day of coasting employment that would be required for this vessel and the revenue that would be required by an identical vessel on Canadian registry, assuming that each is to earn a comparable return on investment after taxes. The assumptions in this respect are the same as those of Chapter VI. These comparisons will show the extent of the increase to be expected in the charges for water transportation as a result of the proposed restriction of the coasting trade.

The required vessel revenue must exceed the variable (out-of-pocket) expense by an amount sufficient to provide for capital recovery, profit, and taxes. The variable expenses will differ with the vessel's employment, but a general approximation for vessel C may be derived by averaging the variable costs cited in Appendix XIV. Section 8 of that appendix gives this figure as \$354,536 for a 330-day year, or \$1,074 per operating day. Using this cost figure the required revenue, on the given assumptions, would be \$706,896 for a 330-day year or \$2,142 per working day. It is therefore to be assumed that vessel C (on United Kingdom registry) could find various alternative employments the year round yielding this daily amount of revenue on the average, hence that this would be the typical charge for its employment in the Canadian coasting trade.

The variable expenses incurred in operating an identical vessel for 330 days on Canadian registry would be greater by an amount estimated in Appendix XIV to be \$95,450. This figure agrees closely with direct evidence on operating cost differentials. The total variable costs are thus put at

Royal Commission on Coasting Trade

\$449,986 a year. The difference in revenue requirements is much greater than the difference in variable costs, however. Although the Canadian and U.K. operators are each assumed to pay the same price for their ship, the Canadian operator has a greater tax liability and hence requires correspondingly higher revenues in order to recover the original cost and realize a comparable profit. The total revenue requirement of the Canadian vessel as found in Appendix XIV is thus \$874,755 for a 330-day year or an average of \$2,651 per operating day. Table I below compares this requirement with that of the U.K. vessel C; it will be seen that the total difference is \$167,859 a year or an average of \$509 per operating day.

TABLE I
Estimated Revenue Requirements of a Tramp-Type Vessel on United Kingdom
and on Canadian Registry¹

	Revenue Requirement		Canadian Requirement greater by
	U.K. Registry	Can. Registry	
A. Total Requirements over a 330-day year:			
Variable expenses	\$354,536	\$449,986	\$ 95,450
Capital recovery, profit, taxes	352,360	424,769	72,409
Total requirement	<u>\$706,896</u>	<u>\$874,755</u>	<u>\$167,859</u>
Average per working day:			
Variable expenses	\$ 1,074	\$ 1,364	\$ 290
Capital recovery profit, taxes	1,068	1,287	219
Total requirement	<u>\$ 2,142</u>	<u>\$ 2,651</u>	<u>\$ 509</u>
B. Required Revenue from 240 days coasting:			
Yearly requirement	\$706,896	\$874,755	\$167,859
Less 90 days at \$2,142 off-season employment	192,780	192,780	—
Balance required from coasting	<u>\$514,116</u>	<u>\$681,975</u>	<u>\$167,859</u>
Balance per day of coasting employment (+240)	<u>\$ 2,142</u>	<u>\$ 2,842</u>	<u>\$ 700</u>

¹From Appendix XIV. It is assumed that each vessel is built in the United Kingdom at an estimated cost of \$2,680,000.

The Canadian registered vessel could earn the additional \$167,859 only in trades not open to other British competition, that is to say only in Canadian coasting trades. If it were to find year-round employment there the daily charge for such service would average \$2,651, about 24% higher than the corresponding charge for the U.K. vessel. The bulk trades in eastern waters provide year-round employment for very few vessels, however, hence during the off-season employment would be sought in outside trades. If revenues in the alternative employment averaged \$2,142 a day as assumed above for the U.K. vessel, the Canadian vessel must recover its extra \$167,859 from the coasting trades. If the typical Canadian vessel could secure eight months coasting business a year, Table I shows that the necessary charge to the Canadian shipper would average \$2,842 a day of

Proposed Restriction of Coasting Trade to Vessels Registered in Canada

coasting employment, greater by \$700 or 33% than the corresponding charge for a U.K. vessel. If the coasting employment averaged less than eight months the Canadian shippers would be called upon to pay even higher charges.

It is to be emphasized that the foregoing comparisons relate only to possible charges for the actual water transportation, not to charges for cargo handling or terminal services or other shore costs, which may be assumed to remain unchanged. The implication is that competition among Canadian registered vessels only would tend to establish such transportation charges some 24% to 33% higher than if competition from United Kingdom vessels were present. Most of the coal movement is seasonal, and so are the movements of iron ore and limestone, hence in each case the increases in transportation costs would tend to average out closer to 33% than to 24%.

The above analysis is based on present-day operating costs. Restriction of the coasting trade might well be expected to result in a considerable increase in these costs. Competition would be reduced to that between Canadian operators, lessening the incentive to keep costs down. Labour costs, which are a major factor, might be expected to rise because of this lessening of incentive on the part of management and because of the virtual monopoly the unions would enjoy in controlling the manning of vessels carrying the coasting trade. In the result, forces tending to keep costs down would be reduced and new forces tending to increase them would come into play. It is therefore probable that the estimates of rate increases consequent upon restriction are conservative.

The Nova Scotian coal industry is not in a position to absorb any increase in transportation costs. The coal moves under federal subvention to many of its largest markets, including the large Montreal market. The general policy is to subsidize its transportation to the degree necessary to deliver it at prices competitive with coal from the United States. It is to be expected that the opening of the Seaway will result in substantial reductions in the cost of transporting competing United States coal from the Lower Lakes to Montreal, to Quebec generally, and perhaps even farther east. Accordingly, maintenance of the present subvention policy even without the proposed restriction may involve a substantial increase in the amount payable. Since the cost of transportation is a major factor in the delivered cost of the Cape Breton coal, an increase amounting to anything like 33% of this cost would impose a second new handicap. To prevent the collapse of this industry the alternatives would be either to exclude the coal movement from the proposed restriction of coasting trade or to counter the increase in transportation costs with a substantial increase in subsidies.

The cost of transporting iron ore and limestone to Sydney would be increased as the three vessels now performing this service came to be

Royal Commission on Coasting Trade

replaced. Each of these vessels has a deadweight capacity of 10,130 tons compared with about 12,600 tons for vessel C above. It was estimated that operation of a vessel like the latter on Canadian registry would require additional compensation of \$167,859 (Table I); it may be assumed that the difference in the case of the smaller vessels would be in proportion, say about \$135,000 each. The enforced use of vessels on Canadian rather than U.K. registry would thus add about \$400,000 a year to the cost of producing iron and steel. Since DOSCO must compete with other producers not subjected to a like increase in costs, it is doubtful how much of the extra \$400,000 could be passed on to the users of steel products. The result would probably be a significant weakening of the company's competitive position.

2. General Cargo Services

The proposed restriction would exclude the Furness Warren and Furness Red Cross lines from their present participation in the coasting trade. Each of these lines provides coasting service between Newfoundland and mainland Canadian ports as an integral part of an overseas service. For both lines taken together an official of Furness, Withy & Company testified that the coasting movements account for 23% of the total cargo and 14% of the total passenger traffic. Evidence on behalf of the company was that, if any action was taken that would debar them from carrying passengers and cargo in the coasting trade, it is extremely doubtful that the services could be operated on their present schedules. Unless an exception were made for these two lines it is apparent that implementation of the proposed restriction would result in less satisfactory services to Newfoundland in both the international and the coasting aspects. It may be presumed also that enforced separation of international and coasting services would itself be a major factor in causing higher freight rates for each movement, in addition to the higher costs of Canadian vessels in the latter movement.

One of the first casualties of the proposed restriction would probably be the general cargo service between Canadian ports on the Atlantic and Pacific coasts. Saguenay Terminals has been cultivating this business, using vessels on United Kingdom registry, and has succeeded in developing a fairly regular service. Like the Furness lines the operation combines both international and coasting service. The evidence was that the coasting trade provides only about one-third of the total cargoes carried and that employment of Canadian vessels would make it unprofitable.

The other liner operations now employing U.K. vessels are various services to Newfoundland, including Canadian Constantine Services and Newfoundland-Great Lakes. These two lines use U.K. vessels exclusively. Clarke Steamship Company and its associated companies also make some use of U.K. vessels. The most direct and careful evidence on cost differentials

Proposed Restriction of Coasting Trade to Vessels Registered in Canada

in this field was supplied by a witness for Clarke Steamships, arguing the need for protection of Canadian vessels. The witness took as an example a regular service between Montreal and St. John's, Newfoundland, and compared the cost for an operator using a vessel on United Kingdom registry with the cost for an operator using a similar vessel acquired at about the same cost but registered in Canada. It was submitted that terminal and various administrative costs would be the same for each vessel. For the Canadian vessel they would account for about 55c out of the freight dollar, with the remaining 45c representing the operating cost. Use of the United Kingdom vessel would reduce the latter cost to an estimated 37c, so that the total cost would be in the ratio of 92c for the U.K. vessel compared with \$1.00 for the Canadian vessel. Thus an operator using a vessel on United Kingdom registry would have a margin of 8% available for profit or for competitive rate reduction, compared with an operator using a similar vessel on Canadian registry, although the operating cost of the Canadian vessel, apart from terminal and administrative expenses, was 22% higher. The tenor of the argument was that restriction of the coasting trade might tend to cause freight charges in general cargo services to be something like 8% above the levels that otherwise might obtain, but that it would not add significantly to the retail price of goods. An extensive list of consumer goods was given with the freight charge from Montreal (Exhibit 83), from which it would appear that the differential in question would amount to about one-fifth of a cent on a pound of butter or of ham, 17c on a washing machine, and so on.

The above example deals with a seasonal operation. It has been pointed out in Chapter VI that the cost advantage of a vessel on U.K. registry may be greatest in the case of a seasonal operation and may be considerably reduced in the case of a year-round liner operation in Canadian waters. In the latter cases the U.K. costs would more nearly approach Canadian costs, hence the difference would be less than 8%. On the other hand it was also pointed out that U.K. owners enjoy a tax advantage which, in the present context, would mean a greater margin for profit after tax or a greater margin for competitive rate reduction. On the whole, therefore, the figure of 8% may be taken as a reasonable approximation of the increase in freight rates that would compensate for the substitution of a Canadian registered vessel for a U.K. vessel in general cargo services. Since operators now using Canadian registered vessels exclusively compete in varying degree with others employing U.K. vessels, which tends to keep freight rates lower in all cases, elimination of the U.K. vessels might be followed by an increase of about 8% in most general cargo services.

Small as the freight rate differences might be in terms of the price of consumer goods, it cannot be assumed that the customer would be indifferent to them. Evidence was presented that living costs in Newfoundland were

already higher—in the order of 9% or so—than elsewhere in Canada. Moreover, while consumer goods would form a large proportion of any mixed or general cargo movement, a miscellany of other commodities would be affected, some of much lower value in proportion to volume or weight and less able to absorb an increase in transportation costs. For example, much of the gypsum rock shipped from Nova Scotia and fluorspar from Newfoundland is carried as part of a general cargo. Other examples brought to the attention of the Commission are gypsum lath and wallboard shipped from Newfoundland.

A witness for Newfoundland Fluorspar Limited testified that the cost of transporting a ton of fluorspar would represent about 15% to 20% of the delivered value at Port Alfred. Another Newfoundland producer of fluorspar suspended operations during 1957, being unable to develop a Canadian market in the face of competition from a Mexican source. A manufacturer of gypsum products testified that the transportation cost of rock drawn from Nova Scotia represented 66% of the delivered cost at the plant, and supplied confidential information showing it to be a significant proportion of the final selling price of typical products. The witness observed further that a change in transportation costs can have a disturbing influence on plant location, which depends on an optimum combination of the cost of transporting raw materials to the plant and finished products out. The submission of the Aluminum Company of Canada made a similar point about the location of manufacturing and distributing facilities in relation to transportation costs. The managing director of Atlantic Gypsum testified that present water transportation costs to Montreal ranged from 12% to 18% and from 9% to 14% of the respective market prices there, and that the effect on the Newfoundland plant of an increase in transportation costs would be "extremely detrimental, if not fatal."

Other effects that may be expected to follow implementation of the proposed restriction are the transfer of shipments to rail or other carriers, and resort to other sources of supply. The shipment of alumina from Port Alfred to Kitimat will exemplify the possibilities. The Aluminum Company of Canada gave the 1955 cost of shipping a ton (2,000 pounds) of alumina from Arvida to Kitimat by rail as \$16.66, the cost via Port Alfred by water as \$13.35. Water shipments of this and other operating materials were reported as over 50,000 tons in 1955, and the volume was expected to grow as the Kitimat operation expands. The shipments were made by the inter-coastal services of Saguenay Terminals. If this service were discontinued the alternatives would be either to continue the shipments by rail at an increased cost of almost 25% or to draw from another plant. Similarly, an increase in the cost of moving fluorspar from Newfoundland to Port Alfred might cause a change to Mexican or other sources.

3. Canadian Registered Shipping

The stated objective of the proposed restriction of the coasting trade is to increase the employment of Canadian registered vessels. An estimate of the tonnage that would be added to Canadian registry may be based upon the fact that in 1955 there were 44 vessels of over 1,000 gross tons on U.K. registry employed in the coasting trade east of Montreal, aggregating 210,602 gross tons. This included 4 vessels aggregating 20,307 gross tons employed in the Furness Warren and Furness Red Cross services to Newfoundland and 7 vessels aggregating 47,180 gross tons employed by Saguenay Terminals.

Were the Furness vessels to be prevented from carrying coasting cargoes in the course of their international voyages, it is doubtful whether the operators of other services would find it necessary to make a material change in the tonnage they employed, as it does not appear that the full capacity of their vessels is being used at present. The main coasting employment of the Saguenay Terminals vessels was in the intercoastal service. Even if that service were continued it would provide full-time employment for only about one vessel, whereas in fact it would probably be terminated, hence it is most unlikely that any of the Saguenay Terminals vessels would be registered in Canada. This eliminates from consideration 11 vessels aggregating 67,487 gross tons.

The remaining 33 vessels aggregated 143,115 gross tons. Of these 15 carried coal from Sydney to Montreal, accounting for 71,274 gross tons of this total. As already pointed out the alternatives to collapse of the industry would be either exemption of coal movements from the proposed restriction or a substantially greater increase in coal subventions than would otherwise be required. If coal were excepted, the restriction would add less than half of the U.K. tonnage in question to the Canadian registry. If the other alternative were followed, the increase in Canadian vessel tonnage would result as much from indirect subsidization as from the restriction.

Some of the 33 U.K. vessels were operated in the coasting trade for only part of the season. If they were all to be replaced by Canadian vessels, there would be a strong economic inducement, felt by both operators and shippers, to employ as few vessels as possible with a longer season for each. Failing an extensive adjustment of shipping schedules to this end, the increase in transportation costs would be even greater than has been suggested. Allowing a reduction of as little as 20% for this factor and for other decreases in demand for shipping as a result of the higher charges leaves a net figure of 114,492 gross tons of shipping, exclusive of vessels under 1,000 gross tons each, that might be added to Canadian registry. If the vessels were of the same average size as the U.K. vessels they would displace, the addition would amount to about 27 ships.

Royal Commission on Coasting Trade

A final adjustment must be made with respect to the three DOSCO vessels now on Canadian registry, amounting to a total of 21,550 gross tons. In the absence of a change in the coasting law it is probable that they would be replaced eventually by vessels on U.K. registry, as observed earlier. It is to be presumed that the proposed restriction would ensure replacement with Canadian registered vessels. Adding these 3 to the above estimate of 27 gives a total of some 30 ships aggregating about 136,000 gross tons that might be maintained on Canadian registry. This would be equivalent to about 19 of the largest Park vessels (10,000 tonners), which are typically about 7,150 gross tons each.

II. THE PACIFIC COAST

Restriction of the coasting trade on the Pacific Coast to vessels registered in Canada would have comparatively little effect on transportation costs. Virtually all the self-propelled vessels and the great majority of scows and barges in coasting trade are on Canadian registry.

Some of the barges now being used are registered in the United Kingdom. In all the cases brought to the attention of the Commission the vessels were acquired second-hand, and U.K. registry had been resorted to because the vessel had been denied Canadian registry as a result of the operation of Section 22 of the Canada Shipping Act, which provides that a ship built outside of Canada shall not, without the consent of the Minister of Transport, be registered in Canada. For example, while on the West Coast most of the logs are moved in towed rafts, there has been a fairly recent development of self-unloading barges to carry logs. Two such barges were built in a Canadian yard for a pulp and paper company. Towboat companies have had others produced by the conversion of old hulls imported for the purpose, the conversion being done in a Canadian yard. Some of the hulls were admitted to Canadian registry, but others have not been.

The provisions of Section 22 of the Canada Shipping Act were enacted in 1950. Submissions relating to its operation are dealt with in Chapter XI. Despite the fact that a vessel refused Canadian registry may be registered elsewhere in the Commonwealth and thus be eligible to engage in coasting trade, as yet only a comparatively few barges have been so registered and there is no evidence to indicate a more substantial trend to this practice. Given the continuance in force of Section 22, therefore, it follows that the proposed restriction of the coasting trade to vessels registered in Canada would not affect many barge operations and that the economic effects of this new restriction would be of a minor nature.

III. THE GREAT LAKES

1. Transportation Costs

The typical Canadian registered vessels that would be employed in the coasting trade of the Great Lakes and St. Lawrence River if the proposed

Proposed Restriction of Coasting Trade to Vessels Registered in Canada

restriction were enforced would be lakers built in the United Kingdom (vessel J of the previous analysis). While a specialized seaway-ocean carrier (vessel F) was shown to be the most economical of all if owned and registered in the United Kingdom, the cost of employing a similar vessel on Canadian registry would be at least 24% greater, as in the case of the tramp-type vessel considered earlier in this chapter. It would be almost as costly to employ such a vessel as a Canadian-built laker, vessel H.

The grain movement is by far the largest in the coasting trade of the area, accounting in 1955 for 10.0 of the 17.1 million tons of coasting cargo carried within the Great Lakes and between the Great Lakes and the eastern region.² About half of the quantity shipped from Fort William-Port Arthur was exported overseas, largely from St. Lawrence ports. After the Seaway is completed some export grain may be shipped directly overseas from the Lakehead, particularly in years when ocean freight rates are comparatively low. It was shown in Chapter VI, however, that on the average it would probably be less costly to export via a St. Lawrence port, providing the grain was carried to the transfer ports by the low-cost U.K. vessels which also carried iron ore from Sept-Iles on the same trip, and providing the charge for the grain movement was no greater than would compensate for the extra vessel time in making the extended voyage to the Lakehead. In the examples given the advantage of exporting by a transfer port would average 13c a ton of wheat (\$2.11 as compared to \$2.24).

The enforced use of Canadian registered vessels in coasting trade would make it more costly on the average to export Canadian grain via a transfer port than by direct overseas shipment, as will be seen by substituting vessel J for vessel F in Example 3 of Appendix XV. The example deals with the carriage of wheat from Fort William to Montreal by a vessel F which also carries Sept-Iles ore to Cleveland. It shows that, on the given assumptions, the total charge for moving the wheat and effecting the transfer to ocean vessel at Montreal might be \$2.11 a ton. Similar calculations will show that the laker J might complete the round trip in 389.3 hours at an average daily charge of \$4,365, a total revenue requirement of \$70,804 for the entire trip. Ore revenue at the assumed rate of \$1.71 a ton on 22,200 tons would yield \$37,962, leaving \$32,842 to be recovered from the movement of 20,490 tons of wheat, which amounts to \$1.60 a ton of wheat. Adding 70c for the transfer charges gives a total of \$2.30 a ton, higher by 19c than the figure derived with the U.K. vessel F. The result would be that on the average it would be cheaper by 6c a ton to ship directly overseas from the Lakehead.

