WOOD SHAKES AND SHINGLES

Report to the President on Investigation No. TA-201-56 Under Section 201 of the Trade Act of 1974

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UNITED STATES INTERNATIONAL TRADE COMMISSION

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Paula Stern, Chairwoman
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Seeley G. Lodwick
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Anne E. Brunsdale

STAFF ASSIGNED

Investigator:	Tom Westcot
Commodity-Industry Analyst:	Fred Ruggles
Economist:	John Ryan
Financial Analyst:	Chand Mehta
Attorney Advisor:	Judith Czako
Supervisory Investigator:	Lynn Featherstone

Address all communications to
Kenneth R. Mason, Secretary to the Commission
United States International Trade Commission
Washington, DC 20436

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UNITED STATES INTERNATIONAL TRADE COMMISSION
March 25, 1986

REPORT TO THE PRESIDENT ON INVESTIGATION NO. TA-201-56

WOOD SHINGLES AND SHAKES

Determination

On the basis of the information developed during the course of investigation No. TA-201-56, the Commission determines 1/ that wood shingles and shakes, provided for in item 200.85 of the Tariff Schedules of the United States (TSUS), are being imported into the United States in such increased quantities as to be a substantial cause of serious injury to the domestic industry producing articles like or directly competitive with the imported articles.

Findings and recommendations

Commissioners Eckes, Lodwick, and Rohr find and recommend that in order to remedy the serious injury found with respect to wood shingles and shakes it is necessary to impose a tariff of 35 percent ad valorem for a period of 5 years on imports of wood shingles and shakes of western red cedar. 2/

Chairwoman Stern finds that the provision of adjustment assistance can effectively remedy the serious injury found to exist and recommends the provision of such assistance.

Commissioner Brunsdale dissents from the affirmative injury determination and recommends that the President consider a policy of assistance to retrain and relocate displaced workers.

Commissioner Liebeler voted in the negative with respect to injury and recommends that no relief be provided.

1/ Vice Chairman Liebeler and Commissioner Brunsdale dissenting.

2/ Pursuant to sec. 213(e)(2) of the Caribbean Basin Economic Recovery Act (19 U.S.C. § 2703(e)(2)), these findings and recommendations regarding remedy also apply to the subject products when imported from beneficiary (Caribbean Basin) countries.

Background

On September 25, 1985, following receipt of a petition filed on behalf of domestic wood shingle and shake producers, the Commission instituted investigation No. TA-201-56, under section 201(b)(1) of the Trade Act of 1974 (19 U.S.C. § 2251(b)(1)), to determine whether wood shingles and shakes, provided for in item 200.85 of the TSUS, are being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing an article like or directly competitive with the imported article.

Notice of the institution of the investigation and of a public hearing to be held in connection therewith was given by posting copies copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the Federal Register of October 23, 1985 (50 F.R. 43010). The hearing was held in Washington, DC, on January 9, 1986, at which time all persons were afforded the opportunity to present evidence and be heard. The Commission announced its injury determinations and remedy findings and recommendations in public sessions on February 26, 1986, and March 18, 1986, respectively.

This report is being furnished to the President in accordance with section 201(d)(1) of the Trade Act (19 U.S.C. § 2251(d)(1)). The information in the report was obtained from responses to Commission questionnaires, from fieldwork and interviews by members of the Commission's staff, from information obtained from other agencies, information presented at the public hearing, briefs submitted by interested parties, and information in the Commission's files, and from other sources.

VIEWS OF CHAIRWOMAN STERN, COMMISSIONER ECKES, COMMISSIONER LODWICK, AND COMMISSIONER ROHR

We have determined that wood shakes and shingles are being imported into the United States in such increased quantities as to be a substantial cause of serious injury to the domestic wood shakes and shingles industry.

The purpose of section 201 of the Trade Act of 1974 1/ is to prevent or remedy serious injury to the domestic productive resources 2/ which is substantially caused by imports, while facilitating adjustment to import competition. 3/ Before the Commission can make an affirmative determination and recommend import relief, however, the Commission must find:

> (1) that imports of articles concerned are entering the United States in increased quantities;
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> (2) that the domestic industry producing an article like or directly competitive with the imported article is being seriously injured or is threatened with serious injury; and
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> (3) that increased imports are a substantial cause of the serious injury or threat thereof to the domestic industry.

The conditions in the domestic industry during the recent period covered by this investigation satisfy the statutory criteria and the domestic industry is, therefore, entitled to an affirmative injury determination under section 201.

The domestic industry

Before addressing the three statutory criteria for determination, it is necessary to define the domestic industry which is at issue in this

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1/ 19 U.S.C. § 2251.
2/ H.R. Rep. No. 571, 93d Cong., 1st Sess. 46 (1973).
3/ S. Rep. No. 1298, 93d Cong., 2d Sess. 119 (1974).

investigation. Section 201(b)(1) defines the term "industry" in terms of the producers of articles "like or directly competitive" with the imported articles at issue. The statute does not define the terms "like" or "directly competitive." However, the legislative history of the Trade Act of 1974 discusses them as follows:

> The words "like" and "directly competitive" as used previously and in this bill, are not to be regarded as synonymous or explanatory of each other, but rather to distinguish between "like" articles and articles which, although not "like", are "directly competitive." In such context, "like" articles are those which are substantially identical in inherent or intrinsic characteristic (i.e., materials from which made, appearance, quality, texture, and etc.), and "directly competitive" articles are those which, although not substantially identical in their inherent or intrinsic characteristics, are substantially equivalent for commercial purposes, that is, are adapted to the same uses and are essentially interchangeable therefore. 4/

Moreover, the legislative history of section 201 indicates that the Commission is to consider "the question of serious injury to the productive resources (e.g., employees, physical facilities, and capital) employed in the divisions or plants in which the article in question is produced." 5/

The imported articles at issue in this investigation are wood shakes and shingles. 6/ The respondents in this investigation, producers and importers

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4/ H.R. Rep. No. 571, 93d Cong., 1st Sess. 45 (1973); S. Rep. No. 1298, 93d Cong., 2d Sess. 121-22 (1974). In addition, section 601(5) of the Trade Act of 1974 specifies that the term "directly competitive with" a domestic article may include an imported article at an earlier or later stage of processing if the importation of the article has an economic effect on producers of the domestic article comparable to the effect of the importation of an article at the same stage of processing as the domestic article.

5/ H.R. Rep. No. 571, 93d Cong., 1st Sess. 46 (1973).

6/ Wood shakes and shingles are provided for in item 200.85 of the Tariff Schedules of the United States.

of wood shakes and shingles from Canada 7/ argued that the Commission should conclude that there are four domestic industries. They argued that the imports are properly disaggregated into shakes of western red cedar, shingles of western red cedar, remanufactured shingles of western red cedar, and shingles of northern white cedar, and that a separate industry produces each of these articles.

It is clear that there are both similarities and differences between the various shakes and shingles at issue in this investigation. Western red cedar shakes and shingles are manufactured from the same raw material, frequently in the same facility, and may be manufactured by the same persons, although using somewhat different equipment. 8/ Similarly, northern white cedar shingles are manufactured in the same manner, using the same type of equipment, as western red cedar shingles, and can be used for the same purposes, but are manufactured from a different species of tree and are generally produced and marketed in different geographical areas of the United States. Furthermore, the choice of whether to use shakes or shingles in a particular building application appears to be dictated by factors other than the inherent characteristics of the articles, such as consumer preferences and geography.

In determining which producers constitute the domestic industry, the Commission generally considers the productive facilities, manufacturing processes, and the markets for the products at issue in the investigation. 9/ In this investigation, approximately 50 percent of the domestic mills produce

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7/ Virtually all imports of wood shakes and shingles are from Canada. Report of the Commission (hereinafter Report) at A-17 and Table 5.
8/ See H.R. Rep. No. 571, 93d Cong., 1st Sess. 46 (1973).
9/ Carbon and Certain Alloy Steel Products, Inv. No. TA-201-51, USITC Pub. No. 1553 (1984) 12-13.

both shakes and shingles. 10/ In addition, both shakes and shingles are marketed for the most part through wholesale distributors and sold to the construction industry. 11/

The various articles at issue here are, to a greater or lesser extent, interchangeable. The choice between western red cedar and northern white cedar shingles, for instance, appears to be largely a function of geographical region (northern white cedar is most popular in the northeast and the Atlantic seaboard, while western red cedar is most popular in the west and southwest), and the particular appearance desired (northern white cedar ages to a silvery grey, while western red cedar ages to a deep reddish brown). In addition, shakes have a more rustic appearance than do shingles. However, both shakes and shingles are used for fundamentally the same purpose, the outside covering of buildings, particularly in residential applications. In this investigation, we conclude that it is appropriate to find a single domestic industry, devoted to the production of wood shakes and shingles.

Respondents suggested that if the Commission were to determine that there is a single industry producing wood shakes and shingles, it should expand the industry definition to include other roofing and siding products, such as asphalt shingles, clay tile, aluminum siding, which they argue are directly competitive with wood shakes and shingles. While it is true that these products have some common ultimate uses as the outside covering of a structure, they are not necessarily equivalent for commercial purposes. The analysis of "like or directly competitive" under section 201 focuses on the

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10/ Report at A-5.

11/ Report at A-16. Some larger mills, however, may have developed individual contacts and market directly to building contractors.

question of whether products are essentially interchangeable in the sense of being substantially equivalent for commercial purposes. A contractor or homeowner is not likely to consider products of such fundamentally different appearance as asphalt shingles or clay tiles as the commercial equivalent of wood shakes and shingles. Moreover, roofing products such as asphalt shingles or clay tiles are not suitable for use as siding. In addition, the productive facilities and manufacturing processes for these other roofing and siding products are significantly different from those of wood shakes and shingles. Moreover pricing of these other products appears to be more responsive to forces other than those significant to the pricing of wood shakes and shingles. For instance, the price of asphalt shingles appears to be primarily responsive to the price of oil, a primary input in the manufacture of asphalt shingles. 12/

Increased imports

The first of the three statutory criteria which must be satisfied is that imports are increasing. This increase can be "either actual or relative to domestic production." 13/

Imports of wood shakes and shingles have increased within the meaning of section 201, particularly during the most recent period. U.S. imports of wood shakes and shingles increased from 3.8 million squares in 1983 to 4.5 million squares in 1984, an increase of 18 percent. 14/ Imports increased further

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12/ Report at A-61.
13/ 19 U.S.C. § 2251(b)(2)(C); S. Rep. No. 1298, 93d Cong., 2d Sess. 121 (1974).
14/ Report at A-18, table 5. U.S. imports of wood shakes and shingles had previously fallen from 3.7 million squares in 1978 to 3.2 million squares in 1982, then increased to the the 3.8 million level of 1983. Report at A-16.

during the most recent period, January-September 1985, to 3.7 million squares, as compared with 3.3 million squares during the comparable period of 1984. 15/

These growing import volumes resulted in an increase in the ratio of imports to domestic consumption and a corresponding decline in domestic market share supplied by U.S. producers. The market share of domestic producers fell from 41.2 percent in 1983 to 33.9 percent in 1984. 16/ Data for the most recent period show a continued decline in domestic producers' market share to 26.2 percent in January-September 1985, as compared with 36.1 percent during the comparable period of 1984. 17/ The ratio of imports of wood shakes and shingles to domestic production increased from 78.9 percent in 1978 to 185.9 percent in 1984. 18/ During the most recent period, January-September 1985, the ratio of imports to domestic production rose to 272.5 percent, as compared with 168.1 percent during the comparable period of 1984. 19/

Serious injury to the domestic industry

The second of the three statutory criteria which must be met is that the domestic industry must be seriously injured. The statute does not define the term "serious injury," but rather sets forth certain economic factors which the Commission is to consider in making its determination. Section 201(b)(2) provides that

> the Commission shall take into account all economic factors which it considers relevant, including (but not limited to) . . . with respect to serious injury, the significant idling of productive facilities in the

15/ Report at A-18, table 5.
16/ See Report at A-7, table 1.
17/ See Report at A-7, table 1.
18/ Report at A-24.
19/ Report at A-24.

> industry, the inability of a significant number of firms to operate at a reasonable level of profit, and significant unemployment or underemployment within the industry. . . . 20/

The Trade and Tariff Act of 1984 amended section 201(b)(2) in several respects. New section 201(b)(2)(D) provides that

> the presence or absence of any factor which the Commission is required to evaluate in subparagraphs (A) and (B) shall not necessarily be dispositive of whether an article is being imported into the United States in such increased quantities as to be a substantial cause of serious injury or threat of serious injury to the domestic industry.

In addition, the amendments added a paragraph to section 201(b) which defines the term "significant idling of productive facilities" to include both the closing of plants or the underutilization of production capacity. 21/

In analyzing the question of serious injury to the domestic industry, the Commission considered data for the period 1978-1985, which includes an entire business cycle. However, the period 1983-September 1985, was most significant in the Commission's analysis. During this period, the market for wood shakes and shingles was generally improved, and the industry was in a relative upturn in the business cycle. After improving almost 30 percent from the depressed level recorded in 1982, domestic consumption increased a modest 6 percent from 1983 to 1984, from 6.4 million squares to 6.8 million squares. 22/ Consumption has since been stable, remaining at approximately the same 5.1 million squares level in January-September 1985 as in January-September

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20/ 19 U.S.C. § 2251(b)(2)(A).

21/ 19 U.S.C. § 2252(b)(7). The legislative history to this amendment indicates that it is "intended to clarify congressional intent by elaborating on the language of section 201." H.R. Rep. No. 1156, 98th Cong., 2d Sess. 141-42 (1984).

22/ Domestic consumption in 1982 was only 5 million squares, the lowest level recorded during the period under investigation. Report at A-7, table 1.

1984. 23/ Thus, our consideration of injury during this recent period, 1983-1985, takes into account the cyclical nature of the domestic industry, and focuses on the effect of imports.

Overall, the indicators of the domestic industry's performance declined during the period under investigation. Although the condition of the industry improved in 1983, that improvement proved short-lived, despite increased consumption in 1984 and stable consumption during January-September 1985. The domestic industry's performance worsened during 1984, and industry indicators, particularly with respect to production and employment, fell dramatically in the interim period January-September 1985.

Domestic production of wood shakes and shingles declined 13 percent between 1983 and 1984, from 2.7 million squares to 2.4 million squares. This decline accelerated considerably in 1985, falling 41 percent, from 1.9 million squares to 1.4 million squares, when January-September 1985 data are compared with data for the corresponding period of 1984. 24/

It is estimated that the overall production capacity of the domestic industry fell 15 percent from 1980 to 1984. 25/ Data for the most recent period indicate that this overall decline in production capacity is continuing. 26/ The responses to the Commission's questionnaires indicate that capacity utilization fluctuated during the period 1980-1984, and has

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23/ Report at A-7, table 1.
24/ Domestic production of wood shakes and shingles had decreased from 4.7 million squares in 1978 to 1.8 million squares in 1982, then increased to the 2.7 million squares level recorded in 1983. Report at A-25.
25/ Industry-wide data on production capacity for wood shakes and shingles are not readily available. Data for production capacity are based on the responses to the Commission's questionnaires. Report at A-27.
26/ Report at A-27.

declined in the most recent period, January-September 1985, as compared with the corresponding period of 1984. 27/

Wood shakes and shingles have been produced in the United States by fewer firms in each year since 1978. Based on data for the four states which account for the majority of shake and shingle operations 28/, it is estimated that the number of firms has declined from 445 in 1978 to 274 in 1984, or by 38 percent. 29/ Estimates for the most recent period indicate a continued decline to 255 firms. 30/

Employment, like production, fell significantly in 1984 and precipitously in 1985. Annual average employment in the wood shake and shingle industry fell 11 percent between 1983 and 1984, from 2,375 to 2,146 workers. 31/ In 1985, employment fell 37 percent, from 2,146 workers in January-September 1984 to 1,572 workers in January-September 1985. 32/ Annual average employment per U.S shake and shingle firm similarly fell from 8.2 persons per firm in 1983 to 7.8 persons per firm in 1984. 33/ In the most recent period, only 6.2 persons were employed per firm in January-September 1985, compared with 7.8 persons per firm during the comparable period of 1984. 34/

27/ Report at A-27.
28/ The four states are Washington, Oregon, Idaho, and Maine.
29/ Report at A-28.
30/ Report at A-31.
31/ Report at A-31. Annual average employment in the wood shake and shingle industry fell from 4,531 in 1978 to 1,904 in 1982, before increasing slightly in 1983, to 2,375. Id.
32/ Report at A-32.
33/ Report at A-32. Annual average employment per U.S. shake and shingle firm had previously fallen from 10.2 persons per firm in 1978 to 6.3 persons per firm in 1982, before increasing to the level reported in 1983. Id.
34/ Report at A-32.

