

REGIONAL EFFECTS OF CANADIAN PROTECTIONISM AND
ITS INFLUENCE ON THE RELATIVE TRADE POSITIONS OF
BRITISH COLUMBIA AND EASTERN CANADA

by

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B.Sc., University of British Columbia, 1966

A Thesis Submitted in Partial Fulfilment of
the Requirements for the Degree of
MASTER OF BUSINESS ADMINISTRATION

in the Department of

COMMERCE AND BUSINESS ADMINISTRATION.

We accept this thesis as conforming to
the required standard

THE UNIVERSITY OF BRITISH COLUMBIA

May, 1968

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ABSTRACT

The tariff barrier protecting secondary manufacturing in Eastern Canada depresses the relative trade position of British Columbia. This situation arises, in part, from the industrial character in the latter region. The abundant natural resources and the production level well beyond Canadian demand guides the major portion of British Columbia products into foreign markets. These markets, therefore, are an important source of income for British Columbia.

However, the archaic tariff system in Canada, along with the manufacturers' sales tax and various excise taxes, restricts the flow of foreign imports into British Columbia and, in turn, enhances the inflow of high-priced merchandise from Eastern Canada. In this way, the real income position of British Columbia residents is curtailed.

By constructing the terms of trade for both regions from 1948-1965, it was possible to elucidate further effects of the tariff on British Columbia. For instance, the Net Barter Terms of Trade (export-import price ratio) was found to be more favorable for Eastern Canada when the Canadian dollar appreciated in the 1950's. This condition resulted from the superior buying power of the Eastern Canadian dollar relative to the British Columbian dollar, since the latter region was compelled by the tariff to continue purchasing secondaries in Eastern Canada where no direct exchange rate benefits could be realized.

As a test of the relative buying powers of British Columbia and Eastern Canada, the Income Terms of Trade were constructed. This index, by combining import-export price movements with export volume changes, attempts to measure the regional import capacity. It was found to be more favorable for British Columbia over the 18 year period, but as an indicator of the real relative import capacity it was a poor index indeed. Because of the superior buying power of Eastern Canadian dollars in the 50's and the relatively low tariffs on primary manufacturers, the import quantity indexes turned out almost identical over the test period.

On a positive note, the recent Kennedy Round of tariff reductions on machinery promises to lower costs in many British Columbia industries. Whether or not this will increase the international competitiveness of her products remains to be seen, since they were selling well pre-Kennedy. Nevertheless, the duty reductions constitute a step in the right direction towards more liberal trade policies in Canada.

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CHAPTER 1

INTRODUCTION

In order to buy goods from Eastern Canada, British Columbia must sell her products to foreign countries. Unlike other regions in the United States and Canada, the purchasing power of British Columbia is thereby affected to a high degree by world prices for primary products, and by the ability of her businessmen to compete successfully in foreign markets.

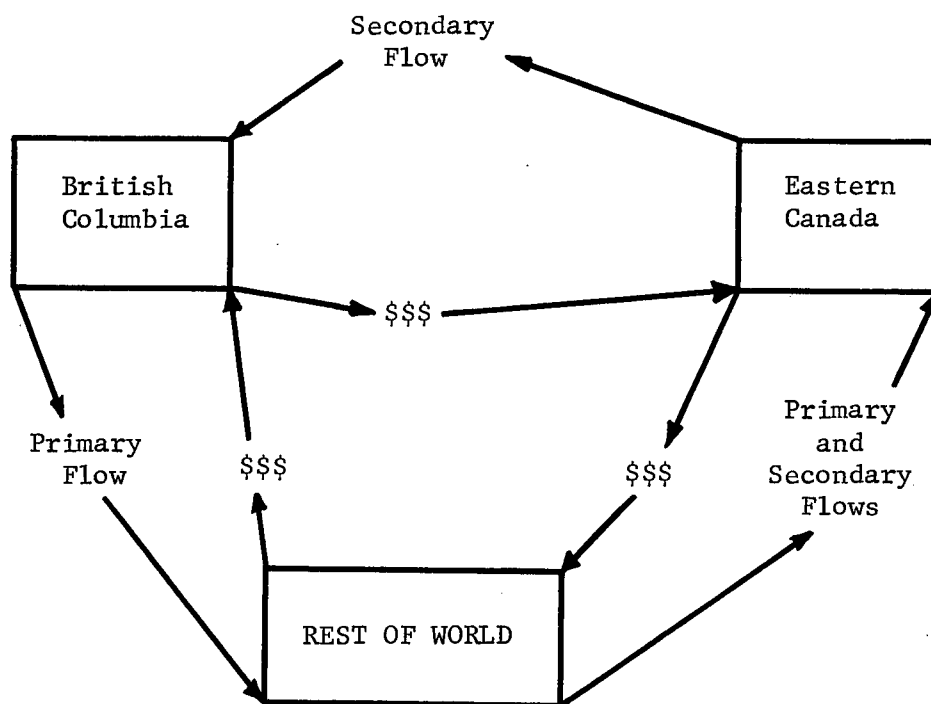
In contrast, other regions like Ontario and Quebec (Eastern Canada) are not so vulnerable to world conditions since a large portion of their products are sold on the domestic market. This market, however, did not develop naturally, but was artificially created by the protective tariff first introduced by the Conservative government in 1879. Clearly, then, factors outside the Canadian national policy such as the variable world demand for raw materials or the increasing competition from foreign primary producers will affect the economic activity in British Columbia to a greater degree than in the East.

The model in Figure 1 will help clarify this situation and direct attention towards certain East-West problems which arise as a consequence. Three regions are represented in the model; British

Columbia, Eastern Canada, and Rest of World. The Prairie and Maritime regions are irrelevant to the study and are not to be considered as part of Rest of World.

FIGURE 1

NET FLOWS OF MERCHANDISE AND PAYMENTS AMONG
BRITISH COLUMBIA, EASTERN CANADA,
AND REST OF WORLD



The model depicts two net flows -- merchandise and payments. The average annual merchandise trade deficit of Eastern Canada with Rest of World from 1948-1965 was \$517,000,000 represented in the model by a dollar-outflow to the latter region. In contrast, the dollar-inflow from Rest of World to British Columbia represents a \$297,000,000 annual foreign trade surplus over the same period.¹

A tendency towards equilibrium in the merchandise balance of payments of the three regions over the 1948-1965 period would suggest that there is a heavy dollar flow Eastward from British Columbia, and a corresponding merchandise backflow. This is further evidenced by the Waybill Analyses of railway freight movements indicating a strong East-West flow of goods originating in the Eastern section (that is, wheat movements from the Prairies to the West Coast are excluded).²

There is nothing wrong with this two-way flow per se. Nevertheless, a problem appears when merchandise prices and quantities are injected into the model. Largely as a result of the Canadian protective tariff, secondary manufacturing in Eastern Canada is characterized by high costs and high prices. By restricting the inflow of goods from Rest of World into British Columbia, then, the tariff has enhanced the East-West flow of high-priced secondaries, and in this way has depressed the real income position of British Columbia.

¹See Appendix E for calculation of these trade figures.

²Board of Transport Commissioners for Canada. Waybill Analysis: Carload All-Rail Traffic. Ottawa: Queen's Printer, annually.

Furthermore, the prices of British Columbia imports from Eastern Canada tend not to follow world price trends in recessions. As expected, sensitive world prices of primaries decline in these times. However, Canadian secondary prices resist this trend, and the obvious result is a fall in the quantity of British Columbia imports. Chapter IV uses Terms of Trade analyses to investigate the trends in import and export prices of British Columbia and Eastern Canada from 1948-1965. Various other problems including transportation costs, property values, managerial skill, pricing policy, and absolute levels of prices are dealt with in Chapter III.

CHAPTER II

HISTORICAL BACKGROUND

The protective element of the Canadian tariff, that is, the element of discrimination in import duties to exclude certain foreign imports, is commonly thought to have had its beginning with the National Policy introduced by the Conservatives in 1879. However, this is not the case.

In the spring of 1858, sixty two merchants, manufacturers, and newspapermen formed in Toronto, the Association for the Promotion of Canadian Industry,

"...for the purpose of recommending such a readjustment of the tariff as would place the manufacturers of Canada on a footing of greater equality with those of the United States."¹

They sent a delegation to the government to ask that the tariff on certain manufactures be increased. Cayley and Galt, successive Inspectors-General, raised the tariff rates in 1858 and 1859 partially in line with the manufacturers' suggestions. The duties on iron and hardware, machinery,

¹S. D. Clark, The Canadian Manufacturers' Association.
Toronto: University of Toronto Press, 1939, p. 1.

cotton and woollens were increased from 15 percent to 20 percent; those on clothing and leather advanced to 25 percent.² Although all the suggestions of the Association for the Promotion of Canadian Industry were not provided for in the new tariff policy of Cayley and Galt, the government did react to the spirit of the suggestions, that is, that increased protection from the low cost, efficient American industries must be provided by a discriminatory tariff on goods with a high degree of manufactured content. By these actions, then, the federal government gave recognition to the concept of a protective tariff in Canadian economic development.

The tariff revisions, of course, were not incorporated without justification, as the government was aware that consumer prices would rise as a consequence. It was left up to Alexander Galt to provide the rationale and he did so by bringing up the question of the costs and benefits of improvements in transportation facilities undertaken by the federal government. Galt argued that railways and canals were costly in young countries like Canada, but beneficial to consumers in lowering the cost of imports and to producers of exports in raising their net returns. Tariffs, he maintained, were a reasonable way for the government to recoup a part of its development outlay and Galt described the 1859 tariff policy as

²D. C. Masters, The Reciprocity Treaty of 1854, London: Longmans, Green, and Co. Ltd., 1937, p. 14.

primarily a revenue policy and only indidentally as a protective policy
³
 for Canadian manufactures.

At this point, a word on revenue and protective tariffs is in order. With revenue tariffs, public expenses are partially provided for and the adoption of this policy leads governments to set duties on goods for which home demand is inelastic, as far as the demand is measurable. In this way, the consumer will purchase almost as much as before the tariff was imposed with the resulting effect that the total sum spent for the articles will be greater than before and the government will secure a large revenue from the duty. On the other hand, if the duty is placed on goods with highly elastic demand, the consumer will lessen his purchases considerably and the total revenue declines. Imports decline and the tax revenue to the government becomes correspondingly less.

The 1858 and 1859 tariff revisions involved increases on a wide range of highly manufactured, luxury goods for which the demand is generally elastic. Clearly, then, it could not have been the revenue potential which concerned the government at that time but rather the stimulation or creation of domestic industries. By curbing the inflow of foreign goods, the protective tariffs stimulated Eastern-based industries but at the same time involved a revenue loss to the government. (It is clear that the protective and revenue aspects of a tariff are inversely related). In effect, then, the loss in tax revenue which could have benefited all Canadian regions

³ V. C. Fowke, The National Policy and the Wheat Economy.
 Toronto: University of Toronto Press, 1957, p. 64.

provided for the establishment or expansion of Eastern industries.

Nevertheless, the tariff policies of the 1859's were mild in comparison to the National Policy inaugurated by the Conservative government in 1879. It was this policy of restrictive tariffs which they brought into effect after only a year in office that designates the historic milestone at which Canadians abandoned the idea of tariffs for revenue only and deliberately set foot on the pathway marked "protection."

The change in emphasis from primarily revenue tariffs to primarily protective tariffs was essential to the National Purpose. The construction of a Pacific railway would facilitate the development of British Columbia as well as the other western provinces and the tariffs would divert international trade to interprovincial trade. Railways were to integrate the expanding area of economic activity and tariffs were to ease the burden of improvements in transportation by providing railway traffic and a more diversified economy as a source of tax revenues. The railway was to ward off the threat of American annexation of parts of Western Canada and to provide Canadian manufacturers in Eastern Canada with exclusive rights to the total Canadian market.

In as much as the National Policy increased certain consumer prices, it was a prime target for the opposition Liberal politicians, especially in Western Canada where the extractive and agricultural industries flourished. In their Western Canadian campaign of 1893, the Liberals firmly rejected the protectionist policy inaugurated by the Conservatives. In

Winnipeg, Sir Wilfrid Laurier said:

"I denounce the policy of protection as bondage -- yea, bondage; and I refer to bondage in the same manner in which American slavery was bondage."⁴

However, when finally elected in 1896, the Liberals repudiated their 1893 tariff platform against the wishes of the many Liberals who went to the polls in full support of their low-tariff platform of 1893. In 1897, the new Liberal government appointed a travelling tariff commission to investigate the problems involved in protection. Unfortunately for Western Canada, manufacturers formed the majority of the witnesses who appeared before the commission and curiously, the commission did not go west of Winnipeg.

In defining the position occupied by the Western provinces in the protective framework built by the National Policy, the Liberal leader, Sir Wilfrid Laurier left us with a clear statement;

"They will require clothes (Western Canadians), they will require furniture, they will require implements, they will require shoes -- and I hope you can furnish them to them (sic) in Quebec -- they will require everything that man has to be supplied with. It is your ambition also, that this scientific tariff of ours will make it possible that every shoe that has to be worn in those prairies shall be a Canadian shoe; that every yard of cloth that can be marketed there shall be a yard of cloth produced in Canada..."⁵

Changes in the structure of the Canadian tariff after 1896 were mainly attempts to appease the low tariff interest of the growing exporting

⁴E. Porritt, Sixty Years of Protection in Canada, 1846-1907. London: Macmillan & Co. Ltd., 1908, p. 212.