It follows that the proposed restriction would cause a very substantial reduction in the volume of coasting trade. The cost of exporting Canadian

²Chapter III, Table II.

grain would be greater than with no restriction by about 13c a ton ($\frac{1}{3}$ c per bushel of wheat), and greater by a like amount than the cost of exporting United States grain shipped to St. Lawrence ports by the lowest-cost carriers available. Should the latter movement become substantial, most Canadian export grain would be shipped directly from the Lakehead and the main business of the Canadian transfer ports would be in U.S. grain.

Almost half the Canadian grain shipped from the Lakehead in the 1954-55 crop year was for processing or other use in Canada. Such shipments would remain in the coasting trade. If the delivery port were below Lake Erie, it would be cheaper for a vessel to carry them in the course of an extended round trip on which Sept-Iles ore was carried in international trade. In these instances the employment of the Canadian laker J rather than the U.K. vessel F would cause the transportation costs to be greater in about the same proportion as in the case of grain delivered to Montreal, where the difference found above was 19c or about 9%. In other instances there might be no such return or complementary cargo available, yet the comparative costs of employing vessel J and vessel F would be little different. It was shown in Chapter VI that, on the given conditions, including no return cargo, the cost of delivering wheat to Kingston would be \$2.47 a ton if vessel J were employed, \$2.29 a ton with vessel F. The difference is 18c a ton or about 8%. It follows that the proposed restriction would cause the cost of grain shipments remaining in coasting trade to be greater than otherwise by about 8 or 9%.

Petroleum oils and products provide the second-largest volume of coasting cargoes, amounting in 1955 to a total of 3.7 million tons carried within the Great Lakes and between the Great Lakes and the eastern region.^a Virtually all the movement is in tankers on Canadian registry. All but two of these vessels are of canaller dimensions and one of the two larger ones is now being converted to a dry-cargo carrier. There is no evidence that transportation costs could be reduced by the employment of vessels on U.K. registry or that suitable U.K. vessels might become available, either now or on completion of the Seaway, hence nothing to indicate that the proposed restriction would be a factor in transportation costs.

The coasting trade movements include iron ore, pulpwood, cement, sand, gravel, stone, package freight and miscellaneous cargoes. The package freight would be carried in Canadian vessels in any event, and the sand, gravel, and stone would continue to be moved largely in scows. The proposed restriction of the coasting trade would have no bearing on their costs. It would make a difference of about 2% of the cost of moving iron ore, judging by the example considered in Chapter VI. It might affect pulpwood, cement, and miscellaneous other cargoes in varying degree, much depend-

^aChapter III, Table II.

Proposed Restriction of Coasting Trade to Vessels Registered in Canada

ing on what new shipping arrangements might be worked out after the Seaway is completed.

2. Canadian Registered Shipping on the Seaway

It has been pointed out above that existing lakers would continue to be employed for the remainder of their useful life, but without imposition of the proposed restriction would probably be replaced eventually by vessels on U.K. registry. A question arises as to the size of the lakes fleet that would be maintained on Canadian registry on a permanent basis, should the proposed restriction be enforced. The demands of the coasting trade would be the major determining factor. The preceding discussion on freight rates shows that some transborder trade would be carried in association with this trade. The combined movement would require an extension of the coasting voyage and so provide employment for a greater number of Canadian ships than would the coasting movement alone. Again, ability to employ Canadian vessels in the transborder trades when coasting trades were slack might influence owners to maintain a larger fleet than if there were no alternative employment at all.

No precise prediction can be made with any degree of assurance as to what might be the size of the Canadian fleet in these circumstances. A very general indication may be had by comparing the extent to which the existing fleet is employed in coasting and transborder trades, respectively. No statistics are available as to ton-miles of cargo carriage or other comparable measure of employment, so the data on cargoes carried (derived from loadings and unloadings) must be used for the purpose.

It was shown in Chapter III that the coasting cargoes carried within the Great Lakes and between that area and the eastern region amounted to 17.1 million tons in 1955, almost all of it carried by Canadian lakers and canallers, and that the same vessels carried 22.6 million tons of transborder trade for a total cargo movement of 39.7 million tons. The 17.1 million tons of coasting trade includes 6.4 million tons of grain shipped from Fort William-Port Arthur to Canadian ports within the Great Lakes. It also includes 3.6 million tons of grain shipped to Montreal or other Canadian ports beyond, some of it from the Lakehead but most of it reshipped from lakers to canallers. Exports accounted for about half of the grain shipped from the Lakehead, that is about 3.2 million tons, and for perhaps 3 million tons of the reshipments in canallers, or a total of say 6 million out of the 17.1 million tons of coasting cargo. The remaining coasting cargoes therefore amounted to about 11.1 million tons, which is 28% of the total of 39.7 million tons carried.

The division of vessel employment between coasting and transborder trades would probably be much the same in terms of cargo ton-miles as in terms of cargo carried. The latter includes a double count of the grain

reshipped in canallers. Nevertheless the average distance of all the grain shipments counted on this basis would probably be comparable to the average shipment of iron ore from Lake Superior to Canadian ports. It would probably exceed the average shipment of coal, the other major item of transborder trade, for a large amount of coal moves only across Lake Erie or from Lake Erie to Lake Ontario. The Great Lakes fleet on Canadian registry at the end of 1956 numbered 269 vessels of 1,000 gross tons and over with a total carrying capacity of 1,336,406 deadweight tons.⁴ It follows that the coasting trade exclusive of grain destined for export provided employment for roughly 28% of this capacity or about 374,000 deadweight tons.

The fleet to be maintained after the Seaway is completed would be larger than required for coasting trade alone, because a number of vessels would make extended voyages to secure return cargoes in the transborder trade. Iron ore available at Sept-Îles is the significant instance. It is shown in Appendix XV that a vessel able to make a round trip to Montreal with wheat in 302 hours would require another 108.6 hours to make a round trip with ore and wheat, from which it may be inferred that such voyage extensions would require a one-third increase in the capacity of the fleet so employed. Not all the coasting voyages would permit of such extensions, however, hence an increase of 20% of the previous figure of 374,000 deadweight tons would appear an ample allowance for this factor. That gives a total of nearly 450,000 deadweight tons. A very rough approximation of the capacity of the lakes fleet that might continue to be maintained on Canadian registry is therefore about 450,000 deadweight tons—about one-third the capacity of the present fleet.

It is probable that Canadian enterprises now operating canallers and lakers have more to lose than to gain as a result of the proposed restriction of the coasting trade. It is certain that they face major adjustments in any event. Virtually all of them own the vessels they operate. They will find it necessary to retire many canallers as more suitable vessels become available, and this will mean a loss in the capitalized value of the fleet notwithstanding the fact that the original cost and perhaps the replacement cost of the vessels may have been recovered. The existing lakers will continue in service for the remainder of their useful life. The capitalized value of these vessels may be impaired in due course by lower freight rates, but only if the new competitors appear more rapidly than the older lakers are retired, for rates will decrease only when there is a surplus of vessels. The proposed restriction would affect these adjustments only by preventing the level of freight rates in coasting trade from falling as low as they eventually would in transborder trade, and thereby make it profitable for Canadian owners

⁴Chapter V, p. 60, Table IV.

Proposed Restriction of Coasting Trade to Vessels Registered in Canada

to replace some lakers on their retirement with other vessels on Canadian registry.

The Canadian operators need have little fear of being displaced by operators from the United Kingdom or elsewhere in the Commonwealth. Experience on the East Coast suggests that a domestic enterprise can make more effective use of chartered tonnage for a Canadian operation than can the overseas owner, and the same experience is likely to be found on the Great Lakes, because the Canadian firms are thoroughly familiar with the requirements and their connections and shore organizations have been long established. If the superiority of the specially designed seaway-ocean carrier foreseen in Chapter VI is borne out in practice, it is most probable that this type of vessel would be built by U.K. interests for seasonal use by Canadian operators, whether on a charter basis or under a partnership agreement or other suitable arrangement to be worked out. Canadian enterprises might thus pass on some or all of the risks of ownership to U.K. shipowners, and at the same time acquire the use of the lowest-cost carriers. They would be in the strongest possible position to retain all their present business in both coasting and transborder trade and to participate in any new business to be developed.

The proposed restriction of the coasting trade would guarantee the Canadian operators a certain minimum level of operation, but that field would be of much more limited scope. It is probable that they would lose most or all of the export grain shipments now carried in coasting trade to St. Lawrence River ports. Having lost the export business it is unlikely that Canadian registered vessels could be employed profitably in any very substantial share of the transborder trades, except to the extent that it provided return cargoes or alternative employment when the coasting trade was slack. It is probable that the Canadian operator, in addition to employing Canadian registered lakers for the coasting trade, would also employ vessels on U.K. registry for participation in the transborder trades, making the greatest possible use of his knowledge and business connections. On this basis he might well expect to benefit from a large and growing volume of trade between the United States and Canada. With some of his vessels eligible for coasting trade and others not, however, he would find a considerable lack of flexibility in the deployment of his combined fleet. More vessels would be required to carry the same volume of business. There would be a lesser volume of two-way cargo movements and more lost time, resulting in a more costly and less profitable operation than if all his vessels were eligible to carry both coasting and transborder cargoes.

C. Availability and Stability of Service

Under this heading will be considered the various questions raised as to the ready availability of shipping service on demand, the continuity and reliability

and general adequacy of shipping services. The advocates of the proposed restriction of the coasting trade emphasized these considerations, arguing that Canadian ships would always "be there" (especially lakers), whereas ships on United Kingdom registry might be attracted elsewhere in peace or directed elsewhere in an emergency. It was argued further that this consideration made a Canadian coasting fleet worth any extra cost resulting to the Canadian shipper or consumer. The present section will consider the subject in the context of normal peacetime conditions. Two subsequent sections will deal respectively with emergencies in peacetime and the total emergency of war.

Adequate shipping service implies ability to acquire suitable vessels from time to time, and hence a concern of ship operators generally with shipyard facilities. The position of Canadian shipyards must be considered separately, however, as already stated.

There is no question as to the importance of reliability and continuity and general adequacy of shipping service in the coasting trade. A severe and prolonged lack of service could disrupt the Canadian economy, from the lumber, pulp and paper industries on the Pacific Coast and the grain farmers of the Prairies to the coal mining and other extractive industries of the Maritimes. But neither the reliability, the continuity, nor the general adequacy of shipping service appears in jeopardy, nor does it appear that the service would be improved by the proposed restriction. Service in United Kingdom vessels is always available in peacetime at the going market price, and service in foreign vessels is to be had should occasion warrant.

At present Canada depends heavily on such services, not only in the eastern coasting trades but also and far more in her vital international trades, yet no general or prolonged shortage of vessels has been experienced. Normal business arrangements ensure the necessary supply of vessels as and where needed. Thus, it has been noted earlier that by far the greater proportion of United Kingdom vessels in the coasting trade are on charter to Canadian operators, which simply involves advance arrangement of the charter period and terms. Again, much cargo is and will be carried under continuing contracts, in which case the scheduling of deliveries is likewise a matter of advance arrangement, no matter who is the carrier or what vessels are used; a carrier withdrawing vessels in violation of a contract would be subject to court action. Other cargoes commonly moved on a voyage basis, such as grain, may be carried in coastal waters by returning contract carriers, notably ore carriers.

It is true that other Commonwealth vessels may not be available on the inland waters in the opening and closing weeks of the navigation season, when the grain movement usually is heaviest. Most of the rush at such times may be confined to grain for Georgian Bay and other ports from which grain is to be forwarded by rail. If experience proves grain demand to be in fact excessive

Proposed Restriction of Coasting Trade to Vessels Registered in Canada

in such periods, the very demand will provide operators with some financial incentive for retaining more lakera.

Restriction of the coasting trade to vessels of Canadian registry would in no way improve the general adequacy of service. On the contrary, it would not only perpetuate the shortage of bottoms now occurring in busy periods on the Great Lakes, it would also extend this experience to other coastal waters, for it is most unlikely that the Canadian fleet could be expanded economically to meet extreme peaks of demand. If these extreme peaks were to be met, additional vessels would have to be recruited from outside of Canada, and this would be accomplished naturally and more readily if the coasting trade were to remain open to the whole pool of Commonwealth vessels.

The subject of availability and general adequacy of service therefore reduces to a matter of the varying prices at which the service will be available, and whether this variability may be so substantial as to be disruptive to business and inimical to the public interest.

Discussion of rate variability will be facilitated by a reference to Figures 1, 2, and 3. Figure 1 charts monthly indices of ocean freights from 1920 to July of 1957. Figure 2 presents a monthly index of time charter rates from 1947 to June of 1957. Figure 3 gives monthly rates on liner parcels of heavy grain from Montreal to London for the years 1949 to mid-1957; the rates are for shipments arranged in the month indicated, which may be either in the same month as the actual movement or well in advance. The indices and rates are tabulated in Appendix XVI.

It will be seen that ocean rates are indeed variable. The changes shown in Figure 1 have been sudden and extensive at times, reflecting the effect on the demand for cargo space of world events and of rapid trade growth or trade stagnation. A suitable series for time charter rates does not extend as far back, but it will be seen from Figure 2 that the trend is much the same as for ocean freights generally. While these charts represent the average experience of many different trades, in some of which the fluctuations may be greater and in others less, Figure 3 shows that variations in the rate on wheat and other heavy grain from Montreal have been closely parallel for the given years. Looking at the upward surge at the time of the Korean hostilities, for example, the general index of ocean freights (Figure 1) rose from 71.4 in May of 1950 to 203.8 in May of 1951, an increase of 185%; over the same period the grain rate (Figure 3) rose from 37.3 shillings to 105 shillings per long ton, an increase of 181%. Again, the index rose from 80.1 to 162.2 or by 102% between August 1954 and May 1956, while the grain rate rose 85% over the same period.

There are other ocean movements which may experience no such wide month to month or year to year variation in transportation cost, however. Examples are general cargo consignments on regular liners, or bulk movements where the volume is large and requirements are predictable for the

most part. In these circumstances long term charters are common, not only for year round but for seasonal employment, and while little information is published as to the terms, it is apparent that the incentives include cost stability as well as economy. Thus the submission of Dundee, Perth and London Shipping Company Ltd. states that charter arrangements with Newfoundland-Great Lakes Steamships Ltd. have been made to provide seasonal tonnage from year to year at a fixed rate which would not fluctuate with the freight market. DOSCO reports having chartered before the Second World War a number of colliers for ten to twelve seasons at a time, and an official testified that while the company had none of such length at the time of the hearing it had one three-year charter. The company has provided the Commission with a confidential statement of the average cost of freighting coal to Montreal in recent years, including shipment on vessels owned by the company, and on both time and on trip charter. Despite this variety of arrangement, Table II shows that the season to season variation in average cost is much less than the variation in the time charter index of Figure 2.

TABLE II
Freighting Coal from Sydney to Montreal
Variation in Average Seasonal Cost compared with Monthly Index
of Time Charters

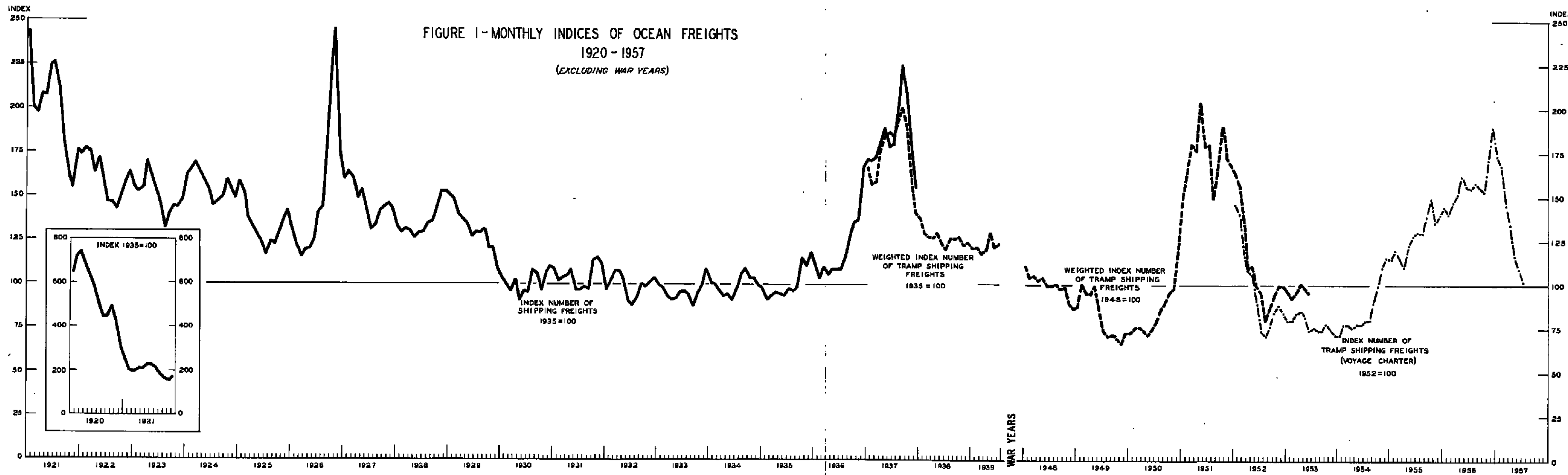
Year	Index of Cost of Coal Transportation ¹	Index of Time Charters ²
1948	100	96
1949	100	79
1950	92	79
1951	141	211
1952	154	115
1953	109	68
1954	101	80
1955	110	140

¹Average seasonal cost as a percentage of the figure for 1948.

²From *Norwegian Shipping News*, base July-December 1947 = 100; see Figure 2 and Appendix XVI.

Figures 4, 5, and 6 chart the freight rates for the water movement from Fort William to Montreal for wheat, oats, and barley, respectively, for the years 1946 to 1957. There is a striking stability of rate as compared to the fluctuations of ocean rates. It will be noted also that the rates for wheat and barley have been at the maxima allowed by the Board of Grain Commissioners except in the 1954 and 1955 seasons, though the rate for oats has been below the maximum ever since it was first established. The Commission does not suggest that regulation is the only factor in this relationship, but is of the opinion that it is a major one. The Commission cannot conclude that restriction of all coasting trades to Canadian registered vessels would produce the same stability of rate without a like degree of regulation.