Because of the small size of many domestic shake and shingle operations, data concerning the financial performance of the domestic industry were somewhat fragmentary in this investigation. 35/ The available data indicate that the domestic industry operated with significant losses from 1980 through 1982, but showed significant improvement in profitability during 1983. 36/ In 1984, the industry's financial performance weakened considerably. In the most recent period, January-September 1985, the industry has continued to report profits; however, profits are considerably lower than those reported in 1983 or during the comparable period of 1984. 37/

Thus, in light of the considerable declines in production, employment, the number of firms producing shakes and shingles, and production capacity, despite a modest increase in consumption in 1984 and stable demand in 1985, we conclude that the domestic industry producing wood shakes and shingles is seriously injured.

Substantial cause of serious injury to the domestic industry

Having determined that the first two statutory criteria are met - imports have increased, and the domestic industry is seriously injured - we must determine whether increased imports are a substantial cause of that injury. Substantial cause is defined as "a cause which is important and not less than any other cause." 38/ The statute further provides that the Commission, in

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35/ The Commission received usable responses from 25 firms, accounting for about 24.5 percent of the value of domestic shipments in 1984. Report at A-33. In view of the fact that there were approximately 274 firms in operation in that year, it is clear that the data are not necessarily representative of the operations of many smaller firms.

36/ Report at A-33.

37/ Report at A-33.

38/ 19 U.S.C. § 2251(b)(4).

considering the issue of causation, is to take into account all economic factors which it considers relevant, including but not limited to

> an increase in imports (either actual or relative to domestic production) and a decline in the proportion of the domestic market supplied by domestic producers. 39/

The Commission is frequently faced with the task of determining what constitutes a separate identifiable cause of injury to the domestic industry, and then comparing the relative importance of each potential cause of injury to the impact of imports. In particular, in this investigation, the Commission was again faced with the need to evaluate the impact of imports in an industry which experiences cyclical downturns. 40/ We do not believe that Congress intended that the Commission consider a cyclical downturn per se to be a cause of injury. 41/ Increased imports can be a substantial cause of serious injury to a domestic industry at any point in the business cycle.

The presence of imports was at its height during the most recent period, since 1983. During this period, housing construction also increased through the third quarter of 1983, fell slightly in late 1984, and rebounded in 1985. 42/ Consequently, domestic consumption of shakes and shingles increased and then stabilized, suggesting that the industry experienced a cyclical upturn. The performance of the domestic industry, however, particularly with respect to production and employment, worsened considerably.

39/ 19 U.S.C. § 2251(b)(2)(C).

40/ There is a distinct relationship between demand for shakes and shingles and new housing construction, which is in turn related to movements in overall economic activity.

41/ Unwrought Copper, TA-201-52, USITC Pub. No. 1549 (July 1984) at 12 & n.31. See also Additional Views of Commissioner Paula Stern in Stainless Steel and Alloy Tool Steel, Inv. No. TA-201-48, USITC Pub. No. 1377 (1983) at 63.

42/ Report at A-60.

Prices of shakes and shingles generally track the level of housing construction activity. 43/ However, following an upturn in prices as demand increased in 1983, the declines in shake and shingle prices in 1984 lasted longer, and were more acute, than would have been expected based on the historical relationship between housing construction and shake and shingle prices. Moreover, the upturn in housing construction has not translated into increased shake prices in 1985, although shingle prices have increased. 44/ In addition, despite generally lower domestic prices, imports of shakes and shingles were able to undersell the domestic product by margins of up to 13.5 percent during the last three quarters of 1984 and 1985. 45/

In view of the coincidence of significantly increased imports and deteriorating conditions in the domestic industry during a period of relatively improved domestic consumption, we conclude that increased imports are a significant cause of serious injury to the domestic industry.

Alternate causes

In this investigation, respondents argued that a declining supply and harvest of western red cedar suitable for the production of shakes and shingles is the primary cause of the decline in U.S. production and market share. In addition, respondents argued that a decline in both long term and cyclical demand for wood shakes and shingles is a cause of injury more significant than imports.

43/ Report at A-54.

44/ Report at A-47, table 19. The prices referred to are those for #1, 1/2" x 24" handsplit and resawn western red cedar shakes. This product accounts for approximately 40 percent of the volume of trade in shakes and shingles, and the price series generated for this product is the most complete in this investigation.

45/ Report at A-55, table 22.

Based on Washington State and U.S. Forest Service data, the Commission staff estimated that the inventory of western red cedar suitable for, but not dedicated solely to, the production of western red shakes and shingles declined by approximately 18 percent from 1980 to 1985. 46/ However, inventories declined only 9 percent since 1983. At the rate of harvest prevailing from 1980 to 1984, the suitable inventory of western red cedar would last into the next century. 47/ Thus, while it is clear that the domestic industry will eventually face the problem of a disappearing, non-renewable raw material supply, at the present time the availability of logs is not a significant factor in the domestic industry's woes. 48/

Perhaps more relevant than the availability of logs is the price at which the available logs are sold. The Canadian respondents argued that the problem of scarce suitable western red cedar translates into higher costs for domestic producers. The cost of logs accounts for approximately half the total operating cost of most producers. 49/ However, the evidence does not support this argument. In absolute terms, the price of shake grade logs rose from 1983 to 1984, but fell back to essentially the 1983 level in 1985. The price of shingle grade logs was stable from 1983 to 1984, and declined in 1985. 50/

46/ Report at A-71.
47/ Report at A-71.
48/ Chairwoman Stern found that the domestic industry is already facing a serious long term problem regarding adequate supply of old growth red cedar. While this shortage of raw material suitable for shingle and shake production has not had an unusual adverse effect on the industry since 1983, coincident with the injury she found to exist, she believes it to be a problem which contributes significantly to the long-term competitiveness of the domestic industry vis-a-vis Canadian producers. See Views of Chairwoman Stern on Remedy.
49/ Report at A-63.
50/ Report at A-66, table 28; Memorandum EC-J-088, February 26, 1986.

The cost of wood relative to sales for U.S. shake and shingle producers was higher in 1984 than in 1983, but was lowest during January-September 1985. Further, the cost of wood relative to sales was lower throughout 1983-1985 than during 1980-1981. 51/ Thus, the data available to the Commission at this time indicate that there is a sufficient supply of suitable logs available at a price acceptable to the domestic industry.

An analysis of the changes in demand over the course of the investigation similarly does not indicate that such factors were a cause of injury more important than were imports. Demand for shakes and shingles is driven by new housing construction, and to a lesser extent, by the replacement of deteriorated roofing and siding. Consequently, shake and shingle production experiences cyclical downturns, as does the housing industry. The number of one-unit structures under construction in the western region of the United States 52/ peaked in 1978, then declined significantly and steadily through the first quarter of 1982. Housing construction then increased through the third quarter of 1983 and fluctuated somewhat, before declining in late 1984, and rebounding in 1985. However, as noted above, the upturn in housing construction has not translated into increased prices in 1985. 53/ Moreover, it would be difficult to attribute the injury suffered by the

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51/ Report at A-35. Shakes and shingles are effectively a residual product made from western red cedar. The preferred uses for western red cedar logs are for export and as lumber. See Report at A-72. An increase in demand for logs suitable for shakes and shingles is likely to result in increased prices, as logs are diverted from higher value uses as exports and lumber. Red cedar lumber product prices have also fallen since 1983. See Memorandum INV-J-038, February 26, 1986.

52/ A disproportionately large percentage of shakes and shingles is sold in the western United States. Report at A-54.

53/ Report at A-60.

domestic producers in the most recent period to cyclical demand when, as noted, demand was up in 1984 and stable in 1985. Consequently, we conclude that changes in short term demand are not a significant factor in the domestic industry's current plight.

Respondents also argued that long term demand for shakes and shingles is declining due to increased concern for safety and fire retardant considerations and the availability of substitute roofing and siding materials at competitive prices. While U.S. consumption of wood shakes and shingles per housing start has been generally steady during the period under investigation, there appears to have been some shift in long term demand between 1980 and 1984. 54/ However, this apparent shift in the market away from wood shakes and shingles has been gradual, and was not a particularly significant factor affecting the industry's performance since 1983. Thus, we conclude that a long term, structural shift in demand for wood shakes and shingles is not as important a cause of injury to the domestic industry as are increased imports.

54/ A disproprotionately large percentage of shakes and shingles is sold in the western United States. The number of one-unit housing structures under construction in the western United States was similar in 1980, 1983, 1984, and 1985. Report at A-109, table F-2. U.S. consumption of wood shakes and shingles per housing start in the western United States was 12.4 squares in 1980, and varied from 12.5 to 12.7 squares between 1983 and September 1985, averaging 12.6 squares per housing start. Thus, there has been a modest, approximately 2 percent increase in consumption per housing start from the comparable level in 1980. We note that this indicator of consumption appears to be inversely related to the level of housing starts in the United States. One possible explanation is that shakes and shingles tend to be used in more expensive housing, which is less affected by cyclical downturns in the construction industry.

Despite the apparent stability in consumption of shakes and shingles per housing start, inflation adjusted prices for shakes and shingles were 16 percent lower in 1984 than in 1980. Assuming that demand is at least somewhat responsive to price, aggregate demand must have declined to achieve the equivalent levels of apparent consumption in 1980 and 1984. See Memorandum EC-J-114, March 10, 1986, at 5; Report at A-125-A-128.

VIEWS OF COMMISSIONER ECKES, COMMISSIONER LODWICK, AND COMMISSIONER ROHR WITH RESPECT TO REMEDY

Section 201(d)(1) provides that if the Commission makes an affirmative injury determination, it shall

> (A) find the amount of increase in, or imposition of, any duty or import restriction on such article which is necessary to prevent or remedy such injury, or
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> (B) if it determines that adjustment assistance under subchapters 2, 3, and 4 can effectively remedy such injury, recommend the provision of such assistance.

Having found serious injury, we feel that it is incumbent upon us to recommend a remedy which is as effective as possible from among the statutory options available to the Commission. We find that a tariff in the amount of 35 percent ad valorem on imports of western red cedar shingles and shakes for a period of five years is necessary to remedy the serious injury to the domestic shake and shingle industry.

We selected a 35 percent ad valorem tariff rate as the most appropriate in view of the Commission's estimates of declines in wood shake and shingle prices during the period of investigation, and the expected price effect of such a tariff. A primary concern in recommending a tariff is the possible effect of price increases on demand. A number of seemingly close substitutes for shakes and shingles exist, suggesting demand could be highly price sensitive. However, information in this investigation suggests that demand may not be so elastic. In particular, consumption per new housing unit has remained stable, and shakes and shingles appear to be an item used primarily in more expensive housing.

Deflated prices for wood shakes and shingles declined 16 percent by 1984, as compared with 1980, a period of relatively similar levels of housing

construction in the western United States. 1/ It is estimated that a 35 percent ad valorem tariff would have had the effect of increasing domestic prices by approximately 10.5 percent had it been in effect in 1984. 2/ We believe this effect best approximates the decline in prices attributable to increased imports in the recent period, and would restrict imports to historical levels. 3/

We selected a 5 year period as the time necessary to effectively remedy the injury found. Housing construction, the primary force affecting demand for wood shakes and shingles, is notoriously difficult to predict. Consequently, we do not believe that it is feasible to reduce the proposed tariff over the relief period, as it is highly possible that reductions may coincide with downturns in the business cycle of the shake and shingle industry. This could exacerbate the negative effects of such a downturn and eliminate the remedial effects of the tariff.

The remedy proposal outlined above covers only wood shakes and shingles of western red cedar. Our determination in this respect is based on the concentration of the domestic industry producing shakes and shingles of western red cedar in the Pacific Northwest. Moreover, the vast majority of the imports at issue are of western red cedar and enter the United States through the Seattle Customs District. Shingles of other than western red

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1/ A disproportionately large percentage of shakes and shingles is sold in the western United states. Report at A-54.

2/ In addition, we note that while the statute requires the President to take into consideration the effect of import relief on consumers prior in determining whether to provide such relief, 19 U.S.C. § 2252(c)(4), we are not required to do so.

3/ We also note that some of the decline in price may be due to a change in aggregate demand, since consumption was approximately the same in 1980 and 1984, despite the decline in price.

cedar account for only approximately 10 percent of total domestic production of wood shakes and shingles. Particularly in view of the fact that the petitioners are, for the most part, producers of western red cedar shakes and shingles, and sought relief largely with respect to imports of western red cedar shakes and shingles, we have determined that it is appropriate to limit our recommendation of a tariff to imports of western red cedar shakes and shingles. 4/

In making this finding and recommendation to the President, we considered and rejected the option of recommending the provision of adjustment assistance to this import-beleaguered industry as an effective form of relief. The program has been criticized as both ineffectively administered, and inadequately funded. 5/ At the present time, the Department of Commerce is returning petitions for adjustment assistance, based on a lack of funding, while the Department of Labor has funding only for training, job search and relocation allowances under a continuing resolution through September 30, 1986. Although forty firms have been certified as eligible for adjustment assistance by the Department of Commerce between October 1979 and September 1985, none have received any direct financial assistance. Thus, it is most unlikely that adjustment assistance to firms would be an effective remedy for the domestic industry. Similarly, while some form of adjustment assistance to workers in the shake and shingle industry has been paid in each year since

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4/ See Nonrubber Footwear, Inv. No. TA-201-55, USITC Pub. No. 1717 (1985); Stainless Steel and Alloy Tool Steel, Inv No. TA-201-48, USITC Pub. No. 1377 (1983).

5/ Nonrubber Footwear, Inv. No. TA-201/55, USITC Pub. No. 1717 (1985) at 115 (Views of Chairwoman Stern, Commissioner Eckes, Commissioner Lodwick, and Commissioner Rohr regarding remedy).

1979, over 80 percent of such payments were made in 1980 and 1981. Since 1983, the period in which we determined that the domestic industry is suffering from serious injury, 8 workers have received a total of $5,036 in cash benefits under the adjustment assistance program administered by the Department of Labor. Moreover, there is no indication that the current adjustment assistance program has been, or could become, adequate for meeting the needs of workers in the shake and shingle industry. 6/ Thus, we believe that, as presently formulated, adjustment assistance to workers would not be an effective remedy for the domestic industry.

We also rejected the option of quotas on imports of shakes and shingles. While quotas would have controlled the flood of increased imports with certainty, we are of the opinion that the relative inelasticity of supply of shakes and shingles indicates that imposition of a quota would be more disruptive of the market than our recommended tariff remedy.

6/ Commissioner Rohr notes that there is no provision for adjustment assistance in the President's budget, and final action with respect to the various bills concerning adjustment assistance which have been introduced in Congress is uncertain.

REMEDY VIEWS OF CHAIRWOMAN PAULA STERN

Increased imports of wood shingles and shakes are the substantial cause of serious injury to the domestic shingle and shake industry, particularly in the most recent period. I have therefore joined the majority of my colleagues in an affirmative determination.

However, my analysis of this industry's dilemma goes beyond the fact that imports have increased over the past two years. I see other underlying causes of the domestic industry's distress which precipitated the formidible competition from imports this industry faces today. These problems are fundamental. Given the unique economic behavior of this market and the nature of the shingle and shake industry, they cannot be eliminated or even mitigated by temporary import relief. The restrictive remedy options available under the statute could in fact exacerbate the injury and delay the adjustment U. S. producers inevitably face.

I therefore cannot join the Commission's majority recommendation that a 35 percent tariff is the best possible

remedy for the problems which confront this industry. I find that the choice of Adjustment Assistance is the one remedy alternative which will encourage structural adjustment, and neither aggravate nor prolong this industry's pain and problems.

The Serious Problems Facing the Industry

Hard times have not been a stranger to U.S. shingle and shake producers. This sector of the economy has always been one of the hardest hit by the booms and busts of the business cycle. From 1978 to 1982 the industry endured a dramatic decline in short-term demand due to an unusually severe recession and high interest rates.

However a gradual slackening in long-term demand has also begun to set in.[1/] Destructive brush fires in the West brought new fire and building codes and abrupt increases in insurance rates, which discourage the purchase of wood shingles and shakes.[2/] While these structural market factors are not

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1/ Although apparent consumption was about the same level in 1980 and 1984, the inflation-adjusted price for shingles and shakes was 16 percent lower in 1984 than in 1980. Assuming demand for the product is somewhat responsive to price, aggregate demand must have fallen to achieve the equivalent levels of apparent consumption in 1980 and 1984. See Memo EC-J-114, March 10, 1986, at 5; Report at A-127-128.