⁵From a speech made to the Canadian Manufacturers' Association, Quebec City, 1905, quoted in Canadian Annual Review of Public Affairs, 1905, pp. 149-50.

industries of the West while at the same time to maintain protection against the United States manufactures. The strategy was, then, to bring about East-West economic integration, interdependence, and flow of traffic over the costly transcontinental transportation facilities, and it appears that Canadian National Policy has been successful in this regard.⁶

⁶J. Deutsch and others, "National Tariff Policy," Canadian Economy: Selections. Toronto: Macmillan Company of Canada, Ltd., 1965, p. 472

CHAPTER III

THE INCIDENCE OF PROTECTION

Behind the tariff has developed a wide range of secondary manufacturing in Eastern Canada. The firms are, in general, highly diversified and subject to many inefficiencies of short production runs in servicing a small, domestic market; frequent changeovers, less specialization of labor, slower machine speeds, increased unit costs of low-volume buying, high administration and supervisory costs, and so on. The high cost nature of these industries, the retaliatory foreign tariffs, and the high provincial and federal taxes have generally restricted the scope of their markets to the domestic sphere.

Canadian businessmen, as a result, have avoided the stiff competition that prevails in seeking world markets for secondary manufactures. With smaller rewards open to them, it is reasonable to assume that the incentive to innovate in Canadian secondary manufacturing is below, perhaps well below, the degree of managerial skill displayed by other trading nations whose manufactures are vulnerable to the discipline of international marketing. In the event of future policies toward freer trade,

the Canadian businessman may feel the pinch that is currently warded off by the girdle of protective tariffs.

In addition to permitting the survival of a multitude of small-scale producers, the Canadian tariff supplies each industry with a ready-made formula for eliminating price competition without overt collusion or, indeed, any direct communication. The obvious price is the United States price plus the Canadian tariff (adjusted for the exchange rate). Industries which follow this pattern gain a high measure of security: if they realize that less efficiencies involve higher costs, they will probably also realize that the additional costs are borne by the Canadian consumer.

The fact that certain Canadian companies do price in this manner is suggested by the following excerpt from a form-letter sent out by the Canadian subsidiary of the Heath Company of Benton Harbour, Michigan;

"...we maintain a firm line that the price to the Canadian consumer will be no higher than his cost would be if he purchased directly from Benton Harbour and imported it himself paying all taxes and duties. This policy is always followed within a small fraction either way, the variation being caused by fluctuations in exchange rates and shipping costs."

In addition, the same pricing policy may have been used by the automobile industry in 1962 when the average Canadian price was 16.2 percent higher than the United States price for one manufacturer and 17.3 percent higher for another.¹ The Canadian tariff on automobiles imported from the United States is 17.5 percent.

¹R. J. Wonnacott, and P. Wonnacott, Free Trade Between the United States and Canada, Cambridge: Harvard University Press, 1967, pp. 229-35.

In the case where a few large firms are responsible for a sizeable portion of the industry output, oligopolistic pricing may be in effect even though the profitability of these firms appears no greater than the profitability of the parent, assuming foreign ownership. This condition may arise if the subsidiary is overcharged for industrial materials fabricated at the parent operation. With the high degree of foreign ownership in Canada, clearly the potential for oligopolistic practices of this nature is great.

In British Columbia, the effect of duties on inputs is to curtail a wide range of industrial importation, particularly from the United States and to replace them with higher-priced Eastern Canadian products. To the extent that this has happened, Canadian secondary industry has expanded to a greater extent than would otherwise have been the case and, at the same time, production and living costs have been increased. Since, for geographical reasons, the greatest industrial opportunities are concentrated in the St. Lawrence region, the expansion in industrial activity attributable to tariff protection has taken place in Eastern Canada. On the other hand, the resources of British Columbia lend themselves to profitable export production. The tariff, then, has the effect of curtailing the expansion of export activity because of the pronounced increase in capital costs to which it gives rise.

Of particular importance to the economy of British Columbia is

the pulp and paper industry. However, it is precisely this sector that has experienced the greatest increase in total costs as a result of the tariff on machinery and equipment.

By calculating the average Canadian tariff on the machinery and equipment used in each major industry and by applying this result to an estimate of the depreciation in the corresponding industry, the Wonnacott brothers estimated the degree to which tariff protection on goods of this type raised total costs in each sector.² Their results, reproduced in Table I indicate that the greatest addition to total costs resulting from this tariff is incurred by the pulp and paper industry.

This relatively large addition may be, in part, due to the heavy usage and high cost of machinery and equipment in this industry. But this is not the whole answer. Since tariff rates differ for various types of machinery and equipment, it is necessary to determine the level of protection afforded by the tariff in each industry in order to estimate what part of this addition can be attributed solely to this factor. The Wonnacotts estimated the weighted tariff for each industry and the results, Table II, indicate the machinery and equipment used by the pulp and paper industry is more heavily protected than that of any other manufacturing sector.

The Kennedy Round of tariff negotiations provides for Canadian reductions on machinery effective January 1, 1968, with an understanding

²Ibid., p. 411.

TABLE I³

ESTIMATED PERCENTAGE THAT TOTAL COSTS IN
EACH INDUSTRY ARE HIGHER IN CANADA BECAUSE OF CAN-
ADIAN TARIFF PROTECTION ON MACHINERY AND EQUIPMENT

Manufacturing Sector	Percentage
Food and Beverages.....	.17
Tobacco and Tobacco Products.....	.10
Textiles and Knitting Mills.....	.16
Apparel and Related Products.....	.07
Lumber and Wood Products.....	.17
Pulp and Paper Products.....	.93
Printing and Publishing.....	.05
Electrical Machinery and Apparatus.....	.18
Chemicals and Products.....	.57
Petroleum and Coal Products.....	.03
Rubber and Plastic Products.....	.20
Leather and Leather Products.....	.06
Non-Metallic Mineral Products.....	.39
Metallic Products and Non- Electrical Machinery.....	.33
Transportation Equipment.....	.19
Miscellaneous Manufactures.....	.23

³Ibid.

TABLE II⁴

WEIGHTED TARIFF PROTECTION ON
MACHINERY AND EQUIPMENT IN CANADIAN
INDUSTRIES

Manufacturing Sector	Percentage
Food and Beverages.....	13.3
Tobacco and Tobacco Products.....	10.8
Textiles and Knitting Mills.....	7.8
Apparel and Related Products.....	7.8
Lumber and Wood Products.....	12.0
Pulp and Paper Products.....	19.7
Printing and Publishing.....	3.7
Electrical Machinery and Apparatus.	10.4
Chemicals and Products.....	13.5
Petroleum and Coal Products.....	11.8
Rubber and Plastic Products.....	13.5
Leather and Leather Products.....	12.0
Non-Metallic Mineral Products.....	12.3
Metallic Products and Non-	
Electrical Machinery.....	15.3
Transportation Equipment.....	13.5
Miscellaneous Manufactures.....	13.5

⁴Ibid., p. 412.

that the average level of Most Favored Nation duties will not exceed nine percent.⁵ Although this reduction lowers the average tariff level for these goods by approximately 25 percent and will probably cause a decline in the total cost increment due to the machinery tariff, it will not alter the relative position of the pulp and paper industry. This manufacturing sector will continue to suffer most from the machinery tariff.

It was previously stated that the tariff tended to raise consumer prices and it is this effect to which attention must be directed. The Economic Council of Canada compared the Canadian and American prices for a number of manufactured goods and published the following general results;⁶

- (a) Half of the items under consideration had prices 20 percent or more higher in Canada than in the United States.
- (b) A quarter of them had prices 35 percent or more higher in Canada than in the United States.

Although these results provide for the conclusion that Canadian prices are substantially higher than American prices, they do not provide information pertaining to the interregional disparity in consumer prices.

With the exception of Newfoundland which joined the Dominion in 1949 and did not begin to enjoy full economic benefits until that time, the

⁵Economic Council of Canada, Fourth Annual Review, Canadian Economy from the 1960's to the 1970's. Ottawa: Queen's Printer, 1967, p. 159.

⁶Ibid., p. 156.

consumer price index for British Columbia was the highest in Canada each year from 1950 to 1964 inclusive. In particular, a comparison with Canada's manufacturing regions of Ontario and Quebec reveals that the consumer price index in British Columbia is 5 to 7 percent in advance of Quebec's and 8 to 10 percent higher than that of Ontario.⁷

Although the tariff is ultimately responsible for the East-West consumer price difference, the immediate cause of the disparity may be attributed to the costly transcontinental transportation facilities. Trucks and railways move almost all the commodities to the Western provinces, and since railways account for the greatest share of freight movement, it is worth considering the connection between this system and the Canadian tariff.

Western development of any extent would have been impossible without railway facilities, especially for the prairie provinces, so it is usually argued that the tariff structure assures the East-West movement of goods which, in turn, serves as the paying traffic for the Canadian railway system. Although this is an argument which connects tariffs and railways, its conclusion rests upon the assumption that Western development required facilities for freight movement. It would be incorrect to assume, however, that Western provinces would be without adequate railway facilities had the Canadian transcontinental systems not been built.

One of the chief concerns of the early railway policy of Canada

⁷Economic Council of Canada, Staff Study No. 14. Interregional Disparities in Income, Ottawa: Queen's Printer, 1966, p. 88.

was the exclusion of American railways from Canadian territory to the west of the Great Lakes. The management of the Northern Pacific and Great Northern railways stubbornly persisted, from the 1860's to the end of the century, in their attempts to build into the Canadian territory west of the Lakes. As far as Western provinces are concerned, Canadian railways are expensive alternatives to American railways.⁸

Railways and tariffs, then, are both functionally and causally related in Canadian history. The railways provided only the physical facilities for freight movement and did not, in themselves cause manufacturing in Eastern Canada to supply distant regions like British Columbia. Without protective measures of some kind, manufacturers in Eastern Canada would have had to compete with the highly efficient mass-production industries in the Eastern and Mid-Western United States in order to secure and to hold markets in outlying regions. Whether they could or not was never tested. A policy of tariff protection was instituted in Canada before there were any significant outlying markets to supply, and before there was any great body of industry to supply them.

When considering the relative economic position of two regions whose common trade is created by a protective tariff, transportation costs become an important factor. In the Canadian realm, they have had a highly adverse effect on the real income position of British Columbia.

⁸

V. C. Fowke, op. cit., p. 69.

The flow of goods for the external trade of British Columbia is most naturally a north-south flow in terms of transportation costs, commodity prices, and available markets. However, the Canadian tariff has diverted a large portion of this trade into an east-west flow for her import goods, while ensuring a north-south flow for her export goods. The low tariffs on primary imports exclude a large portion of British Columbia's products from the Eastern Canadian market since high transportation costs nullify any advantage gained through tariff protection.

The disadvantages in this arrangement are obvious. Imports, which would otherwise have been shipped from the manufacturing plants in the Pacific Northwest and Southwest regions of the United States now arrive from a region over twice the distance by much costlier modes of transportation. Coastal shipping from San Francisco and Los Angeles (950 and 1450 miles respectively) is far less expensive than sending merchandise by rail or truck over 3000 miles of difficult terrain. Transportation costs are particularly relevant in forwarding heavy, bulky products like automobiles, since retail trade in this industry is now second highest in the province. In addition to the higher transportation costs there are problems involving slower delivery, higher communication costs between wholesalers in the East and retailers in British Columbia, greater insurance costs, more product spoilage, and less control over inventories.

Furthermore, the tariff on secondary manufactures which was responsible for the diversion to east-west trade causes retaliatory foreign

tariffs on Canadian products, including those of British Columbia. In effect, then, part of the cost of the tariff on secondary imports is shared by the British Columbia export industries by virtue of the decline in foreign demand for her products. It is this sacrifice of world markets for British Columbia's products which has helped foster manufacturing in Eastern Canada.

CHAPTER IV

TERMS OF TRADE OF BRITISH COLUMBIA
AND EASTERN CANADA, 1948-1965

There are a number of different measures of terms of trade, none of which involves all factors influencing the economic position of a region. For example, the Net Barter Terms index, P_e/P_i , indicates only the relative changes in export and import prices and says nothing of the volume changes which so often accompany price movements.

In addition, the Net Barter price indexes are usually expressed in terms of a base year, constant or moving, or in terms of a multi-year base period. In so far as the real income position of a region is affected by the absolute level of export and import prices in the base years as well as the relative changes between them over time, the Net Barter index is a less than perfect indicator of regional differences in real income. This shortcoming is particularly relevant to the real income position of British Columbia since, as the previous chapter indicated, this area is subject to artificially inflated import prices from Eastern Canada.

Nevertheless, a study of the terms of trade can well be used to open up the analysis of a region's economy and direct attention to important determinants of a region's economic position. The Net Barter index

points towards the causes of the behavior of import and export prices, while the Income Terms of Trade, $(Q_e)(P_e/P_i)$, indicates the import capacity of a region by including the quantity of exports as well as the relative changes in import and export prices. Indexes such as the Single and Double Factoral Terms of Trade incorporate productivity of export industries in the first case, and productivity of both export and import industries in the second. In this way, relative gain may be compared for two regions in terms of sacrifice of input factors in export industries, assuming other things equal.

