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LOGS OF FIR, SPRUCE, CEDAR
OR WESTERN HEMLOCK

REPORT

OF
THE UNITED STATES TARIFF COMMISSION

TO

THE PRESIDENT OF THE UNITED STATES

DIFFERENCES IN COSTS OF PRODUCTION OF LOGS OF FIR
SPRUCE, CEDAR, OR WESTERN HEMLOCK IN THE UNITED
STATES AND IN THE PRINCIPAL COMPETING COUNTRY
AS ASCERTAINED PURSUANT TO THE PROVISIONS
OF SECTION 315 OF TITLE III OF THE
TARIFF ACT OF 1922



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II

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CONTENTS

PART I

	Page
Letter of transmittal.....	v
TEXT	
Introduction:.....	1
Reference to files.....	1
Rates of duty.....	2
History of the investigation.....	2
Definition of logs and the unit of measurement employed—	3
Definition.....	3
Unit of measure.....	3
Information obtained in the commission's investigation:.....	3
Species included and areas covered.....	3
The logging industry of the Pacific Northwest.....	3
Production of logs and the trade in logs between United States and Canada—	4
Domestic production in the Puget Sound region.....	4
Production and exportable surplus of the Vancouver forest district, British Columbia.....	4
British Columbia exports and Puget Sound imports.....	4
Principal competing country.....	5
Methods of acquiring timber in Washington and British Columbia.....	5
The land tenure system in British Columbia—	5
(a) Crown-granted lands acquired prior to April 7, 1887.....	6
(b) Crown-granted lands acquired after April 7, 1887, and crown-granted lands between that date and March 12, 1906.....	6
(c) Crown-granted lands acquired after April 7, 1887, and crown-granted lands between March 12, 1906 and March 1, 1914.....	6
(d) Crown-granted lands acquired after April 7, 1887, and crown-granted subsequent to March 1, 1914.....	6
(e) Timber leases, the original period of which has not expired.....	6
(f) Timber licenses, timber leases (other than above), timber sales, handlogger licenses, and preemptions.....	6
(g) Dominion lands.....	7
Prices.....	7
Cost of production:.....	8
Scope of the investigation.....	8
Period for which costs were obtained.....	10
Methods used in obtaining costs.....	10
Methods of logging.....	10
Domestic and foreign unit costs, by departments, 1923—	11
Discussion and analysis of cost items included in Table 5—	11
Felling and bucking.....	11
Yarding and loading.....	11
Railroad haul to hide-water.....	11
Booming and rafting.....	11
General and administrative.....	11
Stumpage charges.....	11
Interest.....	14
Unit costs, by departments, for domestic and foreign companies.....	15
Cumulative curves of domestic and foreign costs.....	16

Cost of production—Continued.	
Domestic and foreign costs itemized according to the character of the expenditure	16
Explanation of certain of the operating and administrative expenses appearing in Table II—	
Operating expenses—	
Labor	18
Spur track and freight paid common carrier	19
Depreciation	19
Administrative expenses—	
Salaries	19
Costs of logs in boom at tidewater—	20
Railroad costs	20
Summary of costs in boom at tidewater	20

TABLES

1. Logs: Quantity and percentage of various species comprising the production of the Vancouver forest district of British Columbia, and exports from the Province, 1923	4
2. Logs: British Columbia exports and Puget Sound imports 1914-1926	5
3. Logs: Sales realization for 23 domestic and 15 foreign logging companies, 1923	7
4. Logs: Sample average of monthly prices on specified grades and species, by years, 1921-1927	8
5. Logs: Domestic and foreign unit costs by departments, 1923	11
6. Logs: An analysis of the cost of the stumpage cut in 1923 included in the commission's investigation	12
7. Logs: Weighted average prices paid for stumpage in counties of Galium, Grays Harbor, King, Kitsap, Lewis, Mason, Pierce, Skagit, Snohomish, Thurston, and Whatcom, Washington, 1916-1926 (private stumpage only)	13
8. Logs: Interest, 1923, unit total interest charge, unit interest charge on timber holdings, and approximate life of timber holdings, United States and Canada	14
9. Logs: Domestic logging costs showing departmental costs and total unit costs in boom for calendar year, 1923	15
10. Logs: Foreign logging costs showing departmental costs and total unit costs in boom for calendar year, 1923	16
11. Logs: Domestic and foreign weighted average operating and administrative costs by items, 1923	18
12. Logs: Comparison of average daily wages in logging operations in Washington and British Columbia in 1923 and 1926	19
13. Logs: Summary comparison of foreign and domestic costs of logs in boom at tidewater 1923	21

CHARTS

I. Cumulative cost curve of domestic log production covered by this investigation, 1923 (interest included)	17
II. Cumulative cost curve of Canadian log production covered by this investigation, 1923 (interest included)	17
III. Location of logging operations covered in commission's investigation; towing distance to Beltingham of logs boomed at tidewater, and location of tidewater mills	22
IV. Location of booms of domestic and foreign logging operations covered by commission's investigation; towing distance to Beltingham, and location of mills on Puget Sound and Strait of Georgia	42

PART II

Statement of views of Commissioners Marvin, Brosard, and Lowell with respect to transportation and the Canadian timber tax

PART III

Conclusions of Commissioner Dennis concurred in by Commissioners Costigan and Dixon

LETTER OF TRANSMITTAL

MARCH 14, 1928.

The PRESIDENT,
The White House.

MY DEAR MR. PRESIDENT: Herewith I have the honor to transmit the report of the Tariff Commission in the investigation, for the purposes of section 315 of the tariff act of 1922, of the costs of production in the United States and in the principal competing foreign country of logs of fir, spruce, cedar, or Western hemlock.

The report consists of three parts: Part I, signed by all the members of the commission, shows the costs of logs in boom at tidewater in the United States and in the principal competing country. Parts II and III contain the views of the respective commissioners concerning other advantages or disadvantages in competition, with special reference to towing or transportation costs, and the Canadian timber tax.

Respectfully,

THOMAS O. MARVIN, *Chairman*.

LOGS OF FIR, SPRUCE, CEDAR, OR WESTERN HEMLOCK

UNITED STATES TARIFF COMMISSION,
WASHINGTON, March 19, 1928.

To the PRESIDENT:

The United States Tariff Commission respectfully submits the following report upon an investigation of the differences in costs of production of logs of fir, spruce, cedar, or Western hemlock in the United States and in the principal competing foreign country for the purposes of section 315 of Title III of the tariff act of 1922.

INTRODUCTION

Reference to files.—The documentary and statistical material upon which this report is based is in the files of the commission and available to the President. It comprises the original cost schedules and other basic data, the papers and reports on different stages of the investigation, and a transcript of the public hearing. Included in the basic material are matters of a confidential nature, the disclosure of which is forbidden by section 708 of the revenue act of 1916, the pertinent provisions of which are as follows:

Sec. 708. It shall be unlawful for any member of the United States Tariff Commission, or for any employee, agent, or clerk of said commission, or any other officer or employee of the United States, to divulge, or to make known in any manner whatever not provided for by law, to any person, the trade secrets or processes of any person, firm, copartnership, corporation, or association embraced in any examination or investigation conducted by said commission, or by order of said commission, or by order of any member thereof.

Rates of duty.—The last three tariff acts have made the following provisions for logs:

Act of 1922, paragraph 401:

Logs of fir, spruce, cedar, or Western hemlock, \$1 per thousand feet board measure: *Provided*, That any such class of logs cut from any particular class of lands shall be exempt from such duty if imported from any country, dependency, Province, or other subdivision of government which has, at no time during the 12 months immediately preceding their importation into the United States, maintained any embargo, prohibition, or other restriction (whether by law, order, regulation, contractual relation, or otherwise, directly or indirectly) upon the exportation of such class of logs from such country, dependency, Province, or other subdivision of government, if cut from such class of lands.

Act of 1913, paragraph 647:

Wood: Logs, timber, round, unmanufactured, * * * pulp woods, * * * not specially provided for in this section [free].

Act of 1909, paragraph 712:

Wood: Logs and round unmanufactured timber, including pulp woods, * * * not specially provided for in this section [free].

HISTORY OF THE INVESTIGATION

Application for an investigation with a view to a decrease in the rate of duty on logs of fir, spruce, cedar, or Western hemlock was made to the Tariff Commission by J. H. Bloedel, of the Bloedel Donovan Lumber Mills, Seattle, Wash., under date of November 27, 1922.

On July 2, 1923, the commission ordered an investigation (No. 27) of logs of fir, spruce, cedar, or Western hemlock for the purposes of section 315 of Title III of the tariff act of 1922. At the same time a preliminary hearing was announced for the purpose, among other things, of hearing arguments upon the question whether the rate of duty imposed by paragraph 401 is subject to increase or decrease by proclamation of the President under section 315, in view of the exemption of such logs from duty if imported from any country or subdivision of government which during a period of 12 months immediately preceding importation imposed no restriction upon the exportation of such class of logs from such country or subdivision of government.

At a hearing on August 6, 1923, the matter was argued by counsel representing, respectively, the applicants and the protestants. On October 12, 1923, the commission, Commissioners Culbertson and Cosigan dissenting, reported to the President that it was of the opinion that the duty under paragraph 401 was not subject to the provisions of section 315 and therefore proposed to discontinue the investigation. Advised by the Attorney General that section 315 appeared applicable in the case, the President on January 16, 1924, suggested that the commission proceed in accordance with the opinion of the Attorney General.

Public notice of the institution of the investigation was given in the usual form by posting in the Washington and New York offices of the commission and by publication in Treasury Decisions and Commerce Reports. Domestic field work, begun in June, 1924, and foreign field work begun in August, 1924, were completed in September of the same year. On July 1, 1925, a preliminary statement of the cost and other data obtained in the investigation was submitted to interested parties. After due public notice, as prescribed by law, a public hearing was held in Seattle, Wash., August 4, 5, 6, and 7, 1925, when all parties interested were given reasonable opportunity to be present, to produce evidence, and to be heard with regard to the differences in costs of production and all other data and conditions, set forth in section 315 of the tariff act of 1922, with respect to logs. The date for filing briefs was set for September 21, later extended to October 6, and, upon request of counsel for the interested parties, was further extended to November 12, 1925.

Under date of July 3, 1925, a questionnaire was sent to approximately 75 operators of sawmills situated on tidewater Puget Sound to obtain additional information with respect to quantity, distance towed, and amounts paid for towing domestic logs during 1923. After the public hearing at Seattle, the commission's agents obtained data from some of the companies that had not replied to the questionnaire and did some further field work in Canada with respect to questions raised in the public hearing. Additional data on shipment values were also obtained from government sources, and a study was made of

published transportation rates and of towage rates. Further detailed analyses were made of the data obtained during the commission's investigation.

DEFINITION OF LOGS AND THE UNIT OF MEASUREMENT EMPLOYED

Definition.—A log is a part of the trunk of a felled tree from which the limbs have been lopped. Logs range from 12 to 42 feet and more in length, and from 12 to 120 inches or more in diameter.

Unit of measure.—The unit of measure is 1,000 feet log scale, usually written as M feet. Log scale is the estimated quantity of lumber which can be sawed from a log or logs of given length and diameter.

INFORMATION OBTAINED IN THE COMMISSION'S INVESTIGATION

SPECIES INCLUDED AND AREAS COVERED

Imported logs of the species specified in paragraph 401 of the tariff act of 1922 come almost exclusively from British Columbia. The same species constitute the bulk of the timber of Washington. The several species have preferred uses as lumber because of some desirable property such as strength, softness, hardness, durability, light weight, elasticity, etc.

The area covered by the investigation is that tributary to Puget Sound, in Washington, and to the Strait of Georgia, in British Columbia. On either side of the international boundary the topography of the land, species of timber, and volume of stand are, in general, similar and the logging methods employed in the two countries are the same. Mild winters are characteristic, and logging is carried on during practically the whole year.

THE LOGGING INDUSTRY OF THE PACIFIC NORTHWEST

The production of logs and their manufacture into lumber is the dominant industry of the Puget Sound region of Washington and of British Columbia. The industry is constituted differently from that in other lumber-producing regions in that logging operations are in large part not combined with the business of sawmilling. The logs so produced are sold to any mill desiring to purchase them.

Because of the immense bulk of the timber and the rough topography of the forest region of the Pacific Northwest, a heavy investment is required for logging and transportation equipment. The trees are felled by sawing, cut into lengths ranging from 12 to 42 feet, drawn over a distance of 500 to 1,500 feet to an assembling point by being pulled over the rough ground or partly suspended on steel cables with power supplied by large stationary engines, loaded on flat cars or bunk cars, and hauled to tidewater over logging railroads or the rails of common carriers. For the most part the logging operations of to-day are a considerable distance from tidewater, and the transportation of the logs for relatively long distances entails the construction of costly railroads with numerous spurs, rock cuts, bridges, trestles, switchbacks, and inclines.

More or less elaborate camps are constructed for the housing of employees, with steam-heated, electric-lighted bunkhouses or cars, mess and cook houses, or cars.

PRODUCTION OF LOGS AND THE TRADE IN LOGS BETWEEN UNITED STATES AND CANADA

Domestic production in the Puget Sound region.—No records of Puget Sound log production are available. From such figures of lumber production as are available it is estimated that log production in this region in 1923 was roughly about 3,000,000,000 feet.

Production and exportable surplus of the Vancouver forest district, British Columbia.—All logs cut in British Columbia must be scaled (measured) by employees of the forest branch of the Department of Lands (Provincial Government). Statistics of log production and exports are readily obtainable for British Columbia. In the United States the Federal Government compiles statistics on lumber, rather than log, production. Statistics of total domestic log production are not available. The total log production for the Vancouver forest district—the district from which exports to Puget Sound are made—was 1,767,069,000 feet in 1923. The proportion of the various species making up the production and the species making up the quantity exported from the Province in 1923 were as follows:

TABLE 1.—Logs: Quantity and percentage of various species comprising the production of the Vancouver forest district of British Columbia, and exports from the Province, 1923

Species	Production		Exports	
	Quantity	Per cent	Quantity	Per cent
Douglas fir.....	836,746,870	53	72,857,899	31
Red cedar.....	406,457,940	26	93,823,142	48
Spruce.....	36,841,880	2	11,555,986	5
Hemlock.....	285,060,320	15	40,777,272	17
All other.....	70,882,760	4	14,913,822	7
Total.....	1,767,069,000	100	233,659,041	100

The proportions of the species cut differ materially from the proportions of the respective species entering into the export trade. Cedar, one of the more valuable species, represented 26 per cent of the quantity of logs produced in the Vancouver forest district of British Columbia in 1923, whereas it made up 40 per cent of the exports of logs from the Province during the same year. Two-thirds of the cedar shown as exported from British Columbia was exported to the United States.