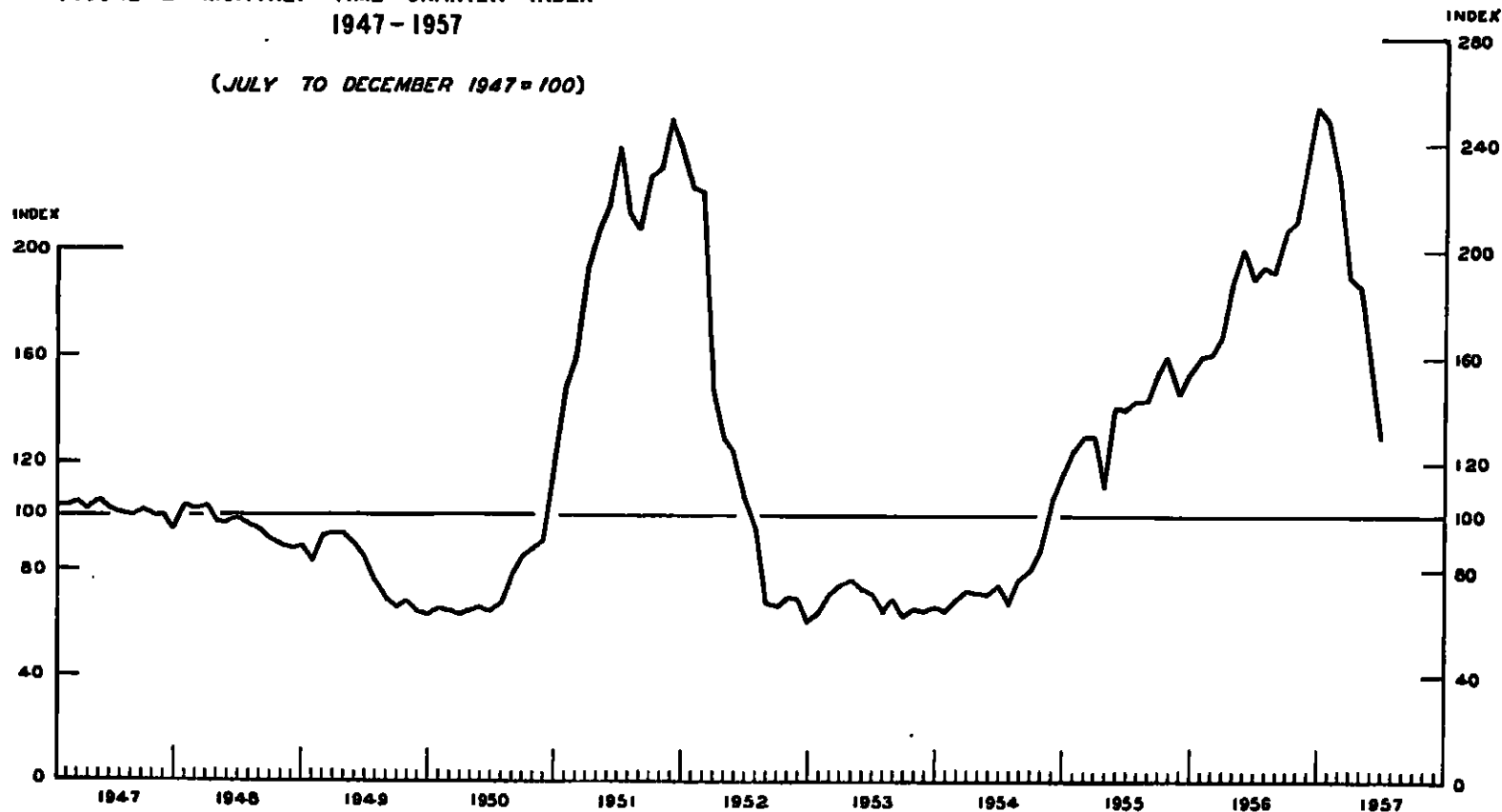
FIGURE 1-MONTHLY INDICES OF OCEAN FREIGHTS
1920 - 1957
(EXCLUDING WAR YEARS)



SOURCE: CHAMBER OF SHIPPING OF THE UNITED KINGDOM

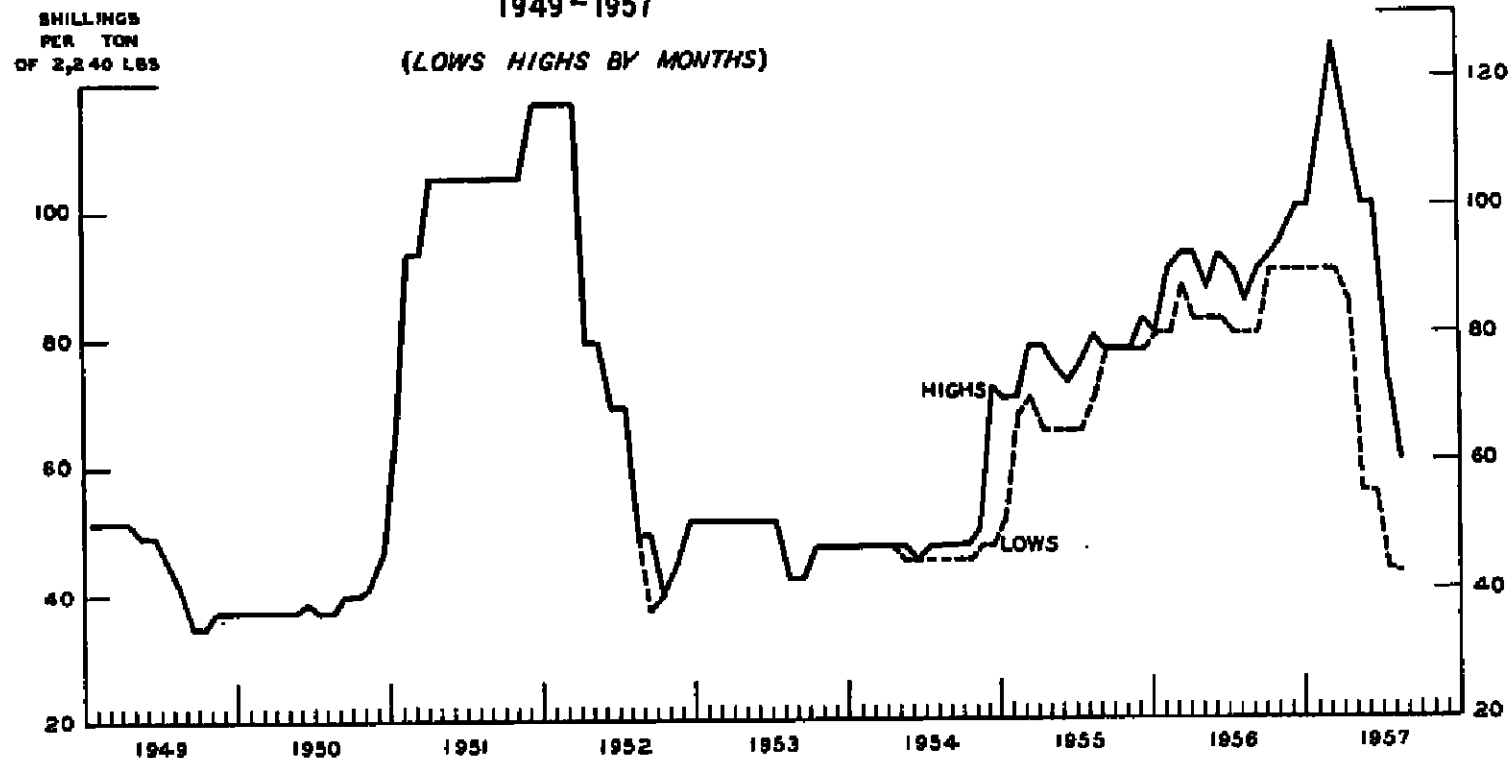
FIGURE 2 - MONTHLY TIME CHARTER INDEX
1947 - 1957

(JULY TO DECEMBER 1947 = 100)



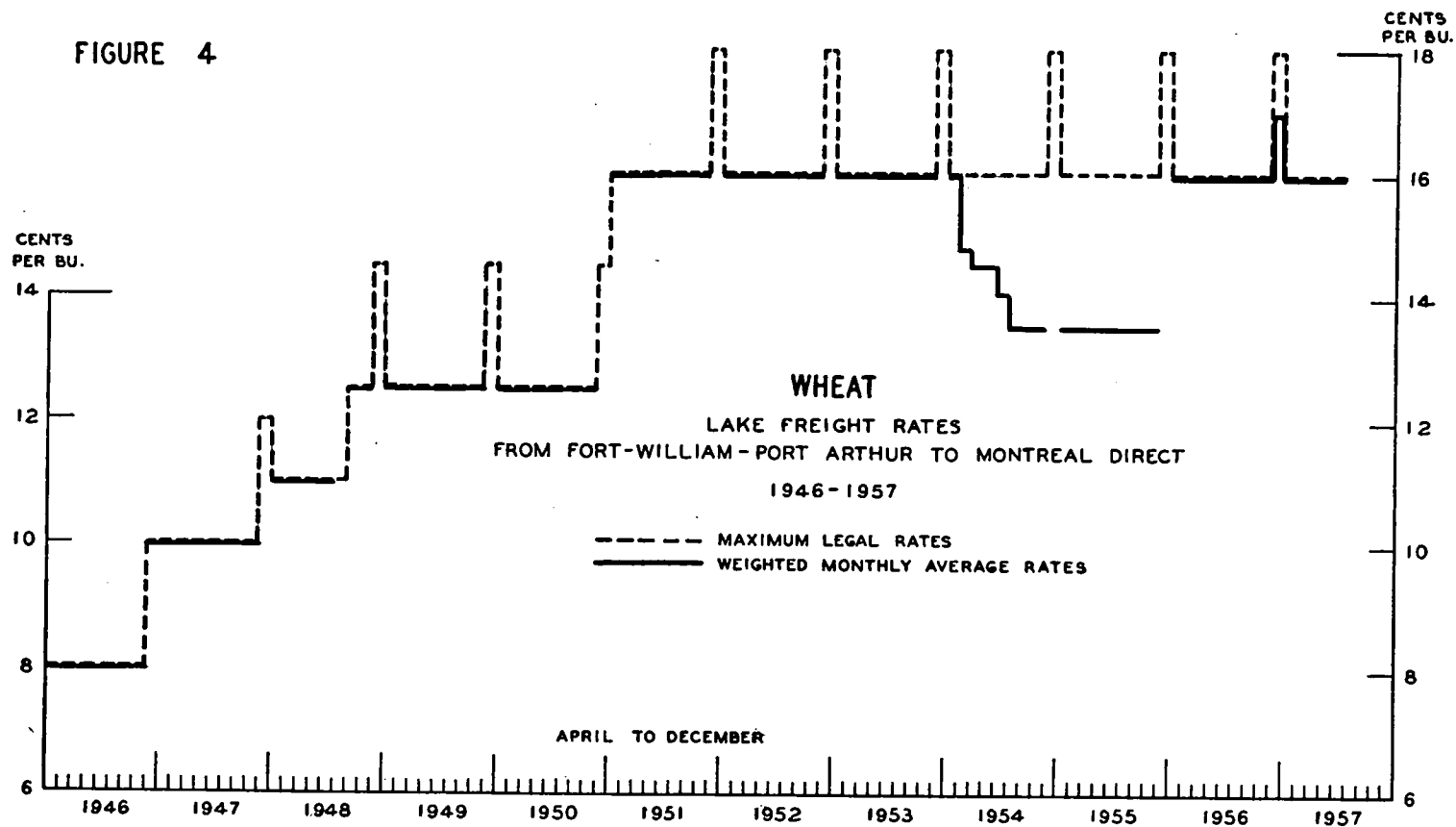
SOURCE: NORWEGIAN SHIPPING NEWS

FIGURE 3 - RATES FOR HEAVY GRAIN - LINER PARCELS
MONTREAL TO LONDON
1949-1957



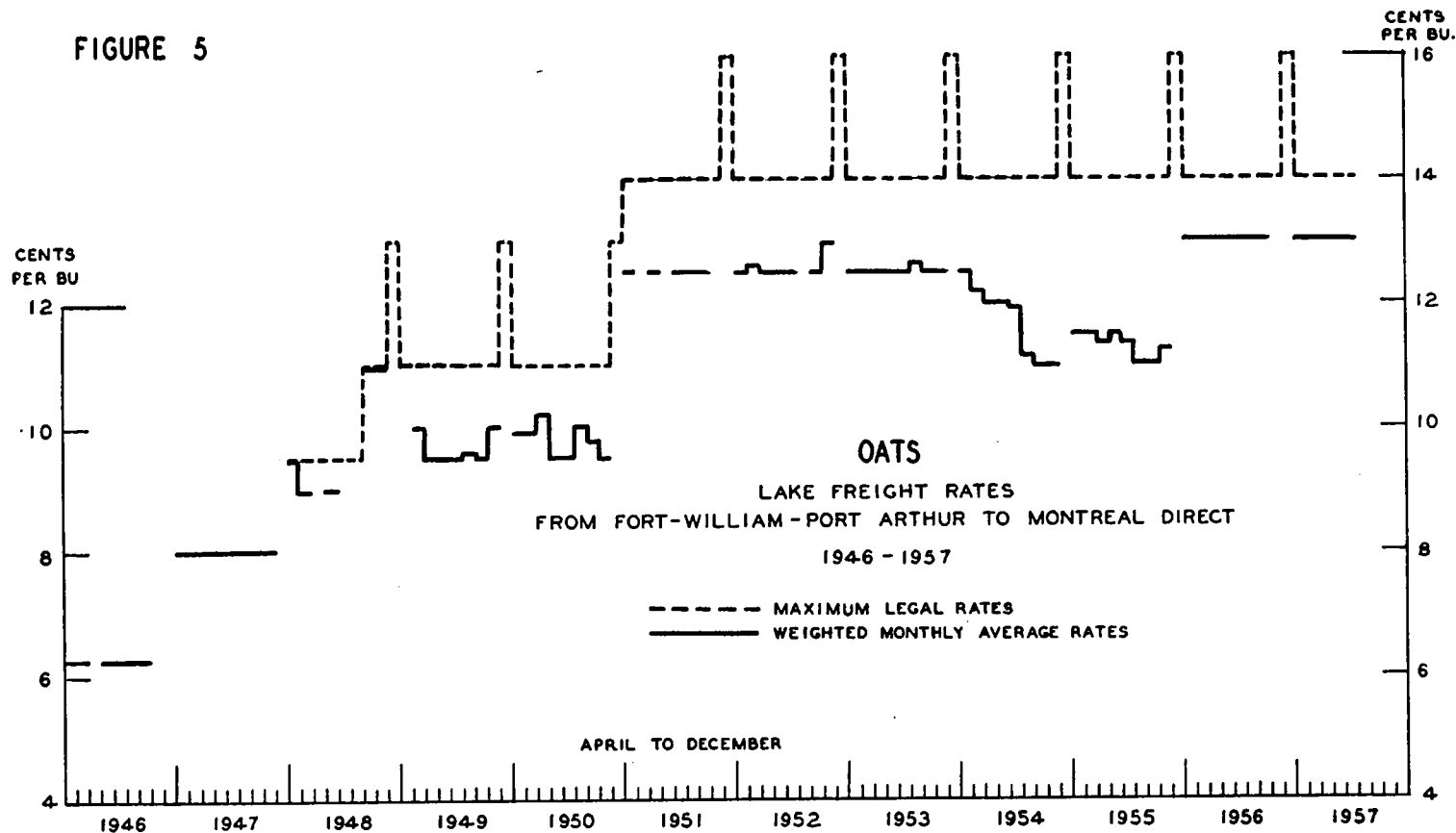
SOURCE: DATA FROM PRIVATE RECORDS

FIGURE 4



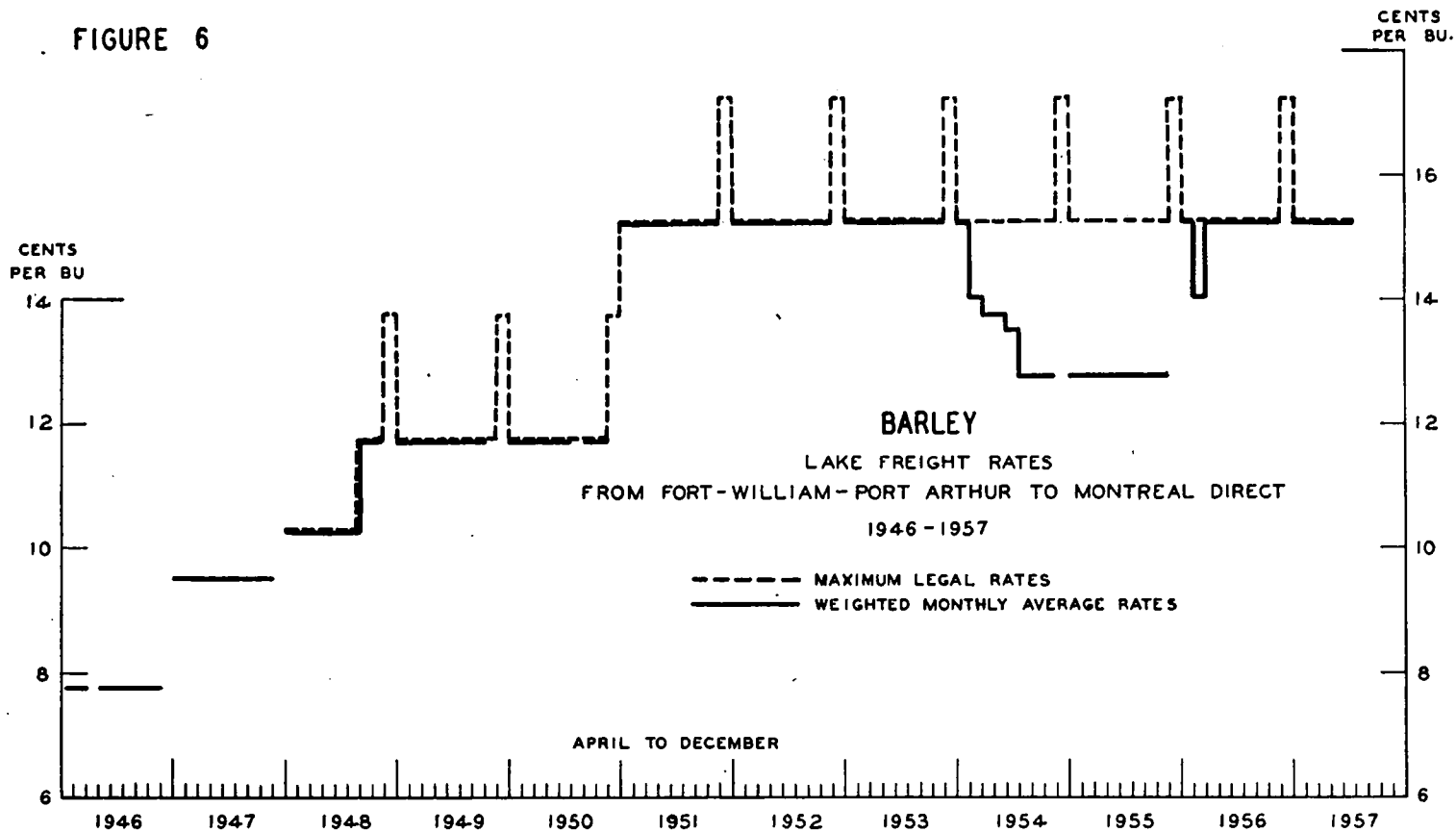
SOURCE: BOARD OF GRAIN COMMISSIONERS FOR CANADA

FIGURE 5



SOURCE: BOARD OF GRAIN COMMISSIONERS FOR CANADA

FIGURE 6



SOURCE: BOARD OF GRAIN COMMISSIONERS FOR CANADA

At present iron ore on the run to Contrecoeur is carried on a contract basis by ocean-going ships, and so are other minerals. The Commission sees no reason why there would be any greater variation in the rates when, on completion of the Seaway, the ore is carried through to Lake Erie. Moreover, the competition among these same contract carriers would appear likely to keep inland rates on grain relatively stable at low levels. In any event rate fluctuations would probably be of considerably lesser magnitude than in the present experience with overseas grain shipments and other spot cargoes on ocean routes. The Commission presumes that continued regulation of the inland rates by the Board of Grain Commissioners would prevent excessive upsurges.