In this chapter, then, only the Net Barter and Income Terms of Trade will be considered, since productivity of factor inputs needed in calculating the Single and Double Factoral indexes of British Columbia and Eastern Canada are almost impossible to measure satisfactorily. Besides, the Net Barter index is most important in suggesting pressure on regional balance of payments. With respect to balance of payment problems, changes in export-import price ratios will be of greater significance to British Columbia than to Eastern Canada since external trade is far greater in relation to total trade in the former region.

Before presenting the Net Barter index for the two regions, it is necessary to keep in mind certain problems which crop up in the analysis using this index. First, only price indexes for merchandise trade will be considered. It is true that the balance of payments can be affected by other "invisible" exports and imports such as travel expenses, interest and

dividends, freight and shipping costs, and insurance, but all of these are extremely difficult to measure regionally, and none will have as great an impact on the balance of payments as the merchandise transactions.

In addition, a region may enjoy more favorable Net Barter terms as the result of an increased foreign demand for her export goods and this probably means an improvement in her economic position. However, there are exceptions to this. For example, an increase in world demand for lumber may send its price up, but a particular lumber-exporting region may be worse off owing to a succession of strikes in the industry. It is true that she would be in a still worse position had the price of lumber not risen, but the fact remains that the Net Barter terms index, without further data, is an unreliable indicator of the change which has taken place in her general economic position.

A region may also enjoy more favorable Net Barter terms because of a fall in world demand for the kinds of goods which she imports. The countries exporting such goods clearly lose, but what about the importing regions? They may get, on balance, the same volume of imports as previously, giving in return a smaller volume of exports. But if the factors in the export industries are specific, and cannot be diverted to other industries, the result may be heavy unemployment of labor and idle capacity in the export industries. In any case, the gain from more favorable Net Barter terms in such instances will often be less than appears owing to increased unemployment in the region's export industries and to certain difficulties

of adjustment.

In so far as British Columbia depends on foreign markets to a much larger extent than Eastern Canada and since her primary export industries are typically characterized by highly specific land and capital, the problem of immobile factors and unemployment bears more heavily on this region than on the manufacturing centers in Eastern Canada. For example, certain areas in British Columbia are suitable only for the production of primary wood products and a decline in quantity demanded would make these timberlands unproductive as a consequence. On the other hand, industrial sites in Eastern Canada are usually equally productive in the manufacture of a wide range of secondary goods. Therefore, the fall in quantity demanded of a particular commodity will not appreciably affect the productive capacity of these sites.

The concept of productivity is important when considering relative regional standards of living or "equilibrium rates of exchange." Clearly, when terms of trade are equal for two regions but one increases productivity, then the gains from trade are increased for the more productive area. Less factors are committed to the export industries to produce the same quantity of output and the excess factors may be utilized in domestic production, assuming reasonable factor mobility. The Net Barter index, then, may not indicate the increase in gains from trade in this situation.

Also, when a region's productivity is increasing at a rapid rate, a movement in the Net Barter terms against it is quite compatible with a

movement of the Double Factoral index in its favor.¹ On the other hand, the price of manufactured exports is influenced by the price of imported raw materials. Therefore, if the price of raw materials rises, the Double Factoral terms may turn against the area in much greater proportion than the Net Barter terms, an implicit constraint on an industrial region's relationship with an "internal colony" with respect to inelastic items.

Although the Factoral terms are not calculated in this study, it is important to realize that the Net Barter index is not a completely reliable indicator of a region's real trade position but serves only to relate imports and exports through prices and exchange rates.

Finally, quality changes are not reflected in price indexes and, consequently, the Net Barter index may be misleading in this aspect. In particular, the bulk of British Columbia's exports consist of standardized products, the qualities of which do not change appreciably over the years. This is in contrast with the nature of many manufactured imports for which quality improvements have been great. When quality has improved, the import price index overstates the true price increases. That is, for exactly the same quality in imported articles of this type, the price would be less. This suggests, therefore, that British Columbia's real Net Barter terms is actually more favorable than indicated by merchandise price relationships alone.

¹ This index is defined as the Net Barter index multiplied by the ratio of domestic export productivity to foreign import productivity.

Export Price Indexes of British Columbia and
Eastern Canada, 1948-1965.

These indexes, Figure 2, are composite, weighted price indexes estimated by a procedure outlined in Appendix A. It is evident from the graph that export prices for British Columbia have been increasing since 1951, but at a slower rate than the price increase in Eastern Canada. The divergence is largely due to the price movements of two commodity groups, wood products and non-ferrous metals, which make up different proportions of the total exports of each region.

The forest products industry which accounted for 60 to 65 percent of British Columbia's exports by value over the 1951 to 1965 period, experienced a steady downward trend in prices as indicated in Table III. However, this trend was countered by a dramatic price increase in the non-ferrous metals industry which makes up 13 to 15 percent of British Columbia's exports.

On the other hand, Eastern Canada's export price index has not been as severely affected by the price drop in forest products since only 25 percent of her total exports are in this category. In addition, the non-ferrous metals sector contributes another 25 percent to total exports and has raised the export price index of Eastern Canada considerably, in fact, to a greater extent than it has for British Columbia.

A comparison between the foreign and domestic export price indexes

FIGURE 2

EXPORT PRICE INDEXES OF BRITISH
COLUMBIA AND EASTERN CANADA,
1949-1965. (1948 = 100)²



²See Appendix A for method of calculation.

TABLE III³

PRICE INDEXES FOR THE WOOD PRODUCTS AND
NON-FERROUS METALS INDUSTRIES, 1948-1962
(1948 = 100)

Year	Wood Products	Non-Fer Metals
1948	100.0	100.0
1949	97.9	105.8
1950	105.0	115.1
1951	122.4	137.9
1952	122.4	142.6
1953	118.3	135.0
1954	116.3	134.6
1955	118.0	149.4
1956	120.1	165.0
1957	119.9	153.9
1958	119.3	143.6
1959	120.2	145.6
1960	118.5	148.8
1961	116.0	152.4
1962	116.6	159.9
1963		

³Dominion Bureau of Statistics, Exports by Commodities, Vol 1:
Summary and Analytical Tables, 1956, 1961, and 1963, Table 38.

of Eastern Canada, Figure 3, reveals that the foreign index increased more rapidly than the domestic index over the 1948-1965 period. This was a consequence of the composition of exports in the two sectors. For example, foreign exports consisted mainly of primary iron, non-ferrous metals, and wood products: the first two of these commodity groups had the greatest price movements upwards of all Canadian exports. Domestic exports, however, consisted primarily of secondary manufactures and their price increase was less pronounced than that of foreign exports.

The abrupt rise in both the British Columbia and Eastern Canada price index in 1951 was largely due to inflationary pressures after the outbreak of the Korean War.

"Military needs and precautionary buying increased the demand for many important industrial materials such as wool, tin, manganese, rubber and wood pulp, and the increased raw material prices, in turn, affected the costs and prices of manufactured goods. The prices of raw materials generally reached their peak in the first half of 1951 and declined thereafter, contributing to the stabilization of other prices and to some declines."⁵

The recession in commodity prices in the late 50's was related to the decline in industrial activity in North America and Western Europe and to the productivity increase in these regions. There were also changes in stock-piling policy and market structure, especially in the non-ferrous metals commodity group. As a result, the rate of increase in export price

⁵Canada Year Book, Ottawa: Queen's Printer, 1952, p. 922.

FIGURE 3

EASTERN CANADIAN FOREIGN AND DOMESTIC EXPORT
PRICE INDEXES, 1949-1965. (1948 = 100) ⁴



⁴ See Appendix A for method of calculation.

indexes of British Columbia and Eastern Canada slowed down in this period.⁶

When Eastern Canadian secondary prices are related to world secondary prices over the 1948-1965 period, an interesting trend appears in recessionary periods. Figure 4 displays the two price indexes and Table IV relates the world manufacturing price trends and Eastern Canadian price trends during the post-war recessions.

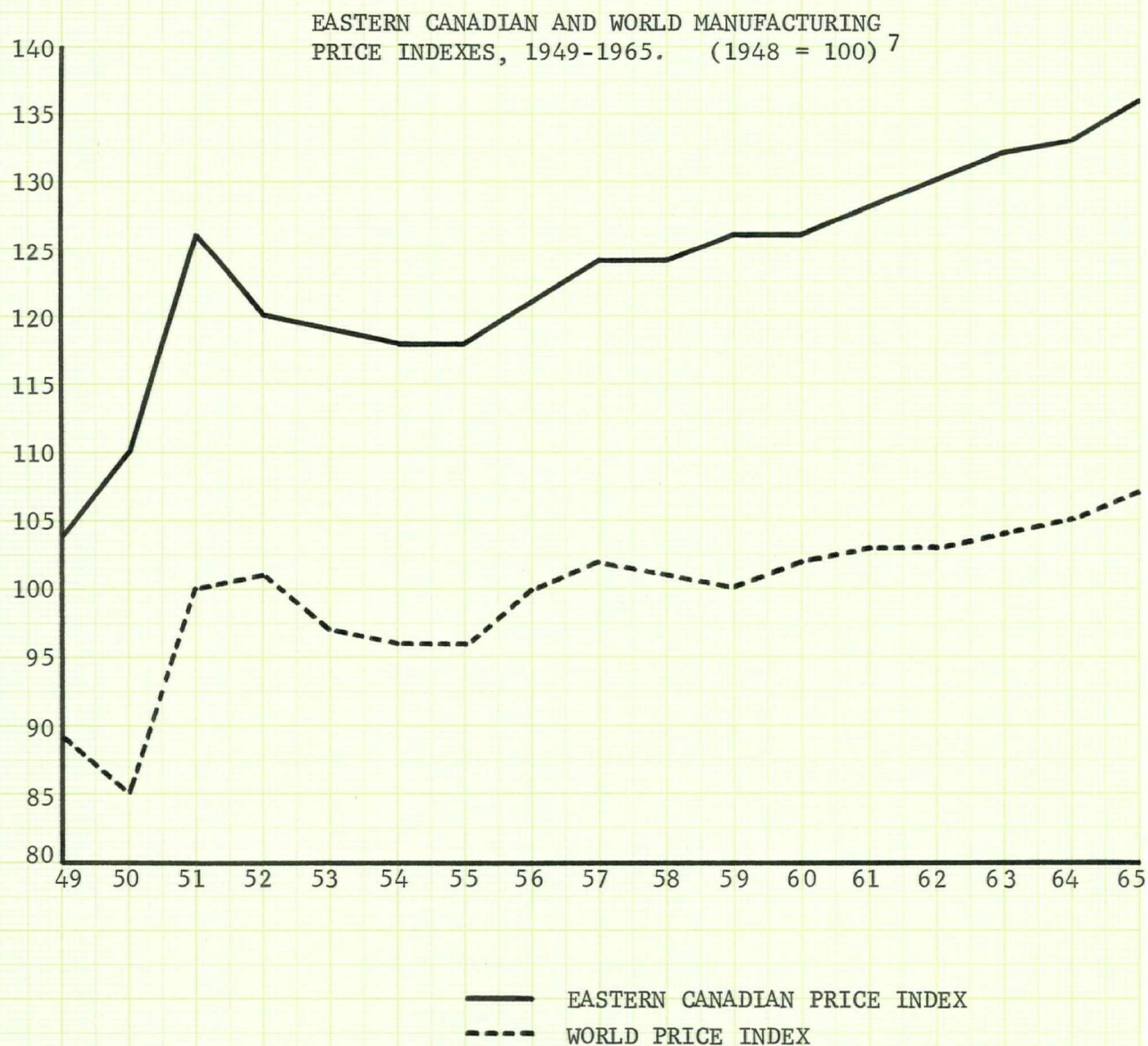
TABLE IV

PRICE TRENDS IN CANADIAN AND WORLD MANUFACTURING PRICES DURING POST-WORLD WAR II RECESSIONARY PERIODS

Recession	Canadian Pr.	World Pr.
1948-1949	rise	fall
1953-1954	fall	fall
1957-1958	same	fall
1960-1961	rise	rise

⁶Canada Year Book, Ottawa: Queen's Printer, 1959, p. 965.

FIGURE 4



⁷ World Index Source: United Nations Statistical Yearbook, 1965, Table 151 B p. 418. Canadian Source: Canada Year Book, 1957, Ottawa: Queen's Printer, 1957, p. 1075. Canada Year Book, 1967, p. 942.

Incidentally, in 1960 secondary prices rose in Canada by a greater percentage than in the world market. Nevertheless, it appears that Eastern Canadian manufactures do not follow the trend of world manufacturing prices in recessions, and this condition has contributed to both the inflated import index of British Columbia and to the inflated export price index of Eastern Canada in these times. The export price index graph, Figure 2, indicates that the index for Eastern Canada tended to be more stable than the British Columbia index in every post-war recession, reflecting the influence of less volatile pricing in the protected market.

Import Price Indexes of British Columbia and Eastern Canada, 1948-1965.