2/ These new fire and building codes permit wood roofing and siding, but only if treated with fire-retardant chemicals.

(Footnote continued to page 25

irreversible, the impact on the U.S. shingle and shake market appears to be a constant, slow ebb in its overall size.[3/]

Yet in addition to suffering from the vagaries of the economic cycle and a decline in long-term demand, this industry also faces an increasingly short supply of raw materials for its products--old growth red cedar logs. There is disagreement regarding the extent to which this poses a problem for the industry.[4/] Data indicate that available cedar in the U.S. suitable for shakes and shingles will be sufficient for the next 20 years. If necessary, more supply could be made available to shingle and shake manufacturers by bidding away red cedar from other users.[5/] My colleagues conclude from these facts that the industry currently does not face a problem of disappearing, non-renewable raw material supply, and that the availability of logs is therefore not a significant obstacle to the industry's economic health.

(Footnote continued from page 24
The cost of treating wood shingles and shakes doubles their price. Non-wood roofing and siding products are several times less expensive than fire-retardant wood shingles and shakes.

3/ For example, market share for asphalt roofing shingles seems to have held its own since 1978, despite a cyclical decline in housing starts, while consumption of wood shingles and shakes has slipped considerably. See Report at Table 26.

4/ See Views of Chairwoman Stern, Commissioner Eckes, Commissioner Lodwick and Commissioner Rohr at 17, especially n. 48.

5/ See Memo to the Chairwoman, EC-J-083, February 24, 1986, Report at A-71 Respondents argued that while production of shingle and shakes might indeed expand if producers were to bid available supply away from other users, log prices, and hence costs of production, would inevitably rise in the process.

It is true that there is presently an adequate supply of harvestable red cedar suitable for shingle and shake production. But the issue that is relevant to the industry's competitiveness--and to a determination of the appropriate remedy under section 201--is one of comparison to Canadian resource availability. U.S. red cedar resources will last until the next century; Canadian resources, on the other hand, are estimated to last another century.[6/] Clearly, compared to Canada, U.S. resources are dwindling. As resources decline, cedar is more sparsely scattered and of lower quality. Harvest becomes more difficult, and logs are more expensive.

Indeed, import patterns suggest that already the comparative advantage of Canadian producers lies in an abundant supply of high quality logs. While shingles can be easily manufactured from low quality logs or bolts, shake manufacture requires only high quality log. Shake production is much more dependent on overall harvest levels. Consequently most imports from Canada, particularly in the most recent period, have been shakes.[7/]

6/ See Respondents Post Hearing Brief on Remedy, March 4, 1986 at pp. 3-5. See also Wesley Rickard, Inc., "The Western Red Cedar Timber Resource in the United States as it Relates to United States Production of Shakes and Shingles," January, 1986. Respondents argue further that the U.S. will face the ramifications of these facts as soon as FY1987. Because old-growth cedar on private lands is already depleted, U.S. producers are largely dependent on public lands. However the U.S. Forest Service anticipates signficantly lower harvests for the next five years--beginning with a reduction of 12 percent in 1987 from 1986 levels. See Respondent's Post Hearing Brief at 4, citing Forest Industry Affairs, Vol. 19, No. 3, February 15, 1983.

7/ In absolute terms, the distribution of shake and shingle imports has shifted from approximately half shingles/half shakes in 1978 to twice as many shakes as shingle imports in 1985. Percentage increases of shake imports over the last three years have been much higher than those for shingle imports. Report at Tables 1, 2 and 3.

The most telling evidence regarding the seriousness of the shortage problem facing U.S. producers, however, is the industry's own assessment. Petitioners have repeatedly emphasized throughout the investigation the necessity of improving the availability of raw materials to U.S. shake and shingle producers.[8/] There has been little camoflauge over petitioner's true objective: not import relief, but an agreement with the Canadian government allowing freer access to Canadian logs.[9/]

Serious long-term problems, particularly those concerning comparative advantage, are of course no bar to import relief.[10/] Indeed, the purpose of section 201 is to facilitate adjustment to comparative disadvantages when industries are confronted with increasing global competition. Of equal weight in the escape clause's intent, however, is that such import relief be appropriate and genuinely aid the adjustment process.[11/] In the case of some industries, this may mean that section 201 is best utilized to assist industries adjust out of a situation where there has been a fundamental

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8/ See petition at p. 16, Hearing Transcript at pp. 69-73, 82-84, 99-100, 102.

9/ Petitioners state that the primary reason the U.S. industry is losing market share is lower log costs in Canada, and that tariff relief would "provide incentive to the Canadians to negotiate toward the elimination of raw material cost advantages." Petitioners Remedy Brief, March 4, 1986, p. 2.

10/ See for example, Unwrought Copper, Inv. No. TA-201-52, USITC Pub. No. 1549, July, 1984; Nonrubber Footwear, Inv. No. TA-201-55, July, 1985.

11/ See section 202(d)(1)

shift in comparative advantage to low cost producers.[12/]

A look at industry indicators suggests that domestic producers have been adjusting to the rigors of the shingle and shake marketplace for several years. As is the case with most industries facing increased competition, production, capacity and employment fall considerably as imports increase. But in the case of the shingle and shake industry, these indicia have dropped by equally precipitous amounts each year--save one--since 1978.[13/] Only recently have domestic producers managed to couple contraction with profits.

In light of the serious situation confronting this industry, the question is which remedy option will help relieve the pain of structural adjustment? What market conditions will aid, and not hinder, the industry's efforts to cope with both increasing imports and its underlying problems?

12/ Interestingly, although imports were a much smaller percentage of the U.S. market, U.S. producers were successful in convincing the Executive branch in 1936 that they were injured by Canadian shingle and shake imports and that a 25 percent quota was warranted, before any statutory authority existed. See 80 Cong.Rec. 9107-08 (1936), Reciprocal Trade Agreements Act of 1934, 48 Stat. 943.

13/ For example, between 1978 and 1979, production fell 22 percent and employment fell 13 percent. Between 1979 and 1980, production fell 29 percent and employment fell 37 percent. Between 1980 and 1981, production fell 33 percent and employment fell 23 percent. Between 1981 and 1982, production fell 29 percent and employment fell 25 percent. The exception was 1983, when production increased by 48 percent, and employment increased by 25 percent. My affirmative determination was based on the large declines in production and employment which occurred during the most recent upswing of the business cycle, which was coincident with an increase in imports.

The Nature of the Market and the Industry

The ultimate success of import relief in encouraging adjustment to imports is largely dependent on how it interacts with the particular market in which the restrictions operate. The petitioners in this investigation requested that tariffs of 50 percent ad valorem be imposed on all imported wood shakes and shingles.[14/] My colleagues have endorsed the petitioner's request for a tariff, albeit at a lower 35 percent.

A thorough analysis of the shingles and shake market suggests that a tariff of this magnitude goes well beyond the amount of duty necessary to offset the price decline caused by imports. While such a tariff may have some price effect, domestic producers will be unable to reap the benefits of any increase in price with increased production and employment. And no matter what the price effect of a 35 percent ad valorem tariff, it will likely prove counterproductive as precious demand for domestic shingles and shakes is diverted even more quickly toward cheaper, substitute, fire-resistant products.

The price decline caused by imports. Petitioners based their request for a 50 percent ad valorem tariff, the

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14/ Petitioners originally requested the imposition of a 67 percent duty. Alternatively, petitioners asked that a market share quota be imposed. Petition, p. 17.

maximum amount permitted by the President,[15] on an assessment of a 67 percent decline in market prices since 1979, which they attributed entirely to imports.[16]

However the petitioner's estimate of the price effect of imports is overstated. First, the petitioners did not properly take into account the effect of inflation on prices. The deflated annual average price of shakes and shingles declined only 30 percent from 1979 to 1984, and 42 percent through the first half of 1985.[17]

Second, petitioners measure the price decline from a year when both the level of housing construction and domestic prices were exceptionally high.[18] A more appropriate year from which to measure the impact of imports on domestic market prices is 1980. The level of housing construction activity in 1980 was very similar to the level of such activity in 1984 and 1985. A comparison of 1980 prices to those in the most recent period factors out unusual swings in consumption (such as the pronounced upswing in 1979 and downturn through 1982) and tends to equate similar points in the business cycle. Since 1980, the deflated price of shakes and shingles declined only 16 percent by 1984, and 30 percent by the first half of 1985.

Third, petitioners assume that the decline in prices that has occurred from any reference period is entirely

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15/ Section 203 (d)(1)

16/ Petitioners' remedy brief, March 4, 1986, p. 5

17/ See Memo EC-J-114, March 10, 1986.

18/ See Report at Figure 4.

attributable to increasing imports. As noted in the majority opinion regarding injury,[19/] imports have been an important market factor only since 1983. Significantly, other factors, primarily intensified competition from other roofing products and changes in building codes, have also had a negative effect on prices of shingles and shakes since 1983. Hence I would find it difficult to attribute any more than half of the price decline in the U.S. shingle and shake market since 1980 to imports alone. Any tariff above an ad valorem increase of between 8 and 15 percent would go beyond the Commission's statutory mandate to find the amount of duty necessary to prevent or remedy the serious injury due to increased imports it found to exist.

The price effect of a tariff. Several important market factors influence the ability of a tariff to produce certain desired price effects. First, the effect of a tariff on the price of imports depends on the degree to which the tariff can be passed through by the foreign producers or manufacturers of the product to ultimate consumers. In this case, assuming a simple and perfect market, it is unlikely that a tariff would be absorbed by Canadian shingle and shake manufacturers, and likely that consumers would see the tariff's effects in higher prices.

However the shingle and shake market is unusual. An unresponsive log supply reduces the industry's ability to react

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19/ See Views of Chairwoman Stern, Commissioner Eckes, Commissioner Lodwick and Commissioner Rohr at p. 7.

to price changes of shakes and shingles. Because contractural arrangements for the harvesting of western red cedar differ in the U.S. and Canada, whereby Canadian log prices adjust more quickly to changed market conditions,[20] import supply is relatively price inelastic, particularly compared to domestic supply price elasticity. In other words, a tariff increase in the United States will not likely result in a proportional increase in import prices.[21]

Domestic and import supply are so unresponsive to price that a tariff must be particularly great in order to have an appreciable effect on prices. It is for this reason that the majority had little choice but to recommend a tariff much greater than that necessary to remedy the serious injury due to increased imports.[22]

The effects of tariffs ranging from 8 to 50 percent on prices were estimated for the Commission.[23] An ad valorem

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20/ Logs in the U. S. are generally harvested through multi-year contracts, while harvest fees in Canada are adjusted monthly.

21/ Most Canadian producers of shingles and shakes will pass any tariff increase through to the consumer. Marginal Canadian firms will decrease or discontinue production of shakes and shingles. In the case of Canada, lower output would mean lower costs and lower prices.

22/ As I will discuss infra, the dilemma is compounded by the fact that the larger the tariff, the greater the adverse effect on demand.

23/ See Memorandum EC-J-114 on remedy options for an analysis of the effects of these tariffs on production, employment, consumption, exports, capacity utilization and net welfare and consumer costs as well. The methodology employed in developing these estimates is described in a USITC staff

(Footnote continued to page 33

tariff of fifteen percent, the highest appropriate amount in light of the actual price decline caused by imports, would only increase import prices between 1 and 5 percent. An ad valorem tariff of 35 percent, the amount chosen by my colleagues and an amount above and beyond the injury caused by imports, would only induce a price effect of between 3 and 11 percent. This price effect is negligible, particularly when it is apparent that not only do such price increases not result in increased production and employment, but in fact result in lower demand for shingles and shakes.

The effect of a tariff on production and employment. Other characteristics of the shingle and shake industry and its market serve to further limit the effectiveness of a tariff. First, as discussed earlier, because the harvest of western red cedar is subordinate to the harvest of other species, log supply is very unresponsive to price changes. Similarly, the costs of production to domestic producers (of which half is the cost of logs), are independent of the prices shingles and shakes are able to fetch in the market. Second, the industry has considerable unused capacity and entry and exit is easy. A tariff, therefore, would not allow domestic producers to increase prices much above their costs of production.

If costs to domestic producers were to decline or remain stable, a tariff would only increase the price of the

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(Footnote continued from page 32
research paper by Rousslang and Suomela, "Calculating the Consumer and Net Welfare Costs of Import Relief," July, 1985.

imported product and domestic producers could increase output and employment. However, this is not the case. Rather, as prices of shingles and shakes increase, costs to U.S. producers will increase. A tariff, even if it does achieve a price effect, will therefore accomplish little in the way of increased production and employment. This is true because there is little relationship between the price for shakes and shingles in the U.S. market, and the ability of domestic producers to respond to increased prices with increased production.

Consequently, estimates of the effect of various tariffs on production and employment reveal miniscule changes in production, and minor increases in employment. A fifteen percent tariff increases production by at most 4 percent, while only adding between 11 and 90 new workers. A 35 percent tariff also has a negligible effect on production, while increasing the workforce by between 24 and 183 workers. It could certainly be argued that those new jobs are indeed significant to anyone in the throes of unemployment. However when the accompanying impact of a tariff on demand is examined, it is apparent that any net benefit to the industry in terms of employment is negated.

The impact of a tariff on demand. In addition to the unusual attribute of a supply basically unresponsive to price, this market is also characterized by demand which does indeed respond to price changes. This means that prices do not have to increase very much to cause consumers to switch to alternative products. An understanding of how responsive demand is to

changes in price is critical when fashioning a tariff. Should a tariff induce prices to rise by too much, consumers will simply not purchase the product, and the tariff will be counterproductive.

It is difficult to arrive at an estimate of demand elasticity in the shingles and shake market.[24/] I presume my colleagues and I differ over the degree to which demand for shakes and shingles will fall, should a tariff with any appreciable increase in price be imposed. Estimates of the effect of various tariffs can be made which take into account a range of possible demand elasticities. These estimates show that any tariff ranging from 8 to 50 percent will have a negative impact on consumption of shingles and shakes. Particularly significant is the fact that the higher the tariff, (a necessity for any noticeable price effect), the more adversely demand is affected. Specifically, it is estimated that a tariff of 35 percent will reduce consumption by between 7 and 9 percent annually. Thus, after a 35 percent tariff for five years (assuming there is no phase down), demand (based on 1984 figures) would fall between 25 percent and 34 percent. This decline in demand would be in addition to any decline occurring due to cyclical and structural market factors. Needless to say, a cut in demand which reduces and already shrinking market by one fourth to one third would be significant to many producers and workers.

24/ See Memorandum to the Chairwoman, EC-J-083, February 24, 1986, at p. 7.

Although an exact figure of demand elasticity is lacking, the Commission has received numerous letters from lumber wholesalers, each attesting to their fear that the market for shakes and shingles will dwindle further, should a tariff go into effect. Hard data is always preferable to such anecdotal evidence. The best information available to the Commission--both statistical and anecdotal--indicates that demand for shingles and shakes will suffer should the remedy of the Commission majority be successful in inducing any price increases. Since this industry faces a serious problem of declining demand (which it must cope with on top of periodic cyclical downturns), it is thus apparent that import relief in the form of a tariff[25/] would be inconsistent with the best interests of the industry, and could even hasten the industry's decline.[26/]

The characteristics of the shingle and shake industry, and the market in which it operates, are thus such that import relief is neither beneficial nor appropriate. A tariff would have to be larger than the price decline caused by imports in order to improve prices. And were prices to increase

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25/ A quota would have a similar adverse effect on demand. Also, because a quota is generally filled first with the highest price products, it would have the additional problem of attracting imports to the market segment where the industry has been hurt most--high quality shakes.

26/ It should be noted that whatever the effect of a tariff on domestic demand, because import supply is more responsive to price changes than domestic supply, a tariff will affect domestic production more adversely than Canadian production.

under a tariff, U.S. producers would be unable to reap the benefits with higher production and employment. Yet a tariff will succeed in cutting demand even further for shingles and shakes.

The Choice of Adjustment Assistance

Import relief, as it currently exists under the statute, will neither facilitate this industry's process of adjustment to increased imports, nor help it cope with its long term problems.