The question nevertheless arises whether users of shipping service would prefer even more stable rates. Perhaps they would, if it could be demonstrated that the stable rate would be no higher than the average of variable rates over a given period of time. It is significant that, while ship operators stressed the desirability of stable rates, farm organizations and shippers generally placed little emphasis on its virtues, seeking rather continued access to other Commonwealth shipping.

D. Cabotage in Other Forms of Transportation

A number of references were made to the restrictions on cabotage in other forms of transportation, particularly air services, with the argument made or implied that similar restriction should obtain in the coasting trade. For example, the Canada Steamship Lines brief includes a section on "anti-cabotage air restrictions" and includes the following two points in its summation:

"(iii) As the Canadian coasting trade is a domestic matter, there is no valid reason for not placing it in the same position as road, rail, and air services, which, under traditional Canadian policy, are carried out by Canadian agencies operating under Canadian laws.

"(vii) Cabotage should not have one treatment for Canadian air services and another for steamship coasting services."

If these propositions were to be found valid, they might be turned against those of their authors who advocated restriction of the coasting trade to vessels not only registered but built in Canada, for, while various tariffs apply to imported equipment, no other transportation service is required to have its capital equipment made in this country. But their validity is not self-evident and would require considerable demonstration, which has not been offered. Each service operates in a different medium which imposes its own conditions on the whole nature of the service. The service conditions in turn cause concern with differing aspects of the public interest. It therefore does not necessarily follow that each form of transportation should be accorded the same treatment with respect to cabotage or any other matter.

Proposed Restriction of Coasting Trade to Vessels Registered in Canada

Commercial movements by highway from point to point in Canada may be carried almost exclusively by Canadian enterprises employing Canadian labour, but if that is so it may be far more the result of practical operating considerations than of artificial regulation. Geography and the nature of the vehicle together eliminate any threat of overseas competition. The only likely source of competition is from United States operators. In general a Canadian operator may be expected to have much the same operating costs if not lower, with in most cases an important advantage in having his operating base where the Canadian business is. Regulation of highway transportation may be a further factor, but its practical effect in excluding United States competition is far from clear. Control is exercised by provincial authorities and the provisions vary from province to province. For passenger bus service, exclusive franchises are the general rule. For trucks, some provinces put certain forms of service under licence and require proof of public necessity and convenience, although other provinces do not. The regulatory limitations on competition thus have only a partial application; where they apply they limit competition generally on the above basis and not only competition from outsiders. Moreover, Part II of the Transport Act now imposes similar restrictions on some shipping services, including the need to show public necessity and convenience. No shipping interest asked the Commission for an extension but more than one sought relaxation of these provisions.

The development of railway transportation certainly raised the issue of excluding United States operators. The concern was less with giving opportunities to Canadian enterprise than with ensuring that railway connections would serve to unite British North America into one nation and not to break it up into a series of regions each tributary to the United States. The construction of the Canadian trans-continental systems largely ended such concern with railway building. Today the Railway Act gives extensive authority to the Board of Transport Commissioners to control the location, structure and physical characteristics of railways and all operations generally, as well as specific authority to regulate freight rates. United States railroads have been permitted to extend lines into Canada and across Canadian territory with the right to carry goods and passengers from place to place in Canada, subject to the same regulations that apply to Canadian railways.

Air transportation in turn has shown itself a potent new force in Canadian unity, whether from a political, commercial, or industrial point of view. As in the case of railway development it has been brought to its present status by a national policy combining both promotion and regulation. Had either the promotion or the regulation been lacking, air transport might well have developed largely as a series of separate extensions of outside services, and no integrated Canadian system would have developed. Restriction of cabotage to aircraft owned and registered in Canada is only one aspect of a larger regulatory policy that has included exclusive franchises for various services, par-

ticularly scheduled services, and a limited number of licences for other types of operation.

E. Governmental Control of Shipping

It was argued before the Commission that another merit of having vessels registered in Canada is that they are subject to governmental control when circumstances warrant, as when normal financial inducements will not suffice. For example, the Government considered it necessary in recent years to exercise such control through the Transport Controller, appointed to deal with unusual conditions arising in the marketing of western grain. The Controller was given power to regulate and control the carriage of goods in bulk, by ship or railway, for the purpose of ensuring prompt, orderly and efficient transport. The office is now vacant.

A substantial decline in the tonnage of lake vessels on Canadian registry might follow upon completion of the Seaway, in the absence of governmental action. However, it has been shown that a high proportion of the new vessels displacing them in the coasting and transborder trades would be on U.K. or other Commonwealth registry. Judging by present practices, most of these ships would be on charter to Canadian operators, who would be subject to effective governmental direction. As to other Commonwealth or foreign vessels, governmental control, if necessary, could be exercised by either economic or moral pressure. Moral pressure alone would probably be enough, since most of them would have a continuing interest in the trades in which they were engaged and would have considerable goodwill at stake. The Commission therefore feels that, while the power to control a Canadian fleet is doubtless an asset, the Government could exercise adequate control over shipping without restricting coasting trades to Canadian registered vessels.

F. National Defence

A high proportion of the submissions favouring restriction of the coasting trade argued that it would assist in ensuring a supply of vessels and crews to be needed in time of war. In some contexts this seemed to mean vessels to serve Canada's private needs, including those of the coasting trades, at a time when United Kingdom vessels might be withdrawn for service elsewhere. In other contexts the emphasis seemed to be on Canadian vessels and crews available for service anywhere. The two interests are in partial conflict but they can be reconciled.

It does not appear to this Commission that the Canadian coasting trade would suffer unwarranted reduction of services in war, even if the greater portion of cargoes comes to be carried in vessels of United Kingdom registry. Some considerable volume may be carried in Canadian vessels not suitable for ocean service, whether or not they could be spared. In a major world war

Proposed Restriction of Coasting Trade to Vessels Registered in Canada

it can be assumed that Canada would be allied with the United Kingdom and other shipowning countries, and that it would be as vital to her allies as to Canada that shipping service be adequate for its role. While a lesser emergency involving the United Kingdom but not Canada might cause some withdrawals of U.K. shipping from Canadian waters, other neutral shipping could be made available by suspension of the coasting law if need be.

The need for Canadian vessels to serve elsewhere in war is no more apparent. Among our prospective allies are the largest shipowners in the world. Besides their vessels now in service there is the great "mothball fleet" of the United States, maintained for just such an emergency. The North Atlantic Planning Board for Ocean Shipping has agreed on an outline plan for the mobilization of ocean-going shipping in a single pool and its allocation on a world-wide basis in time of war or wartime emergency. The plan also provides for the establishment of an international organization of a civilian character, to be named the Defence Shipping Authority. In the event of war any suitable vessels on Canadian registry could be assigned to the pool, and Canadian-owned vessels now on United Kingdom registry under the Transfer Plan would be credited as a Canadian contribution. It does not appear that essential Canadian requirements would be in jeopardy under these arrangements.

The question arises as to what wartime role might be played by the vessels added to Canadian registry as a result of the proposed restriction. As a rough approximation it was shown above that the addition might be 136,000 gross tons on the East Coast, nil on the West Coast, whereas on the Great Lakes a fleet with an aggregate capacity of 450,000 deadweight tons might be retained.

Certainly the wartime role of the lakes fleet could be no different to its peacetime role, for it would be composed of lakers like vessel J, not carriers like vessel F on Canadian registry. Few of the vessels would be suited to service anywhere else. On the other hand it is probable that the transborder trades would employ mostly specialized carriers capable of regular ocean service, and that only the proposed restriction would prevent similar vessels on U.K. registry from replacing almost all of the Canadian lakers. Vessel F, used to typify these specialized carriers, has a cargo deadweight of 17,100 tons on seaway draughts, hence by retaining lakers aggregating 450,000 deadweight tons on Canadian registry the restriction would prevent the building of about 26 vessels F for U.K. registry. Each vessel F would have a cargo deadweight of 23,700 tons at ocean draught^a. The gross tonnage would be approximately 71½% of this figure or 16,945 gross tons^b. The proposed restriction of the Canadian coasting trade would thus forestall the building for U.K. registry of perhaps 26 vessels capable of regular ocean service, aggregating about 440,000 gross tons.

^aExhibit 201.

^bAssuming the same ratio as typical for ex-Park vessels, i.e., 7,150 gross tons to 10,000 deadweight tons.

Royal Commission on Coasting Trade

The 136,000 gross tons added on the East Coast to Canadian registry would represent about 30 vessels of the same average size as the U.K. vessels that would otherwise be employed. If the size distribution also remained about the same, as might be expected, 11 of the vessels would be regular ocean-going ships of about 10,000 deadweight tons. The capacities of the remaining 19 vessels would range from about 9,000 deadweight tons down to 1,300 tons, and would average about 4,250 deadweight tons. While it must be presumed that all of these vessels would be capable of crossing the ocean, since their U.K. counterparts did, a number of them would be typical coastal vessels not suitable for regular ocean service.

The proposed restriction, combined with a substantial increase in coal subventions, would ensure the retention in Canadian waters of a fleet of vessels suitable and adequate for the carriage of coasting trade in peacetime. Conversely, the restriction would result in a substantial reduction in the total allied pool of ocean-going shipping. The regular ocean-going vessels included in the tonnage added to Canadian registry on the East Coast would only replace a like number on U.K. registry, whereas the lakers retained on Canadian registry would be at the expense of a corresponding tonnage of ocean vessels on U.K. registry. From a defence point of view it appears that the latter consideration far outweighs the former, for U.K. vessels could serve the needs of either Canadian coasting trade or trans-ocean shipment, and could be transferred from one to the other as appropriate, whereas comparatively few of the Canadian vessels would be suitable for anything but coasting service.

There may be some doubt as to how great the need might be for vessels during or immediately after a war with nuclear weapons, which might be short and catastrophic. It may be nevertheless that the allies must also be prepared for a longer war, or for lesser hostilities with conventional weapons, in which shipping again would play a vital part. These considerations involve concern with both the size of the fleet at the outbreak of war and capacity to replace casualties. Shipbuilding capacity for defence is dealt with in a later chapter. Here it is enough to observe that other allies are in a far better position to ensure that the initial fleet is of adequate size. In these circumstances Canada could make her contribution to allied defence in fields in which she has a greater economic advantage. Should there be reasons not made known to this Commission for maintaining on Canadian registry a greater number of vessels than appears in prospect, this could be done more economically and more effectively by a policy of direct subsidy to the vessel operator, or by a policy of allowing owners of vessels of specified types to claim more than 100% depreciation for taxation purposes, or by other taxation relief. The comparative advantage of some of these methods are set out at the end of Chapter IX.

G. Conclusions Respecting Proposed Restriction of Canadian Coasting Trade to Vessels Registered in Canada

Restriction of the coasting trade to vessels registered in Canada would be detrimental to the public interest, whether the restriction applied generally or only to a particular part of Canada.

Applied to the eastern coasts and the Gulf of St. Lawrence, the restriction could not fail to cause a substantial increase in transportation costs for a large volume of commodities carried in the coasting trade, with similar effects in some international services. Applied to the coasting movement of coal, it would cause collapse of the Cape Breton coal industry unless offset by a substantial increase in coal subventions. In no case would there be a commensurate benefit in quality of service or in other directions, and in some cases the service might be expected to deteriorate.

Applied to the Great Lakes and St. Lawrence River, the restriction would mean moderately greater water transportation charges than would obtain otherwise in coasting trades. It would probably cause most Canadian export grain to be shipped directly overseas from the Lakehead, causing a substantial loss of coasting trade. This loss would impair the competitive position of Canadian operators in the transborder trade. It would not afford any substantial advantage in shipping service.

Applied to the Pacific Coast, the restriction would afford little or no practical benefit to Canadian operators generally or to the public and hence would lack justification.

H. Proposed Treaty with United States Respecting Trans-Boundary Trades

The submission of the Dominion Marine Association advocated restriction of the coasting trade to Canadian registered vessels, firstly "as a necessary step in the preservation of our own trade", and secondly as an essential preliminary to the negotiation of a treaty with the United States reserving the trans-boundary trade in the inland waters of the two countries to vessels registered in either Canada or the United States. The two measures were advocated as a combined assurance that the trade of Canadian and United States shipowners would not be destroyed by competition from the United Kingdom and foreign countries. The Trades and Labour Council and the National Association of Marine Engineers also advocated such a treaty.

The foregoing analysis has shown that restriction of the coasting trade to vessels registered in Canada would be detrimental to the public interest. The same can be said for restriction of the transborder trade to Canadian registered and U.S. registered vessels. The continued exclusion of outside competition in all the inland services would materially lessen the advantages to be derived from the Seaway.

The very intent of the proposed treaty is contrary to the principle espoused by Canada of freeing the obstacles to international trade. Even if it could be shown that the treaty was an exception that would promise considerable benefit to Canada, and even if it were found acceptable by the United States, it could not be signed until both countries had renegotiated the numerous treaties which extend most-favoured-nation treatment to vessels conducting international trade to and from their ports. The question of a *quid pro quo* would be sure to arise in each separate negotiation, and by the time all the bargaining would be over it is almost certain that present advantages of great moment would be lost.

I. Retention of Present Restriction on the Coasting Trade

The question arises whether not only Commonwealth but all foreign vessels should be permitted to engage in Canada's coasting trade, since economy of service is appraised as the decisive consideration. No interested party pressed for such a move, though one or two suggested that it was worthy of study. The Commission does not regard the change as advisable at this time for the following reasons:

- (a) The competition from Commonwealth vessels alone is enough to bring world freight rates with it, by and large. The admission to the coasting trade of vessels on other registries could be expected to bring little or no additional economy to shippers.
- (b) It is assumed that the United Kingdom will be allied with Canada in any future war in which this country may become involved, and that its vessels will be available for Canadian needs in the common cause, whereas obviously the same cannot be said of all foreign countries.

CHAPTER VIII

The Shipbuilding and Repairing Industry in Canada

A. History

1. Early Days to 1917

Shipbuilding is one of Canada's oldest industries. The first ship is reported to have been launched at Port Royal in 1606. As a commercial enterprise, shipbuilding dates from 1732 when a shipyard was established at Quebec on the banks of the St. Charles River. Accessible timber resources provided a natural advantage to the construction of sailing vessels in Quebec and in the Maritime Provinces. Throughout the greatest part of the nineteenth century the yards in these provinces supplied most of the vessels for the Canadian merchant marine of the day, and in addition they produced a large volume for sale to United Kingdom operators. The peak was reached in 1875 when nearly 500 ships were built in Canadian yards.

Although a Canadian yard constructed the first vessel to cross the Atlantic wholly propelled by steam (the *Royal William*, built of wood at Quebec), the Canadian shipbuilding industry declined sharply when steam-powered ships of iron and steel began to drive the sails of all nations from the sea. Nevertheless, from the latter part of the nineteenth century to World War I, additional repair and building facilities were established at a number of ports such as Halifax, Lauzon, Sorel, Montreal, Kingston, Collingwood, Port Arthur and Prince Rupert. This development was fostered by the Federal Government which built a number of dry docks and subsidized the building of others. Those built by the Government were:

Name	Place	When Built
Lorne	Lévis, Que. (Lauzon)	1880
Old Dry Dock	Esquimalt, B.C.	1881
Kingston	Kingston, Ont.	1889
Champlain	Lévis, Que. (Lauzon)	1914
New Dry Dock	Esquimalt, B.C.	1914

Dry docks built with the assistance of government subsidies were:

Name	Place	When Built
Collingwood	Collingwood, Ont.	1904
Collingwood	Collingwood, Ont.	1910
Port Arthur	Port Arthur, Ont.	1910
Montreal (floating dock)	Montreal, Que.	1912
Prince Rupert (floating dock)	Prince Rupert, B.C.	1915

Also, a tripartite subsidy was provided by the Canadian Government, the British Government and the City of Halifax for the construction, in 1886-9, of the dry dock owned by the Halifax Graving Dock Company Limited.

All this contributed greatly to the establishing of ship repairing on an adequate basis. As to the building of steamers, the industry made little progress aside from the building of a number of coasting and fishing vessels. In the words of the Canadian Maritime Commission:

"Apart from the construction of river steamers, ferry boats, tugs and small coastal vessels, there was practically no steel shipbuilding in Canada during this period. The Canadian shipbuilding industry was at a disadvantage in competing with British yards in the construction of ocean-going tonnage. It could draw neither upon the resources of a local iron and steel industry, nor upon the technical skills of a highly developed engineering industry, nor was there a domestic demand for ships such as had existed fifty years earlier".¹

2. World War I to 1939

Canada's shipbuilding industry, which had been reduced to little more than repair work, was revitalized during World War I. Early in 1917 the British Ministry of Shipping sent experts to investigate the possibilities of building steel ships in this country. As there were only about six shipyards actually engaged in the building of a few small ships, it was decided to expand them and to establish new ones to answer the urgent need for ships.

In 1917 the Imperial Munitions Board undertook in Canada its programme of shipbuilding. Forty-one ships ranging from 1,800 to 8,800 tons deadweight capacity were afterwards delivered to the British Government. The building of steel ships originally intended for war service was started by the Canadian Government early in 1918. Some four years later, in 1921, 63 ships aggregating 380,000 deadweight tons had been launched in 14 Canadian shipyards and taken over by the Canadian Government Merchant Marine. They were of several basic types ranging from 2,800 to 10,500 deadweight tons capacity. The completion of this programme can now be regarded as a landmark in the Canadian industry of shipbuilding as it virtually ended steel shipbuilding for that period. Table I below shows the sharp drop in the number and tonnage of vessels delivered after 1921. Indeed, from 1922 to 1930, there were only 51 steel self-propelled merchant vessels delivered by Canadian shipyards, representing 132,410 gross tons, and 2 naval vessels with a total displacement of 634 tons. From 1931 to 1939 inclusive there was an almost total cessation in the output of ships. During this period there were only 16 vessels built in Canadian yards.

Table II gives shipyard production and employment for most years since 1918. Employment averaged around 5,000 employees in the twenties, did not exceed 3,600 in the thirties and reached a low of 2,254 in 1933. It is to be noted that these figures include all employees whether of the yard force

¹*Second Report of the Canadian Maritime Commission, 1949, p. 12.*

The Shipbuilding and Repairing Industry in Canada

TABLE I
Steel Self-propelled Vessels Delivered by Canadian Shipyards 1914 to 1956¹

Year	Merchant Vessels ²		Naval Vessels	
	Number	Gross Tons	Number	Displacement Tons
1914	6	24,916	40	11,716
1915	1	733	255	75,228
1916	7	21,770	9	3,600
1917	6	20,580	32	9,421
1918	19	49,703	55	16,085
1919	25	99,188		
1920	16	62,095		
1921	17	76,661		
<hr/>				
1922	2	9,417		
1923	4	6,053		
1924	3	15,997		
1925	5	13,990		
1926	9	20,325		
1927	6	16,458		
1928	7	17,261		
1929	7	20,404	2	634
1930	8	12,505		
<hr/>				
1931	2	6,992		
1932	1	1,231	1	157
1933	—	—	1	140
1934	1	531		
1935	—	—		
1936	—	—		
1937	1	1,585		
1938	4	3,820	2	886
1939	2	1,958	1	140
<hr/>				
1940	1	2,238	14	12,387
1941	2	8,310	71	64,932
1942	84	602,045	50	44,490
1943	144	971,791	70	82,946
1944	122	774,384	97	120,808
1945	38	186,774	68	344,157
<hr/>				
1946	31	52,028	1	2,390
1947	23	83,607	1	2,390
1948	48	132,363	1	2,390
1949	20	66,758		
1950	16	39,459		
1951	4	29,393	3	404
1952	8	81,005	4	1,565
1953	11	74,631	4	1,777
1954	11	105,840	9	3,420
1955	9	30,707	2	3,385
1956	13	11,540	7	9,430
<hr/>				
Total	744	3,757,046	800	814,448

¹From the *Ninth and Tenth Reports of the Canadian Maritime Commission*, 1956, 1957.