Monetary income in British Columbia depends largely upon the ability of export producers to market their product, the quality of these products, and the price at which the goods are sold. However, real income depends not only upon the above factors but also upon the prices of goods which British Columbia purchases from home and abroad. In this light, then, the real income position of British Columbia has been depressed in proportion to the incremental cost of Eastern Canadian merchandise over world prices.

While the effects on real income of buying and selling prices are both readily discernible, it is nevertheless true that British Columbia

exporters are more likely to show concern over the latter than the former. This is understandable because they sell far fewer kinds of goods than they buy. The probability of regional control of this latter "diffuse-price phenomena" is slight indeed. It is easy to see why most concern over prices in British Columbia industries is directed towards the selling prices rather than the numerous buying prices.

This condition suggests that perhaps not enough attention has been directed to the effect of import prices on the real income position of British Columbia. Any substantial advances in welfare for British Columbia will more readily result from import price reduction lobbies than from unified marketing programs for British Columbia export goods. But, as indicated above, the likelihood of serious action in this endeavour is slim, indeed.

Although the absolute level of British Columbia import prices is seriously affected by the Canadian tariff, the import price index will not reflect this condition since the base year, 1948, is after the inception of Canadian protectionism rather than before it. Therefore, any affect of the Tariff will be evident only in the trend of the indexes and not in their absolute levels.

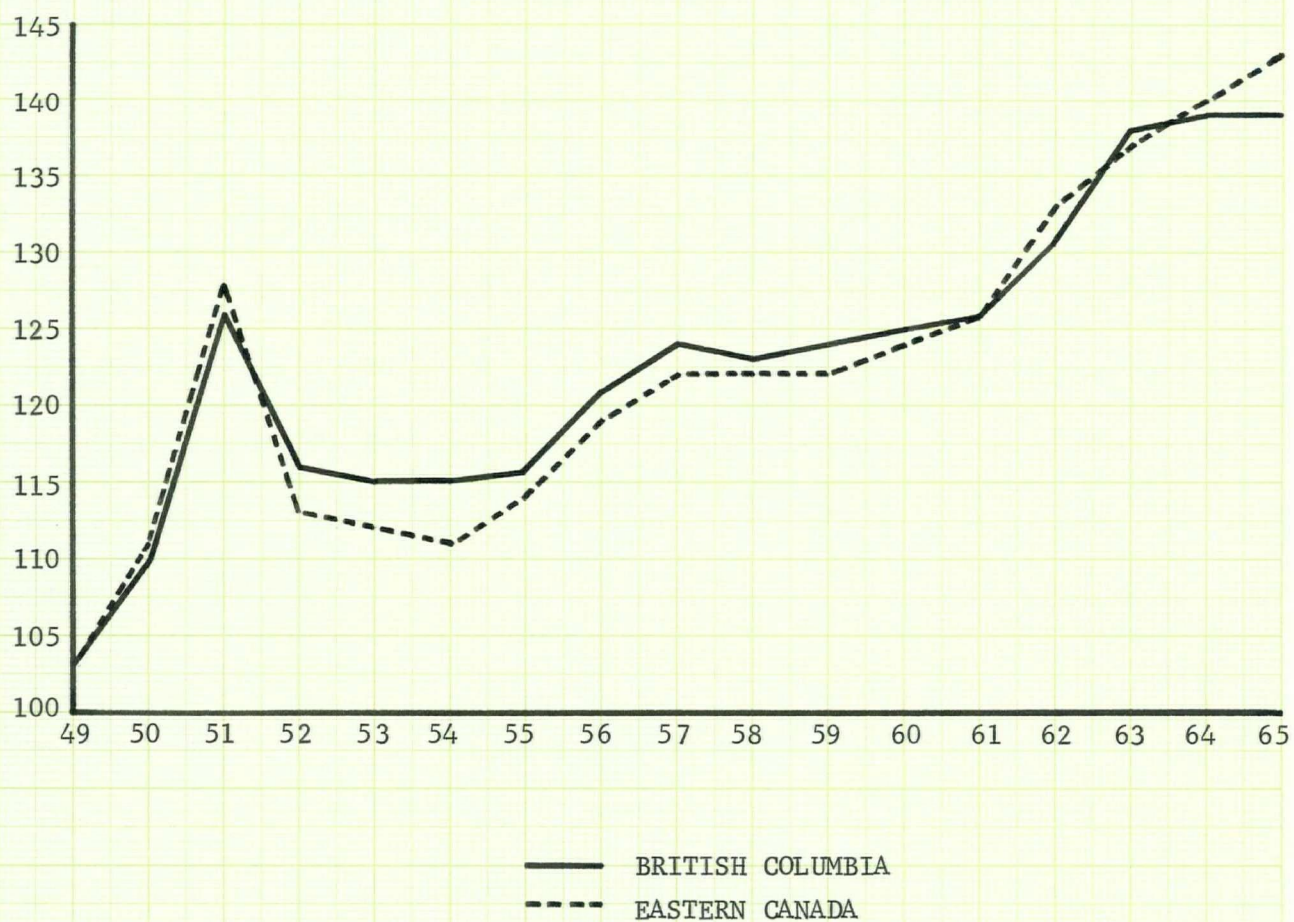
One obvious indication is the degree to which Eastern Canadian import prices fell relative to those of British Columbia after the Canadian
dollar

was allowed to float freely in the international market. The dollar was set loose in October, 1950, and reflected supply and demand conditions in its exchange rate until May, 1962, at which time it was pegged at 92.5 cents to the United States dollar. It is clear from Figure 5 and Table V that Eastern Canadian import prices stayed below those of British Columbia every year in which the Canadian currency was at a premium relative to the United States dollar between 1950 and 1962. The reason for this may be partially explained by the degree to which the Canadian Tariff diverts British Columbia dollars from the international to the domestic market.

First of all, it is necessary to point out that there is no exchange rate between a British Columbia dollar and an Eastern Canadian dollar. Therefore, as the Canadian dollar appreciated on international exchanges from a general increased demand for raw materials, Eastern Canadian secondary prices on the domestic market appreciated also in a "real" sense. In terms of British Columbia dollars, therefore, Eastern Canadian prices experienced no change due to an appreciating Canadian dollar, and as a consequence, the buying power of British Columbia did not increase on the domestic market as it did in the international scene. On the other hand, Eastern Canada purchases a far greater proportion of her imports from foreign countries than does British Columbia and, consequently, was able to take better advantage of the increased purchasing power of the Canadian currency in those years. Therefore, the import price index of Eastern Canada fell to a greater extent than did the British Columbia index.

FIGURE 5

IMPORT PRICE INDEXES OF BRITISH COLUMBIA AND
EASTERN CANADA, 1949-1965. (1948 = 100)⁸



⁸ See Appendix A for method of calculation.

TABLE V⁹

PRICE OF UNITED STATES DOLLAR
IN CANADIAN FUNDS, 1948-1965

Year	Exchange Rate (avg yearly)
1948	100.0
1949	106.5
1950	107.0
1951	105.3
1952	97.9
1953	98.3
1954	97.3
1955	98.6
1956	98.4
1957	95.9
1958	97.1
1959	95.9
1960	97.0
1961	101.3
1962	106.9
1963	107.9
1964	107.9
1965	107.8

⁹ Canada Year Book, 1956. Ottawa: Queen's Printer, 1956, p. 1121.
Canada Year Book, 1966. Ottawa: Queen's Printer, 1966, p. 1079.

A second, and perhaps less interesting, trend is the rate of increase in the two import price indexes. Although the depreciating dollar in the 1960's partially caused the convergence of the two indexes for opposite reasons from those given above, there is another factor which contributed to the import price equalization.

By far the greatest component of Eastern Canadian imports is iron products, and these commodities have undergone the greatest price increase of all Canadian import groups. Other metal products have also experienced rapid price increases and the current trend for Eastern Canadian prices has been reflecting these upturns. British Columbia also imports a large amount of iron products and has been subject to the same price increase as Eastern Canada. However, the proportion of this import class in British Columbia is not as great and, as a result, the upward influence on the index has not been as severe. In addition, the British Columbia index is pulled down by the prices of agricultural and animal products which make up a large portion of her imports. This latter commodity class has shown a relatively slow price increase over the period under study.

Net Barter Terms of Trade of British Columbia
and Eastern Canada, 1948-1965.

The Net Barter index, Figure 6, is simply a ratio of the export

and import price indexes presented in the first part of this chapter. Therefore, any trends in this trade index may be explained in terms of the relative trends of those price indexes. The import price index increased more rapidly for Eastern Canada than for British Columbia. However, the export price index also increased more rapidly for Eastern Canada and it appears that this latter movement more than compensated for the relatively unfavorable import price changes in that region. Therefore, the Net Barter Terms of Trade appear to diverge slightly from 1952 onward.

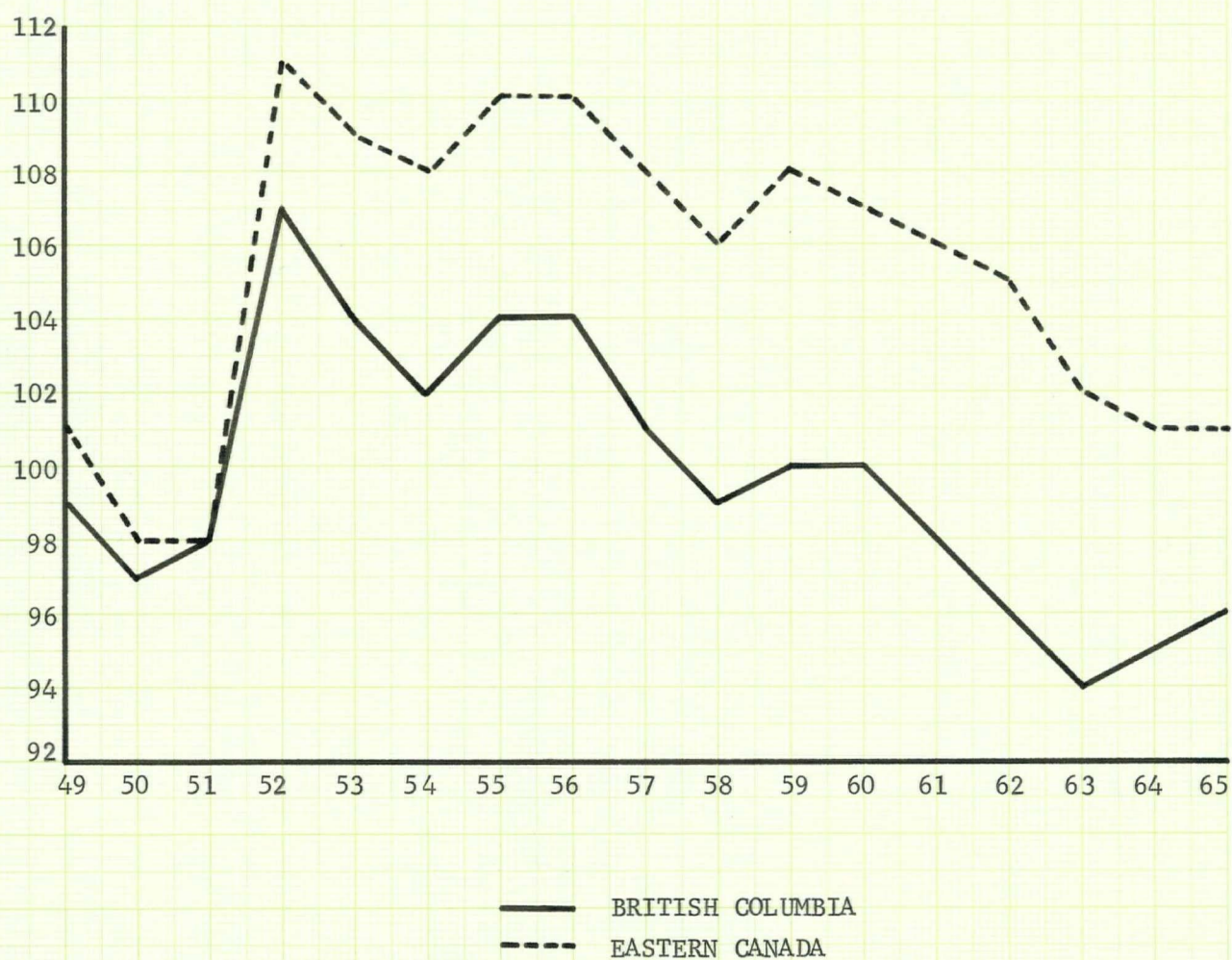
As indicated earlier, the export price index of Eastern Canada does not follow the world price trend during recessions. When world manufacturing prices fell, Eastern Canadian prices usually went against this trend and when they rose, the rise in Canadian secondaries was greater.

Consequently, import prices for British Columbia were raised relative to her export prices in recessions because of this influence from Eastern Canada. Figure 6 shows how the Net Barter terms for British Columbia deteriorated relative to that of Eastern Canada;

- (1) In 1948, the index for Eastern Canada rose while that of British Columbia fell.
- (2) In 1953, the index for British Columbia dropped by a greater percentage than the drop in Eastern Canada.
- (3) In 1957, the index for British Columbia again dropped more severely than for Eastern Canada.
- (4) In 1960, the index for British Columbia fell in the same relative way as the two previous recessions.