British Columbia exports and Puget Sound imports.—Official statistics on exports of logs from British Columbia are not compiled so as to show separately the quantity exported to each country. It is known, however, that the bulk of the exports go to the United States. Table 2 shows the total exports of logs from British Columbia and the imports of logs and round timber at the customs district of Washington from 1914 to 1926.

TABLE 2.—Logs: British Columbia exports and Puget Sound imports, 1914-1926

Year	Total logs exported from British Columbia to all countries	Imports of logs and round timber at the customs district of Washington ¹		
		Total	Tree	Dutchable
1914	65,673,000	60,230,000	56,220,000	
1915	106,875,000	86,241,000	86,241,000	
1916	52,184,000	97,171,000	97,171,000	
1917	51,176,000	50,312,000	50,312,000	
1918	11,608,000	44,814,000	44,814,000	
CANADA				
1918	44,271,000	15,644,000	15,644,000	
1919	46,103,000	46,103,000	46,103,000	
1920	28,674,000	67,091,000	67,091,000	
1921	90,217,000	86,970,000	86,970,000	
Average 1914-1921.....				
		63,805,000	63,805,000	
1922	161,810,000	142,810,000	119,414,000	23,406,000
1923	235,688,000	174,226,000	28,087,000	146,139,000
1924	240,631,000	217,811,000	69,583,000	148,228,000
1925	210,418,000	188,786,000	68,941,000	119,845,000
1926	160,823,000	160,823,000	83,841,000	76,982,000
Average 1922-1926.....				
		173,494,000	79,562,000	93,932,000

¹ British Columbia Forest Branch statistics.

² United States customs figures.

The differences between the Canadian exports and the United States imports shown in Table 2 arise from the dissimilar periods covered by the statistics, the inclusion of round timber in the import statistics of the United States alone and the exportation of British Columbia logs to other countries, principally Japan.

PRINCIPAL COMPETING COUNTRY

Canada is the only country, except the United States, producing Douglas fir and Western hemlock in commercial quantities and is probably the largest producer of cedar and spruce. All imports of these species come from Canada. For the purposes of this investigation, Canada is, therefore, the principal competing country.

METHODS OF ACQUIRING TIMBER IN WASHINGTON AND BRITISH COLUMBIA

The ownership of timber in Washington is generally acquired either by a fee-simple title to the land on which it stands or by contract for the timber to be paid for when cut and removed. Logging in the Pacific Northwest, because of the size of the timber and the rough topography of the country, requires a heavy capital investment in equipment and railroads.

All timber in British Columbia was originally held by the Government and has been alienated in part under one of the several forms of the land tenure system of the Province. Of the forest resources of the coastal belt of the Province which have been alienated, 59 per cent is in provincial timber licenses, 11 per cent in provincial timber leases, 21 per cent in crown grants, 5 per cent in provincial pulp leases, 4 per cent in dominion timber licenses, and less than 1 per cent in provincial timber sales. Successive transfers by the holders under one of these several forms have been made at prevailing prices for similar timber.

Frequently the transfer prices paid for such timber represent many times the abatement price paid the Government, so that the amount invested generally approximates the value of timber on similar lands acquired in the same manner.

Citizens of the United States have large financial interests in British Columbia logging and lumber operations, and some of them actively direct the business.

The land tenure system in British Columbia.

(a) *Crown-granted lands acquired prior to April 7, 1887.*—No royalty referred to in this report as the severance tax¹ is paid on logs cut from such lands. The logs carry a statutory right to be exported, but when exported must pay a timber tax.² When imported into the United States such logs are subject to an import duty. The commission's investigation covered approximately 320,000,000 feet cut from this class of timber.

(b) *Crown-granted lands acquired after April 7, 1887, and crown-granted lands between that date and March 12, 1906.*—A royalty (severance tax) of 50 cents per thousand feet must be paid on logs cut from such lands. The logs carry statutory right to be exported, and when exported are not subject to a timber tax. When imported into the United States such logs enter free of duty. The commission's investigation covered approximately 28,000,000 feet cut from this class of timber.

(c) *Crown-granted lands acquired after April 7, 1887, and crown-granted lands between March 12, 1906 and March 1, 1914.*—A royalty (severance tax) of 50 cents per thousand feet must be paid on logs cut from such lands. The logs carry no statutory right to be exported but may be exported under permit. If exported, a timber tax² must be paid on the logs. When imported into the United States such logs are not subject to an import duty.

(d) *Crown-granted lands acquired after April 7, 1887, and crown-granted lands between March 1, 1914 and March 1, 1914.*—A royalty (severance tax)¹ The logs carry no statutory right to be exported but may be exported under permit. If exported, a timber tax² must be paid on the logs. When imported into the United States such logs are not subject to an import duty.

(e) *Crown-granted lands acquired after April 7, 1887, and crown-granted lands between March 1, 1914 and March 1, 1914.*—A royalty (severance tax)¹ must be paid. The logs carry no statutory right to be exported but may be exported under permit. If exported, a timber tax² must be paid on the logs. When imported into the United States such logs are not subject to an import duty.

(f) *Crown-granted lands acquired after April 7, 1887, and crown-granted lands between March 1, 1914 and March 1, 1914.*—A royalty (severance tax)¹ must be paid. The logs carry no statutory right to be exported but may be exported under permit. If exported, a timber tax² must be paid on the logs. When imported into the United States such logs are not subject to an import duty.

(g) *Crown-granted lands acquired after April 7, 1887, and crown-granted lands between March 1, 1914 and March 1, 1914.*—A royalty (severance tax)¹ must be paid. The logs carry no statutory right to be exported but may be exported under permit. If exported, a timber tax² must be paid on the logs. When imported into the United States such logs are not subject to an import duty.

The commission's investigation covered approximately 250,000,000 feet cut from lands under (c), (d), (e), and (f).

(g) *Dominion lands.*—A royalty (severance tax) of \$1 per thousand feet must be paid to the Dominion Government on logs cut from such lands. The logs carry no right to be exported but have been exported under special permit of the Dominion Government. When exported a tax² was paid to the Dominion Government. When imported into the United States such logs are subject to an import duty. The commission's investigation covered approximately 82,000,000 feet cut from this class of timber.

The several classes of land tenure described in paragraphs (a) to (f), inclusive, represent the forms of abatement of timber by the provincial government of British Columbia. Logs which have been referred to as "carrying no statutory right to be exported" may be exported under permit issued by the lieutenant governor in council, who is empowered by law to allow export on such terms and conditions as he may see fit. The amount of the royalty (severance tax) paid the provincial government on logs upon which a timber tax is paid is applied as a credit to the latter tax.

Logs cut from Dominion lands while "carrying no right to be exported" may be exported by special permit of the Dominion Government. Such logs when exported carry the full export tax payable to the Dominion Government with no allowance for the royalty (severance tax) paid.

Logs of fir, spruce, cedar, and Western hemlock, on which a timber tax has been collected in British Columbia, pay a duty of \$1 per thousand feet when imported into the United States. Logs upon which no such timber tax has been paid enter free of duty. The total quantity of dutiable logs imported from British Columbia for the six years 1922-1927 was 594,332,000 feet, with an average invoice value of \$16.47 per thousand feet. The total quantity of logs entered free of duty for the same period was 319,129,000 feet, with an average invoice value of \$17.10 per thousand feet.

PRICES

Average log prices realized by 23 domestic and 15 foreign companies are shown in Table 3. The prices for all species and grades are combined, since the loggers generally keep no analyses of sales. These 38 companies made no transfer of their logs to subsidiary or parent sawmill companies. There were in addition 15 domestic and 3 foreign companies covered by the investigation, but these 18 companies did not sell their logs on the open market.

TABLE 3.—Logs: Sales realization for 23 domestic and 15 foreign logging companies, 1928

[Prices for logs in boom at tidewater]

	In	
	United States	In Canada
Net sales realization at boom	\$19,998,465	\$8,876,792
Total sales (feet)	1,047,203,421	\$22,985,785
Average selling price per thousand feet	\$19.10	\$16.87

¹The Dominion tax imposed is \$1.50 per thousand feet on No. 1 grade logs, \$1 per thousand feet on No. 2 grade logs, and 50 cents per thousand feet on No. 3 grade logs.

The difference in average prices shown in Table 3 may be explained in part at least by the following factors:

(1) The costs of production of Canadian logs in boom on Georgia Strait are lower than the costs of production of domestic logs in boom at tidewater on Puget Sound.

(2) On the average, Canadian logs in boom at tidewater are farther from their ultimate market than are domestic logs in boom at tidewater.

(3) The timber tax collected on such logs as are exported from British Columbia to the United States, and the import duties paid on 83 per cent in 1923 of the Canadian logs imported into the Puget Sound region may also increase the spread between domestic and Canadian log prices.

The spread in tidewater prices would undoubtedly be greater were it not for the fact that the Canadians produce a larger percentage of the more valuable species than the Puget Sound operators.

Table 4 shows the simple average of monthly prices on one grade each of fir and cedar and on ungraded hemlock for the years 1921-1927. The prices by months on the same grades for the corresponding period are given in the appendix.

TABLE 4.—Logs: Simple average of monthly prices on specified grades and species, by years, 1921-1927¹

Year	No. 2 fir		No. 2 cedar		Ungraded hemlock	
	Puget Sound	British Columbia	Puget Sound	British Columbia	Puget Sound	British Columbia
1921	\$16.60	\$14.25	\$17.25	\$18.55	\$9.95	\$11.90
1922	17.10	16.65	21.30	20.00	11.00	11.05
1923	20.65	19.60	19.35	18.95	14.90	14.40
1924	18.35	17.90	17.60	17.60	12.70	12.40
1925	18.00	16.65	17.00	17.60	11.80	11.80
1926	18.35	15.40	16.30	15.15	12.05	11.90
1927	18.10	15.00	14.80	14.85	11.55	10.95

¹ From the Timberman.

COST OF PRODUCTION

SCOPE OF THE INVESTIGATION

The cost study was limited to logs of fir, spruce, cedar, and Western hemlock produced in the Puget Sound region of Washington and the Vancouver forest district of British Columbia.

The selection of domestic companies for the purpose of obtaining cost data was made from lists of concerns secured from officials of the Loggers Information Association and West Coast Lumbermen's Association, supplemented by suggestions from loggers and lumbermen. The list included straight logging operations and combination logging and sawmill operations. Some companies were affiliated and others nonaffiliated with the major trade associations. It was assumed that the companies selected would represent the entire Puget Sound region and include low, medium, and high-cost operations.

Similar consideration was given to the selection of British Columbia operators. There were included some companies whose logs were exported. Information and suggestions concerning the foreign

companies were obtained from the American consul, loggers and lumbermen, officials of the British Columbia Loggers' Association, and officials of the provincial forest service. Nine of the British Columbia companies covered by the cost investigation appeared on a list of 16 concerns compiled by the American consul at Vancouver as exporters of logs to the United States through that consulate.

The 43 domestic logging operations (38 companies), for which the commission's accountants obtained cost data, produced 1,791,000,000 feet of logs in 1923, or 60 per cent of the estimated total production of 3,000,000,000 feet of logs produced in that year on Puget Sound.

Costs were obtained in Canada for 20 operations (18 companies), which in 1923 produced 685,000,000 feet, or 39 per cent of the total quantity of logs sealed in the Vancouver forest district of British Columbia in that year. The total production of 2 of the 20 operations was cut from Dominion lands and carried no "right to export." Companies operating on such lands have reported that when such logs are exported to the United States they pay a tax to the Canadian Government and the import duty imposed by the United States. The total production of a third company and a part of the production of a fourth company were cut from lands crown-granted between April 7, 1887, and March 12, 1906. Logs cut from such lands can be exported without the payment of a timber tax and enter the United States free of duty.

Practically all loggers whose product enters into the export trade are members of the British Columbia Loggers' Association. The companies covered produced approximately the same proportions of the different species as the whole industry produced. The Canadian operations were well distributed over the timber region of British Columbia bordering on the Strait of Georgia.

The commission did not include costs for any of the so-called truck loggers. Truck logging developed in Washington as a result of the high price of logs in 1917 and in the few years immediately following. The truck loggers, with a relatively small investment, logged tracts of timber not directly tributary to the larger operations and hauled the logs by truck to some near-by mill or to a booming point on tidewater. It is estimated that 150 truck loggers operated in Washington in 1923. When prices of logs dropped it was impossible for these truck loggers to compete with the larger loggers. At the commission hearing in Seattle (1925) a representative of the industry testified that but two or three were then carrying on operations. As truck loggers keep no adequate cost records and as their logs do not as a rule "grade up" with those produced by the established companies the commission made no attempt to obtain cost data from them.

In British Columbia what is known as hand logging is carried on in limited parcels of timber by individuals or by groups of men without any investment in timber and with the minimum of logging equipment. Hand loggers produce logs that are practically never exported, because of their rough character and short lengths. In 1923 the hand-logging operations were carried on in the Vancouver forest district of British Columbia, the area covered by the commission's investigation numbered 41. A record of the quantity of logs produced by these 41 operations is not available. In 1925, 12 hand-logging operations were carried on in the same district and produced a total of

1,564,710 feet, or an average of 130,392 feet each. If each of the 41 hand-logging operations produced the same average quantity of logs in 1923 as in 1922, the total quantity of hand loggers' logs cut in 1923 would have been 5,346,072 feet, or three-tenths of 1 per cent of the total production of 1,730,000,000 feet of logs cut from provincial lands in the Vancouver forest district of British Columbia in that year. No cost data were obtained by the accountants from hand loggers' books of record during the field work in 1924. Subsequent to the public hearing certain evidences of costs for such operations were obtained, such as estimates of cost employed by the forester in British Columbia in establishing an upset price to be recommended for stumpage value for hand-loggers' operations.

PERIOD FOR WHICH COSTS WERE OBTAINED

Costs were obtained both in the United States and in British Columbia for part of 1922, for the whole of 1923, and for part of 1924. The data for 1923—the one full calendar year—have been used in the compilations.

METHODS USED IN OBTAINING COSTS

Cost data were obtained from the books of the companies by the commission's agents. The same schedules were used for the United States and Canada. Allocations of general expense were necessary for the companies operating both logging camps and sawmills.

METHODS OF LOGGING

Logging methods in the Puget Sound region of Washington and in the Vancouver forest district of British Columbia are much alike. The operations in their natural sequence are falling and bucking, yarding and loading, transportation to boom at tidewater or to sawmill, and booming and rafting.