²Includes cargo and passenger vessels. Does not include government vessels such as icebreakers, tenders, etc.

or of the office staff. The survey from which they are taken includes all yards, major as well as minor. It was owing primarily to repair work and other industrial activities that employment did not fall even lower in this twenty-

TABLE II
Employment and Production in the Canadian Shipbuilding Industry
Selected Years 1918 to 1955¹

Year	No. of Establish-ments	Average No. of Employees	Net Value of Production ²						
			Shipbuilding		Ship Repairs		Other Activities		Total
			\$000	%	\$000	%	\$000	%	\$000
1918	90	21,705	62,495	83.5	8,038	10.8	4,266	5.7	74,799
1919	78	23,702	75,086	86.9	8,283	9.5	3,121	3.6	86,490
1920	82	14,847	46,458	84.8	6,843	12.3	1,525	2.9	54,826
...									
1925	38	5,278	3,042	24.9	5,700	46.5	3,500	28.6	12,242
...									
1929	41	5,297	5,202	29.7	6,691	38.3	5,600	32.0	17,493
...									
1933	38	2,254	676	15.0	2,861	63.3	985	21.7	4,522
...									
1936	37	2,801	407	6.6	4,957	79.9	841	13.5	6,205
1937	40	3,502	1,607	15.5	6,125	59.2	2,629	25.3	10,361
1938	41	3,596	3,784	33.9	6,099	54.6	1,288	11.5	11,171
1939	43	3,491	2,271	20.2	7,744	68.9	1,220	10.9	11,235
1940	47	9,707	29,196	65.3	13,078	29.3	2,417	5.4	44,691
1941	65	21,240	85,638	78.3	19,901	18.2	3,788	3.5	109,327
1942	79	50,132	208,714	86.1	27,734	11.5	5,690	2.4	242,138
1943	87	75,847	334,491	88.7	34,383	9.3	7,707	2.0	376,581
1944	94	67,076	245,020	74.4	63,104	19.2	21,176	6.4	329,300
1945	89	48,118	149,629	73.2	44,338	21.6	10,627	5.2	204,594
1946	79	20,246	54,902	59.8	28,645	31.2	8,304	9.0	91,851
1947	74	21,119	60,424	54.9	42,077	38.2	7,630	6.9	110,131
1948	76	18,399	64,095	60.0	31,084	29.1	11,604	10.9	106,783
1949	80	12,562	36,668	48.5	27,613	36.5	11,320	15.0	75,601
1950	76	11,454	26,155	41.1	27,012	42.4	10,510	16.5	63,677
1951	76	14,836	43,306	45.5	35,123	36.9	16,790	17.6	95,219
1952	74	20,676	82,574	51.9	47,579	29.9	28,905	18.2	159,058
1953	79	22,571	95,311	52.0	62,787	34.3	25,117	13.7	183,215
1954	76	19,356	89,146	56.9	44,881	28.7	22,580	14.4	156,607
1955	70	16,829	67,971	50.8	42,075	31.4	23,791	17.8	133,837

¹The Shipbuilding Industry (DBS) with early data supplied by DBS.

²Value of work done during the year.

year period. In fact, ship repairing was a higher and far more stable source of revenue than shipbuilding, the net value of production having been maintained at \$5 million to \$6 million for most of those years. Other activities, though of lesser importance than repairs, helped to keep the shipyards going. For many of the years during this period these subsidiary activities represented over 25% of the value of production in shipyards. To sum up, the shipyards that survived the inter-war period had become repair yards and engineering workshops.

3. World War II and After

Following the years of extreme depression, the Canadian shipbuilding industry again was called to intense activity by World War II. By February of 1940, the Canadian Government had ordered 64 corvettes and 14 mine-sweepers. In addition to naval vessels, Canadian shipyards were called upon to build merchant ships. The programme began in the autumn of 1940 when the United Kingdom authorities placed orders for a number of 10,000 ton ships. A few months later under the Hyde Park Agreement, the U.S. Government followed with further orders for merchant vessels to be delivered to the United Kingdom under lend-lease. During the war years Canadian shipyards built about 400 naval vessels, 398 merchant ships of various types, and thousands of smaller craft such as tugs, patrol boats, scows and lighters.

At first there was slow progress in ship construction but in 1942 Canadian shipyards delivered 84 merchant ships and 50 naval vessels. The peak was reached in 1943 when 144 merchant ships were launched, representing 971,791 gross tons. During the same year Canadian shipyards delivered 70 naval vessels, and employment reached its peak with more than 75,000 employees.

This large output involved a tremendous expansion not only for the shipbuilding industry but also for ancillary industries producing component parts, for which before the war Canadian shipyards relied greatly on foreign imports. It has been estimated that by the end of 1943 there were 300 plants in Canada supplying marine engines, shaftings, boilers, superheaters, winches, steering gears, propellers, electric generators and other parts.

Another notable contribution by Canada to the war effort of the allied nations was ship repairing. This aid was facilitated by the construction of new piers, marine shops, marine railways and large floating dry docks for sea-going vessels. During the war years many thousands of allied ships were repaired and restored to service by Canadian shipyards. The value of all such ship repairs performed during the war is indicated in Table II above.

After the cessation of hostilities there was for some time a substantial demand for new vessels despite the fact that the world pool of shipping was larger than at the start of the war. Shipyards in Europe were not operating at full capacity because of war damage, and U.K. yards were booked up for several years ahead. In this situation Canadian yards received orders for foreign as well as domestic delivery. Seventy-five per cent of the shipbuilding orders on hand in 1946 were for foreign buyers. Orders for passenger and cargo vessels came from France, Holland, Portugal, Brazil, China, Argentina and Venezuela. Shipbuilding activity in Canada remained high until 1948 when 48 merchant vessels were delivered. By that time shipbuilding industries abroad were restored to their full capacities, price considerations became more important than early delivery, and foreign demand for the building of ships in Canada virtually ceased. Domestic requirements were not sufficient to

Royal Commission on Coasting Trade

maintain a high level of operations in Canadian shipyards. Employment fell by nearly one-third from 1948 to 1949, and reached a low of 11,454 in 1950, although Table I shows that 20 merchant vessels were delivered in 1949 and 16 in 1950.

The outbreak of hostilities in Korea in June of 1950 was followed by defence preparedness orders, which were a major factor in bringing a new post-war high in the number of employees and in the value of annual production, as may be seen from Table II. Orders for the construction of new naval vessels and the reconditioning and conversion of old ones accounted in some cases for one-half to three-quarters of the total business activity of the major shipyards. The Canadian yards were called upon to build destroyer-escort vessels and minesweepers. The design of the former was developed in Canada, an historic first for warships.

The naval programme stimulated activity on the east and west coasts and on the St. Lawrence. Activity in the inland yards was well maintained by commercial orders for lake vessels. However, by 1955, when the Commission was appointed, work on the naval orders had been slowed down and employment was once more declining throughout the industry.

For a time during 1956 and the first months of 1957, the situation in Canadian shipyards was comparatively favourable. Freight rates were high and there was a strong world-wide demand for new cargo vessels and tankers. Ability to offer early delivery appeared once more to be working to the advantage of Canadian yards. The *Tenth Report of the Canadian Maritime Commission*, covering the year ending March 31, 1957, stated that within the preceding few months the industry had obtained contracts to build eleven merchant vessels of approximately 205,000 deadweight tons valued at \$57,918,000. Eight of the merchant ships on order, with an average capacity of more than 19,000 deadweight tons, were for ocean-going service. These included both ore vessels and oil tankers, two of the latter being of 40,000 deadweight tons each.

Since then the situation has changed, one of the manifestations being a continuous and steep decline in freight rates. While the shipbuilding industry will be busy for some time on the work on hand, no further orders of importance have been booked except for lake ships and the naval programme is nearing completion.

B. Government Policy Respecting Shipbuilding

Financial Contributions

At the beginning of the present chapter it was shown that the Government played an important part in the setting up of dry docks in Canada. Even after World War I, in addition to the dry docks mentioned earlier, it contributed to the building of two new ones, one at Saint John, N.B., in 1923 and a floating

The Shipbuilding and Repairing Industry in Canada

dock at Vancouver in 1925. From 1880 to date, the Federal Government spent nearly \$50 million for the outright building or the subsidizing of the construction of dry docks.

Reference has been made to orders placed by Government for merchant and naval vessels both during and after the two World Wars. Not only did this constitute in itself an important aid to the industry, but subsequently a number of shipyards were able to improve their equipment by acquiring war-time shipbuilding facilities on advantageous terms. Where such facilities were provided out of capital owned by the shipbuilding companies themselves, they, like other Canadian munitions producers at the time, enjoyed the benefit of accelerated depreciation policies. Where such facilities were initially provided by the Government, they were later sold to the yards at a fraction of the original wartime cost. In either case, the shipbuilding industry, like other industries in Canada and elsewhere called upon to incur the financial risks of expanding their operations during the war, eventually found itself in the position of having acquired at a greatly reduced price additional or improved equipment of continuing value.

Government has also financially assisted shipyards by having most of the vessels required by various departments or government agencies built in Canada.

Protection Policies

Tariff protection, such as is provided for many secondary industries, has been extended only in a very limited way to the Canadian shipbuilding industry. As was shown in Chapter II, a duty of 25% is imposed on the importation of ships built outside the Commonwealth to be used in the coasting trade. This duty affords no protection against United Kingdom competition, as vessels built in any part of the Commonwealth can enter duty-free. The effect of the 25% duty is thus to protect U.K. yards against foreign competition. Some assistance to Canadian shipbuilders is provided, however, by a drawback of 99% of the duty paid on goods and materials imported and subsequently used in the construction of ships here. Also no federal sales tax is imposed on the ships themselves or on materials used in their construction.

The enactment in 1950 of Section 22 of the Canada Shipping Act brought to Canadian shipyards a certain degree of protection by preventing the placing of old ships on Canadian registry. It is very difficult to assess the impact of this restriction on Canadian shipbuilding. However, from 1950 on, the increase in the Canadian Great Lakes fleet was effected mostly through new construction in Canada. This is in marked contrast with the situation which prevailed from 1945 to 1950, when the Great Lakes fleet had been increased mostly through the importation of second-hand vessels from the United States.

Royal Commission on Coasting Trade

Canadian Maritime Commission

Reference was made in Chapter V to the role played by the Canadian Maritime Commission with respect to shipping and shipbuilding activities. As in the case of shipping, the Maritime Commission has been active on behalf of the shipbuilding industry. Measures to assist the industry were taken following extensive investigations by that body, which was charged with administration of such matters.

After considering the arguments for and against the maintaining of the Canadian shipbuilding industry, the Canadian Maritime Commission concluded at an early stage of its activities that it was advisable for security reasons to maintain a nucleus capable of rapid expansion in time of need². The Canadian Maritime Commission further concluded that the average monthly employment in the industry should not fall below 7,000 men, of whom it was expected that roughly one-half would normally be engaged in ship construction and the other half in repairs and conversion. In point of fact, as shown in Table III below, average monthly employment in Canadian shipyards has remained well above the nucleus figure.

TABLE III
Average Monthly Employment in Canadian Shipyards 1946 to 1956¹

Year	Number of Yards Reporting	Pacific Coast	Great Lakes	St. Lawrence	Atlantic Coast	Total
1946	16	4,988	2,148	6,272	2,991	16,399
1947	16	4,119	1,485	8,874	2,657	17,135
1948	16	2,949	2,308	8,045	1,976	15,278
1949	16	1,496	2,168	4,230	1,937	9,831
1950	17	1,100	2,202	3,892	1,336	8,530
1951	19	2,080	2,803	5,237	1,913	12,033
1952	19	2,595	3,591	8,092	2,909	17,187
1953	20	2,547	3,082	10,490	3,511	19,630
1954	19	2,555	1,994	7,407	3,544	15,500
1955	17	2,566	1,267	5,448	3,151	12,432
1956	17	3,544	1,494	6,096	2,757	13,891

¹From the *Reports* of the Canadian Maritime Commission. The above figures relate to employment in the major yards only, while Table II covers the employees of all establishments classified as belonging to the shipbuilding industry. Thus, the figures given in this table are more relevant for comparison with the nucleus envisaged by the Canadian Maritime Commission.

Co-ordination of Government Orders

To assist in the preservation of a nucleus of employment in shipyards, the Canadian Maritime Commission is charged with co-ordinating government shipbuilding requirements. Naval orders for construction and repairs are allocated to the shipyards recommended by the Commission. Other govern-

²*Second Report of the Canadian Maritime Commission*, 1949, p. 47.

The Shipbuilding and Repairing Industry in Canada

mental orders cannot be so allocated because of Section 36 of the Public Works Act requiring the calling of public tenders.

The recommendations made by the Canadian Maritime Commission have to date resulted in the allocation of shipbuilding to the value of approximately \$360,000,000 and of repairs and conversions totalling over \$122,000,000.

Replacement Plan

A brief summary of the Replacement Plan and its operation was given in Chapter V. The administration of the plan has channelled most of the escrow funds to Canadian shipyards. This appears to have been the main objective in practice, rather than the construction of modern replacements for the ocean vessels. Thus from the inception of the plan in 1948 to November 1953 escrow funds were used only for replacement in Canadian yards. When the assignment of funds to other users was permitted at an early date, escrow money was released for the building of coastal vessels including lakers.

The use of escrow funds for the construction of lake vessels is no longer approved. It is not certain that this use of the funds caused ships to be built that would not have been built in Canada in any event, although the fact that assigned funds could be had at a discount may have had this effect in combination with other factors, such as the advantages provided by the Canadian Vessel Construction Assistance Act. The Canadian Maritime Commission at no time allowed more than one-third of the cost of a coasting vessel to be met by assigned escrow funds. If a shipowner operating on the Great Lakes bought at a 10% discount an assignment of funds covering one-third the cost of a laker, the total cost of the new ship would be reduced by approximately 3%, which was probably about the maximum advantage he could derive from the plan.

Since 1953 approval has been given for the expenditure of some escrow money for the acquisition of ships elsewhere than in Canada. Nevertheless, out of \$77,660,000 net proceeds of sales deposited in escrow up to March 31, 1957, \$60,614,000 was spent in Canadian yards. The disposition of the net amount deposited may be summarized as follows:

<i>Canadian Yards</i>		
Construction of ocean-going vessels	\$31,388,000	
Construction of coasting vessels	26,393,000	
Conversion and major alterations	<u>2,833,000</u>	\$60,614,000
<i>Outside Canada</i>		
Construction and acquisition of new vessels		2,698,000
<i>Miscellaneous</i>		
(acquisition in Canada and other approved uses)		1,581,000
Unused balance on March 31, 1957.....		<u>12,767,000</u>
		<u>\$77,660,000</u>

Canadian Vessel Construction Assistance Act

Another device for promoting the construction of ships in Canadian yards is the Canadian Vessel Construction Assistance Act (C.V.C.A. Act). The owner of a vessel constructed and registered in Canada since January 1, 1949, is given preferred treatment with respect to depreciation and recapture of depreciation where a ship has been subsequently sold. Like benefits attach to major alterations carried out in Canada since that date. These benefits constitute an inducement to have a ship built or major alteration done in a Canadian yard.

Under this Act, the owners of a vessel constructed and registered in Canada since January 1, 1949, may claim annual depreciation for federal income tax purposes at $33\frac{1}{3}\%$ on its original cost, whereas the maximum allowance for other vessels is 15% on the diminishing balance. The benefits of this provision have been discussed in Chapter VI. It is of interest to note further that the Canadian Maritime Commission interprets the Act as permitting an owner to claim capital cost allowances on progress payments made during the course of construction. In other words, depreciation may be claimed while the ship is being built. This is important in the case of large vessels where construction may extend over more than one taxation year. Conversion and major alterations are also allowed to be depreciated at $33\frac{1}{3}\%$.

The Income Tax Act allows as an expense to the taxpayer exactly what an asset has cost him over its useful life. The annual depreciation charge is an estimate and when the asset is sold the correct figure is obtained, and any necessary adjustment effected. Thus, when an asset is sold for less than its undepreciated capital cost or depreciated value (capital cost, minus depreciation claimed and allowed) the difference amounts to an additional depreciation and can be claimed as an expense. On the other hand, if the sale price is higher than the undepreciated capital cost, this means that the annual depreciation charges have been too large. The excess is then "recaptured", i.e. added to income. The Canadian Vessel Construction Assistance Act stipulates that there will be no recapture of excess depreciation on ships which were allowed accelerated depreciation to the extent that the proceeds of disposition are used for replacement under conditions satisfactory to the Canadian Maritime Commission. One of these conditions is that the replacement be made from a Canadian shipyard.

Another provision of the C.V.C.A. Act allows the creation of what is known as "reserves for quadrennial surveys". In general, the Income Tax Act allows a taxpayer to claim an expense only when the goods have been received or the services performed. It does not permit the anticipation of a disbursement by the setting up of what is called a "reserve for future disbursements". Expenses for quadrennial surveys would accordingly be allowed only when the disbursement is made. As an exception to this general rule, shipowners are allowed, by virtue of the C.V.C.A. Act, to anticipate such expenses by the

The Shipbuilding and Repairing Industry in Canada

creation of what is known as "Reserve for expenses of quadrennial surveys". As the surveys are not required to be made in Canada and as they apply to any ships wherever built, this section of the Act is of no special benefit to Canadian shipbuilders.

Up to the end of 1956, the ships and capital cost on which special depreciation has been allowed are as follows:^a

	<i>Number</i>	<i>Amount</i>
Cargo vessels	62	\$ 87,304,000
Dredges, scows and barges	149	11,865,000
Tugs, fishing vessels, ferries, etc.	126	7,075,000
Conversions and major alterations	115	18,786,000
		<u>\$125,030,000</u>

C. Prospects

The above brief study of the history of shipbuilding in Canada and of government policy affecting it shows that the industry experienced wide fluctuations of activity. It grew and flourished in the days of wooden ships, when it had a natural advantage in accessible raw materials; with the advent of steel steamships it declined to become little more than a repair industry. It was revived from this condition only during two periods of world war, when both the building and the repairing of ships became major parts in the defence effort. The decline in activity following World War II was again substantial, although the level has remained high by comparison with the peacetime experience of this century.

Activity in the shipbuilding industry will not long remain at its present level, unless there is a repetition of the circumstances which brought construction orders to Canadian yards. In the absence of further governmental assistance, the longer term prospect is that the industry will build few ships and that it will depend largely on repair and other activities.

Shipbuilding

Practically all those giving information to this Commission about the relative costs of shipbuilding agreed that costs in Canada were substantially higher than in the United Kingdom. It will be sufficient for the present purpose to take the United Kingdom as the principal basis for international comparisons. The shipbuilding industry in that country is the largest in the world and the strongest competitor that Canadian shipyards have to meet. It is obliged to compete in international trade with the industry in other maritime countries, and continues to demonstrate its ability to do so on an export basis.

^aFrom the *Tenth Report of the Canadian Maritime Commission*, 1957.

Furthermore, it enjoys tariff and other preferential advantages in the Canadian market over shipbuilders in all non-Commonwealth countries.