FIGURE 6

NET BARTER TERMS OF TRADE OF BRITISH COLUMBIA
AND EASTERN CANADA, 1949-1965. (1948 = 100) ¹⁰



¹⁰

See Appendix A for method of calculation.

It is not argued that the influence from Eastern Canada is the sole cause of British Columbia's relatively unfavorable position during recessions, only that the drop in the Net Barter terms index would not be as pronounced if Eastern Canadian prices follow world prices during those times.

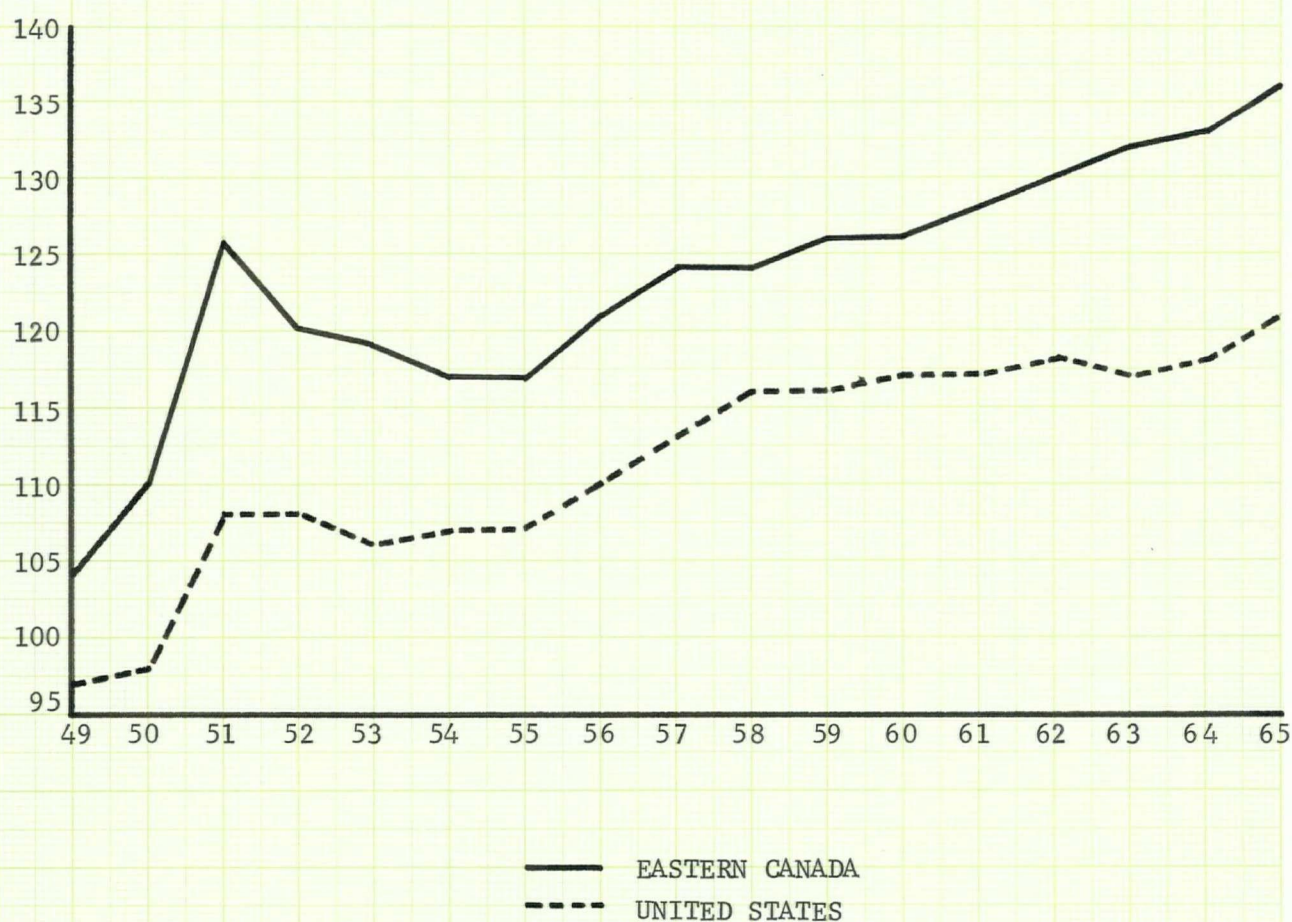
Figure 7 compares the United States and Canadian indexes for secondary manufactures over the 1948-1965 period. The Canadian index appears to be increasing at a more rapid rate than the American index, and this factor suggests that the possible British Columbia import index, and ultimately the Net Barter Terms of Trade, would improve if secondary imports from the United States were substituted for Eastern Canadian goods. The selling price, of course, would have to be adjusted for the exchange rate indetermining the possible British Columbia import price index and this is done in Figure 8, comparing the index shown earlier with the price index substituting American secondaries.

Clearly, the effect of the floating exchange rate on the British Columbian and Eastern Canadian import indexes is again obvious. The two indexes diverge when the Canadian dollar was at a premium and converge when its international value dropped in the early 60's. The superior buying power of Canadian currency in the hands of British Columbia importers was allowed to seek more advantageous markets and the result is a lower import price index in those years.

There are factors other than the exchange rate which enter into the price of the American imports, but these affect only the absolute price

FIGURE 7

PRICE INDEXES OF SECONDARY MANUFACTURES IN THE
UNITED STATES AND CANADA, 1949-1965. (1948 = 100)¹¹

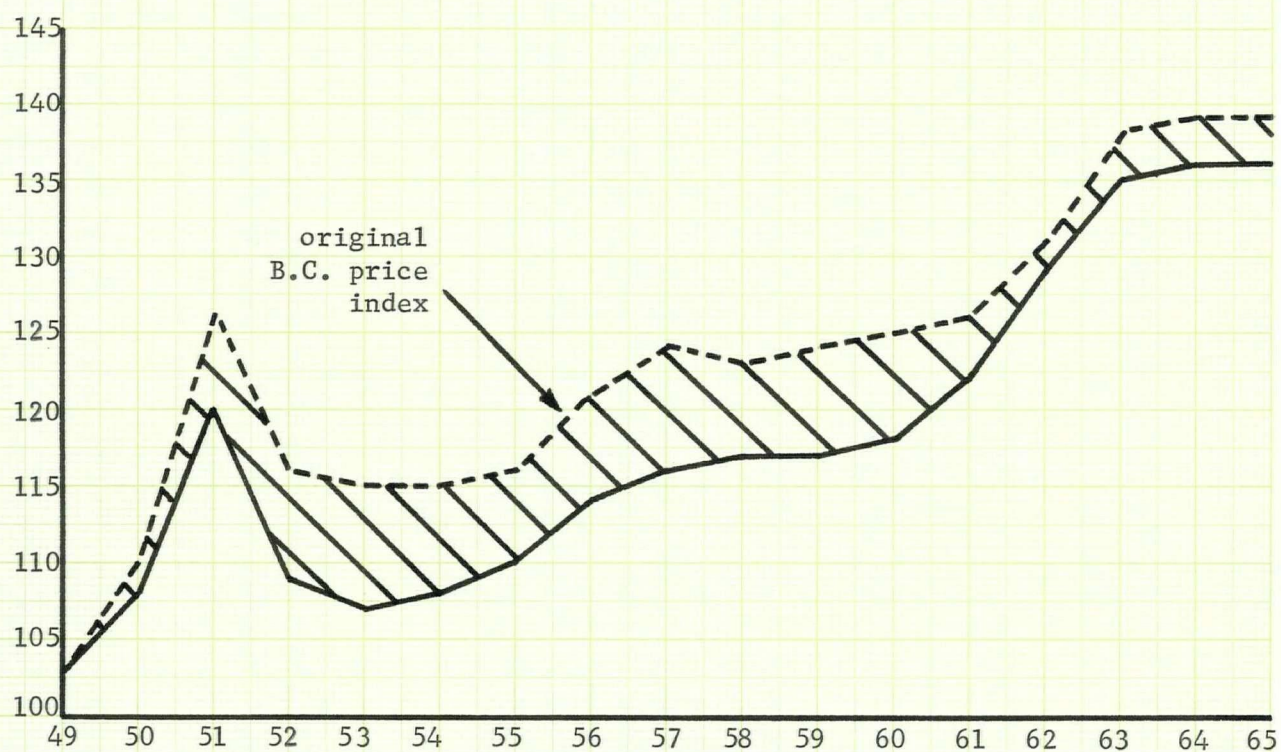


¹¹

Canadian Source: Canada Year Book, 1967, p. 942. Canada Year Book, 1957-1958, p. 1075. United States Source: Statistical Abstract of the United States, 1957. Washington, 1957, p. 327. Also, Abstract, 1962, p. 346 and Abstract, 1967, p. 352. All indexes are adjusted to base 1948.

FIGURE 8

IMPORT PRICE INDEX OF BRITISH COLUMBIA, WITH AMERICAN
MANUFACTURES SUBSTITUTING FOR CANADIAN MANUFACTURES,
1949-1965. (1948 = 100)¹²

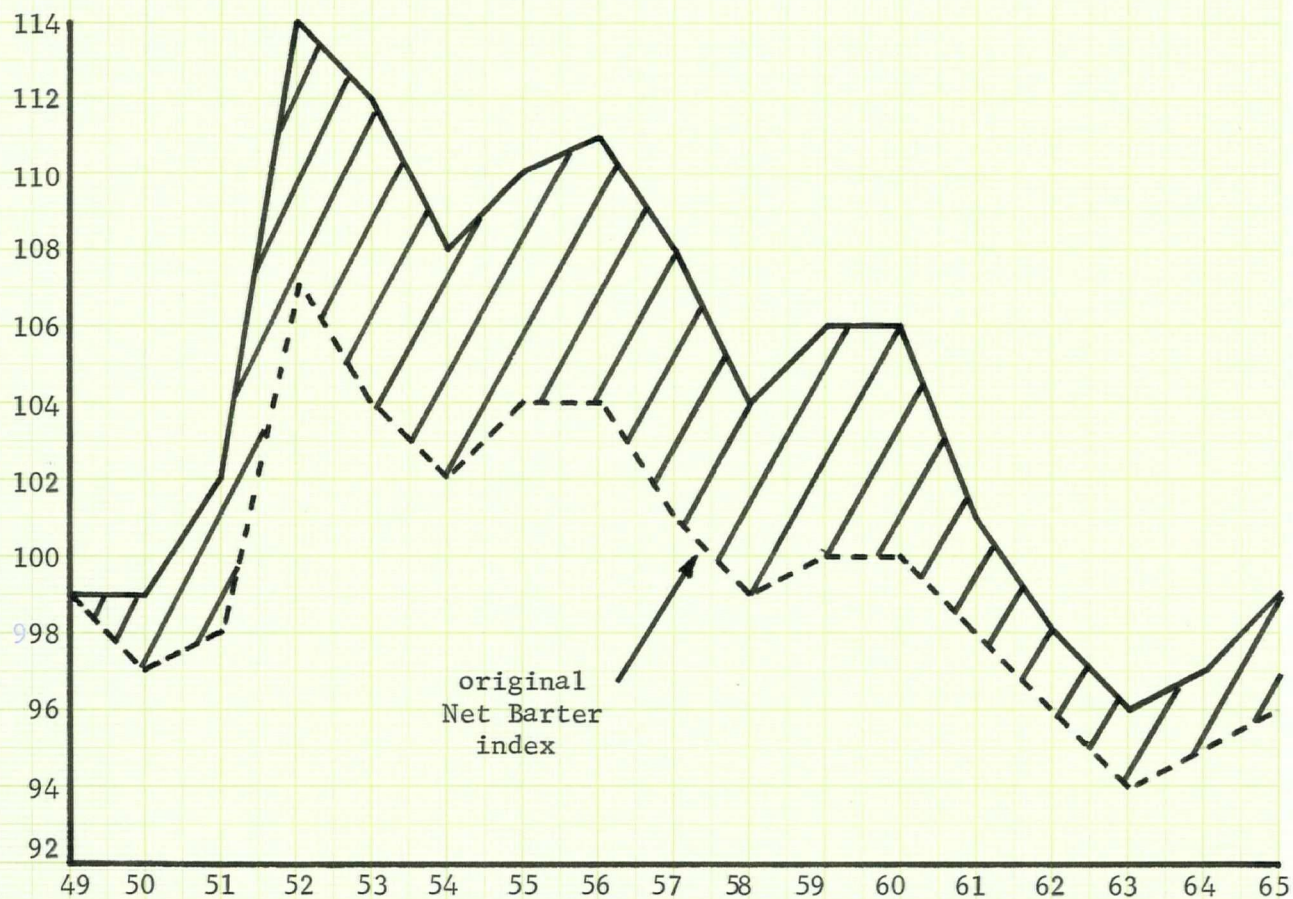


12

See Appendix B for calculation of British Columbia
import price index.