"Falling" and "bucking" is the cutting down of a tree and sawing it into log lengths. "Yarding" is the operation of assembling the logs at a common point for loading on cars. Differences in the topography of the country, the quantity of timber available, the size of logs, and the distance logs must be moved determine the particular system of yarding or skidding to be used. In general, similar methods are employed throughout the Pacific Northwest. "Loading" is placing the logs on the car. "Transportation to boom at tidewater or to sawmill" is the movement of the logs from the woods to the boom at tidewater or the sawmill log ponds. Sometimes the boom or pond is near the operation; sometimes a long haul is necessary over the logging railroad or by a common carrier; or both means of transportation are employed. "Booming and rafting" is the operation, after the logs are dumped into the water, of sorting by species and grades and forming into flat rafts.

DOMESTIC AND FOREIGN UNIT COSTS, BY DEPARTMENTS, 1923

Table 5 shows unit costs in the domestic and foreign logging industry, by departments.

TABLE 5.—Logs: Domestic and foreign unit costs, by departments, 1923

[Per thousand feet]

	Domestic	Foreign ¹
Falling and bucking.....	\$1.55	\$1.39
Yarding and loading.....	2.05	3.40
Railroad haul to tidewater.....	4.05	3.94
Booming and rafting.....	1.45	1.57
General and administrative.....	1.05	2.49
Stumpage.....	3.10	2.44
Royalty (severance tax).....	1.75	1.02
Interest.....		
Total cost in boom at tidewater.....	16.08	14.97

¹ All cost items except those for stumpage converted into United States dollars at the rate of 50.85355 per Canadian dollar.

DISCUSSION AND ANALYSIS OF COST ITEMS INCLUDED IN TABLE 5

Falling and bucking.—The cost of falling and bucking is made up principally of labor, with a very small cost for supplies.

Yarding and loading.—Labor is the largest element of cost in this operation, which also includes supplies, depreciation on yarding and loading equipment, and repairs and maintenance.

Railroad haul to tidewater.—The elements of cost in this operation are labor incurred in the movement of logs over logging company railroads, supplies, depreciation on railroad and equipment, repairs and maintenance, spur track construction, and freight paid to common carrier.

Booming and rafting.—Labor is the largest element of cost in this operation, with some supplies.

General and administrative.—The general and administrative expenses, such as officers' salaries, insurance, taxes, miscellaneous administrative, and other general expenses have been grouped under one heading. These expenses are the aggregate amounts expended for the items where the companies had only logging operations. Where companies had both logging and sawmill operations, the portions of general and administrative expense which they had charged on their books against logging operations were allowed after careful examination was made to confirm the reasonableness of their allocation. For those few companies where no allocation was made on the books of record, distribution was made of salaries according to the service rendered to each operation by the officers. Other charges such as telephone and telegraph, stationery, subscriptions and dues, travel and auto expense, general office expense and audit fees, were made in the proportions in which these expenses were incurred in the respective operations. The charge for insurance and for taxes is the total cost of the expense incurred by the logging operation for these items, not only on the equipment, but also on the standing timber held in reserve.

STUMPAGE CHARGES

The stumpage charge, which represents raw material costs of the logging industry, may be either a depletion charge for timber cut from land owned by the logger, or a payment for timber cut from land owned by others. If the company owns the tract of standing

timber, the stumpage cost shown on the cost records is the timber depletion charge. If the timber was paid for as cut, the price was considered as a charge for purchased raw material. The value on which the depletion charge was based for owned timber was the actual purchase price or the value allowed for income-tax purposes as of March 1, 1913, in the United States, and June 1, 1914, in Canada. Table 6 shows, in so far as practicable, an analysis of stumpage costs for both the United States and Canada, subdivided upon the basis of the approximate time purchased.

TABLE 6.—Logs: Analysis of the cost of the stumpage cut in 1923, included in the commission's investigation

UNITED STATES, 43 OPERATIONS

All stumpage cut in 1923	Thousand feet	Value per thousand	Per cent of total
1,797,322	\$3.10	100	
Stumpage purchased in 1922-23 and cut in 1923	372,832	3.56	15
Stumpage purchased between 1913 and 1922, and cut in 1923	91,002	3.30	18
Stumpage purchased after 1913 (exact date of purchase unknown) and cut in 1923	423,310	3.14	17
Stumpage charged at "tax value", cut in 1923	280,948	2.94	16
Miscellaneous (details of purchase not known) cut in 1923	729,885	2.95	16

CANADA, 20 OPERATIONS

All stumpage cut in 1923	982,105	\$2.40	100
Stumpage purchased in 1922-23 and cut in 1923	147,090	2.33	22
Stumpage purchased between 1914 and 1922, and cut in 1923	23,095	2.52	4
Stumpage purchased after 1913 (date of purchase unknown) and cut in 1923	295,621	2.30	35
Stumpage charged at "tax value", cut in 1923	220,889	2.63	33
Miscellaneous (details of purchase not known) and cut in 1923	280,985	2.63	35

1. The "tax value" is the amount allowed in the respective countries for income-tax purposes (Mar. 1, 1913, in the United States—June 1, 1914, in Canada). There is included in the domestic figures 12,625,000 feet at a price of \$3.50 per thousand, which the owners claim for the timber. The income-tax authorities tentatively fixed the value at \$2.87. There is included in the Canadian figures 35,700,000 feet at a price of \$3.10 per thousand, which the owners claim to be a fair valuation for the timber. The income-tax authorities tentatively fixed the value at \$1.75. These cases were awaiting settlement at the time of the commission's investigation.

The stumpage figure of \$3.10 per thousand feet in the United States, representing a cut in 1923 of 1,797,322,000 feet, is the weighted average cost of about 60 per cent of the total stumpage cut on Puget Sound in that year. It is derived from the cost of stumpage as recorded upon the books of 38 companies, covering 43 logging operations. These book values are the cost price of the stumpage purchased from 1913 to 1923, inclusive, except for those companies whose stumpage values for some purchases prior to 1913 were taken as appraised for income tax purposes, as of March 1, 1913. The figure of \$2.40, representing 682,195,000 feet for 20 companies in Canada, is the weighted average cost of about 39 per cent of the total quantity of logs scaled in the Vancouver forest district of British Columbia. These stumpage costs are based upon the purchase price of stumpage from 1914 to 1923, inclusive, except for a portion of the stumpage of some companies whose holdings were taken as appraised for tax purposes as of June 1, 1914. The domestic cut in 1923 from purchases made in 1922-23, amounting to 272,832,000 feet, does not represent all the purchases for those

two years for the companies from which the commission obtained cost data. Seventeen of the 43 operations covered by this investigation purchased 1,078,322,000 feet, at a weighted average cost of \$3.12 per thousand. These purchases are for both current and long-time operations. The average stumpage cost as given in the table on the production of 1,797,322,000 feet for timber cut in 1923 by the 43 operations, was \$3.10 per thousand feet. Inasmuch as the commission is not in possession of similar data with respect to the value of stumpage in the Vancouver area for 1923, cost comparisons on the basis of stumpage values of 1923 are not shown in this report.

The average cost of domestic timber of \$3.56 for timber cut in 1923, from 1922-23 purchases, was the weighted average of 13 operations. Eight of these operations, having a total cut of 207,531,000 feet, had no timber investment in timber reserves; that is to say, the timber was purchased annually as cut, and there were no further carrying charges to the purchaser such as interest, taxes, and fire risk upon the timber. For five of these eight operations the contract provided for the payment of the stumpage on the basis of a percentage of the selling price of the logs cut, with a fixed minimum stumpage charge. The remaining 5 operations (of the 13) which had timber holdings, had a total cut in 1923 of 65,302,000 feet, with a weighted average stumpage cost of \$3.15 per thousand feet.

In addition to the stumpage data obtained by the commission in the investigation, information has been obtained through the Forest Service concerning timber sales in the Puget Sound and Grays Harbor area in Washington. The Forest Service sent out in December, 1923, in cooperation with the Bureau of the Census, a questionnaire to each operator requesting data on purchases of timber for each year 1900-1923. A questionnaire requesting similar current data has been sent out each succeeding year. The reports are not checked back to the records of the reporting companies. The weighted average prices paid for such timber reported purchased in certain specified counties of Washington for the years 1916 to 1926, inclusive, are shown in Table 7 following.

TABLE 7.—Logs: Weighted average prices paid for stumpage in counties of Clallam, Grays Harbor, King, Kitsap, Lewis, Mason, Pierce, Skagit, Snohomish, Thurston, and Whatcom, Wash., 1916-1926. (Private stumpage only)

Year	Quantity	Total value	Average price
1916	1,224,812	\$3,532,483	\$2.88
1917	1,224,812	3,532,483	2.87
1918	778,883	2,269,682	2.91
1919	778,883	2,269,682	2.91
1920	378,917	1,077,277	2.84
1921	408,810	1,174,569	2.87
1922	188,975	474,992	2.51
1923	1,821,439	1,501,402	0.83
1924	4,850,727	4,690,353	0.97
1925	2,865,100	19,491,481	6.80
1926	1,297,126	8,517,908	6.57
		4,692,280	3.60

With respect to the use of these price data by the commission, Col. W. B. Greeley, Forester, comments as follows:
In the opinion of the Forest Service the limited number of transactions and the possibility of unusual circumstances connected with individual cases preclude

assuming that the averages are accurate measures of the sale value of all stumpage sold in the restricted region involved. Even less could they be considered accurate for the entire Douglas fir region. Since the averages are derived from actual sales, many of which were doubtless made for quick cut, they are not a reliable measure of the value of all standing stumpage in the region.

INTEREST

The interest charge as used in the report is composed of interest calculated on the net investment, exclusive of borrowed capital, at the rate of 6 per cent, plus the amount of interest actually paid during the year 1923, the period covered by the commissioner's investigation. Many of the companies considered it necessary for their operations to hold large tracts of timber; a part of the interest charge, therefore, is computed upon relatively large holdings of timber which will be cut through a number of years in the future.

Table 8 shows for both the United States and Canada the total interest charge per thousand feet of logs cut in 1923, the imputed interest upon timber holdings, and the number of years' holdings based upon the value of the cut of 1923.

TABLE 8.—Logs: Interest, 1923, with total interest charge, unit interest charge on timber holdings, and approximate life of timber holdings, United States and Canada

1	2		3	4
	Unit interest charge for logs cut in 1923			
	On owner's net investment in timber and other assets, plus interest paid	On costs, as shown in books of timber hold-ers at the end of 1923	Approximate life of timber holdings based on value of 1923 cut	
United States.....	Per M feet \$1.75	Per M feet \$1.18	Years 4.3	
Canada (20 companies).....	Per M feet 1.02		2.3	

1 Canadian costs have been converted to United States dollars at rate of \$0.860352.

NOTE.—Interest on net investment and interest upon the book value of timber holdings have been calculated at 6 per cent.

Another method of calculating the interest charge for individual companies which might have been preferable would have been to charge to each tract of timber cut in 1923 all the interest and other carrying charges which had accumulated from the time the stumpage was purchased until it was cut, but information was not available upon the books of the producing companies to be used as a basis for this calculation. Because of the fact that a wide range of operations was studied in this investigation—43 operations covering about 60 per cent of the timber cut on Puget Sound in 1923—it is believed that the method of charging interest and other carrying charges followed in this report does not give a materially different result than would have been obtained had the carrying charges for each tract of timber cut in 1923 been accumulated and added to the original cost of stumpage.

UNIT COSTS, BY DEPARTMENTS, FOR DOMESTIC AND FOREIGN COMPANIES

Tables 9 and 10 show for domestic and foreign companies the unit costs, by departments. The tables also show for each company the general and administrative expense, interest and stumpage, and for the Canadian companies the royalty (severance tax). The quantity produced by each operation is not shown, as the identity of the costs of certain companies might thereby be disclosed.

TABLE 9.—Logs: Domestic logging costs, showing departmental costs and total unit costs in boom for calendar year 1923

(Per M feet)

Company No.	Felling and bucking	Yard-ing and loading	Rail-road haul to mill	Boom-ing and fluming	General and ad-minis-trative	Stump-age	Interest	Total operating cost in boom, including interest
1	\$1.71	\$2.52	\$2.17	\$0.57	\$1.50	\$3.07	\$0.55	\$11.52
2	1.11	2.24	2.23	0.57	1.36	2.76	1.51	12.23
3	3.61	3.61	2.83	0.99	1.56	2.80	1.54	12.98
4	1.47	3.73	2.54	0.99	1.40	1.78	1.68	13.36
5	1.52	4.49	2.47	0.94	0.94	3.50	1.46	13.99
6	1.40	4.06	3.03	0.40	0.72	3.32	1.05	13.52
7	1.40	4.42	3.13	0.40	0.72	3.32	1.05	13.10
8	1.60	3.52	2.81	0.40	2.01	4.02	1.16	14.13
9	1.40	3.52	4.67	0.56	1.57	4.02	1.16	14.48
10	2.45	2.06	2.48	0.37	1.35	4.41	1.45	14.56
11	2.45	3.06	2.48	0.37	1.35	4.41	1.45	14.56
12	1.53	3.86	3.14	0.33	1.23	3.39	1.20	16.00
13	1.41	3.86	3.54	0.33	1.49	3.07	1.51	15.51
14	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
15	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
16	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
17	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
18	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
19	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
20	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
21	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
22	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
23	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
24	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
25	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
26	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
27	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
28	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
29	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
30	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
31	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
32	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
33	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
34	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
35	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
36	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
37	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
38	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
39	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
40	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
41	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
42	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
43	1.41	4.55	5.01	0.33	1.49	3.07	1.51	15.51
Weighted average.....	1.55	5.06	4.56	.46	1.58	3.10	1.73	16.53

TABLE 10—Logs: Foreign logging costs,¹ showing departmental costs and total unit costs in boom for calendar year 1923

[Per M feet]

Company No.	Felling and buck-log	Yard-log and load-log	Rail-road thru-tide-washer	Boom-log and rafting	General and skid-lava	Skimp-logs	Bover-logs tax	In-forest	Total log cost (including in-forest)
1	\$1.17	\$2.35	\$3.20	\$0.45	\$0.67	\$3.00	.....	\$0.37	\$11.21
2	.97	2.79	1.86	.65	2.84	1.69	.....	.36	11.05
3	.83	2.65	2.61	.40	1.72	3.03	.....	.72	11.61
4	1.25	2.40	3.09	.49	1.91	2.49	.....	1.25	12.60
5	1.01	2.41	2.12	.64	1.47	2.50	.....	1.08	13.22
6	1.26	2.48	2.97	.32	1.47	2.52	.....	1.59	14.11
7	1.41	3.59	4.16	.41	1.30	1.59	.....	1.59	14.61
8	1.40	3.90	4.16	.30	2.21	1.85	.99	1.02	16.13
9	1.38	2.61	4.29	.45	1.25	4.00	.....	1.02	15.28
10	1.62	2.52	2.37	.38	1.25	2.50	.92	1.02	14.65
11	1.63	4.28	4.64	.38	1.80	1.89	.....	1.89	15.68
12	1.83	4.19	4.11	.33	1.83	2.50	.....	1.77	15.40
13	1.27	3.39	4.77	.33	1.83	2.78	.....	1.16	15.40
14	1.09	4.45	4.61	.52	1.35	2.62	.....	1.13	16.58
15	1.62	4.45	4.50	.45	1.30	2.17	.....	1.02	18.49
16	1.64	6.76	4.47	.61	2.00	1.92	.....	1.11	18.39
17	1.83	6.76	4.18	.70	2.76	2.15	.....	1.47	16.89
18	1.47	6.23	3.23	.61	2.76	2.00	.....	1.02	19.83
19	1.47	4.44	7.14	1.02	2.76	1.70	.....	2.65	22.02
20	1.75	4.44	8.98	1.38	2.81	4.01	.....	1.18	22.90
Weighted average	1.39	3.40	3.94	.49	1.87	2.40	.40	1.02	14.97

¹ All cost items except those for skimpage converted into United States dollars at the rate of \$3.083362 per Canadian dollar.