There is one choice under the statute, however, which could help this industry.[27/] Indeed, the situation faced by the domestic shingle and shake producers are tailor-made for the trade adjustment provisions of the statute. Because of the small size of even the largest shake and shingle manufacturers, the maximum loan amounts available under the Adjustment Assistance program administered by the Department of Commerce

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27/ See also Additional Remedy Views of Chairwoman Stern in Nonrubber Footwear, Inv. No. TA-201-55, July, 1985, especially at pp. 121-127. Also, see Views of Chairwoman Stern in Certain Canned Tuna Fish, Inv. No. TA-201-53, especially at pp. 52-54.

could help firms make marginal improvements.[28/] [29/] Almost certain eventual unemployment for most shingle and shake workers and the the probability that these workers will not be rehired are good reasons for authorizing further funding for worker relocation and retraining.[30/]

Considering the depth of this industry's problems, and the fruitless, even adverse effects of the import relief tools at the Commission's disposal, the one option that is effective in promoting this industry's adjustment efforts should be available under the statute. I would hope that my recommendation of Adjustment Assistance, which is indeed an

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28/ This situation can be distinguished from that in Unwrought Copper, where the loan amounts available under the program were much too small to benefit the large firms in the industry. This case can also be disguished on the basis that in Copper, it was possible to impose a small tariff without adverse effects on the industry. Here, however, any tariff amount will have a counterproductive effect on demand.

29/ The Adjustment Assistance program for firms has been criticized as a way in which government improperly encourages capital flows to declining industries. However such capital can also serve to minimize the pain of adjustment for small firms attempting to adjust out of an industry.

30/ At this writing, Congress passed legislation reauthorizing programs adminstered by the Departments of Commerce and Labor (H.R. 3128, the Consolidated Omnibus Reconciliation Act of 1985). This bill will provide new authorization and funding for both programs for a 6 year period, including the payment of supplemental cash unemployment benefits to workers retroactive to December, 1985. The fate of this bill before the President, however, is uncertain.

The Commerce program for firms has been unfunded since December 18, 1985. While Commerce is continuing to administer assistance for firms begun prior to the time that its funding authorization ran out, the agency is no longer accepting petitions. The Department of Labor presently has funding for job training and worker relocation purposes, but does not have funding to pay supplemental unemployment benefits to eligible workers.

appropriate means of assisting structural adjustment on the part of industries suffering from fundamental disadvantages in the world marketplace, will become a reality for the firms and workers in this industry who might benefit. I do not reach the important fundamental problem this industry faces--access to Canadian red cedar logs--since I cannot address it with the options available to me under the statute. However, it is clear after an examination of other causes of injury to domestic shingle and shake producers, this issue will play a critical role in the industry's future.

VIEWS OF VICE CHAIRMAN SUSAN W. LIEBELER AND COMMISSIONER ANNE E. BRUNSDALE IN TA-201-56

Section 201 of the Trade Act of 1974[1] authorizes the International Trade Commission ("Commission") to recommend temporary import relief, under certain circumstances, to domestic industries. The Commission begins a Section 201 investigation by defining the domestic industry. It then inquires whether three statutory requirements are met: (1) Have the foreign products under investigation been imported in increased quantities? (2) Is the domestic industry seriously injured or threatened with serious injury? (3) Are the increased imports a substantial cause of the injury or the threat of injury? Only if the Commission answers all three questions affirmatively, can it consider the question of remedy. In Part One of this opinion we consider these matters in turn. Then, because the Commission made an affirmative injury determination, we conclude with our remedy recommendations in Part Two.

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1 19 U.S.C. § 2251 (1982).

PART ONE: INJURY ANALYSIS

I. Like Product and Domestic Industry

The imports in this investigation consist of shakes of western red cedar, shingles of western red cedar, and shingles of northern white cedar.

We determine that domestic wood shakes and shingles are like imported shakes and shingles. We also determine that the producers of wood shakes and shingles comprise the domestic industry in this case. Section 201 defines the domestic industry as the domestic producers of "an article like or directly competitive with" the imported article.[2] In the legislative history of Section 201, the Senate Finance Committee explained that "like" and "directly competitive" are two distinct concepts:

> "like" articles are those which are substantially identical in inherent or intrinsic characteristics (i.e., materials from which made, appearance, quality, texture, etc.), and "directly competitive articles" are those which, although not substantially identical in their inherent or intrinsic characteristics, are substantially equivalent for commercial purposes, that is, are adapted to the same uses and are essentially interchangeable therefor.[3]

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[2] 19 U.S.C. § 2251(b)(3) (1982).

[3] S. Rep. No. 1298, 93rd Cong., 2d Sess. 122 (1974). The producers of a like product as well as the producers of a directly competitive product can both be part of the same domestic industry under Section 201. Carbon and Certain Alloy Steel Products, Report to the President on Inv. No. TA-201-51, USITC Pub. No 1553 (1984), at 12 (hereinafter cited as Carbon Steel). See also United Shoe Workers of America v. Bedell, 506 F.2d 174, 185-86 (D.C. Cir. 1974).

Three questions are presented with respect to the domestic industry definition: (1) whether shakes and shingles are like or directly competitive, (2) whether western red cedar and northern white cedar shakes and shingles are like products or directly competitive and (3) whether products other than shakes and shingles are like products or directly competitive.

Both shakes and shingles are used as roofing and siding materials for houses. Wood shakes and shingles have a similar appearance, quality and texture and thus are "substantially identical in inherent or intrinsic characteristics" and so constitute like products in this investigation. As for (2), although wood shakes and shingles are produced from different types of cedar trees in different parts of the country,[4] these woods all share certain characteristics: vertical grain, low coefficient of expansion, high strength, relative freedom from checking and warping, light weight, good nail-holding qualities, and resistance to rot and insect damage. For

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[4] Approximately 90 percent of the domestically produced wood shakes and shingles are manufactured from western red cedar, with the remainder coming almost entirely from northern white cedar and redwood. Report at A-2.

these reasons we find that these products are like the imports.[5] Finally, as for (3), many other roofing materials, such as asphalt, tile, and concrete, serve similar functions to wood shakes and shingles.[6] What distinguishes these substitutes from cedar shakes and shingles is that the latter are produced from the same material, logs, whereas the former are produced from a variety of different materials and hence have different "intrinsic characteristics". Thus, the substitutes are not like wood shakes and shingles. A strong argument can be made that these substitute building materials are directly competitive with wood shakes and shingles. However, we need not reach this issue here because it makes no difference to our decision.[7]

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[5] Shakes and shingles made from northern white cedar may not be directly competitive with those for western red cedar trees in the sense that they are sold in different markets because of transportation costs and have some different appearance qualities. However, as noted earlier, the domestic product can be either like or directly competitive with imports.

[6] Report at A-6.

[7] Even though this restrictive industry definition has provided petitioner with its greatest chance of success, we are still compelled by the record to reach a negative determination.

II. Increased Imports

The statute requires the Commission to "determine whether an article is being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof. . . ."[8] If the Commission finds that imports have not increased, it may not recommend any remedy.[9]

Several Commission opinions suggest that the "increased quantities" requirement can be satisfied by an increase in the relative market share of imports.[10]

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8 19 U.S.C. § 2251(b)(1) (1982) (emphasis added).

9 19 U.S.C. § 2251(d)(1) (1982).

10 See, e.g., Nonrubber Footwear: Report to the President on TA-201-55, USITC 1717 ((July 1985) (hereinafter cited as Nonrubber Footwear; Views of Chairwoman Stern at 11-12; Views of Commissioner Lodwick at 81-82; Views of Commissioner Rohr at 95; Views of Commissioner Eckes at 60); Stainless Steel and Alloy Tool Steel: Report to the President on Inv. No. TA-201-48, USITC Pub. No. 1377, at 16 (1983); Sugar: Report to the President on Inv. No. TA-201-16, USITC Pub. No. 807, at 11 (1977); Unwrought Copper: Report to the President on Inv. No. TA-201-52, USITC Pub. No. 1549, at 829 (1984) (Views of Commissioners Eckes, Lodwick and Rohr) (hereinafter cited as Copper); Certain Canned Tuna Fish: Report to the President on Inv. No. TA-201-53, USITC Pub. No. 1558, at 8 (1984) (Views of Commissioners Eckes, Lodwick and Rohr) (hereinafter cited as Tuna); Potassium Permanganate: Report to the President on Inv. No. TA-201-54, USITC Pub. No. 1682, at 6-7 (1985) (Views of Chairwoman Stern and Commissioners Lodwick and Rohr) (hereinafter cited as Potassium Permanganate);

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This interpretation is contrary to the clear language of the statute and the intent of Congress.[11] The statute uses the phrase "increased quantities." The word quantity, in its normal use, refers to an amount and carries no connotation of relativity.[12] When Congress wanted the Commission to consider the relative market share of imports, it used precise language to convey that

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In response to a question by then-Chairman Eckes at the hearing for Carbon Steel, the petitioners were unable to cite a single case in which the Commission made an affirmative injury determination where imports had not increased absolutely. Despite this lack of precedent, however, the Commission majority in Carbon Steel made affirmative determinations with respect to plates and structural shapes and units even though imports of both products had declined. (Vice Chairman Liebeler made negative determinations with respect to both product groups because they failed the increased imports requirement. Carbon Steel, at 145, 153 (Views of Vice Chairman Liebeler).)

[11] Since both the relative market share and the quantities of shake and shingle imports increased, Commissioner Brunsdale finds it unnecessary in this case to decide whether a relative increase in market share by itself is sufficient.

[12] In 1984 former Commission Vice Chairman Michael J. Calhoun testified that his prior interpretation of "increased quantities" was erroneous and that Section 201 requires an absolute increase in imports. Import Relief for the U.S. Non-Rubber Footwear Industry: Hearing Before the Subcommittee on International Trade of the Senate Committee on Finance, 98th Cong., 2d Sess. (June 22, 1984).

intent.[13] Later in Section 201, for example, it provided that the Commission can examine both the absolute and relative increase in imports to determine whether the increased quantity of imports is a substantial cause of serious injury.[14] Thus, the statute provides clear support for the position that imports must be increasing absolutely.[15]

In order to evaluate whether an absolute increase in imports has occurred, the period under investigation must

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13 See, e.g., Section 406 of the Trade Act of 1974, 19 U.S.C. § 2437(e)(2) (1982) ("Market disruption exists within a domestic industry whenever imports of an article, like or directly competitive with an article produced by such domestic industry, are increasing rapidly, either absolutely or relatively, so as to be a significant cause of material injury, or threat thereof, to such domestic industry.") (Emphasis added).

14 19 U.S.C. § 2251(b)(2)(C)(1982). For example, a given absolute increase will normally have a larger impact in a shrinking market than in a growing market.

15 The legislative history also supports this interpretation. The Senate Report on the Trade Act of 1974 distinguished between the finding of increased imports and causation. According to the Senate Committee: "An industry must be seriously injured or threatened by an absolute increase in imports, and the imports must be deemed to be a substantial cause of the injury before an affirmative determination should be made." S. Rep. 1298, 93rd Cong., 2d Sess. 121 (1974). (Emphasis added.) We offer this reference to the legislative history because the majority cites a different position to support their "relative increase" position.

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be determined. Typically in a section 201 case, the Commission looks at data for the last five years. In this case, both Petitioner and Respondent argue that the shakes and shingles industry is a cyclical one and that it is appropriate to look at comparable points of the cycle. Respondent asserts that the industry, driven by the increase in housing construction, has entered a peak period and that the last comparable year was 1978. We believe the data show that 1980 was a more comparable year, and thus conclude that the appropriate period of investigation is 1980-85.[16] For completeness, however, we discuss the 1978-85 period as well.

Measured in terms of "squares,"[17] imports increased a total of 17 percent from 1980 to 1984, and slightly more if 1978 is the base year. Data through September 1985

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The legislative history is mixed and only relevant if the statute is ambiguous. The statute is not ambiguous and thus the legislative history is not relevant on this point.

16 Report at A-59, figure 4 indicates that one-unit housing under construction in the western region of the United States was approximately equal in 1980 and 1984-85 whereas construction was over 50 percent higher in 1978-79. The western region consumes most of the red cedar shakes and shingles in the United States.

17 A square is the quantity of shakes or shingles required to cover 100 square feet of surface area.

indicate a quantity increase of 15 percent over interim 1984.[18] Whether the period of investigation begins in 1978 or 1980, imports increased.[19]

III. Serious Injury and Threat of Serious Injury

A. Definition

Section 201 requires that the injury or threat to the industry be serious in order for relief to be granted. Although serious injury plays an important role in a Section 201 investigation, the statute does not define the term. Instead, it lists several factors that are evidence of serious injury:

> the significant idling of productive facilities in the industry, the inability of a significant number of firms to operate at a reasonable level of profit, and significant unemployment or underemployment within the industry.[20]

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[18] Report at A-17, table 1.

[19] This issue would have been significant had we found two separate industries: a shakes industry and a shingles industry. Although total shakes and shingles imports have increased since 1980, imports of western red cedar shingles decreased from 1.6 million squares in 1978 to 1.17 million squares in 1984, before increasing slightly in 1985. This absolute decrease in imports would have ended the inquiry with respect to the "shingle industry." Using 1980 as a base year, imports are up slightly. Because we find one industry, the choice between 1978 and 1980 as a starting point is not dispositive.

[20] Sections 201(b)(2)(A) and (B) of the Trade Reform Act of 1974, 19 U.S.C. § 2251(b)(2)(A) and (B) (1982).

The legislative history only reiterates what is in the statute, and emphasizes that the enumerated factors are only evidence of injury and do not define serious injury.[21]

Serious injury is obviously a much stricter standard than the material injury standard used in Title VII investigations. The degree of severity that Congress intended when it used the term "serious" was described in the Report of the Senate Finance Committee:

> For many years, the Congress has required that an "escape clause" be included in each trade agreement. The rationale for the "escape clause" has been, and remains, that as barriers to international trade are lowered, some industries and workers inevitably face serious injury, dislocation and perhaps economic

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[21] Id. at 121. In addition, the Commission may take into account any other economic factors it considers relevant. 19 U.S.C. § 2251(b)(2) (1982). The 1984 amendments to Section 201 added a subsection which addresses the relevant weight to be accorded the factors:

> [T]he presence or absence of any factor which the Commission is required to evaluate in subparagraphs (a) and (b) shall not necessarily be dispositive of whether an article is being imported into the United States in such increased quantities as to be a substantial cause of serious injury or threat of serious injury to the domestic industry. Trade and Tariff Act of 1984, 19 Stat. 2999 (amending 19 U.S.C. § 2251(b)(2)(D) (1982)). Section 201(b)(7), as amended by the 1984 Act, defines the phrase "significant idling of productive facilities" as "the closing of plants or the underutilization of production capacity". Id. (amending 19 U.S.C. § 2251(b)(7) (1982)).

> extinction. The "escape clause" is aimed at providing temporary relief for an industry suffering from serious injury, or the threat thereof, so that the industry will have sufficient time to adjust to the freer international competition.[22]

Serious injury has been defined in past investigations as "an important, crippling, or mortal injury, one having permanent or lasting consequences."[23] In determining whether there is

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22 S. Rep. No. 1298, 93d Cong. 2d Sess. 119 (1974). (Emphasis added.) It is also worth noting that the Committee in proposing to relax the standards for "escape clause" relief decided to weaken the causation standard, rather than change the serious injury standard.

23 See, e.g., Bolts, Nuts and Screws of Iron or Steel, Inv. No. TA-201-2, USITC Pub. No. 747 at 19 (1975) (Views of Commissioner George Moore). Vice Chairman Liebeler regards this definition as consistent with a "major contraction of a domestic industry or its extinction." The use of the term "serious injury" in the same phrase as "extinction" suggests that "serious injury", if not strictly limited to economic extinction, is something very close. See Nonrubber Footwear, at 32 (1985) (Views of Vice Chairman Liebeler); Potassium Permanganate, at 20 (Views of Vice Chairman Liebeler). She directs her inquiry toward the viability of the industry instead of the factors of production only after a careful analysis of the Act as a whole. The statute directs the Commission to determine whether increased imports are a substantial cause of serious injury "to a domestic industry producing an article like or directly competitive with the imported article." 19 U.S.C. § 2251(b)(1) (1982) (emphasis added). Thus, Congress, in enacting Section 201, was concerned with the effect of imports on domestic industries, rather than on those who provide labor and capital to individual firms. This interpretation is not weakened by the statutory requirement that the Commission

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threat of serious injury, the Commission must consider:

> a decline in sales, a higher and growing inventory, and a downward trend in production, profits, wages, or employment (or increasing underemployment) in the domestic industry concerned. . . . and all [other] factors which it considers relevant."[24]

The legislative history states that, by threat of serious

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consider unemployment and the profitability of firms. Such factors are indicia of injury to an industry. Furthermore, the use of the terms "industry" and "producer" or "firm", sometimes in the same sentence and in opposition to one another, see, e.g., 19 U.S.C. § 2251(b)(3)(A) (1982) ("The Commission may, in the case of a domestic producer which also imports, treat as part of such domestic industry only its domestic production."), makes it clear that Congress did not equate the returns to the firms and workers with the existence of the industry. Finally, the House Report on the Trade and Tariff Act of 1984, which amended several provisions of Section 201, underscored congressional concern with the viability of the industry. It declared that, in assessing the condition of the industry, the Commission should not treat the industry's profit data as dispositive, but should also give careful consideration to plant closings and employment trends. H. R. Rep. No. 1156, 98th Cong., 2d Sess. 142 (1984). An industry may be profitable in an accounting sense, even though it is shrinking or dying. If the providers of capital are earning what they could earn in their next best use (i.e., their opportunity costs), and if barriers to entry and exit in the industry are low, then plant closings and employment trends may indicate a contracting or dying industry. See her discussion of serious injury in Carbon Steel, at 135-36 (Views of Vice Chairman Liebeler).