The Commission has made every effort to obtain estimates regarding the range of relative costs from all who were willing and able to supply them, and is prepared to accept the estimate that, as of 1957, Canadian construction costs and prices could be regarded as exceeding those of the United Kingdom by not less than 50%. In this finding it relies upon the consensus of opinions of a number of able and experienced informants. Costs in both the United Kingdom and Canada have increased since these opinions were given in 1955, but it is believed that these changes would not invalidate the conclusion.

Among a score of estimates received from various witnesses, summarized in Table IV below, there was naturally a wide variation. The Commission does not regard this fact as seriously reflecting on the ability and accuracy of any of the witnesses involved. The individual comparisons related to different dates, different types of vessels, different shipyards, and different circumstances. A ship is not a standardized commodity like a filing cabinet or a pound of butter. It is an extremely complicated product, subject to continual modifications, and ordinarily designed and made to individual order for a specific purpose. If different shipyards quote on a particular vessel, each one quotes a basic price in relation to its own circumstances and need of business at the time. Most quotations provide for escalation in accordance with changes in costs of labour and materials during construction. Qualified and experienced informants agreed that it would be quite impracticable to ascertain precise differentials by calling for theoretical cost or price estimates from a number of different yards on a hypothetical ship which they do not expect to have the opportunity to build.

The most important reason given for the higher costs of shipbuilding in Canada is the cost of shipyard labour, which in turn reflects prevailing wage rates and hours of labour (including overtime), the skill and efficiency of the individual craftsman, and the extent to which his productivity has been increased by mechanization and good management. Costs of material and overhead are also important factors, the latter being likewise affected by labour costs and the extent of utilization of facilities.

Wages in the industry vary considerably in different parts of Canada, the lowest rates being reported in Quebec and the highest in British Columbia. On the average they are about $2\frac{1}{2}$ times as high as corresponding rates in the United Kingdom, but they do not appear to be out of line with the rates paid for similar trades in other industries in the same general localities.

As a general principle, it may be agreed that high wage rates do not necessarily result in proportionately high labour costs. It has been suggested

The Shipbuilding and Repairing Industry in Canada

TABLE IV

Summary of Evidence Obtained in Connection with Relative Construction Costs in Canadian and United Kingdom Shipyards

The Commission has received many estimates of the difference between United Kingdom and Canadian ship construction costs, and those regarded as most significant have been listed and classified in the following table. In references, figures following the letter T relate to pages of the transcript of evidence.

Source	Estimated percentage excess of Canadian over U.K. costs stated by witness or calculated from given data	Notes
1 Canadian Maritime Commission (1949) Second Report, pp. 38-40	82 to 100	General estimate
2 T. S. McLanders (Dominion Steel & Coal Corp.) T. 1099	133	General estimate
3 R. K. Thoman (Canadian Vickers) T. 4275	140% higher than recent German prices	Based on recent experience in export competition
4 A West Coast ship operator	100	Based on competitive quotations for a specific vessel
5 Milne, Gilmore & German Details confidential	90	Difference between average of three Canadian and four U.K. tenders; ship built 1951-53
6 Milne, Gilmore & German Details confidential	33	Difference between average of three Canadian and three U.K. tenders; ship built 1953-55
7 F. Paul-Hus (Marine Industries Ltd.) T. 5053	59 or 60	General estimate
8 George R. Wyer (Canadian Fairbanks-Morse) T. 3268	43 to 67	General estimate
9 R. Lowery (Canada Steamship Lines) T. 4986	50 or more	General estimate
10 R. Lowery, Exhibit 200	50	"Thunder Bay"
11 H. E. Gorick (General Council of British Shipping) Exhibits 243 and 200	9½	"Thunder Bay"
12 R. Lowery, T. 5019	53 to 70	Various tramp ships

TABLE IV (concl.)

Summary of Evidence in Connection with Relative Construction Costs
in Canadian and United Kingdom Shipyards (concl.)

Source	Estimated percentage excess of Canadian over U.K. costs stated by witness or calculated from given data	Notes
13 J. A. S. Peck (Canadian Vickers) Exhibit 206 T. 5041	50	Based on detailed calculations for a typical ship—also quoted estimates of 54½ % and 59½ %
14 Stanley D. Clarke (Clarke Steamship Co.) T. 3482	50	General estimate
15 T. R. McLagan (Canada Steamship Lines) T. 4975	50	General estimate
16 Milne, Gilmore & German Report to Commission (Appendix XIII)	50	General estimate
17 Capt. Scott Misener, T. 388, and Shipbuilding Conference, Exhibit 214	21 to 43	"Scott Misener"
18 C. A. Crosbie (Chimo Ship- ping Ltd.) T. 821	25	General estimate for smaller ships

in evidence given before the Commission that the relatively high wage rates prevailing in Canada might, theoretically, under favourable circumstances, be compensated for by greater productivity per man hour. Thus it is well known that in some industries, manufacturers in the United States pay what are probably the highest money wages in the world yet successfully compete in world markets with producers in countries characterized by relatively low wage rates. This state of affairs may result from access to cheap materials and power, superior management and design, quantity production, high degree of specialization, capital investment and mechanization, low unit costs of materials or overhead, or other advantages enjoyed by the high-wage country.

It is, however, no criticism of the people engaged in the Canadian shipbuilding industry to say that such advantages capable of counterbalancing the relatively high wage rates do not exist. Shipbuilding in general does not adapt itself to mass production techniques to the same degree as the production of automobiles, newsprint, chemicals, or agricultural imple-

The Shipbuilding and Repairing Industry in Canada

ments. Ships last for many years and tend to be built to individual order for a specific kind of trade. In other words, a ship is not a product which can avail itself of the economies of large scale production but is a tailor-made product. While wage rates are in line with those generally prevailing in this country, they are too high to permit Canadian shipyards to compete with those of the United Kingdom, or in fact with any other shipbuilding nation, with the notable exception of the United States.

Apart from labour costs, the principal costs of production are those for overhead and materials.

Overhead costs (including those of supervision, interest, depreciation, repairs, and property taxes) also reflect labour costs. Information received by the Commission indicates that the percentage difference between overhead costs in Canada and in the United Kingdom is at least as great as the corresponding difference between direct labour costs: and indeed, since the number of ships built per unit of capital equipment is likely to be less in Canada than it is in the United Kingdom, the difference between Canadian and United Kingdom overhead costs per unit of output is probably even greater than that between direct labour costs.

The costs of domestically produced materials and components, of which the most important are steel plates, also tend to reflect the higher Canadian costs of direct labour and overhead.

From a long-term point of view, so long as the shipbuilding cost differential between Canadian and United Kingdom shipyards continues to be of the order of 50%, the prospects of construction of new merchant vessels in Canada in competition with the United Kingdom are poor.

Ship Repairing and Miscellaneous Production

It has already been mentioned in the present chapter that the work performed in Canadian shipyards is not limited to the construction of new vessels but also includes ship repairing and a variety of engineering work. Table II shows that these two activities have in time of peace been far more important than the building of ships.

From 1945 to 1955 the value of ship repairing has ranged from a low of \$27 million in 1950 to a high of nearly \$63 million in 1953, averaging about \$40 million a year. It constituted more than 30% of the total value of work performed in the shipyards of Canada during the same period and, in spite of fluctuations, has been considerably more stable than the value of new construction. The volume of such work in eastern waters and in the Great Lakes may be expected to increase with the prospective rise in the volume of traffic after the opening of the Seaway.

Many Canadian shipyards have diversified their activities by embarking upon the production of a variety of additional articles, more or less closely related to their principal business. Reasons for this diversification include

the desire to retain staff by providing additional employment, to make some contribution towards reducing seasonal and cyclical fluctuations of shipbuilding activities, to make fuller utilization of such general facilities as machine, metal-working and woodworking shops, power plant, drafting rooms, selling and administrative organization, and generally to absorb some part of the overhead costs which may not be fully and continuously utilized by shipbuilding and ship repairing activities.

Among the multitude of such subsidiary activities may be cited the production of boilers, sheet metal products, general engineering products such as equipment for the pulp and paper and chemical industries, structural steel, box and tank cars for railway use, hydraulic and printing presses, rock crushers, turbines, drilling machines, log peelers, and wooden furniture. Table II shows that these activities have since 1949 averaged 16% of the gross value of production in the industry. The volume as well as the proportion of such activities is expected to increase as more of the shipyards have recently opened what they called "General Engineering Divisions". There are limitations, however, to the extent to which such activities can be expanded in conjunction with ship repairing and shipbuilding.

CHAPTER IX

Proposed Restriction of Coasting Trade to Vessels Built and Registered in Canada

A. Introduction

The chief advocate of restricting the coasting trade to vessels built and registered in Canada was the Canadian Shipbuilding and Ship Repairing Association, which urged the Commission to recommend:

- "(i) that from henceforth the coasting trade of Canada shall be reserved to ships registered in Canada;
- "(ii) that from January 1, 1957, (or some other convenient date in the near future), replacements of, and additions to Canada's coasting fleet be built without exception in Canadian shipyards."

The association's request was supported by supplemental briefs or appearances on behalf of ten member shipyards.

Three shipping firms asked that the restriction apply to vessels built as well as registered in Canada. Canada Steamship Lines Ltd., which operates the largest Canadian fleet on the Great Lakes and which also owns outright five shipyards,¹ urged restriction in terms closely parallel to those of the Canadian Shipbuilding and Ship Repairing Association. Branch Lines Ltd. and British Yukon Ocean Services Ltd. specifically associated themselves with the submission of this association. Branch Lines Ltd. described itself as owning and operating a number of tankers, tugs, and barges, and as being affiliated with Marine Industries Ltd., a member of the association. British Yukon Ocean Services Ltd. began operations in 1955 on the West Coast with one vessel of special design, built in Canada. Other ship operators opposed or failed to support restriction to vessels of Canadian build, although a witness for Dominion Marine Association indicated that it would be acceptable if associated with consummation of a treaty with United States restricting trans-lake trade to vessels of Canadian and United States registry.

Some sixteen suppliers to the shipbuilding industry supported the proposed restriction, including the Algoma Steel Corporation Limited and Canadian Westinghouse Co. Ltd. Supporters included also the national labour federations and a number of other labour groups, and several shipbuilding communities or associations from those communities.

The argument for restricting the coasting trade to vessels built and registered in Canada was based almost entirely on the value of a ship-

¹Transcript p. 3851.

building industry in time of war. Thus the Canadian Shipbuilding and Ship Repairing Association stated in its written submission:

"We believe that these are the minimal provisions by means of which our shipyards can be kept alive and efficient. We rest our case not presuming that the Canadian shipyards are entitled for their own sake to special consideration in this regard. We say that these yards are vital to the defence of freedom. We claim that when understood rightly, the needs of Britain are the same in this respect as the needs of Canada. Vital to the continued existence of both Canadians and Britons is the maintenance on this continent of a shipbuilding industry capable, when war is imminent, of swift expansion."

The general argument was to the effect that the Canadian shipbuilding industry is threatened with collapse, that it should be maintained at an efficient operating level as a measure of defence preparedness, that this requires an assured flow of orders for new construction, and that the proposed restriction would be an appropriate method of providing a minimum volume of commercial orders, a method involving no outlay of public funds.

A number of reasons were given for the paucity of orders for vessel construction and for the fear that completion of the St. Lawrence Seaway would reduce the demand for Canadian-built ships on the Great Lakes. Underlying all was the acknowledged fact that the cost of construction in Canadian yards is substantially higher than in other yards of the free world, with the notable exception of the United States. It was conceded accordingly that the proposal to restrict the coasting trade to Canadian-built vessels would raise economic issues involving "the sometimes conflicting interests of shippers and consignees of cargo, ship owners, ship operators, and shipbuilders."² It was argued that there is in fact no such disharmony between the real needs of the persons concerned nor between Canadian interests and United Kingdom interests, that what matters most from all points of view is the maintenance of an efficient Canadian shipbuilding industry capable of swift expansion. "Our chief concern is thus, not with a little more or less to be charged for cargo shipped currently, but with the means of defence, and capacity to survive henceforward, on which not only Canadians, but free men everywhere must depend."³

Eight provincial governments opposed restriction of the coasting trade to vessels registered in Canada or built and registered in Canada. The Governments of Newfoundland and Prince Edward Island and each of the four western provinces presented briefs and oral argument. Nova Scotia and New Brunswick joined the other two Atlantic provinces in officially endorsing⁴ the brief submitted by the Maritimes Transportation Commission, which described itself as "an organization authorized and supported by the governments of the provinces of Nova Scotia, New Brunswick, Prince Edward Island and Newfoundland and affiliated with the Maritime Provinces Board of Trade." The Governments of British Columbia and

²Brief of the Canadian Shipbuilding and Ship Repairing Association.

³Letters reproduced as Exhibits 182 and 208 respectively.

Proposed Restriction to Vessels Built and Registered in Canada

New Brunswick stressed the importance of shipbuilding in their regional economies, but asked for assistance in a form that would not increase transportation costs. The Governments of Ontario and Quebec made no representations.

Among other opponents of the restriction were some nineteen users of shipping services or user associations, including the Dominion Steel and Coal Corporation Limited, the Aluminum Company of Canada Limited, and the Canadian Pulp and Paper Association, seven farm organizations including the Canadian Federation of Agriculture and other prairie groups, and several boards of trade or chambers of commerce. The opponents took their position because of the higher transportation costs that would follow from the enforced use of vessels built in Canada and operated on Canadian registry. There was little examination of the defence argument, but it was suggested that if this argument was valid then other forms of assistance to shipbuilding should be considered, including direct subsidy if necessary. The Canadian Federation of Agriculture questioned the defence argument directly. At the final hearing in Ottawa it was argued that preparedness should emphasize defence against vessel sinkings rather than the provision of extra replacement capacity.

B. Shipbuilding and National Defence

The proposal to restrict the coasting trade to vessels built and registered in Canada raises two separate issues. The fundamental one is whether the Canadian shipbuilding industry should be maintained at a level of activity substantially higher than is in prospect without additional assistance. The second issue is whether the proposed restriction would be an appropriate method of providing assistance.

The justification advanced for supporting the industry is its defence value should a major war break out. A judgment of this value must take account of the fact that Canada is associated with other free nations in efforts to avoid war and in preparation for mutual defence in case of attack. Canada need not be self-sufficient in every defence requirement but may be selective in the measures to be undertaken. Whether additional shipbuilding capacity would be an appropriate contribution depends on a number of considerations, including an appraisal of how great may be the danger of war and the part that shipbuilding industries of the free world might be called upon to play if war should break out.

At the one extreme, a war opened with an all-out nuclear attack and ending in a few weeks might involve scant concern with shipbuilding. The actual prosecution of war might not make unusual demands on shipyards and might not involve great loss or damage to either shipping or shipyards, as they would not likely be prime targets. In view of the appalling possibilities of mass destruction, there may be a possibility that post-war rehabili-

tation would involve an increased demand for new shipping, but on the assumption of extensive devastation it is more likely that shipping demand would only develop along with a general revival of other industrial production, which would be the more critical factor.

There is currently some doubt whether an enemy would attack population centres with nuclear weapons, for fear of devastating reprisal in kind. Again, there must be doubt as to whether an all-out nuclear war would in fact end quickly, a doubt that will grow as defences against the missiles are improved further. The longer it would take to end a war the more likely that shipping and shipyards would again become major targets, because of allied dependence on sea communications. In these circumstances a large shipbuilding demand might arise again for naval and merchant vessels, not only to replace and refit those lost or damaged but also to expand the fleet to meet the additional requirements of wartime supply. Even so, the extent and the urgency of the demand would depend greatly on the balance of advantage between attacker and defender at sea, which would determine the rate at which losses would have to be replaced.

The wide range of uncertainty as to possible wartime demand for ship construction gives little guidance as to whether shipbuilding capacity in free countries other than Canada is adequate from the point of view of defence preparedness, or what additional capacity might be desirable in which countries. Other considerations include the speed with which the output of existing yards could be increased with appropriate priorities for labour and material, the vulnerability of the yards to attack, including the concentration of much capacity within comparatively small areas, the cost of maintaining uneconomic operations in less vulnerable locations, and the question whether this cost would represent a drain of resources from other defence requirements of equal or greater urgency.

It will be apparent that this subject goes far beyond the scope of the present inquiry. The decision for or against further assistance to the Canadian shipbuilding industry on these grounds is political, and properly so, based on informed and comprehensive appraisal and subject to change with time and circumstance. The Commission is not called upon and is not in a position to make recommendations on such matters.

The Commission has considered the second of the two issues distinguished above, i.e. whether the proposed restriction of the coasting trade would be an appropriate method of assisting the Canadian shipbuilding industry, should further assistance be decided upon. Among the considerations involved are the effectiveness of the restriction in providing orders for ship construction, the costs that would be imposed on users of shipping services, the adverse effects on interests other than shipbuilding, whether the burden of the restriction would be or could be equitably distributed, and whether in these respects the measure is equal or superior to other measures that

Proposed Restriction to Vessels Built and Registered in Canada

might be adopted. The practical effects are examined by regions, followed by brief consideration of alternative methods of assisting the shipbuilding industry.

C. The Effects of the Proposed Restriction

I. ATLANTIC COAST AND GULF OF ST. LAWRENCE

It was demonstrated in Chapter VII that restriction of the coasting trade to vessels registered in Canada, wherever built, would affect the movement of about a third of the cargoes typically carried in the coasting trade of the eastern region. Transportation costs would be increased and services lessened. The further requirement that the vessels in question be built in Canada would intensify these adverse effects and would also increase the cost of transporting most of the other coasting cargoes now carried in Canadian registered vessels.

Cargoes remaining unaffected would be largely confined to those carried by scows, barges, and schooners. Most of these vessels would probably be built and registered in Canada regardless of the restriction, assuming that the importation of second-hand vessels would continue to be limited by the operation of Section 22 of the Canada Shipping Act (see Chapter XI). It is true that there were 16 Canadian-built ships included among the 42 merchant vessels of over 1,000 tons on Canadian registry and employed in the coasting trade of the eastern region during 1956, but 8 were built under war programmes, 3 are older passenger vessels, and 3 are government-owned ferries. A tanker and a small dry-cargo vessel complete the list, the latter five all built since the war. These facts do not alter the conclusion that, aside from operators of towed vessels and schooners, few owners would order replacement vessels from a Canadian yard unless there were no alternative.

1. Transportation Costs

The proposal put forward by the Canadian Shipbuilding and Ship Repairing Association was that "from henceforth" the coasting trade be reserved to ships registered in Canada, and that from a "convenient date in the near future" all replacements for these vessels and all additions to the coasting fleet be built in Canada. Thus a period is contemplated in which operators could assemble adequate fleets on Canadian registry by purchase and transfer of existing vessels, whether originally built in Canada or elsewhere. This initial period would involve immediate increases in operating costs in each case, and the operators concerned would have to increase the charges for vessel service by a corresponding amount as set out in Chapter VII. In addition, these operators and others whose vessels were already on Canadian registry would appear to be justified in seeking still higher revenues at once, to cover in advance some part of the higher cost of eventual

replacements from Canadian yards. There would be accordingly a strong upward pressure on the general level of shipping charges to the public, which might come to reflect within a comparatively short time the full costs of operating Canadian-built vessels on Canadian registry.