CUMULATIVE CURVES OF DOMESTIC AND FOREIGN COSTS

Charts I and II show for domestic and foreign companies the percentage of total production at each specified cost. The costs are for logs in boom at fiddewater or sawmill log pond, but no towing expense to sawmill is included. The length of each horizontal line represents the percentage of the total quantity of logs produced at the average cost indicated by extending that line to the scale marked "Dollars per M feet L. S." For example, on Chart I the second horizontal line shows that 5.67 per cent of the production was produced at an average cost of \$13.62 per M feet. The last horizontal line on Chart I shows that 2.74 per cent of the production was produced at an average cost above \$24 per M feet.

DOMESTIC AND FOREIGN COSTS, ITEMIZED ACCORDING TO THE CHARACTER OF THE EXPENDITURE

The domestic and foreign costs, by departments, which are summarized in Table 5, page 11, and which are shown for individual companies in Tables 9 and 10, pages 15 and 16, are arranged in Table 11, which follows, according to the character of the expenditure. Thus, the labor cost shown in Table 11 represents the total labor costs incurred in the various departments; the item for supplies, the total cost incurred for this item in the various departments.

CHART I

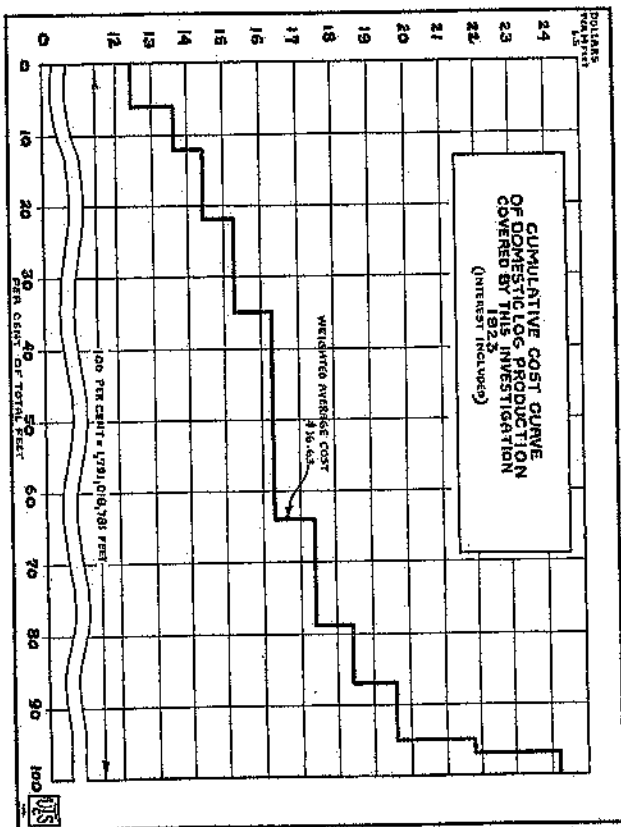


CHART II

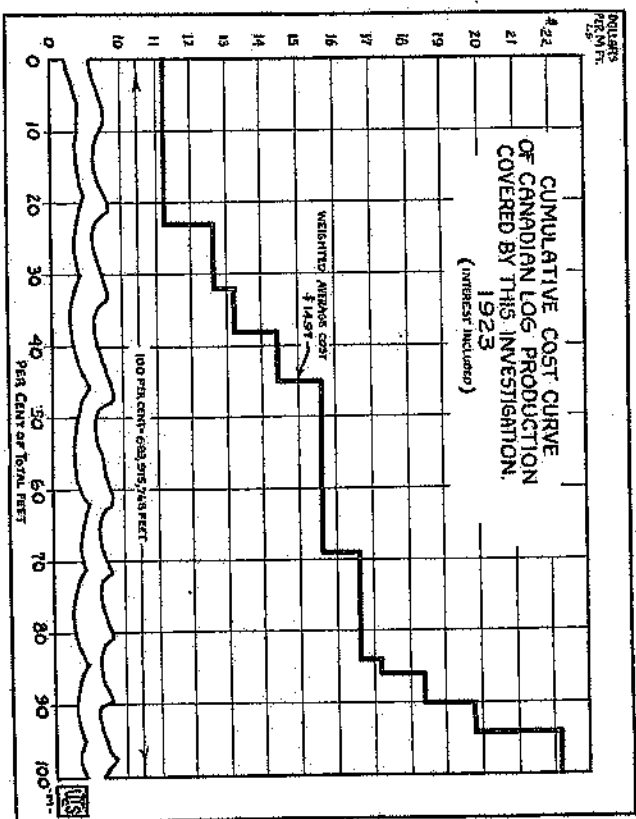


TABLE 11.—Logs: Domestic and foreign weighted average operating and administrative costs by items, 1923

[Per 1,000 feet]

Item	Domestic, 48 operations	Foreign, 20 operations
Operating expenses:		
Wages	\$5.11	\$4.69
Supplies	.84	1.25
Repairs and maintenance	1.03	.88
Saw fuel and freight paid common carrier	2.13	1.06
Miscellaneous operating	.15	.22
Depreciation	.81	1.23
Total operating expenses	10.22	9.22
Administrative expenses:		
Salaries	.28	.63
Insurance	.17	.29
Taxes	.33	.05
Other administrative and miscellaneous general expenses	.77	.95
Total administrative expense	1.55	1.92
Other expenses:		
Stampage	3.10	2.40
Canadian royalty (sovereignty tax)		.46
Total other expense	3.10	2.86
Interest	1.72	1.02
Total cost in boom at tide-water	16.68	14.97

¹ All cost items except those for stampage converted into United States dollars at the rate of \$0.983522 per Canadian dollar.

EXPLANATION OF CERTAIN OF THE OPERATING AND ADMINISTRATIVE EXPENSES APPEARING IN TABLE 11

Operating expenses.

Labor.—Wages paid in Washington in 1923, the investigation disclosed, ranged from 25 to 75 cents a day higher than in British Columbia. For the most part the men are paid by the day.

The working day on logging operations both in Washington and in British Columbia is eight hours. Loggers occasionally work on one side of the international boundary for part of the year and on the other side the remainder of the year. In most camps the men were charged for board at the rate of 40 cents a meal, and in some camps a small additional charge was made weekly for bed linen.

A comparison of average daily wages for specified jobs in logging operations in Washington and British Columbia in 1923 and 1926 is shown in Table 12.

¹ On Nov. 1, 1926, the Minimum Wage Commission of British Columbia fixed a minimum wage of 40 cents per hour for the lumber and logging industry. The Minimum Wage Commission found in 1925 that there were 0.48 per cent of employees in logging receiving less than 40 cents per hour, and on logging railways 19.37 per cent of the employees were paid less than the present minimum.

TABLE 12.—Logs: Comparison of average daily wages in logging operations in Washington and British Columbia in 1923 and 1926

	1923		1926	
	Wash-ington ¹	British Columbia ¹	Wash-ington ²	British Columbia ²
Railor	\$5.25	\$5.00	\$5.30	\$5.05
Bucker	5.00	6.75	4.20	4.20
Head rigger	8.50	8.75	7.00	7.80
Second rigger	8.25	8.75	6.50	5.30
Choker man	8.25	8.00	5.00	4.10
Hook loader	6.00	5.00	6.00	7.30
Rigging allinger	6.00	5.50	5.95	5.50
Densley yarding engineer	7.25	6.50	4.00	5.80
Head loader	4.00	7.75	7.25	3.80
Second loader	6.00	6.25	5.60	4.60
Densley loading engineer	7.00	8.50	4.00	5.80
Densley landing foreman	4.25	4.75	4.00	3.30
Locomotive engineer	7.25	8.50	4.85	6.45
Locomotive fireman	6.00	4.75	5.80	3.95
Ideal brakeman	8.00	4.75	5.00	5.30
Second brakeman	6.00	4.50	5.00	3.25
Section man	4.25	4.50	2.95	4.25
Boom man	4.25	4.25	5.15	4.25
Dicksmith	7.00	6.25	6.50	5.00

¹ Figures from investigation by Profit Commission, 1924.

² Figures from Tabulation of Wages from reports of actual wages paid by members of Loyal Legion of Loggers and Lumbermen and Association of Employers and Suppliers in the Pacific Northwest Lumbering Industry, and reports of nonmembers.

³ Figures from: Canada, Department of Labor, Wages and Hours of Labor in Canada, 1920-1926, Ottawa, 1927, pp. 20-23.

Spur track and freight paid common carrier.—Of the total \$2.18 shown in the domestic cost for this item, \$1.03 was spur track expense. For the Canadian companies 77 cents was expense in connection with spur track. The domestic logs had to be hauled a greater distance by railroad before reaching tide-water than the Canadian logs.

Depreciation.—The larger depreciation allowance in the foreign costs resulted from the higher prices paid for equipment in British Columbia.

Administrative expenses.

Salaries.—Although the wage cost per unit of product was higher in Washington, the salary cost per unit of product was higher in British Columbia. Four domestic loggers had so large a production that their salary costs per unit of product were unusually small. Fifteen sawmill companies doing their own logging in the domestic industry were managed by officers whose salaries were divided between the mill departments and the logging departments, while there were only two companies, represented in the Canadian costs, for which the officers' salaries were divided between the logging and mill departments. There is some reason to believe that for the United States costs in the item "general labor," which is included in Table 11 under "Other administrative and miscellaneous general expense," there are charges which, under a different system of accounting, might have been included in "salaries."

COSTS OF LOGS IN BOOM AT TIDEWATER

Loggers generally haul their logs by company railroad or common carrier either directly to sawmills or to boom at tide-water. At

tidewater the logs are dumped overboard from the cars, sorted for species and grades, and made up into flat rafts to facilitate towing. These operations at tidewater are known as booming and rafting and are included in the costs shown in Table 5.

Railroad costs.—In Washington practically all logs are hauled some distance over logging railroads. Some of these logging railroads carry the logs either directly to sawmills or to boom at tidewater; others haul the logs to points where they can be transferred to common carriers for delivery to sawmills or at tidewater.

The average distance the domestic logs (covered by the inquiry) were hauled by common carriers in Washington was 15.50 miles; the average distance such logs were hauled over company roads was 9.75 miles. The average distance the Canadian logs (covered by the inquiry) were hauled by common carriers was 5.50 miles; the average distance such logs were hauled by company railroads was 10.25 miles.

Although both logging railroads and common carriers are used for log transportation in British Columbia, the rail haul of logs on the Canadian side is shorter than on the American side for the reason that the logging operations in British Columbia are nearer tidewater than are the Washington operations.

The cost of hauling by rail from forests to tidewater such logs as were covered by the commissioner's investigation in Washington was \$4.56 per thousand feet in 1923; the cost in British Columbia was \$3.94 in that year.

The interstate railroad freight tariff on logs (Henry's Tariff No. 51) became effective October 1, 1925. The railroads participating in the tariff are the Chicago Milwaukee, & St. Paul R. R. Co., Great Northern R. R. Co., the Northern Pacific R. R. Co., and the Oregon-Washington Railroad & Navigation Co. These are not the only common-carrier railroads in Washington which transport the logs produced by the companies covered in the investigation. At least five of the operations used common carriers which were not parties to Henry's Tariff No. 51. Whether these other common carriers have amended their rates to conform to Henry's Tariff No. 51 has not been ascertained by the commission.

This increase in railroad rates affects the transportation costs of the different operations (covered in the commissioner's investigation) in different degrees because the new rates vary with the terminal and other charges, privileges, and allowances made by the different carriers. It would be difficult, if not impossible, to estimate an average percentage of increase to be applied to the unit transportation costs shown in this report without a reexamination of the records of the companies in order to obtain the amounts actually paid by those companies to the common carriers. Any adjustment of the costs of transportation for the purpose of approximating current costs would require a consideration of other important changes, if any, in costs since 1923.

LOGS—SUMMARY OF COSTS IN BOOM AT TIDEWATER

Table 13 shows a summary of costs of domestic and foreign logs in boom at tidewater. These costs are shown in detail in Table 11 (p. 18).

TABLE 13.—Logs: Summary comparison of foreign and domestic costs of logs in boom at tidewater, 1923
(Per thousand feet)

Operating expenses.....	Domestic, 48 opera- tions	Foreign, 20 opera- tions ¹
Administrative expenses.....	\$10.22	\$9.22
Stumpage.....	1.58	1.87
Canadian royalty (stumpage tax)	5.10	2.46
Interest.....	1.73	1.02
Total cost in boom at tidewater.....	16.63	14.07

¹ All cost items except those for stumpage converted into United States dollars at the rate of \$0.902322 per Canadian dollar.

Principal competing market.—Bellingham is considered the principal competing market for the purpose of this inquiry. There are other important log markets on Puget Sound, such as Anacortes, Everett, Seattle, and Tacoma.

The commission here presents, over the signatures of all the commissioners, the costs of domestic and foreign logs in boom at tidewater. All commissioners agree that in ascertaining the differences in costs of production there still remain to be considered certain advantages and disadvantages in competition under the provisions of subdivision (c) of section 315 of the tariff act of 1922. Those advantages and disadvantages naturally divide themselves into a discussion of (1) towage charges from boom to the principal market in the United States; and (2) the consideration to be given to the timber tax collected at the time of the exportation of logs cut from certain classes of lands and exported from British Columbia. These items and the conclusions to be drawn therefrom for the purposes of final cost comparison are separately discussed by different commissioners in Parts II and III of this report.

Respectfully submitted.

THOMAS O. MARVIN, *Chairman*,
ALFRED P. DENNIS, *Vice Chairman*,
EDWARD P. COSTIGAN,
EDGAR B. BROSSARD,
SHERMAN J. LOWELL,
LINCOLN DIXON, *Commissioners*.