FIGURE 9

NET BARTER TERMS OF TRADE OF BRITISH COLUMBIA, WITH
 AMERICAN MANUFACTURES SUBSTITUTING FOR CANADIAN
 MANUFACTURES, 1949-1965. (1948 = 100)¹³



13

See Appendix B for calculations.

level and will not show up on the price index graph. Such charges as the manufacturers' sales tax, the various excise taxes, and the duties on machinery and equipment would raise the import prices determined at British Columbia points of entry while the less costly transportation facilities and initial price advantages would tend to lower them. Nevertheless, only the trend in the two British Columbia import price indexes appears in the graph and no indication of absolute prices is possible.

The more favorable import price index with American secondaries was divided into the British Columbia export price index to obtain a possible Net Barter index from 1948-1965, Figure 9. In this graph, British Columbia is allowed the advantage of the currency premium, an advantage enjoyed quite fully by Eastern Canada, and the consequence is a favorable movement in the Net Barter index relative to that of Eastern Canada.

Income Terms of Trade of British Columbia
and Eastern Canada, 1948-1965.

The Net Barter index deals with the gain from a unit of trade and, therefore, does not indicate changes in total gain which depend upon the volume of merchandise traded as well. It is possible that an export price drop may be attributable to an application of cost-reducing methods of manufacture to export industries. In this case, the Net Barter terms

may deteriorate as a result while exports increase considerably, and will leave a region better, rather than worse off, in command over foreign goods. It is necessary, then, to incorporate the volume factor in a trade index which attempts to explain relative changes in gains from trade.

The Income Terms of Trade combines both the relative export-import price movements with an index of export volumes.¹⁴ Therefore, if there is a strong pull towards equilibrium in the balance of payments then the Income Terms index which includes all exports and imports, not just merchandise transactions, determines the quantity of imports available. This is a direct result of the relationship,

$$\left(\frac{P_e}{P_i} \right) \left(\frac{Q_e}{Q_i} \right) = 1$$

In this way, therefore, it is a measure of the import capacity of a region.

The export quantity indexes for British Columbia and Eastern Canada, Figure 10, indicate that the rate of increase has been greater in the former region than in the latter. The stagnation in exporting in the late 50's was the result of a change in world business conditions.

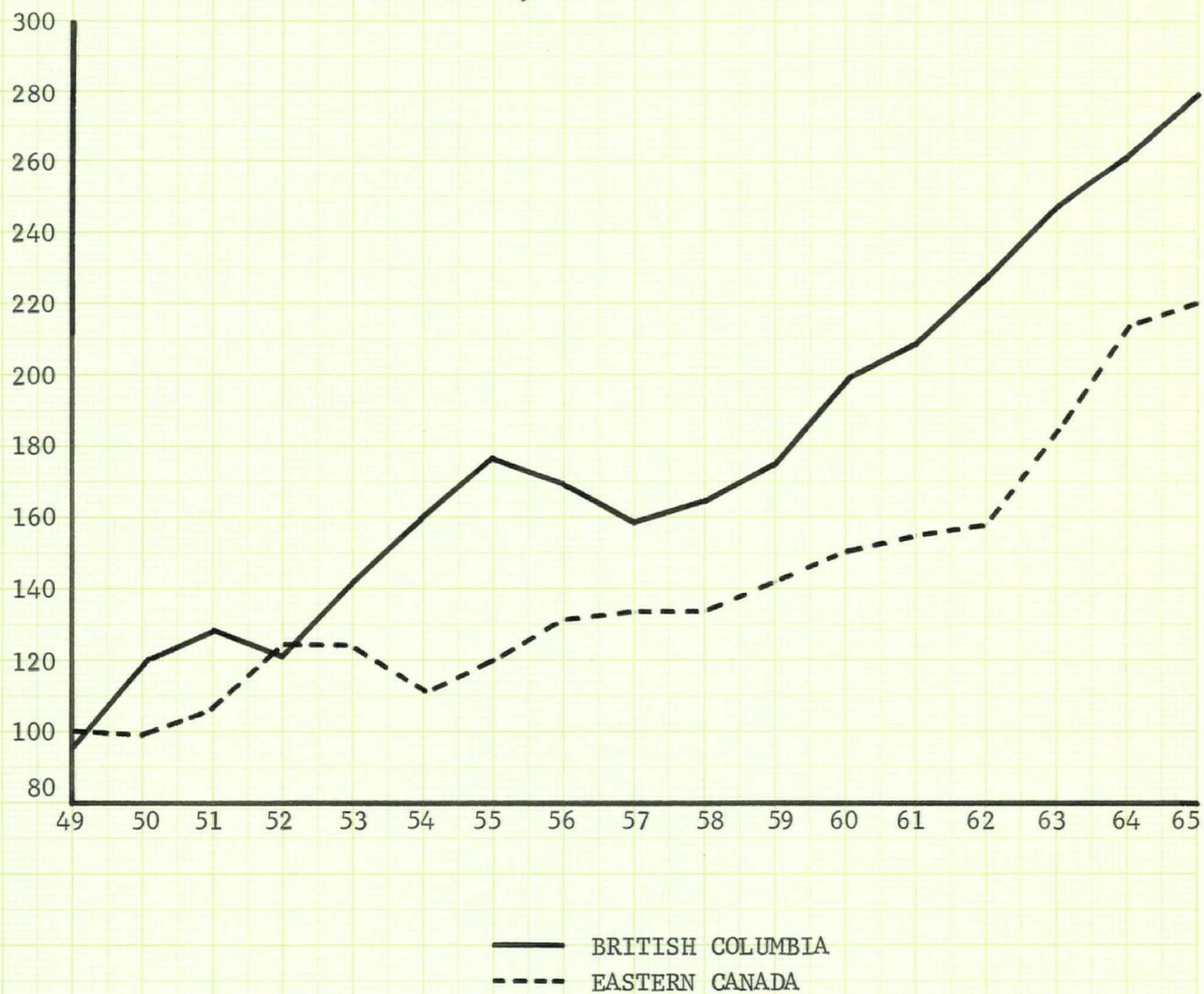
"The declines primarily reflected the ending of the world-wide investment boom which had followed the period of readjustment at the end of the Korean War and the consequent reduction in industrial activity in the United States, Western Europe and elsewhere."¹⁵

¹⁴Defined as $(Q_e)(P_e/P_i)$.

¹⁵Canada Year Book, 1959. Ottawa: Queen's Printer, 1959, p. 965.

FIGURE 10

EXPORT QUANTITY INDEXES OF BRITISH COLUMBIA AND
EASTERN CANADA, 1949-1965. (1948 = 100)¹⁶



¹⁶

See Appendix C for calculations.

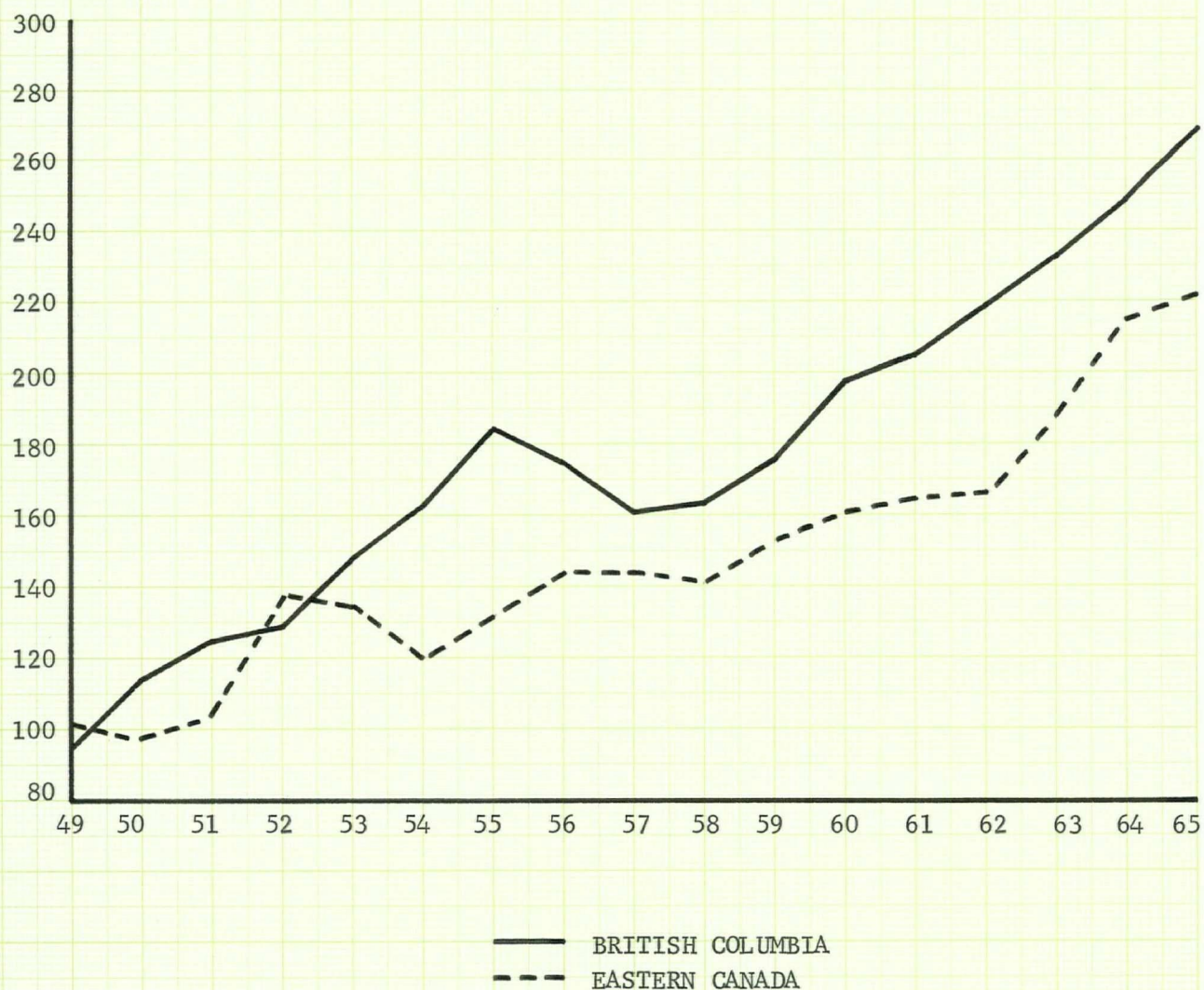
Evidently, the decline in export volumes were most noticeable in British Columbia. This is expected as the export base of raw materials is very large in this region and will be sensitive to changes in economic conditions, particularly in the United States where the recession of 1957-1959 was most strongly in evidence. On the other hand, exports of Eastern Canada tended to be more stable, reflecting the more resilient trading pattern of secondary manufacturing areas.

The rapid export quantity increase for British Columbia over the 1948-1965 period more than offset the unfavorable movement in the Net Barter Terms of Trade, and gave this region an increasing Income Terms index, Figure 11, in fact, a more rapid increase than that of Eastern Canada. However, if the Income Terms of Trade is a measure of relative capacity to import, then a disparity arises between this index and the import quantity indexes of British Columbia and Eastern Canada shown in Figure 12. For example, one would expect that the British Columbia import quantity index would rise more rapidly than that of the East. This, however, is not the case, and the reason for it again involves exchange rates.

Flexible exchange rates tend to keep the export and import values balanced. That is, if the demand for exports falls off, the exchange rate tends to depreciate to the point where either exports increase again in old or new lines, or imports decline, to restore general equilibrium automatically. As indicated previously, the demand for Canadian products intensified in the early 50's as the war-ravaged countries rapidly expanded.

FIGURE 11

INCOME TERMS OF TRADE OF BRITISH COLUMBIA AND
EASTERN CANADA, 1949-1965. (1948 = 100)¹⁷



¹⁷ See Appendix C for calculations.

FIGURE 12

IMPORT QUANTITY INDEXES OF BRITISH COLUMBIA
AND EASTERN CANADA, 1949-1965. (1948 = 100)¹⁸



¹⁸ See Appendix D for calculations.

As a consequence, the demand for Canadian currency increased and the Canadian dollar was selling at a premium.

In terms of the relative economic positions of British Columbia and Eastern Canada, this premium favored the importing capacity of the East. That is, Eastern Canada obtains a far greater proportion of her import on the world market than does British Columbia and was able to take better advantage of the increased buying power. This factor is evident when the Income Terms of Trade are related to corresponding import quantity indexes. Ostensibly, the capacity to import favors British Columbia on the Income Terms graph. However, a comparison of the import quantity indexes reveals the real Income Terms of Trade. That is, the inferior income-earning position of Eastern Canada is counterbalanced by the superior real buying power of her dollars to inflate her importing ability relative to that of British Columbia. Consequently, the import quantity indexes of the two regions are fairly equal over the decade.

The decline in the British Columbia import quantity index and the opposing increase in the Eastern Canada index from 1959-1962 directs attention towards a second problem. When Canada maintains tight credit, relative to other countries, in particular the United States, import capabilities again favor Eastern Canada.

For example, through the depressed years, 1959-1962, tight credit in Canada resulted in a fairly high capital inflow and an exchange rate that placed the Canadian dollar at a premium, discouraged exports, and encouraged imports. Credit was easy in the United States, and an out-

flow of capital was experienced. This condition, however, favored the import capability of Eastern Canada relative to that of British Columbia in the same way as before. That is, the Eastern Canadian import dollar finds its way into world markets to a far greater extent than the British Columbia dollar and is able to reap the benefits of the exchange rate premium. Any increase in British Columbia imports presumeably would be met by an increase in Eastern Canadian exports and, to re-emphasize, no viable exchange rate exists between the regions.