The order of magnitude of the increases in freight rates may be indicated by an extension of the comparison made in Chapter VII between vessels on Canadian and on United Kingdom registry. Table I below compares an estimate of the revenue required by a tramp-type vessel built and registered in the United Kingdom with that for an identical vessel built and registered in Canada, assuming that each is to earn a comparable profit after taxes. If each were to operate a full year of 330 days the Canadian vessel would be required to earn \$1,049,810 compared with \$706,896 required by the U.K. vessel, a difference of \$342,914 or about 49%. The Canadian vessel could earn that additional amount only in coasting trade not open to competition from U.K. vessels. Assuming that the coasting employment averaged eight months a year and that this type of vessel could earn \$2,142 a day in alternative employment in the off-season, a rate set by the compe-

TABLE I
Estimated Revenue Requirements of a Tramp-Type Vessel on United Kingdom
and on Canadian Registry¹

(Vessels built in United Kingdom and in Canada, respectively)

	1	2	3
	Revenue Requirement		Difference
	Built and Registered in United Kingdom ²	Built and Registered in Canada ³	(Column 2 minus Column 1)
A. Total Requirements over a 330-day year:			
Variable expenses	\$354,536	\$ 476,513	\$121,977
Capital recovery, profit, taxes	352,360	573,297	220,937
Total requirement	<u>\$706,896</u>	<u>\$1,049,810</u>	<u>\$342,914</u>
Average per working day:			
Variable expenses	\$ 1,074	\$ 1,444	\$ 370
Capital recovery, profit, taxes	1,068	1,737	669
Total requirement	<u>\$ 2,142</u>	<u>\$ 3,181</u>	<u>\$ 1,039</u>
B. Required Revenue from 240 days coasting:			
Yearly requirement	\$706,896	\$1,049,810	\$342,914
Less 90 days at \$2,142 off-season employment	192,780	192,780	—
Balance required from coasting	<u>\$514,116</u>	<u>\$ 857,030</u>	<u>\$342,914</u>
Balance per day of coasting employment (÷240)	<u>\$ 2,142</u>	<u>\$ 3,571</u>	<u>\$ 1,429</u>

¹From Appendix XIV.

²Estimated cost \$2,680,000; see Appendix XIII.

³Estimated cost \$4,020,000; 150% of the estimated U.K. cost.

Proposed Restriction to Vessels Built and Registered in Canada

tion of other U.K. vessels, Table I shows that the charge to the Canadian shipper would average \$3,571 a day of coasting employment, greater by \$1,429 or 67% than would be required for service by a U.K. vessel. Since the circumstances may be taken as typical of the movement of coal, Wabana ore, and limestone, it follows that the proposed restriction would increase the cost of transporting these commodities by nearly 67%.

An official of DOSCO testified:

"The transportation cost of moving coal from Sydney to the St. Lawrence ports in Canadian built and operated ships would be just about double the cost in U.K. flag ships. The coal mining industry of Nova Scotia is by far the largest single user of coastal shipping in Canada. How could an industry, already in serious financial position, absorb an increase in transportation amounting annually to not less than several million dollars in one segment of its market alone?

"Ore and limestone from Newfoundland, required for the steel plant, Sydney, totalling over a million tons per annum, would similarly be adversely affected."

Shipments of iron ore from Sept-Iles are expected to become largely international rather than coasting with completion of the Seaway, and thus would be little affected by the proposed restriction.

Another bulk movement of major importance in the region's coasting trade is that of petroleum oils and products, carried almost exclusively in Canadian registered vessels. No evidence was submitted to the Commission on the cost of a typical tanker operation. While it is to be expected that the costs would differ in detail from those experienced with a dry-cargo vessel, it is believed that the difference between the cost of a Canadian-built tanker and one built at U.K. costs would affect revenue requirements in much the same proportions. Accordingly a comparison is made in Table II below between the estimated revenue requirements of two identical tramp-type vessels, both registered in Canada, one built at U.K. cost and the other at Canadian cost. To earn the same rate of return on investment the Canadian-built vessel would require a revenue of \$1,049,810 for a 330-day year, compared with a requirement of \$874,755 for the vessel built in the United Kingdom, a difference of \$175,055 or 20%. Were the coasting employment to average eight months a year and were each vessel able to earn \$2,142 a day in off-season employment, as in the previous example, the Canadian-built vessel would require an average revenue of \$3,571 per day of coasting employment as compared with \$2,842 per day for the U.K.-built vessel, a difference of \$729 a day or 25%. The implication is therefore that the proposed restriction would increase the charges for tanker movements by about 20% or 25%.

A considerable quantity of cement is moved in a company-owned canal-type vessel, built in the U.K. and registered in Canada. In this case too the increase in transportation costs would probably amount to 20 or 25%.

TABLE II
Estimated Revenue Requirements of a Tramp-Type Vessel On Canadian Registry,
United Kingdom vs. Canadian Build¹

	1	2	3
	Revenue Requirement		Difference (Column 2 minus Column 1)
	Built in United Kingdom ²	Built in Canada ³	
<i>A. Total Requirements over a 330-day year:</i>			
Variable expenses	\$449,936	\$ 476,513	\$ 26,527
Capital recovery, profit, taxes	424,769	573,297	148,528
Total requirement	<u>\$874,755</u>	<u>\$1,049,810</u>	<u>\$175,055</u>
Average per working day:			
Variable expenses	\$ 1,364	\$ 1,444	\$ 80
Capital recovery, profit, taxes	1,287	1,737	450
Total requirement	<u>\$ 2,651</u>	<u>\$ 3,181</u>	<u>\$ 530</u>
<i>B. Required Revenue from 240 days coasting:</i>			
Yearly requirement	\$874,755	\$1,049,810	\$175,055
Less 90 days at \$2,142 off-season employment	192,780	192,780	—
Balance required from coasting	<u>\$681,975</u>	<u>\$ 857,030</u>	<u>\$175,055</u>
Balance per day of coasting employment (÷ 240)	<u>\$ 2,842</u>	<u>\$ 3,571</u>	<u>\$ 729</u>

¹From Appendix XIV.

²Estimated cost \$2,680,000; see Appendix XIII.

³Estimated cost \$4,020,000; 150% of the estimated U.K. cost.

The bulk movement of pulpwood also ranks large in the region's coasting trade. Almost all of it is shipped in vessels on Canadian registry. The carriers include canallers, schooners, scows and barges, and converted landing craft. Undoubtedly the enforced use of Canadian-built vessels would result in some increase in the cost of transportation, although the evidence on this point was limited to expressions of personal opinion. In this vein a witness for the Anticosti Shipping Company (a subsidiary of Consolidated Paper Corporation Limited) indicated that the increase in the cost of moving the parent company's pulpwood might be 20 or 25%. Several uncertainties must be present in any such judgment. For example, the shipping season is as short as four months in some instances, in which case short-term chartering of canallers may be the most economical arrangement. The question arises whether these or other vessels of suitable capacity and draught would continue to be available on a charter basis; if so the cost increase might be much less than if specialized vessels must be built to serve for only a few months each year. Again, it is possible that the increase in costs could be minimized by a more extensive use of towed barges.

Many other industrial materials and products are carried largely by vessels in general cargo service. It was estimated in Chapter VII that

Proposed Restriction to Vessels Built and Registered in Canada

exclusion of vessels on U.K. registry from these services might be expected to increase the freight rates by an average of approximately 8%. The effect of a further requirement that the vessel be built in Canada may be inferred from the foregoing estimates of revenues required by a tramp-type vessel on United Kingdom and on Canadian registry. Operation of a U.K.-built ship on Canadian registry increased the revenue requirements by an estimated \$167,859 (Table I of Chapter VII), while the difference for a Canadian-built ship was \$342,914 (Table I above) or slightly more than double. Assuming that the proportion would be similar in the case of vessels used for general cargo service, it might be expected that restriction of the coasting trade to vessels built and registered in Canada would increase the average freight charge by approximately 16%.

2. Economic Adjustments

It will be apparent that cost increases of the magnitudes indicated would be seriously detrimental to industries in the whole Atlantic region, including a large part of Quebec, and particularly to industries in Nova Scotia and Newfoundland. In fact the coal industry would be faced with catastrophe unless coal movements were exempted from the restriction or unless it is to be assumed that the increased transport cost would be matched by increased subventions—an assumption not to be made lightly. Coal subventions now amount to \$5½ million annually. A very rough approximation of the increased subsidy required may be derived from the fact that at least 25 vessels participated in the coal movement during 1955, though not all on a full-time basis. Those on Canadian registry included the three company-owned 10,000-tonners diverted from the carriage of ore and limestone, and a few smaller vessels. The 25 vessels aggregated 161,974 deadweight tons, equivalent to about 13 of the tramp-type vessels dealt with above, which are of 12,600 deadweight tons. Assuming that the entire coal movement provides employment equivalent to the full-time use of 10 of the latter vessels for a season of 240 days each, the extra cost of using ships built and registered in Canada—and hence the additional subventions required—would approximate $10 \times \$342,914$ (from Table I) or about \$3,400,000 a year.

Federal government subventions are being paid to assist in providing many coasting services of the region. These include the services along the coast of Newfoundland now provided by the Canadian National Railways, services between Quebec ports on the Gulf of St. Lawrence, and other services along the coasts of Nova Scotia and New Brunswick. The proposed restriction would cause increased operating costs in many of these cases and hence greater federal subsidies would be required.

The increase in the cost of transporting iron ore and limestone to Sydney would be about 67%, petroleum products and cement about 20% to 25%,

pulpwood probably substantially less. For industrial materials such as gypsum rock, fluorspar, gypsum lath and wallboard, carried largely by general cargo vessels, the increase would approximate 16%, and a similar increase might be expected to apply to the cost of shipping consumer goods to Newfoundland. In some cases the increases might be passed on to the consumer with or without an appreciable decline in sales volume, in others the increase or a part of it might have to be absorbed by the producer, while in still other cases the shipper might be forced to resort to rail or highway carriers or the consumer might change to another source of supply entirely.

Cost increases would be experienced in these varying degrees by almost all the industries and consumers served by coasting operations east of Montreal. This experience would be in sharp contrast with that within the Great Lakes-St. Lawrence River region, where completion of the Seaway could be expected to cause a net decrease in the cost of transporting most bulk commodities even if the proposed restriction were to be enforced, a decrease that would extend to the great volume of international shipments as well as coasting movements. The result would be not only to impose adverse adjustments in the present economy of the eastern region but also to put a new handicap on its further industrial development, whereas developments in Central Canada would be stimulated notwithstanding enforcement of the same limitation on coasting trade.

3. Ship Construction

A major objection of the proposed restriction would be to provide Canadian shipyards with a market for new ships. It was shown in Chapter VII that the restriction of the coasting trade there considered might add as many as 30 ships of over 1,000 gross tons to the Canadian registry, a total increase of about 136,000 gross tons. The requirement that vessels carrying coasting trade be built as well as registered in Canada would doubtless cause a further decrease in demand for shipping space. In this event the vessel tonnage added to the registry would not exceed the same approximate figure.

Vessels over 1,000 gross tons on Canadian registry employed in the region's coasting trade numbered 42 at the end of 1956, aggregating 132,618 gross tons.⁴ Three of these are the DOSCO vessels, totalling 21,550 gross tons, included in the above 30 vessels that might be added to Canadian registry if the restriction were enforced, because without the restriction it is unlikely that their eventual replacements would be registered in Canada. The remaining 39 on Canadian registry at the end of 1956 aggregated 111,068 gross tons. Accordingly the total Canadian fleet in the eastern region might number some 69 vessels aggregating 247,000 gross tons, an average of 3,580 gross tons each. While the economic life of the vessels

⁴Chapter V, Table IV.

Proposed Restriction to Vessels Built and Registered in Canada

might be about 20 years, it would be more conservative to assume that they would be replaced after 25 years of service. In that case the annual replacement demand to be filled from Canadian yards might average about 9,900 gross tons, or about 2.8 average size vessels. From the shipbuilders' point of view this would be equivalent to the construction of 1.4 cargo vessels of 7,150 gross tons (10,000 deadweight tons) a year, or one such vessel every 8 months.

II. THE PACIFIC COAST

One of the largest coasting movements in these waters is in logs, mostly towed in booms or rafts, though there is also some use of self-unloading log barges. Other bulk cargoes are carried preponderantly in scows and barges, including about one-third of the recorded liftings of petroleum products, and so is a considerable volume of supplies and general cargo for fish plants, paper mills, and for other purposes. This largely explains the fact that of 26 vessels exceeding 1,000 gross tons in the Pacific Coast fleet at the end of 1956^a (one of them laid up), 18 were combined passenger-cargo vessels, 4 were dry-cargo vessels, and 3 were tankers, with one a railway car ferry.

1. Transportation Costs

The self-propelled vessels employed in coasting trade are all on Canadian registry, hence the proposed restriction would increase only those charges related to the higher capital cost of a Canadian-built vessel. Nine of the 26 ships were built in Canada. One is a railway car ferry built in 1918, one a passenger vessel built in 1921 for the Canadian Pacific with delivery time understood to be a factor, three are "China coasters" built in 1946 and disposed of by War Assets Corporation, one is another passenger vessel built in 1948 for Canadian National Steamships with some of the installations obtained at surplus prices, and one is the *Clifford J. Rogers* built in 1955, of a novel design for handling cargo in large containers. The remaining two are tankers built in 1938. It is thus apparent that special circumstances influenced most of the decisions to acquire Canadian-built vessels. In almost every case the expectation must be that a new replacement vessel would be ordered from lower-cost yards outside of Canada.

The order of magnitude of the increase in charges to the public that would result from the enforced employment of Canadian-built vessels may be inferred from the analysis made in the preceding section. In the case of the combined passenger-cargo services the increase would probably be about 8%, as was found with respect to liner services to Newfoundland. A similar increase might be expected in the charges for service with dry-cargo vessels, because they are used on the West Coast largely for the car-

^aAppendix X.

riage of general cargo and a high proportion of the transportation charge is for terminal facilities and cargo handling. The increase for tanker services might be about 20%, as in the case of year-round service on the East Coast, the cost of cargo handling being a much smaller proportion of the total. It was pointed out in the previous analysis that an upward pressure on freight rates could be expected to begin at once, and that the full effect of the change might be felt promptly, even though actual replacements would take place only over a period of years.

A rate increase of 8% might be absorbed without great difficulty in several of the services employing passenger and cargo vessels, although steamers have lost much passenger business to air services and much cargo business to scows and barges. In some cases there might be need of increased subventions for essential services to isolated communities. The Commission heard a number of complaints about inadequacy of existing services and recognizes the difficulty of providing better. The proposed changes in the coasting law could be expected to increase the difficulty, despite the fact that a comparatively rapid rise in population is bringing additional business for all carriers to share. In the case of tanker movements in particular, the prospect of a cost increase of 20% might well be enough to cause the operators to use barges to replace existing vessels upon their retirement.

The movement of other bulk cargoes would be little affected by the proposed restriction. They are carried largely in scows and barges. For Canadian builders of such craft, competition has been more in the form of importation of second-hand equipment or of old hulls for conversion (in Canadian yards) into barges. Under Section 22 of the Canada Shipping Act, discussed in Chapter XI, vessels built outside of Canada may not be registered in Canada without the consent of the Minister of Transport. This provision, enacted in 1950, appears to have resulted in a reasonable control of the imports here in question, so that scows and barges are now being built largely in Canadian shipyards.

2. Ship Construction

The proposed restriction would secure for Canadian shipyards the orders for replacements of existing vessels and additions to the fleet. The 26 coasting vessels of over 1,000 gross tons in the existing fleet on the West Coast aggregated 82,018 gross tons.⁹ One of the passenger-cargo vessels (1,396 gross tons) has been laid up for some time and presumably would not be replaced in any event. If the proposed restriction were to be enforced there must be considerable doubt whether some of the other vessels would be replaced on retirement, particularly the three tankers aggregating 4,397 gross tons. Assuming that these four vessels represent the proportionate

⁹Chapter V, Table IV.

Proposed Restriction to Vessels Built and Registered in Canada

decline in numbers and tonnage to be expected, the fleet to be maintained would be 22 vessels aggregating 76,225 gross tons, an average of 3,465 gross tons.

Assuming that the vessels would be replaced every 25 years, maintenance of a fleet amounting to about 76,000 gross tons would require annual replacements averaging about 3,100 gross tons, something less than one average size vessel. From the shipbuilders' point of view this would be equivalent to one order every 28 months for a cargo vessel of 7,150 gross tons (10,000 deadweight tons).

III. THE GREAT LAKES AND ST. LAWRENCE RIVER

1. Transportation Costs

It was shown in Chapter VII that restriction of the coasting trade to vessels registered in Canada would probably cause most of the overseas exports of Canadian grain to be shipped directly from the Lakehead, thus causing a substantial reduction in the volume of coasting trade. A further requirement that coasting vessels be built in Canada would have a substantially greater effect on transportation costs and so make this development virtually certain.

Example 1 of Appendix XV deals with a tramp vessel brought in ballast from Montreal to Fort William to load an overseas cargo of wheat. On the given assumptions the typical charge for its time above Montreal would be \$2.24 a ton of wheat. Example 3 deals with the export shipment of wheat moved to Montreal in the coasting trade by a specialized carrier on U.K. registry, vessel F, the vessel's charge for carrying wheat being determined by the additional time involved in an extended round trip to Fort William after delivering ore from Sept-Iles to Cleveland. In this case the charge for putting the wheat on board an ocean vessel in Montreal would be \$2.11 a ton. Substituting the Canadian-built laker H in this example, the complete round trip would require 389.3 hours, the average revenue requirement per day would be \$5,353, hence the total charges to be made for the entire voyage \$86,830. Ore revenue at the assumed rate of \$1.71 a ton (set by international competition) on 22,200 tons would yield \$37,962, leaving \$48,868 to be recovered from the movement of 20,490 tons of wheat, which amounts to \$2.38 a ton of wheat. Adding 70c for the transfer costs gives a total of \$3.08 a ton. This is higher by 97c or 46% than the figure derived with the U.K. vessel F. It is higher by 84c a ton (2.1c a bushel) than the charge for the tramp vessel's time above Montreal. It follows that most Canadian export grain would be shipped overseas directly from the Lakehead, except possibly when ocean rates were abnormally high.

The cost of exporting Canadian grain would be greater by about 13c a ton ($\frac{1}{3}$ c per bushel of wheat) than if no new restriction were imposed,

Royal Commission on Coasting Trade

and greater by a like amount than the cost of exporting U.S. grain shipped to St. Lawrence ports in specialized vessels on U.K. registry. It is probable that Canadian transfer ports would handle mostly U.S. grain and little Canadian grain.

The movement of grain for domestic use would constitute a major portion of the coasting trade retained by Canadian lakers, as was shown in Chapter VII. In many cases the most economical movement would involve a round trip between the Lakehead and Sept-Iles to secure a cargo of iron ore, even though the freight earned from the ore carriage would be at rates established by international competition. In the export example just given, the charge for moving wheat from Fort William to Montreal in vessel H was \$2.38 a ton, exclusive of the 70c transfer costs at Montreal. The charge for a water movement to Kingston would be the same, for there would be no difference in the voyage time for the round trip to Sept-Iles. Assuming on the other hand that the vessel returned to Fort William in ballast after delivering wheat to Kingston, the comparable charge would be \$2.58 (\$2.95 less 37½c cargo handling costs; see Chapter VI), greater by 20c a ton. In the absence of the restriction, however, a similar economy would be realized were the U.K. vessel F to be employed. It follows that in these instances the proposed restriction would cause transportation costs to be greater by about 46% than otherwise would be the case, judging by the example of a delivery to Montreal.