**STATEMENT OF VIEWS OF COMMISSIONERS MARVIN, BROSSARD,
AND LOWELL, WITH RESPECT TO TRANSPORTATION AND THE
CANADIAN TIMBER TAX**

PART II

The area covered by the commission's investigation is that around Puget Sound, in the State of Washington, and the Strait of Georgia in British Columbia. On either side of the international border the species and growth of timber are in general similar, and logging methods are practically the same. The majority of logs cut from the several operations are dumped into boom at tidewater where they are sorted by species and grades and formed into rafts for towing to the mills at tidewater. The location of mills at tidewater in the Puget Sound district of Washington and the Vancouver forest district of British Columbia is shown by the following chart.

From this chart it will be seen that the majority of Canadian mills at tidewater are located in close proximity to Vancouver. The majority of domestic mills at tidewater are located at Everett, Tacoma, Seattle, and Bellingham. The principal market in which imported and domestic logs meet in competition is Bellingham. For the purposes of this investigation Bellingham is considered the principal competing market. Other important log markets on Puget Sound are Anacortes, Everett, Seattle, and Tacoma. Imports of logs from Canada into these several markets and the estimated combined annual capacity of sawmills located at these points are shown in the following tables:

TABLE A.—Logs: Imports of logs into the customs district of Washington, 1923

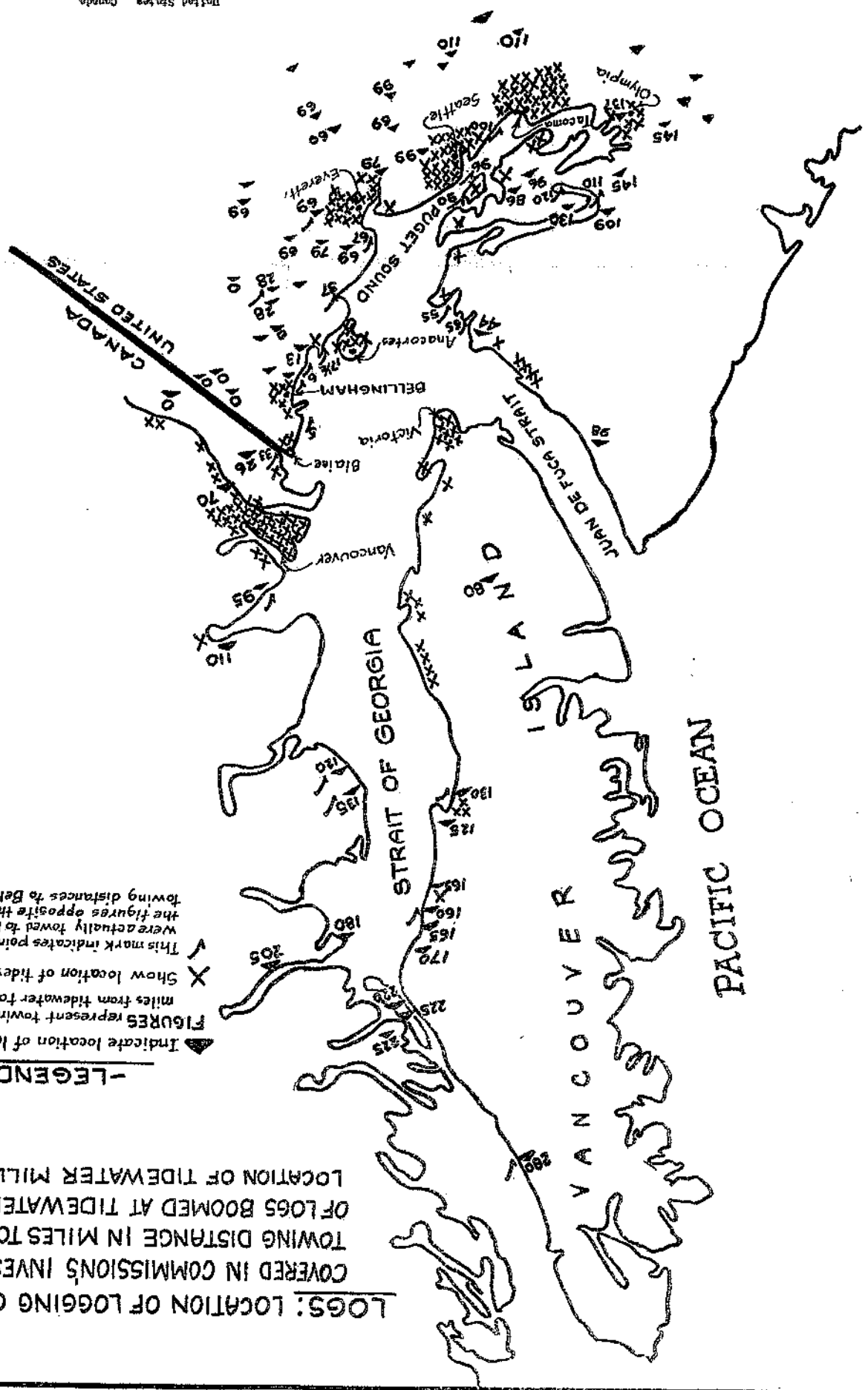
Port	Quantity (thousand feet)	Per cent of total quantity
Bellingham	64,601	28.36
Anacortes	52,446	32.01
Blaine	28,331	14.24
All others	28,887	14.89
Total	168,865	100.00

TABLE B.—Logs: Estimated combined annual capacity of sawmills at five Puget Sound points, on basis of 250 working days per year

Point	Estimated annual capacity (thousand feet)	Per cent of total capacity
Tacoma	721,250	22.25
Everett	688,750	20.78
Seattle	470,000	14.02
Bellingham	336,250	10.04
Anacortes	110,000	4.91
Total	2,326,250	100.00

LOGS: LOCATION OF LOGGING OPERATIONS COVERED IN COMMISSION'S INVESTIGATION; TOWING DISTANCE IN MILES TO BELLINGHAM; OF LOGS BOOMED AT TIDEWATER; AND LOCATION OF TIDEWATER MILLS.

- LEGEND-**
- ▲ Indicate location of logging operations.
 - FIGURES represent towing distance in miles from tidewater to Bellingham.
 - X Show location of tidewater saw mills.
 - ✓ This mark indicates points from which logs were actually towed to Bellingham in 1923; the figures opposite these marks show towing distances to Bellingham.



United States 90.0
Canada 137.0
\$ 1.09
\$ 1.60
\$ 0.0212
\$ 0.0217

Average towing distance from boom at tidewater to Bellingham (feet)
Average towing rate from boom at tidewater to Bellingham (per M feet)
Average towing rate from boom at tidewater to Bellingham (per M feet per mile)



Figured on the same basis of 250 working days per year, the capacity of the tidewater mills in the British Columbia area for 1923 was 1,260,500,000 feet. Witness Bloedel, at the public hearing in August, 1925, testified that the capacity of logging operations in British Columbia has increased faster than the capacity of the mills but that the mills are "catching up" and "in the next year things will be fairly normal." (Transcript of Public Hearing, pp. 74, 75.) The tidewater mill wherever located, which is in need of logs, is the loggers' market, both in the United States and in Canada. On both sides of the line, logs not purchased by local sawmills must seek a market at other points. The relative capacity of the tidewater sawmill to log production may be regarded as approximately the same in the United States and in Canada. This investigation is not concerned with those logs only which for special reasons may move to a common market in any particular year. Its purpose is to assist the President in ascertaining costs of production of logs in the United States and in the principal competing country, taking into consideration also advantages and disadvantages in competition with respect to such logs.

The weighted average costs of production of logs in boom at tidewater for the United States and for Canada, respectively, shown in Table 13, page 21 of the commission's report, were computed by weighting the average cost for each of the 43 domestic and the 20 Canadian logging companies from which production costs were obtained, by the respective production of each company. Table 13 shows that the average cost of production of logs of fir, spruce, cedar, and Western hemlock, in the United States, in boom at tidewater, is \$16.63 per thousand feet and that the average cost in Canada of like or similar logs in boom at tidewater is \$14.97 per thousand feet. Costs of production of logs in boom at tidewater in the United States exceed costs of production of logs in boom at tidewater in Canada by \$1.66 per thousand feet.

Two questions arise under clause 4, subdivision (c) of section 315, which provides that the President in so far as he finds it practicable shall take into consideration "any other advantages or disadvantages in competition." The questions are: (1) The method to be used in computing costs of transporting logs from boom at tidewater to the mill; and (2) whether the Canadian timber tax should be included as a part of the cost of production of logs in Canada. These two questions will be considered in the order stated.

I. TRANSPORTATION COSTS—COSTS OF TOWING LOGS FROM BOOM AT TIDEWATER TO MILL

Towing costs or costs of transporting logs from boom at tidewater to market are taken into consideration in this report under the Attorney General's opinion of February 2, 1926, in which the Attorney General concluded that the President should "take into consideration, in so far as he finds it practicable from an analysis of the facts in each case, costs of transportation, whenever it is shown that such costs or differences therein, as between foreign and domestic articles, constitute an advantage or disadvantage in competition between the foreign and American producers." In the course of that opinion the Attorney General stated in part that the purpose of section 315 "is

not merely the ascertainment of the differences in costs of production by the Tariff Commission, but the equalization of the rates of duty for the protection of American producers, and to offset any advantages in competition enjoyed by foreign producers."

In order to secure complete information with respect to transportation costs for the purpose of analyzing the facts, the commission has endeavored to obtain all available data with respect to towing costs for both domestic and Canadian logs. At the time of the commission's investigation data were obtained from the books of three sawmills located at Bellingham showing towing charges paid by such mills for 95,040,112 feet of domestic logs purchased by these three mills from various points on Puget Sound. Towing charges expended on 44,502,000 feet of logs shipped to Bellingham by six Canadian log companies were also obtained from the books of such companies. Reports have also been obtained from the Sound Log Sales Co. showing the quantity of logs towed by them in 1923 to various points on Puget Sound, including Bellingham, and the towing costs of such logs.

Computations have been made to show towing rates from boom at tidewater to Bellingham for domestic operations based upon rates obtained from official sources of the State of Washington, and for Canadian operations based upon contractual rates reported by companies where official rates were not available. Tables showing such rates are set forth below.

TABLE C.—Logs: Domestic towing rates to Bellingham from zones in which companies covered in commission's investigation dumped logs¹

Zone	Towing rate to Bellingham per thousand feet			
	Fir spruce and hemlock	Cedar	Average rate ²	
Ashecroft	\$0.80	\$0.82	\$0.81	
Bremerton	1.08	1.35	1.21	
Chilmark	2.25	2.89	2.57	
Clallam	2.70	3.33	3.01	
Everett	1.80	2.12	1.96	
Kendall	1.17	1.44	1.30	
Ward Bay	1.17	1.44	1.30	
Point Discovery	1.80	2.12	1.96	
Sanish Bay	1.80	2.12	1.96	
Blindon	1.80	2.12	1.96	
Tecoma	1.17	1.44	1.30	
Union City	1.17	1.44	1.30	

¹ World No. 4, Northwestern Tow Boat Owners' Association.
² To obtain this average the rate for each species was weighted as follows: Fir, 64 per cent; spruce and hemlock, 16 per cent; and cedar, 20 per cent.
 Weighted average rate per thousand based on 1,284,784,000 feet dumped at tidewater points other than Bellingham. \$1.187
 Weighted average rate per thousand based on all logs (4,006,603,000 feet) dumped at tidewater points, including Bellingham. 1.088
 Average towing rate per thousand feet per mile. 0.0121

TABLE D.—Logs: Towing rates to Bellingham per 1,000 feet from booming points of Canadian companies covered in commission's investigation¹

(Booming points are not shown as confidential information might thereby be revealed.)

Fir, spruce and hemlock	Cedar	Average rate ²	Fir, spruce and hemlock	Cedar	Average rate ²
\$1.98	\$1.96	\$1.96	\$1.94	\$2.16	\$2.00
1.62	1.76	1.69	1.72	1.96	1.87
1.76	1.63	1.70	2.89	1.96	2.51
1.42	1.63	1.44	2.16	2.30	2.23
1.96	2.16	2.08	1.91	1.98	1.92
1.96	1.78	1.87	2.40	2.30	2.30
1.72	1.96	1.84	0.00	0.00	0.00
2.12	2.31	2.20	0.98	1.98	1.98
1.72	1.81	1.78	1.72	1.72	1.72
1.98	1.98	1.98			

Weighted average towing rate per thousand based on 572,288,000 feet boomed by 17 operations. \$1.727
 Weighted average towing rate per thousand based on 682,104,000 feet boomed by 20 operations. 1.699
 Average towing rate per thousand feet per mile. 0.0116

¹ Contractual towing rates reported by Canadian companies from whom cost data were obtained.
² To obtain this average the rate for each species was weighted according to the per cent of each species cut by each company.
 Note.—All rates converted to United States currency at rate of \$0.89325 per \$1.

Analysis of towing cost data.

The data as to towing costs, obtained from the books of three mills located at Bellingham, and from the books of six Canadian companies, have been examined with a view to determining whether they are representative of actual towing costs to Bellingham during the period of the commission's investigation. An analysis of such data indicates that they are not representative.

During the period covered by the commission's investigation, 95,040,112 feet of domestic logs were towed to these three mills from various points on Puget Sound ranging from three-fourths of a mile to 120 miles. The weighted average distance these logs were towed was 24 miles. The average towing rate was \$0.44. Of these 95,040,112 feet, more than 51,000,000 feet were towed to one mill at Bellingham, which conducts its own logging operations at or near Bellingham. The average towing cost of this company was 28 cents, and the average haul was 14 miles, compared with an average for the other two mills which purchased logs in the open market of approximately 61 cents, and an average towing distance of 36 miles. Of these 95,040,112 feet, 45,419,967 feet, or 48 per cent of the total, were towed a distance of 6 miles or less.

From this analysis it is apparent that an average towing rate calculated upon the data obtained from three mills at Bellingham, purchasing only 95,040,112 feet, a large percentage of which was purchased in the immediate vicinity of Bellingham, fails to reflect the real distance towed and the cost of towing domestic logs to Bellingham in 1923.

Further evidence which tends to indicate that the data as to towing costs obtained from the books of these three mills are not representative is shown by information furnished by the Sound Log Sales Co. A report of that company of sales by independent loggers who sell in the open market shows a weighted average towing cost for all logs towed on Puget Sound, covering 398,441,090 feet, of \$0.775 per

1,000 feet. Of this amount 66,416,320 feet were towed to Bellingham at a weighted average cost of \$0.72 per 1,000 feet. The average distance towed was 33 miles.