CHAPTER V

CONCLUSIONS

1. The average annual merchandise trade deficit of Eastern Canada with foreign countries was \$517,000,000 from 1948-1965. In contrast, the trade surplus of British Columbia was \$297,000,000 over the same period.
2. Canadian managerial efficiency lags behind that level required to compete successfully in international markets. It is fair to assume that the degree of managerial efficiency in Canadian industries varies inversely with the amount of tariff protection under which the firms operate. In this light, the burden of upgrading management in the event of a more liberal Canadian trade policy will rest on secondary manufacturing industries in the East. However, this factor may well contribute to a delay of such policy changes until such time as Eastern businessmen become more familiar with international marketing.
3. A major drawback to the international competitive position of Canadian industries is the tax system under which they operate. Unlike both the United States and Great Britain, the federal government in Canada

obtains the major portion of its revenue from indirect taxes -- various excise taxes, the 11% manufacturers' sales tax, and tariffs. Although the 11% tax is refunded on exported products, the indirect taxes along with the direct corporate income taxes at the provincial and federal levels are absorbed into the cost structure of Canadian business and thereby hinder competitive international pricing.

4. Total Costs in the pulp and paper industry, one of the more important British Columbia industries, are raised by almost 1% by the tariff on machinery and equipment. This addition to total costs is the highest of all Canadian industries and its cause may be traced to two factors;
 - (a) The high level of depreciation on machinery and equipment, and
 - (b) The unusually high tariff rates on machinery and equipment used in this particular industry.
5. The consumer price index in British Columbia is 8 - 10 percent higher than in Ontario. A major cause of this disparity is the costs involved in transporting secondaries across Canada. On the other hand, these very costs, coupled with low tariffs on primary imports, have largely been responsible for the exclusion of British Columbia exports from the Eastern market.
6. The most advantageous source of British Columbia secondary imports, without tariff protection, is the Western United States. This region

is much closer than Eastern Canada and would involve less transportation costs, faster delivery, less product spoilage, less administration costs, and other benefits to British Columbia consumers.

7. Tariffs have raised property values in Eastern Canada relative to those in British Columbia by encouraging secondary industry which, for geographical reasons, has flourished in the St. Lawrence Valley region. As a result, provincial and municipal taxing bodies have benefited through the enlargement of the tax base on property and business.
8. Export prices in British Columbia are not rising as rapidly as those in Eastern Canada primarily because of declines in the prices of wood products and paper.
9. Eastern Canada secondary prices resist world trends in recessions. Consequently, the Net Barter Terms of Trade of British Columbia suffer as the sensitive raw material prices fall. The real income position of British Columbia deteriorates correspondingly in these these times.
10. When the Canadian dollar appreciated in the 1950's, Eastern Canada benefited to a greater extent than British Columbia. Most imports of the former region were from foreign countries (in particular, the United States) and she benefited from the currency premium. British Columbia also benefited, but to a lesser extent than Eastern Canada. Secondary imports from the East remained at the same price levels and

of course, no exchange rate existed between the two regions.

11. The Net Barter Terms of Trade of Eastern Canada from 1948-1965 never fell below the British Columbia index. In fact, they were usually well above that of the latter region.
 12. By substituting American Secondaries for Canadian secondaries in the import price index of British Columbia from 1948-1965, the terms of trade improved considerably. Most noticeable was the decline in the price index when the Canadian dollar was unpegged in 1950. This, of course, was due to the stronger buying power of British Columbia dollars in foreign markets.
 13. As a measure of import capacity, the Income Terms of Trade suggested that British Columbia should have had a more rapidly increasing import quantity index than Eastern Canada. This, however, was not the case since Eastern Canadian dollars had greater importing potential when the currency appreciated.
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A P P E N D I C E S

APPENDIX A

CALCULATION OF THE NET BARTER TERMS
OF TRADE OF BRITISH COLUMBIA AND
EASTERN CANADA

In determining the export price index for British Columbia, the Canadian export price indexes for 8 commodity groups were weighted yearly by the proportion of these classes in the total trade of the region to obtain a yearly average export price index.¹ The commodity groups are;

- (1) Agricultural and Animal Products,
- (2) Fibres and Textiles,
- (3) Wood Products and Paper,
- (4) Iron and Steel and Products,
- (5) Non-Ferrous Metals and Products,
- (6) Non-Metallic Minerals and Products,
- (7) Chemicals and Fertilizer,
- (8) Miscellaneous Products.²

¹The weights used in the computation were based upon the yearly composition of British Columbia external trade reported in Industrial Development, Trade, and Commerce published by the Bureau of Economics and Statistics, Victoria, B.C.

²A complete breakdown of each commodity group may be found in Trade of Canada, Vol 1: Summary and Analytical Tables, published annually by the Dominion Bureau of Statistics, Ottawa, Canada.

British Columbia domestic exports are minimal relative to her foreign exports, and since statistics on interprovincial trade are unavailable, the weights reflected only foreign exports. It was felt that the final price indexes were not altered in any appreciable way by this omission.

TABLE VI

EXPORT PRICE INDEX OF BRITISH COLUMBIA,
1948-1965. (1948 = 100)

Year	P _e
1948	100
1949	102
1950	107
1951	123
1952	124
1953	120
1954	117
1955	121
1956	126
1957	125
1958	122
1959	124
1960	125
1961	123
1962	126
1963	130
1964	132
1965	134

However, the export price index for Eastern Canada was more difficult to estimate since, in her case, domestic exports are a substantial portion of total exports. Her foreign export sector was estimated in a manner similar to that of British Columbia. The Canadian commodity group price indexes were weighted by an estimate of the proportion of total Canadian exports attributable to Eastern Canada in each classification.

In calculating the appropriate weights, it was first necessary to estimate the proportions of Canadian industries located in Ontario and Quebec. These are displayed in Table VII for the top 20 industries ranked according to the selling value of factory shipments.

Subsequently, estimates of the proportions of each commodity group attributable to Eastern Canada were made from the information in Table VII. These are shown in Table VIII. The high percentage of miscellaneous exports attributable to Eastern Canada arises from the nature of these products, as they are mainly finished goods or articles with a high degree of manufactured content.

The percentages given in Table VIII were then applied to the declared values of Canadian foreign exports and, in this way, the value of Eastern Canadian foreign exports by commodity groups was estimated.³ Table IX gives this information.

³Canadian export values are given in Trade of Canada, Vol 1: Summary and Analytical Tables, Table 38. This is an annual publication by the Dominion Bureau of Statistics, Ottawa, Canada.

TABLE VII ⁴

PERCENTAGE OF CANADIAN INDUSTRY LOCATED
IN EASTERN CANADA, BY SELLING VALUES OF
FACTORY SHIPMENTS (1960)

Industry	Percentage
1 Pulp and Paper	67
2 Smelting and Refining	83
3 Petroleum and Refining	50
4 Slaughtering and Meat Packing	58
5 Motor Vehicles	100
6 Iron and Steel Mills	88
7 Sawmills	25
8 Chemicals	80
9 Pasteurizing Plants	65
10 Machinery (Misc.)	92
11 Foods (Misc.)	75
12 Bakeries	67
13 Printing and Publishing	73
14 Metal Stamp and Press	85
15 Fruit and Vegetable Preparations	81
16r Aircraft and Parts	88
17 Butter and Cheese	80
18 Motor Vehicle Parts	98
19 Feeds	80
20 Clothing	80

⁴Manufacturing Industries of Canada, 1960, Section G: Geographical Distribution. Dominion Bureau of Statistics, Ottawa, Canada.
D.B.S. #31-209, pp. 11-16.

TABLE VIII ⁵

PERCENTAGE OF CANADIAN EXPORTS ATTRIBUTABLE
TO EASTERN CANADA, BY COMMODITY GROUPS.

Commodity	Percentage
Agricultural and Animal Products	27
Fibres and Textiles	80
Wood Products and Paper	55
Iron and Steel and Products	84
Non-Ferrous Metals and Products ...	81
Non-Metallic Minerals and Products	67
Chemicals and Fertilizer	81
Miscellaneous Products	97

⁵Estimated from source cited in footnote 4, and Trade of Canada, 1958,
Vol 1: Summary and Analytical Tables. pp. 106-10.

TABLE IX ⁶

VALUE OF EASTERN CANADIAN FOREIGN EXPORTS,
1948-1965, BY COMMODITY GROUPS. (\$000,000)

Year	Agr	Text	Wood	Iron	Non-Ferr	Non-Met	Chem	Misc	Total
1948	282	36	524	305	320	64	65	94	1690
1949	293	20	481	281	345	50	58	99	1627
1950	268	24	612	229	370	70	82	49	1704
1951	328	30	769	294	461	88	107	80	2157
1952	379	22	752	350	573	96	101	108	2381
1953	362	19	712	317	552	98	112	111	2283
1954	287	16	758	259	574	97	82	93	2166
1955	272	18	836	338	686	141	148	61	2500
1956	331	18	833	391	771	200	148	94	2786
1957	304	22	801	461	795	239	158	94	2874
1958	344	16	778	378	829	168	160	155	2828
1959	328	20	834	482	903	197	163	80	3007
1960	308	33	876	509	983	228	193	81	3211
1961	387	35	901	507	992	289	202	187	3500
1962	383	38	944	629	1012	368	202	278	3854
1963									4166
1964									5016
1965									5336

⁶In 1963, Canada changed export classification and values for the above groupings were not available. However, the totals were estimated by determining the average percentage of Eastern Canadian exports in the total Canadian exports over the 1960-1962 period, then applying this percentage to the total Canadian exports from 1963-1965.

Through an identical procedure as that used for British Columbia, the foreign export price index of Eastern Canada was determined. This index is shown below.

TABLE X

FOREIGN EXPORT PRICE INDEX OF EASTERN
CANADA, 1948-1965. (1948 = 100)

Year	P _e
1948	100
1949	104
1950	109
1951	126
1952	127
1953	124
1954	122
1955	128
1956	135
1957	132
1958	135
1959	136
1960	136
1961	137
1962	143
1963	144
1964	145
1965	148

For the Eastern Canadian domestic price index of exports, the wholesale price index for Canadian secondary manufactures was used, since the greatest proportion of domestic exports are of this type.

TABLE XI ⁷

WHOLESALE PRICE INDEX OF FULLY AND CHIEFLY
MANUFACTURED GOODS, CANADA, 1948-1965.
(1948 = 100)

Year	Price Index
1948	100
1949	104
1950	110
1951	126
1952	120
1953	119
1954	117
1955	117
1956	121
1957	124
1958	124
1959	126
1960	126
1961	128
1962	130
1963	132
1964	133
1965	136

⁷ Canada Year Book, 1967. Table 2, p. 942.
Canada Year Book, 1957-1958. Table 1, p. 1075.
The quoted indexes are yearly averages.

In order to weight the two Eastern Canadian export price indexes, it was necessary to determine the proportion of total regional exports going to each sector. First, an estimate was made of the proportion of total Canadian production (less exports) in each commodity group that was consumed in Eastern Canada. Using the 1949 Interindustry Flow of Goods and Services published by the Dominion Bureau of Statistics, the regional population (63% of Canada), and the location of Canadian industries⁸ as guidelines, the percentage consumption of each commodity group in Eastern Canada was estimated.⁹

TABLE XII

PERCENTAGE OF EASTERN CANADIAN CONSUMPTION
OF TOTAL CANADIAN PRODUCTION LESS EXPORTS,
BY COMMODITY GROUPS.

Commodity	Percentage
Agricultural and Animal Products	75
Fibres and Textiles	70
Wood Products and Paper	82
Iron and Steel and Products	80
Non-Ferrous Metals and Products	80
Non-Metallic Minerals and Products	80
Chemicals and Fertilizer	75
Miscellaneous Products	63

⁸See footnote 4.

⁹Total Canadian production statistics found in Manufacturing Industries of Canada, 1960, Sections B, C, D, E, and F. Ottawa: Queen's Printer, 1960.

These percentages were then applied to total Canadian production in each commodity group to determine the regional consumption in absolute terms. Then the regional yearly totals were subtracted from the Eastern Canadian production (less exports, foreign), Table IX, to arrive at a yearly domestic export figure for Eastern Canada.

TABLE XIII

EASTERN CANADIAN DOMESTIC EXPORTS,
BY VALUE, 1948-1965. (\$000,000,000)

Year	Value
1948	.7
1949	.9
1950	.9
1951	1.0
1952	1.3
1953	1.3
1954	1.0
1955	1.1
1956	1.3
1957	1.3
1958	1.3
1959	1.5
1960	1.6
1961	1.5
1962	1.4
1963	2.0
1964	2.2
1965	2.3

From Table XIII and Table IX, the two price indexes for Eastern Canada were weighted and the resulting price index was taken as the total export price index. Table XIV displays this index.

TABLE XIV

EXPORT PRICE INDEX OF EASTERN CANADA,
1948-1965. (1948 = 100)

Year	P _e
1948	100
1949	104
1950	109
1951	126
1952	125
1953	122
1954	120
1955	125
1956	131
1957	132
1958	129
1959	132
1960	133
1961	134
1962	140
1963	140
1964	141
1965	144

It was then necessary to determine the import price indexes of both regions. In this case, then, it was British Columbia that had both a domestic and foreign price index, while Eastern Canada was subject to mainly the foreign index.