[24] 19 U.S.C. § 2251 (b)(2) (1982).

injury, Congress meant injury that is clearly imminent.[25] The Commission traditionally requires that the threat be real rather than speculative and that serious injury be highly probable in the foreseeable future.[26]

The question of threat cannot be neatly separated from the question of causation because a threat must come from an outside source and cannot rest solely on the condition of the domestic industry. This issue is therefore discussed within the causation section.

B. Is the Domestic Wood Shakes and Shingles Industry Seriously Injured?

Domestic production of wood shakes and shingles has decreased substantially.[27] It dropped approximately

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25 The Senate Finance Committee's Report on the Trade Act of 1974 states that "[i]t is the intention of the Committee that the threat of serious injury exists when serious injury, although not yet existing, is clearly imminent if imports trends continued unabated." S. Rep. 1298, 93d Cong., 2d Sess. 121 (1974).

26 Nonrubber Footwear: Report to the President, Inv. No. TA-201-50, USITC Pub. No. 1545 (1984) at 19 (hereinafter referred to as Footwear III).

27 Report at A-7. The base period chosen influences the magnitude of the fall. For example, for 1978-84 the decrease in domestic production was nearly 50 percent, for 1979-84 it was around 35 percent, and for 1980-84 it was around 17 percent. When the figures for interim 1985 are added in, however, the decrease for any period becomes a great deal larger.

one-third when comparing January-September in 1984 and 1985. Using annualized data for 1985, production fell nearly 40 percent in 1980-85 and over 55 percent in 1978-85. Production capacity fell about 18 percent between 1980 and interim 1985,[28] while the number of firms declined from 393 to 274, or by 30 percent, between 1980 and 1984.[29]

Domestic employment also declined.[30] Average annual employment fell from 4,531 in 1978 to 1,933 in 1980, and further declined to 1,572 in interim 1985, or by 67 percent from 1978 to 1985 and 40 percent from 1980.[31] Although these figures do not suggest that the industry is on the verge of extinction, they do indicate that the wood shakes and shingles industry has suffered a major contraction. Thus, the second requirement of the statute, serious injury, is satisfied.

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[28] Report at A-27.

[29] Report at A-31.

[30] Report at A-31 and A-32.

[31] Several financial indicators demonstrate that the industry is in a precarious position. For instance, the ratio of assets to liabilities for 19 firms answering the Commission's questionnaire has decreased from almost 2:1 in 1980 to 1.1:1 in interim 1985. The increase in the debt-equity ratio by itself could simply indicate that the relative price of debt has dropped compared to equity since 1980 (because of the large drop in the interest rate. Other financial indicators, such as the ratio of net income to net sales, are low but improving. In an industry with low barriers to entry and exit, however, one would expect to see expansion and contraction rather than large swings in profits.

IV. Causation

A. General Approach

Section 201 requires that increased imports be a substantial cause of serious injury or threat of serious injury to the domestic industry. The term "substantial cause" is defined as "a cause which is important and not less than any other cause."[32]

The ordinary meaning of the term cause is "anything producing an effect or result."[33] Thus, to begin with, it is important to distinguish causes from effects. The fact that the quantity of imports has increased and that the domestic industry is injured does not necessarily mean that imports are a cause of injury, much less a substantial cause of injury. The coincidence of increases in imports and injury to the domestic industry may be due entirely to changes in other factors. For example, an increase in the domestic industry's costs could cause a reduction in domestic production and an increase in domestic price that could attract increased

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32 19 U.S.C. § 2251(b)(4) (1982). Increased imports must be an important cause of serious injury as well as a cause equal to or greater than any other cause. S. Rep. 1298, 93rd Cong., 2d Sess. 120 (1974).

33 New World Dictionary, 2nd. ed. at 226 (1980).

imports. Injury to the domestic industry would be caused by these higher costs, not by the increase in imports; that is, the increase in imports would be an effect rather than a cause of the injury. Under these conditions, were the Commission to find a positive association between the imports and the injury, it would be making a decision based on a spurious correlation -- i.e., a correlation suggesting a causal relationship that does not in fact exist. This would be contrary to congressional intent. Congress did not, however, prescribe a method for the Commission to use to avoid this danger. Instead, Congress offered general guidelines.

Our approach to analyzing causation is guided by the principle that it is imperative to be able to distinguish between cause and effect. In addition, it is important to select a method of analysis that not only incorporates the specific variables cited by Congress as relevant to escape clause cases,[34] but does so in a manner that is coherent and internally consistent.[35] We sought a framework that makes it

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[34] Some of these variables include: capacity utilization, profits, employment, sales, inventories, and wages. H. Rep. 571, 93rd Cong., 1st Sess. 47 (1973).

[35] "The Commission is directed to take into account all economic factors it considers relevant", H. Rep. 93-571, 93rd Cong., 1st Sess. 47 (1973), and "[t]he Commissioners

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possible to distinguish situations where "increased imports" are a substantial cause of serious injury from situations where the increase in imports is an effect of changes in other factors operating in the domestic market.[36]

Economic analysis is very useful when examining cause and effect. The framework we adopt is a traditional demand and supply analysis that explains how the price and quantity of a product are determined in a market.[37] This framework has three general components: (1) the domestic demand for the product, (2) the domestic supply of U.S. producers, and (3) the import supply of foreign producers. Each component incorporates the influence of (or depends on) a different

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will have to assure themselves that imports represent a substantial cause or threat of injury, and not just one of a multitude of equal causes or threats of injury.", S. Rep. 1298, 93rd Cong., 2d Sess. 120 (1974)

36 This framework is set forth in more detail in Appendix A. Vice Chairman Liebeler has used this framework in previous 201 cases. Carbon Steel at 137-42, Copper at 60-65, Tuna at 29, Potassium Permanganate at 23-26, and Footwear II at 206. It is the causation framework presented by the Federal Trade Commission in Carbon Steel, Copper, Tuna, Potassium Permanganate, and Footwear II. The FTC's participation and critical analysis in these cases has been particularly helpful to us.

37 The concepts of demand and supply are explained in any Principles of Economics textbook. See for example, Samuelson & Nordhaus, Economics, 12th ed, chap. 4 (1985).

collection of specific variables. Indeed, this framework is particularly useful because it enables us to consider the influence of any particular variable deemed relevant to the study of a market.

For example, such things as consumer tastes, construction activity, and prices of substitute products (like asphalt shingles, clay tile, aluminum siding, and slate) each influence the domestic demand for shakes and shingles. Consumer tastes and construction activity affect the market for shakes and shingles only in so far as they affect demand; they do not directly affect either domestic supply or import supply, although both the quantity of domestic shipments and the quantity of imports will in general change in response to the change in demand.

Domestic supply depends on a different collection of variables, including production technology and the supply conditions in the United States of production input like labor and red cedar logs. Similarly, import supply depends on yet another collection of variables, comprised of foreign demand and input supply conditions that are found abroad.[38]

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[38] The three components can be analyzed in terms of geometrical diagrams. See Samuelson and Nordhaus, supra. Thus domestic demand for shakes and shingles can be

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For any given period, the three components -- domestic demand, domestic supply, and import supply -- determine the price observed in the market as well as the quantity sold by all domestic firms and the total quantity of imports. Furthermore, and of central importance for causation analysis, changes over time in the domestic price, in the quantity of domestic shipments, or in the quantity of imports can be traced to changes in one or more of the three basic components.[39] Consider the effects of a contraction in the domestic demand for shakes and shingles. Such a contraction could be due to a

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illustrated by a demand curve (or line) that gives the relationship between quantity demanded and price holding constant all other variables (such as construction activity) that can influence the demand for shakes and shingles. For a discussion and illustration, see Appendix A infra.

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A change in a component, such as an increase in import supply, means that there is a shift in the import supply curve. For this to occur there would need to be a change in one (or more) of the variables that influence import supply, such as foreign technology. Note in particular that "increase in the quantity of imports" is not the same as an "increase in import supply." The former refers to a situation where the quantity of imports increases as a result of an increase in the price of the product, or a movement along a given import supply curve, whereas the latter refers to a situation where the entire import supply curve has shifted to the right (i.e., a larger quantity of imports would be sold at the same price). These distinctions are crucial in our analysis. For a discussion of this point, see Samuelson and Nordhaus supra and Appendix A infra.

decline in construction activity or, alternatively, to a change in tastes against shakes and shingles and in favor of substitute roofing materials. Since domestic and imported shakes and shingles are perfectly interchangeable, the contraction in demand will adversely affect both domestic and foreign producers. Price will decline and quantities of domestic shipments as well as imports will both fall. Thus, in this case, the decline in domestic demand is the cause of the injury suffered by domestic producers.

This example is provided not merely as a hypothetical -- as explained below the domestic demand for shakes and shingles has in fact declined in recent years -- but to pave the way for an analysis of causation in this case. The full analysis of causation is more complicated than this hypothetical suggests because, in addition to the contraction in domestic demand, there has also been an increase in import supply, which has also adversely affected the domestic industry. This raises the question of how to approach the issue of "substantial cause."

By defining "substantial cause" as a cause "which is important and not less than any other cause," the statute requires the Commission to compare and weigh causes.[40] We

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[40] Section 201(b)(4), 19 U.S.C. 2201(b)(4) (1982).

believe that it is important to examine causes at a comparable level of aggregation and generality and to do so in a consistent manner from case to case so that all participants in escape clause investigations are fully aware of what is involved. We are mindful of the concern of Congress that escape clause cases "provide a fair and reasonable test for any industry which is being injured by imports..."[41] We believe such a test is possible with a causation analysis framed in terms of the three basic components (domestic demand, domestic supply, and import supply), since they are at a comparable level of aggregation and generality.[42] It is also important to include all possible causes of injury to the domestic industry.[43] All of the factors that can affect a domestic

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41 S. Rep. 1298, 93rd Cong., 2d Sess. 119 (1974)

42 Note that if the Commission compares causes at different levels of generality there is the risk of introducing a systematic bias in escape clause cases, which, therefore, may not "provide a fair and reasonable test..." For example, the more one separates a decrease in domestic supply into "separate" causes -- such as increased costs of pollution abatement, increased costs due to management inefficiency, increased costs due to new local taxes, increased labor costs, increased costs associated with complying with a new "Buy America" state statute -- the more likely it is that imports will be the greater cause.

43 If the list of causes is not exhaustive, then the Commission cannot determine whether increased imports are "not less [important] than any other cause."

industry are reflected in one of the three basic components -- domestic demand, domestic supply, and import supply.

At a comparable level of aggregation and generality there are only three causes that can inflict injury on a domestic industry. They are 1) a decline in domestic demand, 2) a decline in domestic supply, and 3) an increase in foreign supply.[44] As explained earlier, an adverse shift in the domestic demand for shakes and shingles, representing a decline in domestic demand, will injure the domestic industry.[45] Such a shift will reduce both domestic output and imports, and it will result in a decline in price. An adverse shift in the domestic supply of shakes and shingles, reflecting increased costs or reduced productivity or both, can also injure the domestic industry. But unlike a decline in demand, it will cause an increase in imports.[46] For example, if costs of domestic raw materials were to increase relative to foreign costs, domestic prices would rise and U.S. firms would become less competitive in the market -- which would curb domestic

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44 There could also be a decline in demand for United States exports, but it is unlikely that a domestic industry could have a significant export industry and be seriously injured by imports.

45 See, e.g., Potassium Permanganate, at 23-25 (Views of Vice Chairman Liebeler).

46 See Tuna at 29-30 (Views of Vice Chairman Liebeler).

consumption. The increase in domestic price would attract additional imports, but the increased imports would be an effect of the higher domestic costs. Finally, an adverse shift in the foreign supply for shakes and shingles can also injure the domestic industry and produce an increase in imports.[47] An adverse shift in foreign supply reflects decreased foreign costs, increased productivity abroad, decreased foreign demand, or any combination of the three. If foreign costs were to decline, imports would be cheaper in the U.S. market and this would lower the domestic price and expand consumption. However, while domestic consumption would have increased, the lower domestic price would work a hardship on domestic firms, which would be forced to reduce their shipments. Only in this last case would increased imports be a cause of injury to the domestic industry. This is because the causal factor that initiates the changes in the domestic market is the change in import supply.

This analysis of causation is supported by the legislative history of Section 201, which lists several causes of injury that cannot justify relief:

> The existence of any of these factors such as the growth in inventory would not in itself

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[47] See Copper at 65 (Views of Vice Chairman Susan W. Liebeler).

> be relevant to the threat of injury from imports if it resulted from conditions unrelated to imports. Such conditions could arise from a variety of other causes, such as changes in technology or in consumer tastes, domestic competition from substitute products, plant obsolescence, or poor management.[48]

All of these factors listed as insufficient bases for an affirmative determination on threat of injury relate either to domestic demand or to domestic supply. Changes in technology, competition from substitute products, and shifts in consumer taste are reflected in changes in domestic demand. The rising costs associated with plant deterioration and poor management are reflected in changes in domestic supply. Thus a change in consumer tastes in favor of imports and against the domestic product will lead to a reduction in domestic shipments and an increase in the quantity of imports. An increase in domestic costs will have the same result. In both cases the increased quantity of imports are an <u>effect</u> of changes in domestic demand or in domestic supply and are <u>not a cause</u> of the injury borne by the domestic industry. On the other hand, the passage quoted above does not exclude causes of injury that relate to changes in import supply. That is, it makes no mention of changes in foreign costs or foreign demand.

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[48] S. Rep. 1298, 93rd Cong., 2d Sess. 120 (1974).

A framework that focuses on domestic demand, domestic supply, and import supply has several advantages. First, it accords with the statutory language requiring that imports be at least as great as any other cause, because it allows causes to be compared. The effect on the domestic industry of the shift of each component can be measured and can be compared.

Second, in most instances this approach is based on quantitative rather than qualitative data. In order to measure the shifts in different components over time, only price and quantity data in the current and base periods are needed. Such data are generally available from a number of different public sources as well as from the Commission's questionnaires.

Third, this approach is reasonably straightforward, and is neither subjective nor arbitrary. The analysis centers on a comparison of the effects of changes in each of the three basic components. One need not make a subjective judgment on which of a variety of qualitative effects is most important. Furthermore, Commission precedent offers no other meaningful, analytical framework with which to identify and compare causes.

Fourth, because the data are readily available, this method provides reasonable certainty and tends to reduce the costs associated with the section 201 process.