If towing costs for domestic logs be computed upon the weighted average cost of towing 95,040,112 feet, paid by the three mills located at Bellingham for logs purchased by them, the rate would be \$0.44 per 1,000 feet. Such rate is less than the rate paid for towing domestic logs to Bellingham from all but one of the zones in which companies covered by the commission's investigation dumped logs, and is less than the weighted average rate for towing all domestic logs covered by the commission's investigation from boom at tidewater to Bellingham. See Table C above. If towing costs for Canadian logs be computed upon the weighted average cost of towing 44,502,000 feet to Bellingham, paid by six Canadian logging companies in 1923, the rate would be \$1.77 per 1,000 feet. This rate is higher than the rate for towing logs to Bellingham from 11 of the 20 Canadian companies included in the commission's investigation, and is greater than the weighted average rate for towing all Canadian logs covered by the commission's investigation from boom at tidewater to Bellingham. See Table D above. To base towing costs upon the data obtained from three mills only would therefore give an advantage to foreign producers in allowing a transportation rate which would permit the majority of Canadian companies to tow their logs to the principal competing market, while the rate allowed domestic producers would permit the domestic logs to be towed to the principal competing market from only one of the zones in which domestic companies dumped logs.

In this connection attention is called to the fact that in 1923 logs were actually towed to Bellingham from Everett, a distance of 69 miles; from Lakota Beach, a distance of 100 miles; and from points on Hoops' Canal, 110 and 120 miles from Bellingham. See chart at page 22. This clearly shows that in the ordinary course of competition logs are towed long distances in Puget Sound and that movement of domestic logs is not confined to markets adjacent to their booming points.

Under the opinion of the Attorney General with respect to transportation, towing costs are to be considered, in so far as the President finds it practicable, as an advantage or disadvantage in competition. To limit consideration of advantages or disadvantages in competition to domestic producers of logs to towing costs paid in 1923 for logs purchased by three mills from only a few of the domestic producers would not meet the purposes of section 315 as construed by the Attorney General. To equalize rates of duty "for the protection of American producers" and "to offset any advantages in competition enjoyed by foreign producers," advantages or disadvantages based upon the operations of all domestic producers included within the scope of the commission's investigation should be taken into consideration. The purpose of section 315 as thus expressed is not to fix a rate of duty which will protect a few domestic producers who at a particular season are able to enter the common market and sell their logs there. That purpose requires that if the President finds it practicable the advantages or disadvantages in competition with respect to transportation or towing costs for the domestic industry considered as a whole shall be taken into consideration. The best method available to the commission for calculating the costs of towing

logs for the purposes of section 315, therefore, is that which considers the towing costs of all domestic and Canadian logs boomed at tide-water included in the commission's investigation. In the opinion of the undersigned commissioners the average cost of towing domestic and Canadian logs should be a weighted average cost of towing logs from boom at tidewater to Bellingham. To arrive at such an average cost the official or contractual rates for towing such logs to Bellingham have been weighted by the quantity of logs boomed at each point by companies included in the commission's investigation.

Most of the logs produced both in British Columbia and in the United States are boomed at tidewater and subsequently towed to their respective markets, the tidewater mills. Of the 43 domestic operations included in the commission's investigation, 30 boomed logs at tidewater for towage elsewhere. Logs from 13 of these 43 operations were delivered to inland mills and were not boomed at tidewater. These 13 operations therefore are not included in the calculation of the weighted average cost of towing logs from boom at tidewater to Bellingham.

Calculated by the method outlined above, the weighted average cost of towing domestic logs from boom at tidewater to Bellingham is \$1.09 per 1,000 feet; the weighted average cost of towing Canadian logs from boom at tidewater to Bellingham is \$1.60 per 1,000 feet.

These weighted average costs of towing all logs boomed at tidewater for which the commission has cost data, take into consideration 1,403,609,465 feet of domestic logs, and 682,194,345 feet of Canadian logs, as compared with a production of logs covered by the commission's investigation in the Puget Sound district of Washington of 1,791,000,000 feet, and in the Vancouver Forest district of British Columbia of 685,000,000 feet. Advantages or disadvantages in competition in towing domestic and foreign logs to the principal competing market are thus taken into consideration for practically the entire domestic and Canadian production of logs covered by the commission's investigation.

A comparison of the two methods for computing an average towing rate hereinbefore discussed shows that if the towing costs be based upon the weighted average cost of towing logs from boom at tidewater to Bellingham, the average tow for domestic logs would be 90 miles and for Canadian logs, 137 miles. If towing costs be based upon costs obtained from the books of 3 domestic mills and 6 Canadian logging companies, the average tow for domestic logs would be less than 24 miles, and for Canadian logs, 152 miles. This comparison clearly shows that the method used by the undersigned commissioners of calculating towing rates upon the basis of logs boomed at tidewater affords the best means for equalizing advantages or disadvantages in competition with respect to transportation costs.

In the opinion of the undersigned commissioners, if the President shall find it practicable to take into consideration towing costs as advantages or disadvantages in competition under section 315, subdivision (c) (4), such costs should be computed by weighting the official or contractual towing rates from the several booms at tidewater to Bellingham by the quantity of logs boomed at each of those points by companies included in the commission's investigation.

The weighted average cost of production in the United States of logs of fir, spruce, cedar, or Western hemlock, including costs of

transportation to Bellingham calculated by the above method, is \$17.72 per 1,000 feet. The weighted average cost of production in Canada on like or similar logs, including costs of transportation to Bellingham calculated by the above method, is \$16.57 per 1,000 feet. The average cost of production in the United States exceeds the average cost of production in Canada by \$1.15 per 1,000 feet.

II. SHALL THE CANADIAN TIMBER TAX (EXPORT DUTY) BE INCLUDED IN ASCERTAINING DIFFERENCES IN COSTS OF PRODUCTION FOR THE PURPOSES OF SECTION 315?

There are two possible heads under which the timber tax imposed by Canada might be considered for the purposes of section 315; as an item in Canadian costs of production under subdivision (a) of that section; or as an advantage or disadvantage in competition under clause 4 of subdivision (c).

In order to determine under which of these heads this tax can be dealt with for the purpose of the statute, if at all, it is necessary to understand the nature of the tax and its effect on the Canadian and the American lumber industries.

1. *Nature and effect of Canada's differential timber tax.*—Though a timber tax in name, it is in effect a restriction upon exportation or export tax upon the logs in question, and has been so construed by the United States Customs Court.¹ The tax² is levied on all logs cut from certain lands (described in detail on pages 6 and 7 of Part I of the commission's report), but is remitted³ if the logs are manufactured into lumber in Canada, and is actually collected and paid only if the logs are exported. According to the evidence before the commission, it is Canada's policy to restrict the exportation of logs and promote their manufacture into lumber in Canada, and this timber tax is the effective means by which that purpose is accomplished. In the application of this tax by the Canadian Government, remitting it on logs milled in Canada and collecting it only if the logs are exported, a governmental advantage in competition is bestowed on Canadian lumber manufacturers, enabling them to get this raw material cheaper than their competitors on the American side, because of the export tax interposed between these Canadian logs and the American mills.

2. *Can this timber tax be considered as an item in Canadian costs of production of logs?*—The answer must be in the negative. Because of its differential application by the Canadian Government, this is not a tax on production as such, but on exportation. It is not paid on all logs produced in Canada, nor even on all logs exported, but only on the exportation of certain classes of logs which, because of this fact, are made dutiable when imported into the United States under paragraph 401 of the tariff act of 1922.

In this investigation costs of production of logs were secured from the Vancouver forest district of British Columbia. The total production of logs in that district in 1923 was 1,767,069,000 feet,⁴ of

¹ G. A. 6026, T. D. 40228.
² \$2 per thousand feet on grade No. 1, \$1.50 on grade No. 2, and \$1 on grade No. 3.
³ The forest act of the Province of British Columbia provides for this refund in the following language: "Provision is made for the refund of all the tax over and above 1 cent per thousand feet, heard measure, shall be allowed when the lumber upon which it is due or payable is manufactured or used in the province." Act of 1914, ch. 22, sec. 16, quoted in T. D. 39458.
⁴ Table I, p. 4, Pl. I.

which only 233,658,000 feet were exported to all countries in that year,⁵ and only 174,225,000 feet, or less than one-tenth of the total production, were imported into the United States.⁶ Of these imports from British Columbia in 1923, only 145,138,000 feet, or less than one-twelfth of the total production in that year, paid this Canadian timber tax. In 1925 the total quantity of logs imported from British Columbia into the United States was 138,785,000⁷ and in 1926 was 153,528,000 feet.⁸ In those two years considerably less than half of the quantity imported was dutiable, namely, 92,844,000 feet in 1925 and only 69,687,000 feet in 1926.⁹ The quantity of dutiable logs imported from British Columbia in 1926—dutiable because subject to Canada's timber tax—was less than 4 per cent of the total production of logs in the Vancouver forest district of British Columbia in 1923.

These facts show conclusively that the Canadian timber tax can not be regarded as an item in costs of production of Canadian logs. To hold otherwise is to assume that only those British Columbia logs which actually pay the timber tax—approximately 4 per cent of the total production—compete with American logs, which of course is not the fact. It has just been shown that in 1925 and 1926 more than half of the logs imported from British Columbia were admitted free of duty because they were not subject to the timber tax. These duty-free imports manifestly compete with American logs as fully and directly as the dutiable logs, and their costs of production are in no sense enhanced by an export tax.

As a matter of fact, competition between American and British Columbia logs is not confined even to the total importation of logs from British Columbia, both dutiable and free. In addition to competing with Canadian logs imported as such, American logs compete also in the form of lumber with practically the entire production of British Columbia's logging industry. That would be true even if no logs were imported from Canada, and this form of competition is greatly increased because Canadian lumber is admitted free of duty into the American market. Domestic raw materials compete not only with the similar imported raw materials, but compete also with the imported finished products, because the latter displace a proportionate quantity of domestic raw materials. Foreign wheat, for example, imported in the form of flour competes with American wheat as truly as imported wheat competes with American wheat. The same principle applies to logs imported in the form of lumber or shingles.

The conclusion is clear. This Canadian timber tax on exported logs can not be considered as an item in the cost of production of British Columbia logs, because it is in effect a tax on exportation and not on production as such; it was paid on less than half of the logs imported from British Columbia in 1925 and 1926, and is not paid at all on the much larger quantity¹⁰ of Canadian logs which compete in the form of lumber and shingles.

3. *Canada's timber tax as an advantage or disadvantage in competition.*—Subdivision (c) of section 315 directs the President, in so far as

⁵ Table 2, p. 5, Pl. I.
⁶ Less than one-tenth of the total of British Columbia logs, lumber, and shingles imported into the United States in 1923 paid this Canadian timber tax. Of the total duty-free imports from British Columbia in that year, only 29,087,000 feet came in as such, while the equivalent of 690,276,000 feet was imported in the form of lumber, and the equivalent of 250,581,500 feet in the form of shingles.

he finds it practicable, to take into consideration "advantages or disadvantages in competition," and it remains to examine that phase of the question.

In appraising the advantages and disadvantages on either side it is impossible to consider the logging industry apart from the lumber industry because the effect of the tax on the one can not be separated from its effect upon the other. By means of this tax a competitive governmental advantage is bestowed on the Canadian lumber industry as an integrated whole, in competition with the similar integrated industry on the American side. The advantages or disadvantages resulting from this tax for the respective lumber industries on either side are of course shared by the logging industries of both countries, on the well-known principle that whatever promotes the prosperity of a manufacturing industry improves also the position of the raw material for that industry, and vice versa. It was shown above that the respective logging industries compete not only directly in the marketing of logs, but also through the competition of Canadian lumber and shingles with the similar American products.

Thus the Canadian logging industry as a whole benefits by the governmental advantage in competition conferred on Canadian lumber manufacturers by means of this tax, as regards all logs subject to the tax which are manufactured or used in Canada. On the other hand, Canada's tax on exported logs may be considered a disadvantage to certain loggers on the Canadian side (at least in the sense that any export tax is an expense incidental to selling the taxed article in foreign markets), as regards that portion of their production on which the tax is actually paid. But the extent of their disadvantage is not determinable; none of these loggers export their entire output, and it is impossible to say how far any disadvantage entailed on the smaller portion of the output which pays the tax may be offset by the advantage accruing on the larger portion which benefits by the remission of the tax.

The same principle applies on the American side. The disadvantage to American lumber mills resulting from Canada's differentially applied timber tax must affect unfavorably the market for American logs, but to what extent is not determinable statistically.

4. *Duty in paragraph 401 conditioned on Canada's restrictive policy.*—As shown in paragraphs 1700 and 401 of the tariff act of 1922, the policy of the Congress was to allow free importation of logs. But because of Canada's export restrictive policy, Congress made special provision for logs of fir, spruce, cedar, or Western hemlock, making such logs dutiable at \$1 per 1,000 feet with the proviso that logs should be exempt from such duty if imported from any country which at no time during 12 months immediately preceding the importation of such logs into the United States maintained an embargo, prohibition, or other restriction upon their exportation. As stated in the report of the Committee on Ways and Means of the House of Representatives accompanying the bill H. R. 7456, "the purpose of this paragraph is to place a premium on fair treatment by other countries."

This policy of Congress to secure for the United States reciprocally equal and reasonable treatment is illustrated by other provisions of the tariff act of 1922. Paragraph 1301 of that act may be cited. There are also provisions imposing duties equal to import duties

imposed by foreign countries on various articles under such paragraphs as 369, 371, 1302, 1536, 1541, 1548, 1565, and 1700.

The foregoing indicates that the committee which prepared and reported the tariff bill considered Canada's policy of restriction upon the exportation of logs to be an unfair discrimination against the United States and, therefore, proposed subjecting the logs in question to an import duty conditioned on the continuance of that policy. Restriction, in an effort to induce Canada to discontinue that policy.

There would be no import duty on logs of fir, spruce, cedar, or Western hemlock, and therefore no occasion for this investigation, but for the continued existence of Canada's policy of restriction and its practice of remitting the timber tax if the logs in question are manufactured or used in Canada. This practice was held by the Board of General Appraisers (now the United States Customs Court) to constitute "a restriction upon the exportation of this class of logs. * * * within the wording of the proviso in paragraph 401, in that it is an inducement not to export the logs and manifests a spirit and action against which the law of the United States is expressly framed."⁷

It was the existence of that condition which prompted Congress to single out logs of fir, spruce, cedar, and Western hemlock for special treatment, taking them from the free list and subjecting them to an import duty of \$1 per thousand feet board measure. Therefore, to use this Canadian export restrictive tax for the purpose of reducing or removing the import duty is to substitute a general provision under which differences in costs of production are equalized, namely, section 315 of the act, for the specific direction of the Congress in paragraph 401 making the condition referred to a cause for imposition of the existing import duty, and for the maintenance of that duty so long as that condition continues. Such use of this Canadian tax would manifestly operate to defeat the purpose and intent of the Congress in seeking to establish reciprocity equal and reasonable treatment, and would reverse the policy established in paragraph 401 dealing specifically with that situation.