Coasting shipments of grain involving no return cargo may be typified by the example of carrying wheat to Kingston, previously referred to, though only on the assumption that the vessel would be fully employed all season in this or equally remunerative movements. The charge for delivery to Kingston elevators would be \$2.95 a ton employing the Canadian-built laker H, \$2.29 a ton employing the U.K. vessel F, a difference of 66c or 29%.

In practice it is highly doubtful whether the coasting trade alone would keep Canadian vessels fully employed unless the domestic demand for wheat comes to require a fairly regular movement over the season. Should some export shipments continue in the coasting trade, that demand is likely to remain variable, while other dry cargoes in coasting trade would be comparatively few. Freight rates in alternative transborder trade would tend to be established by international competition at levels not fully remunerative for the Canadian vessels. For example, it was shown in Chapter VI that the charge for carrying iron ore from Sept-Iles to Hamilton would be \$1.39 a ton employing the U.K. vessel F compared with \$1.74 employing the Canadian-built laker H, the latter charge being higher by 35c or 25%; the implication is that rates satisfactory to the U.K. vessel would fall substantially short of meeting the requirements of the Canadian vessel. Hence in these cases of grain shipments with no return cargo the proposed

Proposed Restriction to Vessels Built and Registered in Canada

restriction may cause freight rates to be higher than otherwise by more than 29% and perhaps as much as the 46% derived in the previous example, which involved combined employment in coasting and transborder trades.

It is possible that the proposed restriction would cause an actual increase over present transportation costs for some of the domestic grain movement, depending partly on the extent to which carriers would have to be employed in transborder trade if lay-ups were to be avoided, and partly on the level of tolls that might be charged for the use of the improved Welland Ship Canal and the new St. Lawrence canals. There would be little or no return cargo for coasting shipments terminating above the Welland Canal. On the other hand they would not be subjected to a canal toll under the arrangements now contemplated. The vessels carrying such shipments at the present time, however, have alternative employments that must be presumed to be equally remunerative. After completion of the Seaway those alternative employments in transborder trade would become less remunerative, and the new situation might require increased charges for the coasting movement. Most of the grain shipped to Canadian ports on the Welland Canal or on Lake Ontario might be carried in association with iron ore from Sept-Iles, in which case the new economy might be enough to offset a small toll charge. Grain shipped to Montreal or beyond would benefit from a saving in transshipment costs, from the replacement of canallers with more economical lakers, and probably also from the economy of two-way cargo movement. It is to be expected that the total of these economies would more than offset a reasonable toll charge.

The tanker movement of petroleum and its products might provide another exception to the general expectation of net economies in transportation following completion of the Seaway, especially if new carriers were required to be built in Canada. None of the major oil companies made a submission to the Commission, and no other evidence has a direct bearing. It is open to doubt whether the market demand is great enough to warrant the general employment of vessels much larger than those of canal size now in use. There were 39 tankers in the Great Lakes fleet on Canadian registry at the end of 1956, totalling 97,202 gross tons, 142,010 deadweight tons. All but two were of canaller dimensions, and one of those two is being converted to a dry-cargo carrier as were two others originally built to carry Alberta crude oil. The existing 14-foot St. Lawrence canals have influenced without doubt the size of the other 37, but 26 of them can be loaded to deeper draughts ranging from 15 feet to 24 feet, giving them a greater capacity in waters above Prescott. It may therefore be that any economy made possible by deeper channels and larger locks would be offset by the Seaway tolls.

It has been shown that under normal circumstances it would be more economical to replace existing tankers on retirement with vessels built in

Royal Commission on Coasting Trade

the United Kingdom. A requirement that the replacements be built in Canada would increase the transportation costs by at least 25%, comparable to the increase in similar costs on the Atlantic Coast. The percentage increase would probably be higher, because few lake tankers would be employed for more than eight months a year. The outcome might well be diversion of a considerable volume of petroleum products to the railways or to new pipelines by-passing the canals in question.

The movement of package freight might likewise offer little scope for the employment of vessels much larger than those now in use. Successful service requires frequent sailings, hence the appropriate size of vessel is related to the amount of cargo that can be accumulated in the interval. While there might be some increase in freight rates as a direct result of the imposition of tolls, the basis and the level of which have yet to be announced, strong competition from rail and highway carriers may be expected to put a rather narrow limit on the increase that can be made effective for this or any other reason. The public interest is thus less at issue than otherwise would be the case, the main question being how successful the water carriers will be in retaining a portion of the business. In this situation it would appear obvious that the enforced use of Canadian-built ships would be a significant handicap. Canada Steamship Lines, the major operator, nevertheless advocated the restriction, perhaps influenced by its ownership of five Canadian shipyards. The two operators of services from the Great Lakes to Newfoundland opposed the restriction.

The remaining cargoes now carried in the coasting trade of the area include pulpwood, iron ore, cement, sand, gravel, stone, and other miscellaneous cargoes, all of much less volume than grain or petroleum. Aside from sand, gravel, and stone, mostly carried in scows or barges, it is probable that the proposed restriction would cause a difference of 25% or more (as in the case of iron ore) in the cost of transportation.

It is probable that the Canadian shipping industry on the Great Lakes would be adversely affected by the proposed restriction. Operators of dry-cargo vessels would lose most or all of the coasting movement of Canadian export grain, which they might have retained by employing vessels on U.K. registry. While they might employ U.K. vessels in order to compete in transborder trade, in addition to Canadian registered vessels for coasting trade, their competitive position would not be as strong as if all their vessels were eligible for both trades. Tanker cargoes are largely confined to coasting trade. Some of the vessels are owned by oil companies, others by independent firms; it is probable that their operations would be curtailed before vessel replacements became necessary.

2. Ship Construction

It is probable that restriction of the coasting trade to vessels built as well as registered in Canada would result in the retention of fewer ships

Proposed Restriction to Vessels Built and Registered in Canada

on Canadian registry than would restriction as to registry only. The tanker tonnage in particular might be reduced. In view of the approximate nature of the figure of 450,000 deadweight tons derived in Chapter VII, however, the same figure also will serve in this case to indicate the capacity of the lakes fleet that might be retained on Canadian registry.

The average age at which a vessel is retired is not necessarily the age taken as its "economic life". A witness for CSL testified:

"Although most Great Lakes vessels have a longer apparent physical life than deep sea vessels, in the writer's opinion the actual useful physical life should not exceed 35 to 40 years and the economic useful life is actually still less than this."

Assuming that the average retirement age would be 35 years, a fleet of 450,000 deadweight tons would provide annual replacement orders averaging 12,857 deadweight tons. This would represent one laker a little bigger than the average of the 76 on Canadian registry at the end of 1956 (10,156 deadweight tons), equivalent to one vessel of the size of the *T. R. McLagan* (22,700 deadweight tons) every 21 months.

A replacement demand of 12,857 deadweight tons a year may be expressed in gross tons, to be comparable with the preceding estimates, by making use of the fact that the 76 lakera on Canadian registry at the end of 1956 totalled 505,787 gross tons, and 771,187 deadweight tons,⁸ the gross tonnage being about 65½% of the deadweight. On this basis the average annual replacement demand would be about 8,400 gross tons, equivalent to about 1.2 of the larger Park vessels a year.

D. Alternative Methods of Assisting the Shipbuilding Industry

The volume of shipbuilding orders that would be placed in Canada as a result of restricting the coasting trade to vessels built and registered in this country has been estimated to average 9,900 gross tons a year in the eastern region, 3,100 on the Pacific Coast, and 8,400 on the Great Lakes. The value of the orders from the eastern and Pacific areas may be judged from the cost of the 9,000 gross ton tramp vessel, which was estimated to be \$4,020,000⁹ built in Canada, i.e. \$447 a gross ton. At this rate the cost of replacing 13,000 gross tons in Canadian shipyards would be \$5,810,000 a year. The 15,500 gross ton Canadian-built laker *H* was estimated to cost \$5,820,000 or \$375 a gross ton, hence the cost of replacing 8,400 gross tons of lakes vessels would be \$3,150,000 a year. The total of these two figures, \$8,960,000, represents the average year's orders for ship construction that would be received by Canadian shipyards as a result of the proposed restriction.

⁷R. Lowery, vice-president Canada Steamship Lines Ltd., president Davie Shipbuilding Ltd.

⁸Chapter V, p. 60, Table IV.

⁹150% of \$2,680,000, the estimated cost of vessel C built in U.K.; see Appendix XIII.

The net value of production in shipbuilding during the ten years from 1946 to 1955 ranged from a low of \$26,155,000 in 1950 to a high of \$95,311,000 in 1953, and averaged \$62,655,000 annually.¹⁰ Orders averaging \$8,960,000 a year as a result of the proposed restriction would thus be of comparatively minor assistance in maintaining a shipbuilding industry. The assistance would be of much less significance than the industry's earnings from other activities than shipbuilding and ship repairing, which averaged \$16,655,000 a year during the same ten year period.

1. THE COST OF RESTRICTION

The proponents of restriction emphasized that the policy would benefit the shipbuilding industry without an outlay of public funds. It has been shown that application of the restriction to the shipment of Cape Breton coal could not be contemplated unless accompanied by a substantial increase in transportation subventions to offset the resultant increase in the cost of coasting movements. Numerous other subsidized services would require greater subsidies, some services not now subsidized might require assistance, and in fact a demand might well arise for a general policy of transportation subventions, so that it is difficult to put a limit on the possible cost to the treasury. Alternatively, the demand might be for exempting the coal movement from the restriction, also the Furness Warren and Furness Red Cross services to Newfoundland and numerous other services or commodity movements, resulting in a haphazard and self-defeating policy of restriction.

The restriction would be a costly method of providing orders for the construction of ships in Canada, no matter how the burden was shared between the shipping public and the treasury. It would force ship operators in the coasting trade to employ vessels registered in Canada, and in many cases the operating costs are much higher than for a vessel on United Kingdom or other Commonwealth registries. It would increase the cost of replacing all the vessels by at least 50% compared with the cost of acquiring them from United Kingdom yards. The charges for their services must be great enough to cover not only their greater capital and operating costs but also to provide a sufficient annual return on the increased investment. The return must be substantial in order to induce an investment in an asset of such long life, since it may be many years before the original cost is recovered, and the return must be realized out of revenues after taxes. In short, the user of shipping services would be required to pay not only the 50% increase in the vessels' cost, plus an annual return on that increase, but a larger sum that would provide these amounts after deduction of higher corporation taxes.

An approximation of the cost of the restriction can be derived from the estimates previously made of the charges that would be required for the

¹⁰Chapter V¹¹, Table II, p. 144.

Proposed Restriction to Vessels Built and Registered in Canada

employment of typical vessels. For this purpose rounded figures are used. Other cost increases resulting from less efficient use of shipping have not been included in this calculation.

The Commission has estimated that the effect of the restriction would be to cause about 136,000 gross tons of shipping to be registered in Canada in place of vessels that would otherwise be registered elsewhere in the Commonwealth. It has been shown that the increase in the charges to the public would be approximately \$343,000 a year for an ocean vessel of about 9,000 gross tons (Table I, p. 162). While this is a somewhat larger vessel than most of those now in use, it is said to be a typical modern tramp type. If the costs of other vessels were in proportion to size, the 136,000 gross tons would cost shippers an additional \$5,180,000 a year.

Another 111,000 gross tons would be maintained on Canadian registry on the Atlantic Coast and 76,000 gross tons on the Pacific Coast, representing vessels already on the registry. The additional charges for this 187,000 gross tons of shipping would be those relating to the higher cost of replacement in Canada, estimated to be \$175,000 a year for a vessel of about 9,000 gross tons (Table II, p. 164). Proportionately, maintenance of the 187,000 gross tons would cost the public \$3,640,000 a year.

The estimate of the size of the lakes fleet that might be retained on Canadian registry was 450,000 deadweight tons, which would be about 295,000 gross tons if the two measurements were in the same ratio as the average for the 76 lakera on Canadian registry at the end of 1956. The largest coasting movement would be grain, hence the difference between the cost of moving wheat in a Canadian-built laker rather than a specialized seaway-ocean carrier on U.K. registry may be taken as typical. Under the conditions given in Appendix XIV the laker H would carry 471,270 tons of wheat in a season of 230 days for a total charge of about \$1,390,000, whereas the U.K. vessel F would carry wheat at \$2.29 a ton or a total of \$1,080,000 a season, a difference of \$310,000. Vessel H is basically the *T. R. McLagan*, 15,500 gross tons. Proportionately, the employment of the whole fleet of 295,000 gross tons would cost the users of coasting service about \$5,900,000 more than would the employment of U.K. vessels.

The sum of the three figures is \$14,720,000, the approximate annual cost to the shipping public of restricting the coasting trade to vessels built and registered in Canada. While increased charges to shippers would not attain this amount in the first year, they would do so rapidly for the reasons given on page 161. Thus the shippers would be required to pay \$14,720,000 a year in order to provide Canadian shipyards with orders averaging \$8,960,000 a year.

2. SUBSIDIZED SHIP CONSTRUCTION

Any policy of subsidization as an alternative to restricting the coasting trade would have the advantage of spreading the cost of assistance to the

shipbuilding industry in an equitable manner among taxpayers at large, rather than imposing it directly on the users of coasting services. A policy of direct subsidy to shipyards, reducing the cost to the purchaser of a vessel, would be the least costly of all and the most effective. Thus if the Government paid approximately one-third of the delivered price of each vessel, \$8,960,000 worth of orders would cost the Government about \$2,990,000, compared with a cost to the public of \$14,720,000 to achieve the same result by restriction of the coasting trade. If it were found that a one-third subsidy would not produce orders for ships to the value of \$8,960,000, as restriction would, the subsidy could be increased enough to make it attractive to employ vessels built and registered in Canada. Yet the annual cost to the Government of securing shipbuilding orders of that value would be a fraction of the cost of restriction.

3. TARIFFS

Tariff protection is the traditional method of assisting Canadian industries. In the case of ships employed in coasting trade, however, it would take an extremely high *ad valorem* rate of duty to be as effective as the proposed restriction in providing shipbuilding orders for Canadian shipyards. The rate would have to be high enough to offset not only the 50% greater cost of constructing a ship in Canada but also the higher cost of operation on Canadian registry. At a lesser tariff rate many operators would continue to charter vessels on U.K. registry, particularly for seasonal operations. The tariff would increase the cost of employing the U.K. vessels in coasting trade but would not induce any U.K. owner to order a vessel built in Canada, for a Canadian-built vessel would be uneconomic in the alternative employments outside the coasting trade.

The extreme rate of duty referred to would be one designed to make a vessel built and registered in Canada competitive with one built and registered in the United Kingdom. The resultant increase in transportation costs would be as great as would be caused by outright restriction of the coasting trade.

4. OPERATING SUBSIDY TO OWNERS OF CANADIAN-BUILT SHIPS

Annual subsidies to the operators of ships newly built in Canada would provide indirect assistance to shipyards. Technically it would be feasible to provide a large enough annual subsidy to induce not only a Canadian but a United Kingdom owner to employ a vessel built in Canada. In practice, however, the subsidy would be difficult to administer. It is doubtful whether an equitable general formula could be devised for granting the subsidy, hence it would probably be necessary to assess each case separately. Moreover, it would be more costly to the federal treasury than the direct subsidization of shipbuilding. For example, in the case of an operator of a

Proposed Restriction to Vessels Built and Registered in Canada

ship like vessel C, registered in Canada, the annual subsidy required to induce acquisition of a vessel built in Canada rather than in the United Kingdom would be \$175,000¹¹ if the subsidy were subject to income tax, or 53% of that amount if tax free, \$92,750. For each vessel C thus subsidized the annual replacement orders would be 1/25th of 9,000 gross tons or 360 gross tons. At \$447 a gross ton the annual value of the orders placed would be \$160,920 per vessel subsidized, hence every \$92,750 paid in tax-free annual subsidies would provide \$160,920 in shipbuilding orders. The same result could be achieved by a direct subsidy to shipbuilders of one-third of the value of the orders, which would be a cost of only \$53,640 for every \$160,920 in orders.

5. TAXATION DEVICES

The Canadian Vessel Construction Assistance Act is an example of a taxation device which provides some inducement to ship operators to order vessels built in Canada. Its effectiveness results from the fact that it permits a faster recovery of the original investment, hence reduces to some extent the risks of the investment. It is shown in Chapter VI that in most cases this advantage falls far short of offsetting the higher capital cost of Canadian construction.

The investment allowance granted by the United Kingdom Government, otherwise referred to as "overdepreciation", is a form of tax remission incorporating some of the advantages of accelerated depreciation. Since the allowance may be claimed as rapidly as earnings permit, the tax remission is afforded in the first year or years of a vessel's operation. The effect is the same as granting a tax-free annual subsidy equal to the taxes foregone during the period in which the allowance is claimed.

The U.K. investment allowance is granted regardless of the country in which the new ship is built. A possible Canadian adaptation might require that the ship be built in Canada. This policy would be unlikely to provide many orders for vessels to be employed in coasting trade at revenue levels set by the competition of less costly vessels, for at such levels a complete remission of taxes would not be enough in most cases to offset the higher capital cost of a Canadian-built vessel.

The limitations of this policy can be seen by considering the case of an owner of a ship like vessel C of the previous examples, built in the United Kingdom and registered in Canada, employed profitably in a coasting service in which ships on U.K. registry have no competitive advantage. To be induced to order a similar vessel built in Canada, either to replace the existing vessel on retirement or to expand his operations, the owner would have to be assured of a tax-free annual operating subsidy of \$92,750 as shown in Section 4 above, or a total of \$1,855,000 over an assumed vessel

¹¹Table II, p. 164.

Royal Commission on Coasting Trade

life of 20 years. The vessel's earnings would remain at the level set by other competition, assumed to be \$874,755 a year,¹² a total of \$17,495,100 for the 20 years. The out-of-pocket expenses of the Canadian-built vessel would be \$476,513 a year,¹² a 20-year total of \$9,530,260, while normal depreciation would amount to the \$4,020,000 it would have cost originally. These deductions would leave as the total taxable income for the period \$3,944,840, which is the maximum amount of overdepreciation that could be claimed out of the vessel's earnings, 98% of the original cost. The result of such a rate of overdepreciation would be a complete remission of taxes which would otherwise have amounted to 47% of \$3,944,840 or \$1,854,000, almost equal to the required \$1,855,000.

In this example a double depreciation allowance would make the vessel an attractive investment, but the cost would be the same as an annual operating subsidy. Were the vessel to be employed in a service now dominated by U.K. vessels, however, the prospective revenue would be only \$706,896 a year, less than in the given example by \$167,859 a year or \$3,357,180 over the 20 years. The taxable income would be less by a like amount, totalling only \$587,600. In this case the maximum amount of overdepreciation it would be feasible to claim would be 14.6% and the tax thus foregone only \$276,172 over the whole 20 years, far short of the required \$1,855,000. It can be shown in like manner that no amount of overdepreciation allowance would be effective in making a Canadian-built laker competitive with a specialized seaway-ocean carrier on U.K. registry.

Other methods of assistance would be various combinations of subsidies, whether capital or operating, with taxation devices. The effectiveness and cost of any such method may be arrived at by evaluating its components in the manner heretofore set out.

6. CONCLUSION

The Commission recommends rejection of the proposal to restrict coasting trade to vessels built and registered in Canada. The Commission is not in a position to determine whether the defence preparedness value of a Canadian shipbuilding industry would be great enough to warrant its being maintained at a level of activity higher than is in prospect without assistance. Should this be determined to be the case, the Commission considers that a policy of direct subsidization of ship construction would be the least costly and the most effective way of achieving the desired result.

¹²Table II, p. 164.