Fifth, this approach is consistent with intuitive notions about causation. It makes sense to say increased imports are

the cause of injury to the domestic industry when foreign producers are now able to sell their product in the United States more cheaply. It is somewhat perverse, however, to interpret increased imports as the cause of injury to a domestic industry when the increase is caused by a rise in the cost of producing the item domestically.[49]

B. Empirical Analysis

As indicated above and in Appendix A, the causation analysis centers on changes in price (in real terms) and in quantity consumed. An adverse shift in import supply (an increase), by itself, will result in a decrease in domestic price and an increase in domestic consumption under normal

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[49] Vice Chairman Liebeler notes that this economic approach to analyze causation should be contrasted with the shift share analysis that is used by some Commissioners. See EC-J-085 (Feb. 25, 1986), Memorandum to the Commission regarding shift share analysis in wood shakes and shingles; EC-I-172 (May 21, 1985), Memorandum from Director, Office of Economics, to the Commission, regarding shift share analysis for nonrubber footwear 1980-84; EC-I-174 (May 21, 1985), Memorandum from Director, Office of Economics, to the Commission, regarding shift share analysis for nonrubber footwear in 1984. Shift share analysis allows for only two possible causes of serious injury: decreased demand and increased imports. It does not conform with notions of causality, because it treats declines in domestic productivity as increased imports. Thus, shift share analysis is inconsistent with congressional intent, which explicitly precludes relief when increased imports result from rising domestic production costs.

circumstances.[50] An adverse shift in domestic demand (a contraction) will result in lower price and lower consumption. Finally, an adverse shift in domestic supply (an increase) would cause an increase in consumption and a reduction in price. The evidence before us suggests that domestic supply did not shift adversely (e.g., domestic technology and input prices did not change significantly). Therefore, we confine our attention to changes in domestic demand and in import supply.[51]

To find out how domestic demand and import supply have changed, we examined the data for domestic consumption, quantity of imports, and domestic price. Consumption was about 20 percent lower in 1984 and 1985 than it was in 1978 and approximately equal to the level in 1980.[52] The quantity of imports increased by 20 percent between 1978 and 1984 and 17

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50 There is, however, a special case in which domestic consumption would not increase when import supply increased. If domestic demand for the product is completely unresponsive to changes in price (i.e., completely inelastic, meaning that the quantity demanded does not rise with a decrease in price) then an increase in import supply will result in a lower price but not an increase in consumption. There is no reason to believe that this condition is present here.

51 Staff Report, at A-6, A-31, A-32, A-33 and A-84.

52 Staff Report at A-7.

percent between 1980 and 1984.[53] An index for deflated composite U.S. prices for western red cedar shakes and shingles shows that the real price dropped about 50 percent between 1978 and 1985 and about 30 percent since 1980.[54] It is clear from these results that an increase in imports cannot be the only cause of injury to domestic producers of shakes and shingles. If domestic supply and demand had not changed, an increase in import supply would have caused an increase in domestic consumption as well as a decrease in price. Since consumption has either fallen or remained constant (depending on the base period used for comparison), domestic demand must have decreased. Therefore, even if the level of imports had remained constant, the domestic shakes and shingles industry would nevertheless be injured by the lower prices necessary to keep cedar shakes and shingles competitive with other products.

At the same time, the evidence on the change in domestic prices and domestic production, together with the increase in imports from Canada, shows that the fall in domestic demand for cedar shakes and shingles is not the only adverse change affecting this industry. The increased quantity of imports at lower prices could only have occurred with an increase in Canadian supply to the U.S. market.

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53 Id.

54 Staff Report at A-106-108 (Appendix F).

The statute requires that we determine which of these two factors, decreased demand or increase import supply, is more important in causing injury to the domestic shake and shingle industry. The answer to this question turns on the sensitivity or responsiveness of domestic demand and import supply to changes in the domestic price.[55] As explained below, we find that domestic demand is highly sensitive to price while import supply is relatively insensitive to price. Under these conditions, an increase in import supply does not and cannot exert a significant depressing effect on the domestic price. Rather, the primary effect is to increase the quantity of imports and also to increase domestic consumption. Because the effect on the price was minor, the effect on domestic producers was also minor. Hence the increase in import supply cannot be a cause of serious injury to the domestic industry. In contrast, when domestic demand falls and supply is relatively insensitive to changes in price, the result is a sharp decline in market price. As a consequence, there is also a substantial adverse effect on the domestic industry. Therefore, the contraction in domestic demand is a greater cause of injury to the domestic industry than the increase in imports.

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[55] More precisely, the answer depends on the elasticity of demand compared to the elasticity of supply. See Appendix A infra.

We understand that the question whether domestic demand or import supply is more sensitive to price cannot be answered with precision. By analyzing the data on the record along with general information gathered in this investigation on shake and shingle consumption and production, however, we can reach an informed, though necessarily qualitative, conclusion. We shall begin with a discussion of the relevant supply conditions.

Most wood shakes and shingles are made from western red cedar. Western red cedar is generally not found in pure stands. For example, in western Washington, cedars of all types accounted for 6.7 percent of the total harvest.[56] Because western red cedar is a small component of the total harvest,[57] its supply is highly dependent on the demand for and harvest of all species in a stand. First, there must be a demand for the other trees and, second, there must be some Western red cedar present in the stand harvested. Thus, the supply of Western red cedar logs is relatively independent of its price.

In addition, shakes and shingles are not the highest valued use for cedar. The best western red cedar logs are used for

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[56] Report at A-72. Old growth cedar comprised 6.3 percent of the harvest. Id.

[57] Douglas-fir and western hemlock accounted for 43.4 and 27.1 percent. Report at A-72.

lumber and export. A large portion of what remains is used for shakes and shingles, but they are a residual.

When a product is created as a by-product of another activity, its supply will be less sensitive to its own price than it would be if it were not a by-product. Since cedar logs are primarily a by-product of other activities, the supply of cedar logs to the domestic wood shakes and shingles industry is relatively insensitive to the price of cedar logs.

Cedar logs are the most important input to domestic producers of shakes and shingles. Costs of wood were more than half of total operating expenses between 1980 and 1984.[58] When the domestic industry attempts to increase production of shakes and shingles, which requires more logs, there is a significant increase in costs because the inflexibility in log supply means that log prices would increase sharply. Because of these considerations, domestic producers would only expand production activities if the market price of shakes and shingles were to rise substantially, but the increased quantities offered to the market would be modest because of the limited supply of logs. Therefore, the domestic supply of shakes and shingles would not be very responsive to changes in the price of shakes and shingles.

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58 Staff Report at A-35.

Supply conditions for Canadian producers of shakes and shingles are essentially the same as those in the United States. Moreover, over 90 percent of Canadian western red cedar shakes and shingles are exported to the United States. Hence, an increase in U.S. prices for shakes and shingles could not significantly increase the quantity of Canadian shakes and shingles exported to the U.S. by diverting production that would otherwise be consumed domestically. One would therefore expect the supply responsiveness of Canadian shakes and shingles to be similar to that of the U.S. industry, i.e., not very sensitive to changes in shakes and shingles prices.

The domestic demand for shakes and shingles, in contrast, is expected to be more sensitive to price. This is because there are excellent substitutes for wood shakes and shingles. For example, roof coverings made of asphalt and concrete can be used instead of wood shakes and shingles. Furthermore, a tile has been developed recently which looks like a wood shake or shingle and is fireproof. The availability of close substitutes means that the demand for shakes and shingles is very responsive to price.

For the foregoing reasons we are convinced that the demand for wood shakes and shingles is relatively more sensitive to price than is the supply of these products. This means that the dominant influence causing injury to the domestic industry

is the contraction in U.S. domestic demand and not the increase in import supply. Thus, we conclude that increased imports are not a substantial cause of serious injury to the domestic wood shakes and shingles industry.

With respect to a threat of serious injury, we believe that the analysis provided above substantially applies to conditions that will exist in the immediate future. That is, we do not expect an imminent increase in import supply that will exceed likely decreases in domestic demand. Indeed, it appears that in the future domestic producers will face greater problems from declining demand than from rising imports. In recent years there has been increasing concern about the fire hazard posed by shakes and shingles compared to other roofing materials such as clay tiles,[59] and this concern has led to changes in the fire and building codes, particularly in the major markets of California and Texas. Among other things, these tougher fire codes require expensive fire-proofing treatment of shakes and shingles, thereby narrowing domestic demand. Accordingly, we do not find that increased imports are a threat of serious injury to the domestic industry.[60]

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[59] Report at A-60-61.

[60] Tr at 125-27.

PART TWO: REMEDY

The Commission traditionally bifurcates its injury and remedy votes. Although we voted negatively in the first phase, the Commission majority found that increased imports were a substantial cause of serious injury. Thus, the statute requires us to address remedy.

In making its remedy recommendation the Commission has a narrow mandate. Having determined that a domestic industry has suffered or is threatened with serious injury from imports, it recommends to the President what remedy, if any, is necessary to prevent or remedy the injury. A decision on whether it is wise or efficient to impose import relief must entail a consideration of such questions as consumer welfare and national defense. These are concerns that the statute mandates as proper for the

President to consider. Whether such a remedy would be consistent with the broader national interest cannot be taken into account in deciding what remedy, if any, to recommend.[61]

Section 201 clearly states that its purpose is to "facilitate an orderly adjustment to import competition."[62] The goal of the statute is to provide a period of temporary relief so that the domestic industry has an opportunity to adjust to import competition.[63]

Section 201 contemplates two bases on which relief can be granted. The first is to facilitate a "more orderly" transfer of resources out of the industry than would otherwise take place. In such a case, the domestic industry would still contract, and any relief granted is intended only to make the transition more orderly. The domestic shake and shingle industry has not argued that it wants a more orderly exit from the industry.

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61 We do not base our remedy recommendation on a consumer welfare analysis or any other broader national interest.

62 19 U.S.C. § 2251(a)(1) (1982).

63 The legislative history of the Trade Reform Act of 1974 states the purpose is to provide "temporary relief for an industry suffering from serious injury, or the threat thereof, so that the industry will have sufficient time to adjust to the freer international competition." S. Rep. 1298, 93d Cong., 2d Sess. 119 (1974).

The second basis on which relief can be granted is to prevent or remedy serious injury or threat to the domestic industry. The industry clearly seeks relief under the second basis. Some domestic firms argued that relief might enable them to make new investments so that their market share would increase. Others argued that relief could be used as a bargaining tool to get access to lower cost Canadian logs. Still others submitted no relief plan at all.

The statute makes it clear that an affirmative determination during the injury phase does not open the door to unrestrained relief. Any import relief recommended can only be the amount "necessary to prevent or remedy such injury."[64]

There is no temporary import restriction that would prevent or remedy the injury suffered by the domestic industry in this case. Decreased demand for shakes and shingles due to increasing competition from substitute products has adversely affected this industry. Placing restraints on imports will increase slightly the prices

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64 The term import relief is more narrow than the term remedy. Import relief includes all direct restraints on imports: tariffs, quotas, tariff-rate quotas, and orderly marketing agreements. Trade adjustment assistance is a remedy but it is not a form of import relief.

for domestic shakes and shingles and thus reinforce this trend without generating significant beneficial effects for the domestic industry.

Commissioners Eckes, Lodwick, and Rohr recommend that the President impose a 35 percent tariff on imports of wood shakes and shingles. Using reasonable estimates of the sensitivity of supply and demand to changes in price, our Office of Economics has estimated that a 35 percent ad valorem tariff would only increase domestic prices by 2.6 percent and domestic employment by 24 workers. Output would increase by less than 2 percent, a small fraction of the nearly 40 percent drop in domestic production from 1980 to 1985. This small increase would be accomplished at a consumer cost of $6.1 million,[65] over $250,000 for each of the predicted 24 jobs created.[66] Although the

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[65] We provide this consumer cost estimate because the United States Trade Representative has in prior investigations asked that such information be provided to aid the President in his analysis of consumer cost, 19 U.S.C. § 2252(c)(4)(1982).

[66] Any smaller tariff imposed by the President will have less consumer cost but it will also provide even smaller benefit to the shake and shingle industry. It should be noted that the recommended relief is predicted to produce a small net welfare gain to the United States because of the buying power that the United States exerts in the shakes and shingles market. However, this predicted gain

(Footnote continued on next page)

consumer cost is relatively low, the gain to the domestic industry is also small.

Similarly, an import quota would not provide significant benefits to the domestic industry. Our Office of Economics estimated that a quota that restricted the quantity of imports to the level recorded in 1980 would increase the industry's employment by only 32 workers, a small number compared to the nearly 1,400 workers who have lost their jobs since 1980. Furthermore, such a quota would result in an estimated annual cost to consumers of $2.8 billion, or $266,000 per job protected. Finally, an Orderly Marketing Agreement between the United States and Canada would produce the same results.

Tariffs, quotas, and other import restraints will not, therefore, provide significant benefits to the domestic industry and will not remedy the injury it has suffered in recent years. Moreover, and more important, we do not expect that temporary import restrictions would help the domestic industry adjust to import competition. This is, for example, revealed by information presented by

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does not account for any losses that might occur as the result of compensation paid by the U.S. or as the result of retaliation.

Petitioners themselves, who do not have much hope that import relief will enable them to become viable competitors. The Commission received 44 questionnaires from domestic producers.[67] Thirty-two of these firms indicated that they either had no plans to increase their ability to compete with imports during the adjustment period or chose not to answer the question. Of the twelve firms that had adjustment plans, five firms expressed doubts that these plans would make them competitive with Canadian producers.

Since import restrictions are clearly not appropriate in this case, we are left with the issue of adjustment assistance. Commissioner Brunsdale believes that job training and relocation assistance would facilitate the adjustment of the domestic shake and shingle industry to international competition, and recommends that the President consider using such assistance under 19 U.S.C. sections 2296-2298. She also notes the availability of retraining programs for dislocated workers under Title III of the Job Partnership Training Act.

Vice Chairman Liebeler does not recommend adjustment assistance. In its remedy submission, the Petitioner

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[67] Report at A-5.

argued against the provision of adjustment assistance.[68] The Petitioner stated that "adjustment assistance to firms would not be an effective remedy" because U.S. mills are efficient and there are no new technologies available in which to invest. With respect to adjustment assistance to workers, the Petitioner stated that it has been available for four years but "has been ineffective in reducing unemployment." However, as between the tariff recommended by Commissioners Rohr, Lodwick and Eckes and the types of adjustment assistance recommended by Chairwoman Stern and Commissioner Brunsdale, adjustment assistance makes the most sense. Import restrictions will not significantly aid this industry. Adjustment assistance in the form of worker retraining and relocation allowances may help in alleviating some of the problems due to decreased demand.[69]

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68 Remedy Brief submitted by Northwest Independent Forest Manufacturers, at 3-4 (Mar. 4, 1986).

69 This should not be construed as a statement in support of such a program. See Nonrubber Footwear, at 184-89 (Views of Vice Chairman Liebeler).

Appendix A[70]

Theory of Causation

For a domestic industry to obtain a remedy under Section 201, increased imports must be a substantial cause of the serious injury or threat thereof to the industry. Subsection 201(b)(4) defines "substantial cause" as a cause "which is important and not less than any other cause." In defining a separate "cause," one must not compare a genus with a species or subspecies.

There are only three types of causes at this level of aggregation and generality that can inflict serious injury or the threat thereof to the domestic industry. They are (1) a decline in demand, represented by an inward and leftward shift of the demand curve (see figure A);[71] (2) a decline in domestic supply, represented by an inward and leftward shift of the domestic supply curve (figure B); and (3) an increase in foreign supply, represented by an

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[70] This analysis was originally developed in Copper at 60-65 (Views of Vice Chairman Liebeler).

[71] All figures are attached.

outward and rightward shift of the import supply curve (figure C).

The consequence of these adverse shifts is either a fall in the price or quantity of shakes and shingles produced by domestic producers, or both.

In figure A, D1 is a demand curve and S is a supply curve. As one moves along the demand curve from upper left to lower right, price is falling and the quantity the market is willing to purchase increases. A contraction in demand is shown by a leftward shift of the demand curve, from D1 to D2. This represents a fall in demand indicating that at each price the market is willing to purchase less shakes and shingles.

The effects of the demand shift on market price and quantity depend on the elasticities of demand and supply. The elasticity of demand is defined as the percent change in quantity demanded divided by the percent change in price. The elasticity of supply is defined as the percent change in quantity supplied divided by the percent change in price.[72] In Figure A, the demand and supply curves have moderate elasticities. In this case, equilibrium price and quantity both decline when demand

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72 See Samuelson & Nordhaus, at 379-84.

contracts. This is shown in Figure A by a comparison of the initial equilibrium point a with the final equilibrium point b.

In Figure B, SD1 is a domestic supply curve. As one moves along the supply curve from lower left to upper right, price is rising and the domestic suppliers are willing to sell more shakes and shingles. The movement of the supply curve inward and to the left from SD1 to SD2 represents a contraction in domestic supply, indicating that at each price the domestic suppliers are willing to sell less shakes and shingles. This downward shift in domestic supply can result from an increase in the domestic firms' costs of producing their product. Equilibrium shifts from point a to point b and illustrates that market price increases and quantity falls.

In Figure C, SF1 is an import supply curve. As one moves along the supply curve from lower left to upper right, price is rising and the foreign suppliers are willing to sell more shakes and shingles. The movement of the supply curve outward and to the right from SF1 to SF2 represents an increase in foreign supply, indicating that at each price the foreign suppliers are willing to sell more shakes and shingles. The effect of the outward shift in import supply is to shift market equilibrium from point

a to point b. Market price declines and quantity consumed increases.