5. *General considerations regarding export taxes in relation to import duties.*—Restrictive export taxes, giving to the industries of one country a governmental advantage over the competing industries of another country in the purchase of raw material—like the Canadian tax here in question—are considered objectionable from the point of view of international relations, because they are liable to arouse a sense of unjust treatment in the countries thereby deprived of a supply of raw materials on equal terms with competing industries in other countries. Export taxes of this kind were strongly disapproved, on grounds of international policy, by the World Economic Conference meeting at Geneva in May, 1927, which made the following recommendations with reference thereto:

(1) That the exportation of raw materials should not be unduly burdened by export duties or any other taxes and that, even in cases where such duties or taxes are justified by fiscal needs or by exceptional or compelling circumstances, they should be as low as possible;

(2) That, in any case, export duties on raw materials should never be imposed for the special purpose of subjecting foreign countries using such materials to an increased burden which will place them in a position of unfair inferiority as regards the production of the finished article; * * *

These recommendations reflect the consensus of international opinion regarding export duties of this type. In the United States the laying of taxes or duties upon exportation is expressly forbidden by the Constitution.¹ Such taxes can not be imposed by the United States for any purpose either for revenue or otherwise.

Under the provisions of section 315 the rate of duty to be proclaimed by the President is a rate that will equalize differences in ascertained costs of production in the United States and in the principal competing foreign country. If in the administration of this section export taxes were accepted as an element in costs of production either under subdivision (a) of section 315, or as an advantage or disadvantage in competition under clause 4 of subdivision (c), it would place foreign countries in a position to determine the United States import duties by raising or lowering their export taxes. The adoption of such a method would place foreign countries in a position to frustrate the protective policy of the tariff act of 1922, and would result in a transfer of revenue from the United States to foreign countries; the revenue previously collected here in the form of import duties would be collected in foreign countries in the form of export taxes.

6. *Conclusion respecting Canadian timber tax.*—In view of the considerations above set forth, the undersigned commissioners are of the opinion that the Canadian timber tax (export tax) should not be included in ascertaining differences in costs of production for the purposes of section 315. This question, however, has never been passed upon, either by the Attorney General or by the courts. The President may therefore wish to have an expression of opinion from the Attorney General in this matter.

SUMMARY

Findings of fact to the following effect are, in the judgment of Chairman Marvin and Commissioners Brossard and Lowell, warranted by the evidence collected in this investigation:

(1) Canada is the principal competing country.

(2) *Costs, in boom at tidewater.*—The weighted average cost of production in the United States of logs of fir, spruce, cedar, and Western hemlock, in boom at tidewater, in 1923, was \$16.63 per thousand feet, board measure. The weighted average cost of production in Canada, of like or similar logs, in boom at tidewater, in 1923, was \$14.97 per thousand feet, board measure. The weighted average cost of production in the United States of such logs in boom at tidewater exceeds the weighted average cost of production in Canada of like or similar logs in boom at tidewater by \$1.66 per thousand feet, board measure.

(3) *Costs, including towing to Bellingham.*—Bellingham, Wash., is the principal market in the United States for purposes of this investigation. In the opinion of Commissioners Marvin, Brossard, and Lowell, towing costs should be based upon a weighted average cost of towing logs calculated by applying to the official towing rates from the several booms at tidewater to Bellingham, the quantity of logs boomed at each of those points by companies included in the commission's investigation. Likewise, Canadian towing costs should

be based upon the weighted average cost of towing logs calculated by applying to the towing rates from the several booming points at tidewater in Canada to Bellingham the quantity of logs boomed by Canadian companies included in the commission's investigation.

The weighted average cost of production in the United States of logs of fir, spruce, cedar, and Western hemlock, including costs of transportation to Bellingham calculated by the above method, is \$17.72 per thousand feet. The weighted average cost of production in Canada of like or similar logs, including costs of transportation to Bellingham calculated by the above method, is \$16.57 per thousand feet. The average cost of production in the United States exceeds the average cost of production in Canada by \$1.15 per thousand feet.

(4) *The Canadian timber tax.*—For the reasons presented in the statement of views by Commissioners Marvin, Brossard, and Lowell, pages 28 to 32, the Canadian timber tax should not be included in ascertaining the differences in costs of production for the purposes of section 315.

(5) *Present duty does not equalize differences in costs of production.*—The present conditional duty of \$1 per thousand feet, on logs of fir, spruce, cedar, or Western hemlock, provided in paragraph 401 of the tariff act of 1922, does not equalize the difference in the costs of production of such logs in the United States and the costs of production of like or similar logs in the principal competing country.

(6) *Rate of duty necessary to equalize differences in costs of production.*—The rate of duty necessary to equalize the differences in costs of production of logs of fir, spruce, cedar, or Western hemlock, the product of the United States, and of like or similar logs, the product of the principal competing country, within the limits of section 315 of the tariff act of 1922:

(a) If towing costs are not included, is \$1.50 per thousand feet board measure.

(b) If towing costs from boom at tidewater to Bellingham, calculated by the above method, are included, is \$1.15 per thousand feet board measure.

In reporting the results of this investigation under section 315 of the tariff act of 1922, this summary is confined to a statement of the findings of fact which appear to be warranted by the data secured in the course of this investigation.

Respectfully submitted.

THOMAS O. MARVIN,
Chairman.
EDGAR B. BROSSARD,
SHERMAN J. LOWELL,
Commissioners.

¹ "No tax or duty shall be laid on articles exported from any State." (Art. I, sec. 9, clause 5.)

CONCLUSIONS OF COMMISSIONER DENNIS CONCURRED IN BY COMMISSIONERS COSTIGAN AND DIXON

The log case in some respects is one of the simplest that has been brought to the attention of the United States Tariff Commission. It is also one of the most important. The case presents in clean-cut form competing commodities that are essentially identical in form, in handling systems, in conversion processes, in bookkeeping methods. Actual costs of production have been ascertained from the books of logging companies on both sides of the line. The soundness of the fundamental data obtained by the commission's field experts and approved by the commission's advisory board has not been successfully challenged and is accepted by all commissioners.

The undersigned commissioners accept under the law the plain teaching of the facts.

ASPECTS OF THE CASE AS A NATIONAL PROBLEM

The log case carries with it far-reaching consequences—consequences which transcend in importance the effect on a particular industry of a change in tariff rates. Attention may be called to certain reflexes which possess a national rather than local significance.

(1) Conservation of our rapidly diminishing timber resources through utilization of foreign material.

(2) Consideration of property rights of American citizens in Canadian timber. Exploitation of forest resources has proceeded more rapidly in the State of Washington than in British Columbia. American lumbermen alarmed by the depletion of our forest resources have crossed the line into British Columbia and acquired vast stumpage areas.

(3) The case is unique in another respect. The issue is not the conventional one in which the interests of the foreign and domestic producers conflict. The Canadians are not pressing for a lower duty on logs exported to the United States. On the contrary, the British Columbia government has sought to limit rather than promote the export trade in logs by placing a tax upon logs shipped to the United States. Except for this artificial obstacle to trade imposed by Canada, commerce in logs between British Columbia and the Puget Sound market would be absolutely free.

The case arises out of a conflict in interest as between different classes of American lumbermen. A lumberman's interest in logs may be one thing as a buyer and quite another thing as a seller of logs. To the American lumberman controlling stumpage rights in British Columbia and desiring to cut up logs in American sawmills, the present tariff duty of \$1 per thousand feet on logs is a nuisance and a handicap. The duty also adversely affects the interest of the American sawmill operator who is in the market for logs. It is only the seller of surplus American logs who stands to benefit by impediments to the free competition of Canadian logs.

(4) The case presents another striking and unusual feature in the contrast it offers between dutiable sawmill material (logs) and duty-free finished material (lumber and shingles) into which logs are processed. This represents an economic inversion which calls for correction. Weight of economic theory the world over is on the

side of admitting the raw material free while protecting the manufactured products into which this raw material is converted through the application of human labor. The reverse situation such as we have here is highly anomalous.

(5) A further reflex in the case to be emphasized is the matter of our good trade relations with a country bordering our northern frontier for 3,000 miles in which we have an investment of over three and a quarter billion dollars and to which annual exports (1926) are over \$800,000,000.

DEALING WITH REALITIES

The importance of this case as well as the intent of the law binds commissioners to scrupulous care as to the soundness of information submitted to the President of the United States for his guidance. The undersigned commissioners after careful consideration have adopted and here approve the findings as they are supported by the unanimous expert opinion of the commission's examiners. The data obtained by the commission's experts from the books of logging companies are as convincing as they are adequate.

Concern is with actual rather than fictitious costs. The subject matter of this report is not a figment of the imagination—not a void with phantasms floating in it, but the concrete phenomenon of a terrestrial region with its hills, valleys, deeply indented coast lines, supporting primeval forests, the growth of centuries. In this arena human beings work out their life wrestle, felling trees, cutting them up into logs, getting the logs to sawmills which in turn convert them into lumber. In conducting their logging crafts these human beings disburse cash for stumpage, wages, logging machinery, railroad freight charges for tidewater booms, towing charges on rafts from booms to sawmills.

POINTS AT ISSUE AS BETWEEN COMMISSIONERS

All commissioners are in substantial agreement as to the production costs of logs delivered at tidewater in British Columbia and the State of Washington. But logs in boom at tidewater possess only a potential value. That potential value becomes actualized when the logs are moved to sawmills and cut into lumber. Logs must move from booms to sawmills. All logs, whether foreign or domestic, moving from booms to sawmills must and do pay towage charges. The Canadian logs moving to American sawmills in Puget Sound traverse a much longer distance than American logs moving to nearby domestic markets. The Canadian logs are thereby subjected to a much heavier towing charge in seeking any market on the American side of the line.

In addition to the heavier towing charge certain classes of Canadian logs are required to pay a timber or export tax when offered for sale in the American market. This tax, averaging \$0.92 per thousand feet, or approximately 5 per cent of the average value of dutiable logs imported from Canada in 1925, is exacted and must be paid.

EVALUATION OF THE CANADIAN EXPORT TAX AS A FACTOR IN INTERNATIONAL COMPETITION

Division of opinion has arisen among the commissioners on these two points: Evaluation (1) of the Canadian export tax and (2) of domestic towing charges.

Certain commissioners have suggested that the Canadian export tax should be ignored as a competitive factor in our international log trade with Canada. How ignore a charge which accounts for the imposition of the American import duty on Canadian logs? The Canadians imposed an export duty on logs a great many years ago when the commerce in logs between the two countries was entirely free. This action was taken by Canada for the double purpose of conserving native timber resources and keeping an essential raw material at home. Later on our own Government imposed an import duty of \$1 per thousand feet upon such classes of Canadian logs as carried the export duty.

At any rate, we are confronted by a condition and not a hypothesis. This heavy Canadian export tax is actually levied and must be paid. If it were not so, the entire problem would be removed from the field of tariff discussion, since the American import tax is strictly limited in its incidence to the particular classes of Canadian logs which are required to pay an export duty.

To ignore in international trade competition a tax which must be and actually is paid, presents an incorrect and deceptive picture of the competitive power or weakness of the imported commodity. It is not contended that the Canadian export tax constitutes an item in the cost of production of Canadian logs. But this tax necessarily constitutes an advantage or disadvantage in competition. The payment of an export tax which increases the cost of lumber and shingles in the United States is indisputably a disadvantage to the Canadian producer of logs who offers his product for sale in a foreign market, and such disadvantage can not be ignored under subdivision (c) of section 315 of the tariff act of 1922.

Let us forget—and bearing in mind that everything said by the Attorney General applies with equal force to “disadvantages in competition” as well as “advantages”—for convenient reference, extracts from the Attorney General's opinion of February 10, 1926, will be found in the accompanying footnote.¹

The accepted report of the Tariff Commission on wheat and wheat products shows in tabulated form (p. 43) that the difference in actual costs of production of American and Canadian wheat for the 3-year period of 1921-1923 was 33 cents per bushel. The statutory rate of duty was 30 cents per bushel. If the President had been limited to consideration of the difference in actual costs of production only, under clause (1) he could have added but 3 cents to the statutory rate to equalize the difference in costs of production. But it was found there existed advantages in competition in favor of the Canadian producer resulting from cheaper elevator services and cheaper freight rates to the head of the lakes aggregating approximately 9 cents per bushel. Adding this advantage in competition to the 3 cents advantage in cost of production made a total difference of 12 cents in favor of the Canadian producer. Accordingly, an equalizing duty of 12 cents per bushel on imported Canadian wheat was added to the statutory rate of 30 cents per bushel. * * *

It can not be soundly contended that effect should be given to clause (3) and denied to clause (4).

¹ After the differences in the actual costs of production of fabricated have been ascertained under clause (1) it may be found under clause (2) that advantages, bonuses, and subsidies have been or are being granted by foreign governments. If so, these advantages, bonuses, or subsidies should be taken into consideration in fixing the rate of duty, and these rates for found other advantages or disadvantages in competition, including transportation costs, ascertainable under clause (4) which will invariably aid the President in determining the extent to which he shall exercise the statutory power given him by subdivision (a). * * *

To argue that the Canadian timber, or export, tax should be ignored because at some vague time in the unknown future some nameless foreign government may make similar use of an export tax for the purpose of reducing an American import duty is to abandon the realities of the international trade in logs for pure speculation about some hypothetical situation which bears no relation to the problem of Canadian competition in logs.

The Canadians imposed an export tax on logs more than 25 years ago for the purpose of keeping their logs (sawmill material) at home for manufacture in their own mills. Can it be assumed for a moment that the tax was levied in order to defeat the purposes of section 315 of the American tariff law enacted by Congress nearly 20 years later?

The danger of soaring from earth into the more rarefied atmosphere of pure speculation is strikingly revealed in any effort to ignore the Canadian export tax as a prime factor in the power or weakness of Canadian log competition. In this case it means not only closing one's eyes to incontrovertible facts but an excursion into the realms of pure prophecy. This in turn involves the attribution to foreign governments of mythical programs inspired by sinister motives, when no such programs ever have been or probably ever will be attempted. But even if an attempt at juggling were made, the President could meet it with a new proclamation.

DOMESTIC TOWAGE COST

All commissioners agree that Puget Sound is the principal area of competition, with Bellingham, Wash., within 40 miles of the international boundary, the principal market in the United States for logs of Canadian origin. Commissioners also agree that the average cost of towing 44,502,000 feet of British Columbia logs to Bellingham in 1923 was \$1.77 per thousand feet. It is also agreed that some 95 million feet of domestic logs were actually towed to Bellingham in 1923 at an average towage cost of \$0.44 per thousand feet. The difference between the two figures correctly represents the difference in towage charge as between foreign and domestic logs to the principal competitive market on Puget Sound. But the elementary mathematical proposition fails to command the assent of certain commissioners. They would substitute for an actual towage expense a paper towage rate on hypothetical logs which do not move.