For British Columbia, the domestic import price index was taken to be the same as the Eastern Canadian domestic export index given in Table XI, and the foreign import price index was calculated in the same manner as the British Columbia export price index given in Table VI. The two indexes were then combined in the same way as the export price indexes of Eastern Canada. In this case, however, the value of British Columbia imports from Eastern Canada was taken as 28 percent of domestic exports from the latter region. The export distribution was by population in Canada, and did not take account of interindustry commodity flows. Table XV gives the British Columbia import price index.

Eastern Canada's import price index was estimated in a manner similar to the estimation of the foreign exports of that region. That is, the Canadian import price indexes were weighted by the estimated consumption of each commodity group in Eastern Canada.

Finally, the Net Barter Terms of Trade were found for each region by dividing the export price index by its corresponding import price index. Table XVII lists the above trade index for each region.

TABLE XV

IMPORT PRICE INDEX OF BRITISH
COLUMBIA, 1948-1965. (1948 = 100)

Year	P _i
1948	100
1949	103
1950	110
1951	126
1952	116
1953	115
1954	115
1955	116
1956	121
1957	124
1958	123
1959	124
1960	125
1961	126
1962	131
1963	138
1964	139
1965	139

TABLE XIV

IMPORT PRICE INDEX OF EASTERN
CANADA, 1948-1965. (1948 = 100)

Year	P_i
1948	100
1949	103
1950	111
1951	128
1952	113
1953	112
1954	111
1955	114
1956	119
1957	122
1958	122
1959	122
1960	124
1961	126
1962	133
1963	137
1964	140
1965	143

TABLE XVII

NET BARTER TERMS OF TRADE OF BRITISH
COLUMBIA AND EASTERN CANADA, 1948-1965.
(1948 = 100)

Year	B.C.	E.C.
1948	100	100
1949	99	101
1950	97	98
1951	98	98
1952	107	111
1953	104	109
1954	102	108
1955	104	110
1956	104	110
1957	101	108
1958	99	106
1959	100	108
1960	100	107
1961	98	106
1962	96	105
1963	94	102
1964	95	101
1965	96	101

APPENDIX B

CALCULATION OF THE NET BARTER TERMS OF
TRADE OF BRITISH COLUMBIA WITH SUBSTI-
TUTION OF SECONDARY MANUFACTURES FROM
THE UNITED STATES

The United States price index of finished goods is given in Table XVIII.¹ However, the index must be adjusted for the exchange rate in order for it to be used as a British Columbia import price index.² This adjustment is also given in Table XVIII.

The new British Columbia import price index was then estimated by combining the foreign (other than U.S.) import price index with the import index in Table XVIII in the same manner as in Appendix A.

Finally, this latter index was divided into the export price index to give the comparative Net Barter Terms of Trade of British Columbia shown in Table XX.

¹ See Chapter IV, footnote 9.

² See Chapter IV, footnote 7.

TABLE XVIII

UNITED STATES WHOLESALE PRICE INDEX OF FINISHED
 GOODS AND THE BRITISH COLUMBIA IMPORT PRICE INDEX OF
 AMERICAN MANUFACTURES, 1948-1965. (1948 = 100)

Year	U.S. Price Index	B.C. Import Price Index
1948	100	100
1949	97	103
1950	98	105
1951	108	114
1952	108	106
1953	106	104
1954	107	104
1955	107	105
1956	110	108
1957	113	108
1958	116	112
1959	116	111
1960	117	113
1961	117	119
1962	118	126
1963	117	126
1964	118	126
1965	121	130

TABLE XIX

IMPORT PRICE INDEX OF BRITISH COLUMBIA WITH
 AMERICAN MANUFACTURES SUBSTITUTING FOR EASTERN
 CANADIAN GOODS, 1948-1965. (1948 = 100)

Year	P _i
1948	100
1949	103
1950	108
1951	120
1952	109
1953	107
1954	108
1955	110
1956	114
1957	116
1958	117
1959	117
1960	118
1961	122
1962	129
1963	135
1964	136
1965	136

TABLE XX

NET BARTER TERMS OF TRADE OF BRITISH COLUMBIA WITH
AMERICAN MANUFACTURES SUBSTITUTING FOR EASTERN CAN-
ADIAN GOODS, 1948-1965. (1948 = 100)

Year	Net Barter
1948	100
1949	99
1950	99
1951	102
1952	114
1953	112
1954	108
1955	110
1956	111
1957	108
1958	104
1959	106
1960	106
1961	101
1962	98
1963	96
1964	97
1965	99

APPENDIX C

CALCULATION OF THE INCOME TERMS OF TRADE
OF BRITISH COLUMBIA AND EASTERN CANADA

For this trade indicator, the export quantity indexes are required for each region. These are not the same indexes as value indexes, but are derived from the latter through dividing by corresponding price indexes.

With the price indexes for both regions calculated already, it was only necessary to determine the corresponding value indexes. The British Columbia value index was obtained directly from the statistics used in estimating the export price index weights in Appendix A.¹ Table XXI lists both the export value index and the export quantity index of British Columbia.

The export value index for Eastern Canada, on the other hand, was found by first combining the domestic and foreign values given in Table IX and Table XIII, then converting the annual totals to base 1948.

The Income Terms of Trade for each region was then determined by multiplying the export-import price index ratio (Net Barter) by the corresponding export quantity index.

¹ See Appendix A, footnote 1.

TABLE XXI

EXPORT VALUE INDEX AND QUANTITY INDEX OF
BRITISH COLUMBIA, 1948-1965 (1948 = 100)

Year	V _e	Q _e
1948	100	100
1949	99	97
1950	127	119
1951	158	128
1952	150	121
1953	170	142
1954	187	160
1955	214	177
1956	212	169
1957	199	159
1958	201	165
1959	218	175
1960	247	197
1961	258	209
1962	286	227
1963	322	247
1964	344	262
1965	374	279

TABLE XXII

EXPORT VALUE INDEX AND QUANTITY INDEX OF
EASTERN CANADA, 1948-1965. (1948 = 100)

Year	V _e	Q _e
1948	100	100
1949	104	100
1950	108	99
1951	133	106
1952	154	123
1953	150	123
1954	133	111
1955	150	120
1956	171	131
1957	175	133
1958	171	133
1959	188	142
1960	200	150
1961	208	155
1962	221	158
1963	258	184
1964	300	213
1965	317	220

TABLE XXIII

INCOME TERMS OF TRADE OF BRITISH COLUMBIA
AND EASTERN CANADA, 1948-1965. (1948 = 100)

Year	British Columbia	Eastern Canada
1948	100	100
1949	96	101
1950	115	97
1951	125	104
1952	129	137
1953	148	134
1954	163	120
1955	184	132
1956	175	144
1957	161	144
1958	163	141
1959	175	153
1960	197	161
1961	205	164
1962	218	166
1963	232	188
1964	248	215
1965	268	222

APPENDIX D

CALCULATION OF IMPORT QUANTITY INDEXES
OF BRITISH COLUMBIA AND EASTERN CANADA

For British Columbia, the import quantity index was determined by the same method used in finding the export quantity index. That is, the import value index was first constructed, then divided by the appropriate price index. The values of foreign imports¹ were added to 28 percent of the annual domestic export values of Eastern Canada given in Table XIII. The 28 percent, as explained earlier, was British Columbia's estimated share of domestic imports from Eastern Canada. Imports from other Canadian regions were considered as insignificant in relation to Eastern Canadian imports. Subsequently, the yearly import totals were converted to base 1948 as shown in Table XXIV along with the import quantity index.

On the other hand, the import value index of Eastern Canada had to be estimated from Canadian import statistics in a similar fashion to the method used in finding the export quantity index of that region. By using the industry location statistics given in Table VII, the population

¹See Appendix A, footnote 5.

of Quebec and Ontario, and the Interindustry Flow of Goods and Services, 1949, as aides, an approximate figure was obtained for the fraction of Eastern Canadian consumption of total Canadian imports.

TABLE XXIV

IMPORT VALUE INDEX AND QUANTITY INDEX OF
BRITISH COLUMBIA, 1948-1965. (1948 = 100)

Year	V_i	Q_i
1948	100	100
1949	117	114
1950	126	115
1951	153	121
1952	176	152
1953	180	157
1954	154	134
1955	174	150
1956	222	183
1957	220	177
1958	194	158
1959	227	183
1960	227	182
1961	215	171
1962	221	169
1963	260	188
1964	302	217
1965	332	239

TABLE XXV

PERCENTAGE OF CANADIAN IMPORTS CONSUMED
IN EASTERN CANADA, BY COMMODITY GROUPS

Commodity	Percentage
Agricultural and Animal Products	63
Fibres and Textiles	70
Wood Products and Paper	74
Iron and Steel and Products	69
Non-Ferrous Metals and Products	71
Non-Metallic Minerals and Products	68
Chemicals and Fertilizer	65
Miscellaneous Products	63

The above proportions were then applied to the declared values of Canadian imports by commodity groups.²

² See Appendix A, footnote 5.

TABLE XXVI ²

VALUE OF EASTERN CANADIAN IMPORTS, 1948-1965,
BY COMMODITY GROUPS

Year	Agr	Tex	Wood	Iron	Non- Ferr	Non- Met	Chem	Misc	Total
1948	254	246	52	540	111	410	79	92	1784
1949	266	234	61	613	126	361	88	118	1867
1950	329	256	71	674	156	414	105	140	2145
1951	368	339	98	915	211	463	127	237	2758
1952	329	252	95	967	216	434	124	292	2709
1953	331	272	114	1049	267	445	147	320	2945
1954	366	234	117	905	262	404	147	312	2747
1955	378	268	139	1101	292	448	173	329	3128
1956	425	292	162	1531	357	517	191	324	3799
1957	445	287	160	1463	352	524	195	320	3746
1958	451	272	167	1271	314	460	194	326	3455
1959	465	295	194	1438	340	474	218	347	3771
1960	466	302	189	1410	339	449	226	373	3754
1961	496	321	204	1392	373	456	248	462	3951
1962	524	337	209	1509	434	476	264	538	4291
1963	600	340	210	1639	438	505	275	482	4489
1964	640	391	238	2006	468	527	304	560	5134
1965									5922

²In 1965, Canada changed classification of imports and values for the commodity groups were unavailable. However, the totals for that year was estimated by using the average percentage of Eastern Canadian imports in total Canadian imports over the 1962-1964 period.

Eastern Canadian imports from other provinces were minimal in relation to foreign imports and therefore were not considered in computing the import value index of that region. By converting the above annual totals to base 1948, the value index was found, and from it, the corresponding yearly import quantity index.

TABLE XXVII

IMPORT VALUE INDEX AND QUANTITY INDEX OF
EASTERN CANADA, 1948-1965. (1948 = 100)

Year	V_i	Q_i
1948	100	100
1949	105	102
1950	120	109
1951	155	121
1952	152	135
1953	165	148
1954	154	138
1955	175	153
1956	213	179
1957	210	173
1958	194	159
1959	211	173
1960	210	170
1961	222	175
1962	241	181
1963	252	184
1964	288	205
1965	322	233

APPENDIX E

CALCULATION OF EASTERN CANADIAN FOREIGN TRADE
DEFICIT AND BRITISH COLUMBIA FOREIGN TRADE
SURPLUS

The Eastern Canadian foreign trade deficit followed directly from the trade totals in Table IX and Table XXVII, while the British Columbia surplus was determined from provincial statistics. These figures for the merchandise trade balances of the two regions are given on the following two pages. It should be noted that Eastern Canada experienced a foreign trade deficit every year from 1948-1965. In contrast, British Columbia shows a foreign trade surplus yearly.

TABLE XXVIII

FOREIGN TRADE DEFICIT OF EASTERN CANADA,
1948-1965. (\$000,000)

Year	Imports	Exports	Deficit
1948	1784	1690	94
1949	1867	1627	340
1950	2145	1704	441
1951	2758	2157	601
1952	2709	2381	328
1953	2945	2283	662
1954	2747	2166	581
1955	3128	2500	628
1956	3799	2786	1013
1957	3746	2874	872
1958	3455	2828	627
1959	3771	3007	764
1960	3754	3211	543
1961	3951	3500	451
1962	4291	3854	437
1963	4489	4166	323
1964	5134	5016	118
1965	5922	5336	586

TABLE XXIX¹

FOREIGN TRADE SURPLUS OF BRITISH
COLUMBIA, 1948-1965. (\$000,000)

Year	Exports	Imports	Surplus
1948	326	192	134
1949	322	209	113
1950	412	246	166
1951	515	319	196
1952	489	329	160
1953	555	346	209
1954	609	324	285
1955	699	373	326
1956	692	511	181
1957	648	504	142
1958	654	402	252
1959	710	470	240
1960	805	440	365
1961	841	422	419
1962	932	477	455
1963	1048	458	590
1964	1122	563	559
1965	1219	662	557

¹Source: Bureau of Economics and Statistics. Industrial Development, Trade, and Commerce. Victoria, B.C.: Published Annually.