Shifts in demand and supply curves can occur for many reasons. A decline in demand can result from changes in tastes, technology, income, or the price of substitutes. A decline in domestic supply may be caused by several factors, including increased labor costs, increased capital costs, or rising raw materials costs.

An adverse shift, or increase, in foreign supply is the cause on which the statute focuses. It can occur for various reasons, including changes in foreign technology, changes in the amount of capital available, changes in foreign demand, or simply increases in foreign capacity.[73]

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[73] Shifts in foreign supply are complicated by exchange rates and their effect on imports. If exchange rates change only because inflation is higher in another country than in the United States, the supply curve of shakes and shingles from the foreign country will be unaffected. The foreign currency will have fallen in value just enough to compensate for the increase in the cost of that country's shakes and shingles in terms of its own currency. Thus, the real exchange rate will be unchanged. However, a change in exchange rates can be caused by other factors such as changes in the demand by foreigners for United

(Footnote continued on next page)

If shakes and shingles producers are selling their products at lower prices or quantities than previously, this can be caused only by (1) a shift in the demand for the goods, (2) a shift in the domestic supply curve, or (3) a shift in the foreign supply curve. The Commission's responsibility under Section 201 is to determine whether the shift in the foreign supply curve is at least as responsible for the injury to the domestic industry as the shift in the domestic demand curve or in the domestic supply curve.

Application of Theory to Shakes and Shingles - 1980-84

In 1980 and 1984, consumption of wood shakes and shingles was approximately equal.[74] Prices, deflated by a building materials index, declined substantially. Figure D depicts the relative shifts in the relevant

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States products. These types of changes will cause changes in exchange rates and shifts in the import supply curve.

[74] The same analysis would apply to the comparison of 1980 and 1985. Based on the results for interim 1984 and interim 1985, consumption of wood shakes and shingles is about the same in 1984 and 1985.

supply and demand curves.[75]

As indicated in Figure D, domestic demand is relatively elastic while supply is relatively inelastic. Initial equilibrium for 1980 is indicated by point a. Final equilibrium for 1984 is indicated by point b. Because consumption is the same in 1980 and 1984 while price declined during this period, point a is directly above point b. Domestic supply, shown in the left portion of the Figure, did not change. However, domestic demand declined while total supply, and therefore import supply, increased.

The analysis of the effects of the demand contraction versus the increase in import supply are shown by comparing points d, e, and f, on the domestic supply curve. To determine the relative importance of the contraction in demand, consider what would have happened if only demand had fallen while import supply had remained unchanged. Under these conditions, market equilibrium would have been at point c and the corresponding equilibrium point for the domestic industry would have been point at e on the domestic supply curve.

As shown, the effect of the drop in demand is relatively severe. This is a consequence of having a

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[75] The graph is not drawn to scale.

relatively elastic demand curve and a relatively inelastic supply curve.[76] Thus, the movement along the domestic supply curve from point d to point e indicates the effect of the contraction in demand.

The effect of the increase in import supply in the market, given the demand contraction, is shown by comparing points c and b. The corresponding impact of the increase in imports on the domestic industry is indicated by comparing points e and f. As shown, this effect is relatively small.

This analysis indicates that the most important cause of injury to the domestic industry was a contraction in demand. Therefore, under the conditions illustrated in Figure D, which we believe are appropriate to the shakes and shingles industry, increased imports are not a substantial cause of injury to the domestic industry.

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[76] Specifically, this result requires the elasticity of demand to be greater than the elasticity of market supply.

Figure A

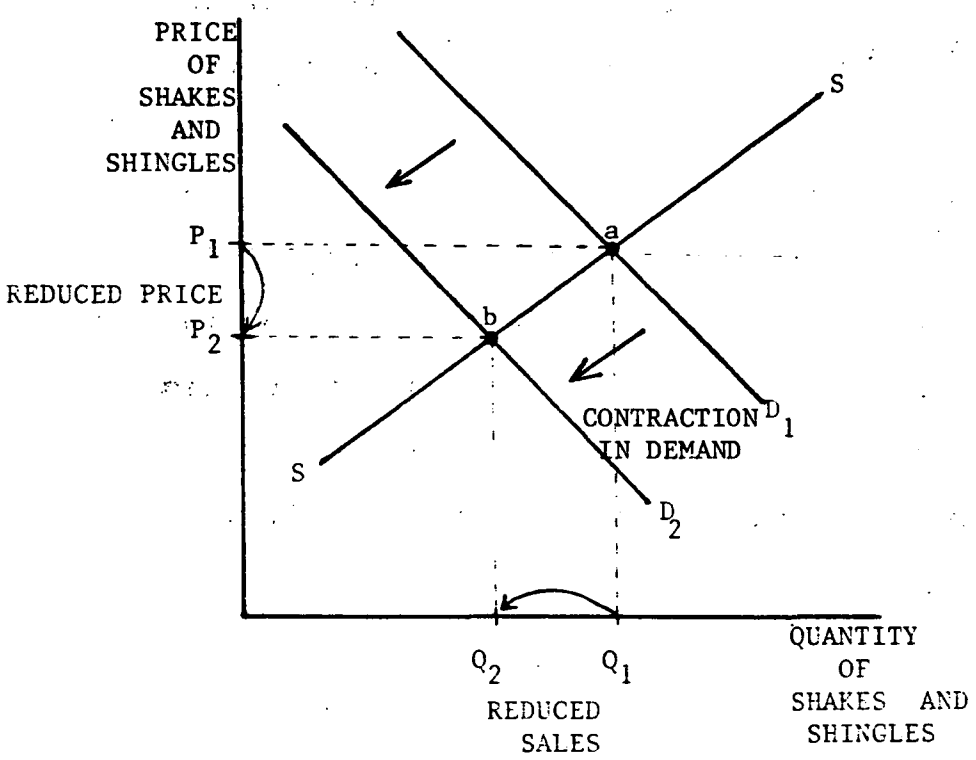

PRICE OF SHAKES AND SHINGLES
P1
REDUCED PRICE
P2
a
b
S
S
D1
D2
CONTRACTION IN DEMAND
Q2
Q1
REDUCED SALES
QUANTITY OF SHAKES AND SHINGLES

Figure B

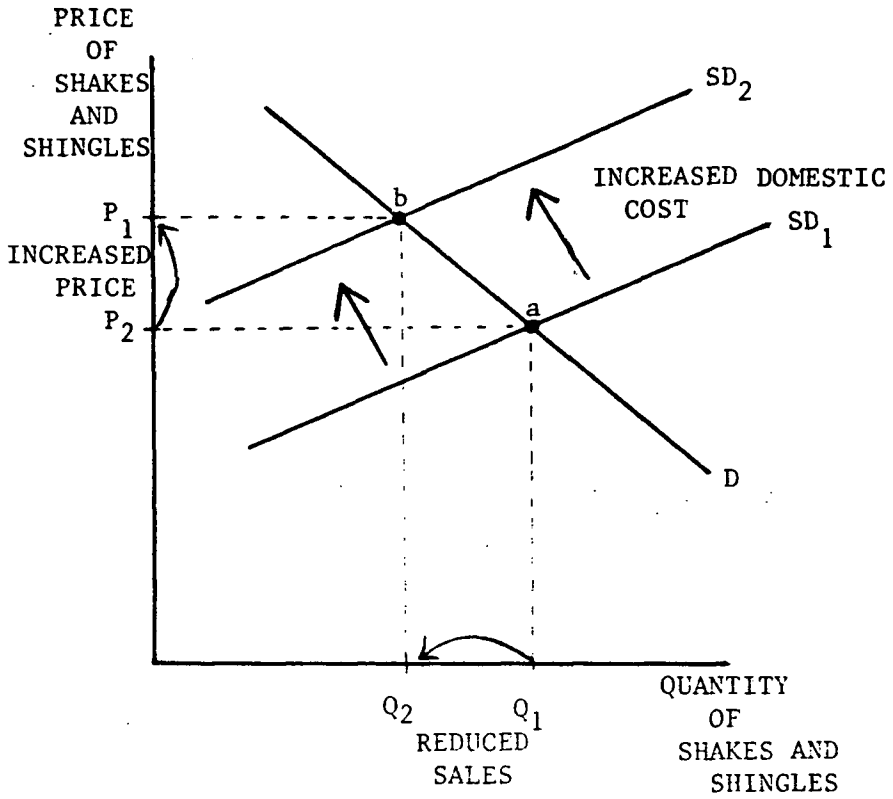


Figure C

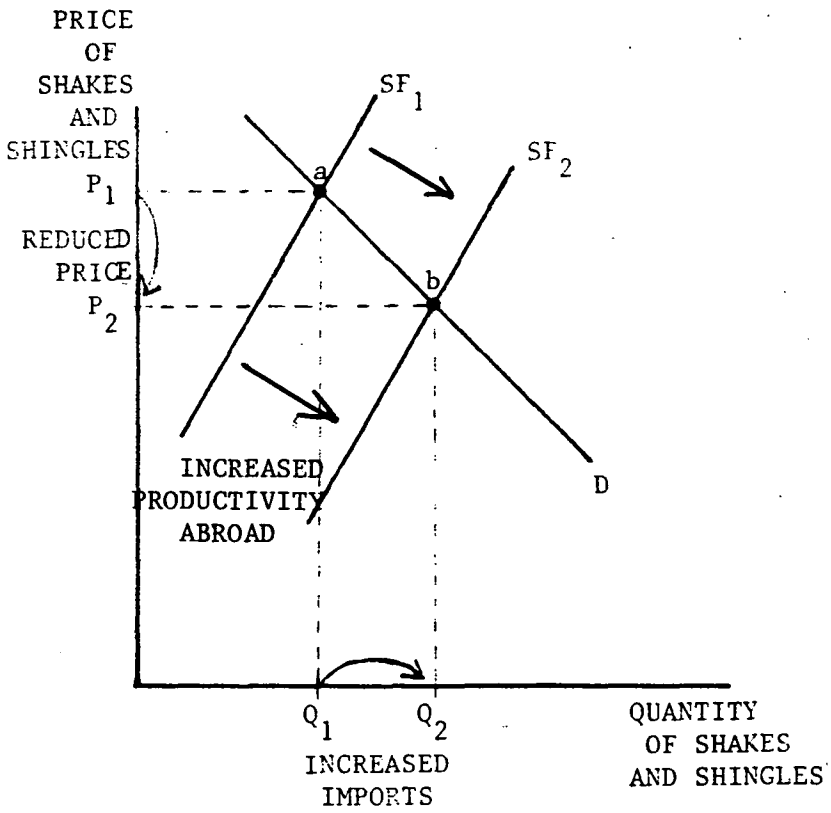
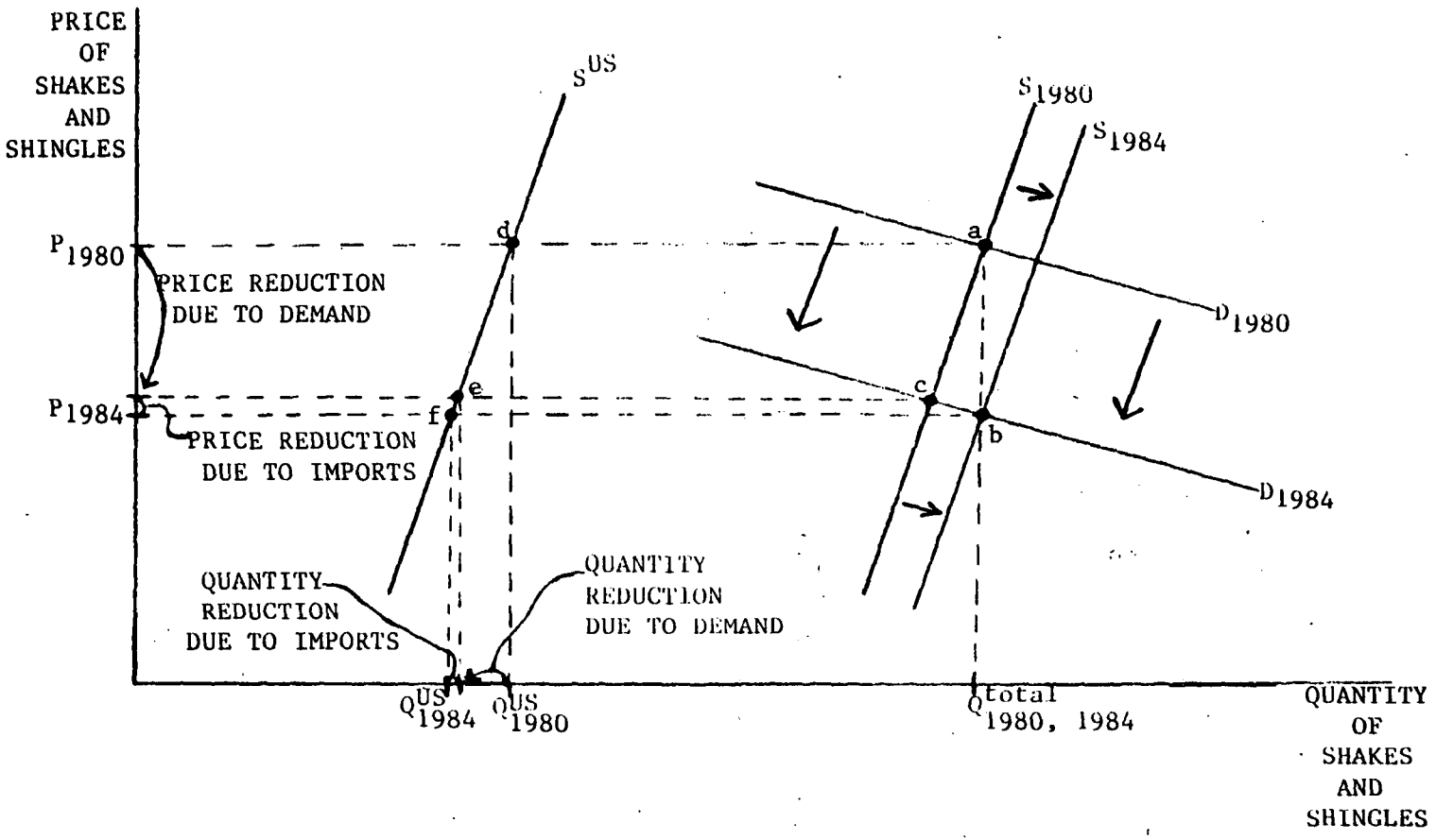


Figure D


PRICE OF SHAKES AND SHINGLES
S^{US}
S_{1980}
S_{1984}
P_{1980}
PRICE REDUCTION DUE TO DEMAND
P_{1984}
PRICE REDUCTION DUE TO IMPORTS
d
e
f
a
c
b
D_{1980}
D_{1984}
QUANTITY REDUCTION DUE TO IMPORTS
QUANTITY REDUCTION DUE TO DEMAND
Q^{US}_{1984}
Q^{US}_{1980}
$Q^{total}_{1980, 1984}$
QUANTITY OF SHAKES AND SHINGLES

INFORMATION OBTAINED IN THE INVESTIGATION

Introduction

On September 25, 1985, the U.S. International Trade Commission received a petition on behalf of U.S. wood shingle and shake producers alleging that imports of wood shingles and shakes, provided for in item 200.85 of the Tariff Schedules of the United States (TSUS), are being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the U.S. industry producing an article like or directly competitive with the imported article. On the basis of the petition, the Commission instituted investigation No. TA-201-56 under section 201 of the Trade Act of 1974. The Commission is required to make its determination in this investigation by March 25, 1986 (section 201(d)(2) of the Act (19 U.S.C. § 2251(d)(2))). Notice of the institution of the Commission's investigation and of a public hearing to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the Federal Register of October 23, 1985 (50 F.R. 43010). 1/ The hearing was held on January 9, 1986.

Previous Commission Investigation

On October 7, 1982, a petition was filed with the Commission and the Department of Commerce by counsel on behalf of the United States Coalition for Fair Canadian Lumber Imports, a group of 8 trade associations and more than 350 U.S. producers of softwood lumber products, alleging that imports of softwood shakes and shingles from Canada were being subsidized by the Government of Canada within the meaning of section 701 of the act (19 U.S.C. § 1671). Accordingly, effective October 7, 1982, the Commission instituted a preliminary countervailing duty investigation (investigation No. 701-TA-198) under section 703(a) of the act (19 U.S.C. § 1671b(a)) to determine whether there was a reasonable indication that an industry in the United States was materially injured, or was threatened with material injury, or the establishment of an industry in the United States was materially retarded, by reason of imports of such merchandise from Canada.