The undersigned commissioners are unalterably opposed to the substitution of fiction for fact in a report sent to the President of the United States for his assistance. No reflection is cast upon any other commissioner's candor, nor upon the honesty of his judgment. A self-deceived person may in perfect honesty pass on his deception to another person. It remains a deception none the less.

A report to the President which ignores an export tax which is actually paid and substitutes for a domestic towage expense actually incurred a fictitious towage charge that is not incurred on hypothetical log rafts which do not move, is a travesty upon accepted fact, and as such tends to mislead the President rather than assist him in the correct determination of a rate that will equalize costs of production.

To substitute fiction for reality in reports to the President is to lay the ax to the root of the tree, since it means the employment of the flexible tariff to prevent the accomplishment of the very things it was intended to do.

POINTS IN THE TOWAGE CONTROVERSY

"Towage," as accepted by the industry, describes in a single word the process of transporting logs from boom at tidewater to market. Logs find at once their proper objective and their ultimate market at sawmills. The greater the concentration of sawmills, the bigger and broader the market for logs. In British Columbia logging is more of a frontier industry than in the State of Washington. The terrain on both sides of Georgia Strait in British Columbia, for a distance of 300 miles is sparsely settled with no important rail heads outside of Vancouver, and no important cities except Vancouver and Victoria. The Canadian loggers work at arm's length from the mills they serve. It frequently happens that their logs must be towed from 70 to 280 miles in order to reach their terminal market. (See map showing location of booms at tidewater and mills in Washington and British Columbia, following p. 41.)

Quite a different situation prevails on the American side of the line. Industry in the State of Washington has grown apace with great saw-mill centers springing up around the littoral of Puget Sound in obedience to the economic law which tends to provide the domestic output of logs with convenient markets. The entire development of the industry has tended to shorten the transport of heavy logs to terminal markets. Puget Sound logs attain their terminal markets on short hauls, with correspondingly light towage charges. The cities of Seattle, Everett, and Tacoma with their great sawmill concentrations absorbed nearly two-thirds of the logs which actually moved in 1923 from booms at tidewater to mills. Four important trunk-line railroads serve various points on Puget Sound.

The most important sawmill concentration on the Sound, Tacoma (26 sawmills with an estimated annual capacity of 793,000,000 feet),² paid an average towing charge of only \$0.35 per thousand feet on approximately 293,000,000 feet of logs towed to that market in 1923.

It is interesting in this connection to note that the water transport costs on all domestic logs actually towed from all Puget Sound points to all Puget Sound destinations in the year 1923 was \$0.50 per thousand feet, or only about 7 cents more than the average cost of logs actually towed to Bellingham. (See Table 2 showing number of mills, quantity of logs towed, and the towage costs for the 37 companies whose figures are shown in the report.)

In the face of actual towage expense on actual movement of logs to Bellingham of not more than \$0.50 per thousand feet, how do certain commissioners arrive at the surprising figure of \$1.09 per thousand feet for domestic towage costs to Bellingham? This figure is arrived at by imaginatively conducting the 1,403,609,465 feet of the 30 domestic operations whose logs reached tidewater to Bellingham. In other words, the towage charge of \$1.09 represents a purely fictitious and hypothetical movement of logs. Certain commissioners seated in their comfortable offices in Washington with a few strokes of the pen are moving nearly a billion and a half feet of logs to Bellingham when under the dictum of actual circumstance these logs do not so move and under no conceivable condition ever would move to the Bellingham market.

If Canadian logs were entirely excluded from the Bellingham market the domestic logger could only hope to benefit in the Bellingham mar-

ket by the amount displaced by the Canadian imports. Canadian imports in the year 1923 carried to Bellingham amounted to 64,501,000 feet, or 4.6 per cent of the 1,403,609,000 feet of domestic logs put in tidewater by 30 of the operations covered by the commission's investigation. These 64,500,000 feet represented in 1923 the maximum advantage in increased market volume which domestic logs would have secured through an embargo on Canadian imports. But an embargo is quite outside the pale of this discussion. The maximum change in rate under the flexible provision of the tariff act amounts to no more than 50 per cent up or down in the existing tariff level.

But conceding the possibility of enlarging the American market up to the limits of the amount displaced by Canadian imports, what is this figure of 64,500,000 feet alongside the 1,403,609,000 feet of domestic logs actually reaching boom at tidewater in the operations considered by the commission? What forces are in motion, economic or political, that would take a billion and half feet of logs to a relatively poor and feeble market, Bellingham, when they are disposed of to better advantage in great near-by markets such as Seattle, Everett, and Tacoma?

The Puget Sound logger is not a metaphysician. He is a practical business man who in obedience to simple economic law sells his product in the most convenient markets. He obtains no market advantage whatever in towing his logs 69 miles beyond Everett, which in 1923 cut 2,395,000 feet of lumber daily, to the relatively poorer market of Bellingham which in 1923 cut only 1,345,000 feet daily.

The practical, unimaginative logger interested in profits rather than in metaphysical abstractions, sells his logs in near-by convenient markets and so avoids unnecessary towing expense.

It is difficult to give a patient hearing to the proteague doctrine, unsupported either by practical loggers or the Tariff Commission's expert examiners, that domestic costs of production must be saddled with a theoretical transportation charge on logs that are not actually transported to Bellingham. If there were no Canadian competition whatever, the domestic loggers could not and would not offer more than a small fraction of their logs for sale in Bellingham, since Bellingham offers but a sorry and limited market when compared to the enormous sawmill concentrations at other points which have and will continue to absorb the bulk of the Puget Sound log output.

Apply this doctrine of fictitious transportation to the steel industry. Let us take for purposes of illustration New York City as the principal competing market. The transportation costs of domestic steel plants actually moving their product to New York would naturally be compared with the actual transportation cost on European steel that moves to New York.

In contrasting the obvious, however, one may point out that promising steel plants have been established in such remote sections of the country as Utah, Colorado, and Texas. These plants find a ready market for their output in near-by consuming centers such as Salt Lake City, Denver, Galveston, or even Chicago. None of this steel actually moves to New York City, nor would it so move if no foreign steel whatever were imported. The reason is plain. The domestic producer in attempting to sell steel in an eastern market on a haul of one thousand to fifteen hundred miles would have no chance as against

² Computed on a basis of 276 days operation.

the domestic Pittsburg producer who is selling his steel in the same market on a haul of one-third the distance.

Exactly the same reasoning applies to logs. The logger operating in the southern reaches of Puget Sound would be working absolutely against his own interest in attempting to sell logs in the northern part of his Sound near the Canadian border. He would be matching his long-haul charges against the short-haul of his northern competitors. He would be overwhelmed by domestic competition.

Transportation charges are necessarily based on movement. No transportation expense without a movement. A comparison of towage costs is indisputably based on actual rather than theoretical movement.

A great gathering of domestic loggers attended the public hearing in Seattle, August 4, 5, 6, and 7, 1925. No witness who appeared in opposition to the application for a reduction in the log duty offered testimony in favor of theoretical towage charges to Bellingham. The doctrine of theoretical towing costs originated with Mr. Stephen V. Carey, the learned attorney for the domestic Loggers' Information Association.

Mr. Carey puts this hypothetical question to one of his witnesses (p. 467, transcript of log hearing, August 6, 1925) "In other words, you do not think it would be fair to exclude your Phoenix operation, for instance, from the Bellingham market by allowing the Canadians to charge off \$1.76 to bring their logs into Bellingham and not allow you \$1.75 to bring your logs from Phoenix to Bellingham?"

The witness replied, "That is the way it appears to me."

This is about the only testimony which the record supplies as to the views of practical logging men on the subject of the theoretical transportation of logs.

"That is the way it appears" to the witness. How does Mr. Carey's question appear to the seeker for the truth in this matter of comparative towage charges? First, logs are not moved from the Phoenix operation at Polatch to Bellingham; second, if they were so moved they would pay an average towage rate of \$1.26 rather than \$1.75; third, if the domestic logger marketing his product on a short transportation radius is to be allowed the same towage charge which the Canadian is compelled to pay on his longer towage radius, how is this fictitious award to be entered as an item in production costs? If in some future case the domestic transportation item happens to exceed the foreign transportation item, would a demand be heard for bringing them both down to exactly the same level?

It is interesting to note that Mr. Carey, the original proponent of theoretical towage costs, is not convinced of the soundness of his own theory. He resumes discussion of the subject in his reply brief, page 14, proceeding at first to offer the suggestion that "towage charges are not a proper item to be taken into consideration at all." Under a subsequent ruling of the Attorney General the Tariff Commission has no opinion about the matter. It must take such charges into consideration. Mr. Carey refers to the displacement of American logs at Bellingham by Canadian logs and points out that the domestic towage average is lowered by the amount of logs which might have moved to Bellingham had they not been excluded by the competing Canadian logs.

Accepting this view at its face value, the few million feet of logs which are unable to find their market at Bellingham because of Canadian competition (64,501,000 feet) are but a minor factor in the equation when compared to the 1,403,609,000 feet of domestic logs that actually did move from their booms at tidewater to terminal markets. Because 64,500,000 feet of logs are possibly excluded from the Bellingham market is no reason to ask that all logs included in the domestic operation be given the benefit of theoretical towage to Bellingham, a market to which they do not and would not move.

As a conclusion to the whole matter of towage charges, Mr. Carey may again be quoted (p. 14, reply brief Loggers' Information Association), "We again venture the suggestion that towing charges are not a proper item to be taken into consideration at all, but even though some of the commission should disagree with us on that as an abstract proposition, nevertheless, it is clear that the only way to get these charges on a comparable basis is to compare the cost of towing Canadian logs that actually move to Bellingham with the cost of towing American logs that actually move to Bellingham."

Thus Mr. Carey, and those for whom he speaks, though advocating a higher duty on domestic logs, abandon the fantastic suggestion of certain commissioners as to hypothetical towage and range themselves squarely with the view here maintained that the only comparable basis for towage charges is to compare the costs of towing Canadian logs that actually move to Bellingham with the cost of towing American logs that actually move to Bellingham.

CONCLUSIONS

It would seem that the same influences on the commission which favored the exclusion of transportation costs, under subdivision (c) of section 315 of the tariff act of 1922, are bent upon nullifying the ruling of the Attorney General that such costs must be considered as an advantage or disadvantage in competition by the use of legal fictions as an intellectual means for meeting a difficulty.

Under the doctrine that hypothesis may be substituted for reality and inconvenient facts ignored any commissioner may arrive at a predetermined judgment on any case. By a similar selective process one may spell from a box of lettered blocks any word that he may desire.

Of course, such methods mean the destruction of the commission as a scientific fact-finding body. The flexible provision answers to the need for scientific tariff making. To those who have been skeptical of its workability the doctrine that what is not may be supposed is stated for what is, in a report to the President, will provoke cynical laughter. But to the serious minded who still retain some faith in the commission as a valuable advisory board to the President the doctrine referred to will bring only mortification and distress.

Such a doctrine is a species of sacrilege, since it breaks down the invisible altar of public trust in a governmental agency.

FORMAL STATEMENT OF CONCLUSIONS

1. Canada is the principal competing country.
2. The differences in cost of production between logs of fir, spruce, cedar, or Western hemlock, the product of the United States, and similar Canadian logs delivered at the principal Puget Sound competitive

market (Bellingham) is (1) with Canadian export tax, \$0.59 per thousand (excess foreign cost); (2) without Canadian export tax, \$0.33 per thousand (excess domestic cost). In either case the minimum duty permissible under section 315 is greater than the difference in costs in the United States and Canada.

ALFRED P. DENNIS, *Vice Chairman.*

The undersigned commissioners fully concur in the findings and conclusions of Commissioner Dennis. We agree that, under the law, the facts found by the Tariff Commission in this investigation warrant a maximum decrease in the present duty imposed on the logs specified in paragraph 401 of the tariff act of 1922.

EDWARD P. COSTIGAN,
LINCOLN DIXON,
Commissioners.

TABLE 1.—*Logs: Comparison of costs of domestic and foreign logs, 1923, per thousand feet*

	Domestic, 43 opera- tions	Foreign, 20 operations	
Total cost in boom at sidewater	\$18.68	\$14.97	
Average foreign tax (export royalty)		.92	
Average foreign paid on actual movement of logs			
(1) Per domestic on Puget Sound and for foreign to Bellingham	1.50	1.17	Canadian costs from United States costs of \$.59
(2) On both domestic and foreign logs to Bellingham	1.44	1.17	
Total cost, including towage paid on actual movement of logs and timber tax (export royalty):			
(1) For domestic on Puget Sound and for foreign to Bellingham	17.18	17.66	United States costs from Canadian costs of \$.80
(2) On both domestic and foreign logs to Bellingham	17.07	17.66	
Maximum reduction indicated in each case.			
(3) On both domestic and foreign logs to Bellingham	17.13	16.74	
Maximum reduction indicated in each case.	17.07	16.74	

¹ Towage paid in 1923 by 87 sawmills on Puget Sound on 1,673,565,081 feet.
² Towage paid in 1923 by 6 Canadian loggers to deliver a total of 44,502,009 feet of logs to Bellingham mills.
³ Towage paid in 1923 by 3 sawmills at Bellingham on 26,046,112 feet of domestic logs purchased from loggers.

TABLE 2.—*Logs: Number and location of sawmills which paid for towing domestic logs in 1923, quantity towed, and average cost per thousand feet*

Point to which logs were towed	Number of mills	Quantity towed	Cost per thousand feet
Bellingham	3	95,040,112	\$0.44
Amaroetles	2	42,435,127	1.16
Beverly	4	166,021,188	.61
Bastille	8	211,092,895	.61
Tsodoma	12	236,477,011	.35
Olympia	6	34,687,483	.25
Other points	6	226,897,080	.64
Total and average	37	1,075,565,931	.50

¹ Figures for six other points not shown separately because confidential information would thereby be revealed.

LOGS: LOCATION OF BOOMS OF DOMESTIC AND FOREIGN LOGGING OPERATIONS COVERED BY THE COMMISSION'S INVESTIGATION AND AVERAGE TOWING DISTANCES TO BELLINGHAM; TOGETHER WITH LOCATION OF SAWMILLS ON PUGET SOUND AND THE STRAIT OF GEORGIA. TOTAL ANNUAL CAPACITY OF SAWMILLS SHOWN FOR EACH SIX CITIES.

-LEGEND-

- ▲ Indicate location of logging operations.
- FIGURES represent towing distance in miles from tidewater to Bellingham.
- X Show location of tidewater sawmills.
- Annual mill capacity computed on basis of 275 days operation.