Notice of the institution of the Commission's investigation and of a conference to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the Federal Register of October 20, 1982 (47 F.R. 46781). The conference was held in Washington, DC, on November 5, 1982, and all persons who requested the opportunity were permitted to appear in person or by counsel.

On the basis of the record 2/ developed in that investigation, the Commission determined that there was a reasonable indication that an industry in the United States was materially injured by reason of imports from Canada

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1/ A copy of the notice of investigation is presented in app. A. A list of witnesses appearing at the hearing is also presented in app. A.

2/ The record is defined in sec. 207.2(i) of the Commission's Rules of Practice and Procedure (19 CFR § 207.2(i), 47 F.R. 6190, Feb. 10, 1982).

of the softwood shakes and shingles which were alleged to be subsidized by the Government of Canada. 1/

However, on May 31, 1983, the Department of Commerce determined that no benefits which constitute subsidies within the meaning of the countervailing duty law were being provided to manufacturers, producers, or exporters in Canada of softwood shakes and shingles. The total estimated net subsidy for each product was found to be de minimis; therefore, the final subsidy determination was negative.

The Products

Description and uses

The products covered in this investigation are wood shakes and shingles. These articles are thin, rectangular pieces of wood that have been split (shakes) or sawed (shingles) from a block or bolt of wood. 2/ Shakes and shingles are used in similar applications--primarily as a covering for the roof or side of a building. Shakes and shingles generally are laid in rows that overlap so that only a portion of each shake or shingle is exposed to weathering. Shakes and shingles are normally used interchangeably, although shakes are generally thicker than shingles and tend to be used more on roofs, where thickness is an advantage in the weathering process.

The usual commercial unit of measurement for shakes and shingles is a "square," the quantity required to cover 100 square feet of surface area. A square of shakes or shingles usually consists of between three and five bundles, depending on the size of the shake or shingle and the number of inches exposed to the weather. Because the exposed portion of a shake or shingle generally is greater on the sides of a building than on the roof, the number of shakes or shingles making up a wall square will usually be somewhat less than the amount needed for a roof square.

Between 85 and 95 percent of the shakes and shingles produced in the United States are manufactured from western red cedar (Thuja plicata). The remainder are produced mainly from such species as redwood (Sequoia sempervirens) and northern white cedar (Thuja occidentalis), with other species being used less frequently. Shakes and shingles are produced from these woods because they display such desirable qualities as having vertical grain (for ease in splitting), a low coefficient of expansion, high strength, relative freedom from checking and warping, light weight, good nail-holding qualities, and resistance to rot and insect damage.

In the trade, red cedar shakes and shingles are generally graded according to quality and size specifications, which are established by organizations with inspection services such as the Red Cedar Shingle & Handsplit Shake Bureau of Bellevue, WA. The bureau is a marketing and inspection organization to which many U.S. and Canadian producers of red cedar shakes and shingles belong.

1/ Commissioner Stern also determined that there was a reasonable indication of threat of material injury by reason of the allegedly subsidized imports.

2/ A short, cylindrical section of a log.

Nearly all wood shakes and shingles are manufactured in random widths and are packed in bundles. Ten percent of the shingles in any shipment of a specified size category may be 1 inch over or under the specified length. There are generally four grade breakouts. The best quality, or No. 1, shingles represent the premium grade manufactured in each length. These shingles are all vertical grained, knot free, and intended primarily for roofing. When used on a roof, the life of these shingles can generally be expected to be between 20 and 35 years, depending on the pitch of the roof and climate. When used as siding, these shingles will most likely outlast the useful life of the structure to which they are attached.

Second quality (No. 2) shingles may have some flat grain wood but must be clear of knots for three-quarters of the length as measured from the butt. No. 3 shingles are basically those that do not meet No. 1 or No. 2 standards, but are still usable. They must be clear of knots at least 6 inches from the butt. The fourth grade, which is known as undercoursing, is manufactured in 16-inch and 18-inch lengths and is used primarily as an underlayment for higher grade shingles.

In addition to these specifications, a small percentage of shingles are remanufactured into grooved sidewall shakes, or rebutted and rejointed shingles. Grooved sidewall shakes or shingles have been machined to have striated faces and parallel edges. Rebutted and rejointed shingles have been trimmed so that the edges are parallel and at a right angle to the butt.

Shakes certified by an inspection bureau are all 100 percent free of knots and vertical grained, eliminating the grade requirements used for shingles. There are three basic types of shakes--handsplit and resawn, tapersplit, and straight split--all of which are manufactured in various lengths. Handsplit and resawn shakes account for about 90 percent of total U.S. shake production. A detailed grading schedule for shakes and shingles is given in appendix B.

Most of the shingles produced in the Eastern United States are manufactured from northern white cedar, for which there is no widely accepted inspection or marketing association similar to the Red Cedar Shingle & Handsplit Shake Bureau. Few, if any, shakes are produced from eastern species. Each mill is basically on its own to develop and maintain its markets for shingles. In addition, mills must maintain their own quality control. 1/ Generally, these eastern shingles are graded on the basis of their being free of knots.

Production processes

Shingles are sawn from a block or bolt of wood that is obtained by sawing a log into smaller pieces of the desired length. Bolts may be either split or

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1/ The State of Maine maintains grading rules for northern white cedar shingles under the Maine Commercial Standard; however, compliance with the grading rules is optional. According to officials with the Maine Forest Service, there are no Maine shingle mills registered to sell shingles under the Maine Commercial Standard. A copy of the Maine Commercial Standard for white cedar shingles, and grading rules for an Eastern Canadian mill are included in app. B.

sawn into blocks, that are then placed on a carriage for sawing into shingles. Although there are different types of carriages and saws, the actual method of producing shingles varies little between machines and has changed only slightly since the early 1900's.

Shakes are generally produced from blocks of wood that have been mechanically split from bolts. Blocks are then split into boards. Resawn shakes are produced from boards that are run diagonally through a bandsaw to produce two tapered shakes with one smooth face from each board. Straight-split shakes are produced by splitting blocks or wood into shakes of equal thickness from butt to tip. Tapersplit shakes are similar to straight-split, except the block is turned end over end with each split to achieve the tapered edge. Over 90 percent of the shakes produced in the United States and Canada are resawn. 1/

U.S. tariff treatment

Softwood shakes and shingles enter the United States free of duty under TSUS item 200.85 (app. C). The duty-free status was provided for in the Tariff Act of 1930 2/ and has been bound since January 1, 1948, as the result of a concession granted by the United States under the General Agreement on Tariffs and Trade. 3/

The Domestic Industry

U.S. producers

Bureau of the Census data indicate that in 1982 there were 252 companies operating 290 establishments in Standard Industrial Classification (SIC) 2429--Special Product Sawmills, down from 522 companies, operating 566 establishments in 1977. The establishments in this SIC group are principally those that produce wood shakes and shingles; also included are producers of cooperage stock and excelsior, products not covered by this investigation.

The Red Cedar Shingle & Handsplit Shake Bureau, as of August 1985, reported 165 member U.S. mills, accounting for about 60 percent of U.S. western red cedar shake and shingle production. Red cedar shake and shingle producers are largely capable of producing both shakes and shingles. In 1985,

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1/ Based on data published by the Red Cedar Shingle & Handsplit Shake Bureau.

2/ Based on a trade agreement with Canada in 1936, the United States reserved the right to impose semiannually an absolute quota on red cedar shingles equal to 25 percent of the combined domestic shipments and imports during the preceding 6-month period. Such quotas were imposed. In a 1939 agreement with Canada, the United States reserved the right to impose a duty not exceeding 25 cents a square on red cedar shingles entered in any calendar year after 1938 in excess of a quantity of not less than 30 percent of the annual average, for the preceding 3 years, of the combined total of domestic shipments and imports. Such duties were imposed until January 1948, when the unconditional duty-free status under the Tariff Act of 1930 was restored.

3/ Most U.S. exports of wood shakes and shingles are to Canada, which also has duty-free status for imports.

according to information supplied by the Bureau, 50 percent of all mills produced wood shingles (8 percent only produced shingles) and 92 percent produced wood shakes (50 percent only produced shakes); 42 percent produced both shakes and shingles.

The following tabulation compares 1985 data supplied by the bureau's Buyers Guide with responses to the Commission's questionnaires (in percent of total operations--based on 159 companies for Bureau data and 44 companies for the Commission's questionnaires):

	Shakes only	Shingles Only	Shakes and Shingles
Buyers guide----------	50	8	42
Commission questionnaires--	45	7	48

Among U.S. red cedar shake and shingle producers there is a heavier concentration of shake producing machinery than of shingle producing machinery. Based on information provided by the bureau, there were 0.8 shingle machines and 1.4 shake resaws per red cedar mill in 1985. This difference in the number of machines is compounded by higher per-shift output on shake resaws. A shake production line, requiring two to three men, can produce about 35 to 50 squares per shift; a shingle line, requiring 2 men, can produce about 20 to 35 squares per shift. 1/

Production of shakes and shingles is concentrated in the Pacific Northwest, especially in Washington. In 1985, the bureau reported that of its 165 member U.S. mills producing red cedar shakes and shingles, 113 were located in Washington, 32 in Oregon, 16 in Idaho, 2 in Montana, and 2 in Alaska. Bureau member mills also reportedly manufacture shakes and shingles from other species of wood such as sitka spruce, larch, Douglas-fir, and incense cedar.

In the Eastern United States there are many shingle mills not reported by the Bureau of the Census or represented by associations. These eastern mills are small establishments that have limited production and that generally serve local markets. Because of the eastern mills, as well as mills not represented by the Bureau or other associations in the West, the actual number of establishments that produced wood shakes and/or shingles in 1985 is estimated to have totaled about 300; the unreported mills are thought to account for about 5 percent of U.S. production.

The labor force involved in the production of wood shakes and shingles is fairly specialized. The typical worker will take about 6 months to become proficient on a shingle saw or a shake resaw. Once such a worker, known as a shingle or shake sawyer, becomes familiar with the process, production will be about 40 squares per 8-hour day. Workers are generally paid on a piecework basis, with $100 being an average day's pay for an experienced sawyer or splitter.

1/ Data on productivity supplied by * * * per phone conversation with the staff of the U.S. International Trade Commission on Jan. 28, 1986.

In addition to the workers involved with sawing or splitting the wood, other employees pack the shingles and shakes, by grades, into bundles. These positions also require some training for proficiency, but are less demanding and less dangerous than sawing and splitting the wood.

Production methods in the shake and shingle industry have not changed significantly in recent years. Although 100 years ago many shake boards were handsplit in the woods, the basic equipment used today is essentially the same as that used in the early 1900's. Hydraulic splitters and automated shake resaw guides are examples of the limited technological innovations that have been made in recent years. Because of the simplicity and availability of equipment, a typical shingle or shake mill can be started with a capital investment of as little as $25,000 to $30,000.

U.S. importers

The leading U.S. importers of wood shakes and shingles are the major U.S. wholesalers. As with U.S.-produced shakes and shingles, most imported shakes and shingles are sold to wholesalers, although a small percentage of imports are purchased directly by retailers, builders, and roofers. The wholesaler usually mixes the imported and U.S.-produced products together for sale, as quality differences are generally not a factor. Most wholesalers also handle a wide variety of other construction materials.

The U.S. Market and Channels of Distribution

Apparent U.S. consumption

U.S. consumption of wood shakes and shingles declined from 8.4 million squares in 1978 1/ to 5.0 million squares in 1982 and then rose to 6.8 million squares in 1984 (table 1). Historically, consumption of shakes and shingles has been associated with the level of housing starts in the United States. Industry officials estimate that as much as 75 percent of U.S. consumption of shakes and shingles is used in new home construction in years of normal housing activity.

However, in the 20th century, consumption of wood shakes and shingles has not kept pace with the general increase in housing construction. In the early 1900's, annual consumption of shingles often exceeded 10 million squares. 2/ The long-term downward trend in U.S. consumption is due primarily to competition from other products--such as asphalt shingles, aluminum and plywood siding, tiles, and so forth--and to the limited availability of suitable old-growth cedar logs.

1/ When data are available, information in this report is presented for at least one complete business cycle, the latest of which began in 1978. Accordingly, care should be taken in evaluating trends, since 1978 was a period high for most indicators, other than imports.

2/ Report to the U.S. Senate on Red-Cedar Shingles . . ., U.S. Tariff Commission, Report No. 149, 1942.

Table 1.--Wood shakes and shingles: U.S. production, exports of domestic merchandise, imports for consumption, and apparent consumption, 1978-84, January-September 1984, and January-September 1985

Period	Production 1/	Exports	Imports	Apparent consumption	Ratio (percent) of imports to consumption
	Quantity (squares)				
1978	4,712,580	39,038	3,719,326	8,392,868	44.3
1979	3,848,100	57,861	3,933,793	7,724,032	50.9
1980	2,973,576	46,213	3,820,058	6,747,421	56.6
1981	2,359,469	70,321	3,412,145	5,701,293	59.8
1982	1,835,676	53,468	3,193,602	4,975,810	64.2
1983	2,717,930	81,009	3,771,269	6,408,190	58.8
1984	2,405,609	108,502	4,473,487	6,770,594	66.1
January-September--					
1984	1,946,189	97,786	3,270,908	5,119,311	63.9
1985	1,376,227	47,831	3,750,008	5,078,404	73.8
	Value (1,000 dollars)				
1978	233,863	1,303	161,963	394,523	41.0
1979	176,241	1,756	164,549	339,034	48.5
1980	131,178	1,702	149,702	279,178	53.6
1981	99,520	1,869	132,274	229,925	57.5
1982	69,698	2,157	109,085	176,626	61.8
1983	128,626	2,424	158,150	284,352	55.6
1984	94,915	3,258	182,575	274,232	66.6
January-September					
1984	92,200	2,643	139,057	228,614	60.8
1985	52,662	2,194	135,468	185,936	72.9
	Unit value (per square)				
1978	$49.63	$33.37	$43.55	$47.01	2/
1979	45.80	30.34	41.83	43.89	2/
1980	44.11	36.84	39.19	41.38	2/
1981	42.18	26.58	38.77	40.33	2/
1982	37.97	40.35	34.16	35.50	2/
1983	47.32	29.92	41.94	44.37	2/
1984	39.46	30.02	40.81	40.50	2/
January-September--					
1984	47.37	27.03	42.51	44.66	2/
1985	38.27	45.88	36.12	36.61	2/

1/ Estimated from data supplied by shake and shingle inspection bureaus and official statistics of the U.S. Department of Commerce.

2/ Not meaningful.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

As shown in the following tabulation, the quantity of wood shakes and shingles consumed for each privately owned, single-family housing start in the United States rose from 1978 to 1981 and then generally declined through 1985:

	U.S. consumption of wood shakes and shingles (1,000 squares)	U.S. single-family housing starts (1,000 units)	U.S. consumption of wood shakes and shingles per housing start (squares per unit)
1978	8,393	1,433	5.9
1979	7,724	1,194	6.5
1980	6,747	852	7.9
1981	5,701	705	8.1
1982	4,976	663	7.5
1983	6,408	1,068	6.0
1984	6,771	1,084	6.2
Jan-Sept.--			
1984	5,119	849	6.0
1985	5,078	828	6.1

It is believed that the higher consumption per housing start during 1980-82 reflects continued strength in the higher priced new home market in those years despite an overall decline in the number of housing starts.

Shakes account for substantially more than one-half of total U.S. consumption of shingles and shakes. Of the 6.8 million squares of wood shakes and shingles consumed in the United States in 1984, it is estimated that 59 percent were western red cedar shakes.

U.S. consumption of western red cedar shakes declined from an estimated 5.0 million squares in 1978 to 2.8 million squares in 1982 and then rose to 4.0 million squares in 1984 (table 2).

As shown in the following tabulation, the quantity of red cedar shakes consumed for each privately owned, single-family housing start in the United States rose from 1978 to 1981 and then generally declined through 1985:

	U.S. consumption of western red cedar shakes (1,000 squares)	U.S. single-family housing starts (1,000 units)	U.S. consumption of western red cedar shakes per housing start (squares per unit)
1978	4,973	1,433	3.5
1979	4,929	1,194	4.1
1980	4,159	852	4.9
1981	3,422	705	4.9
1982	2,834	663	4.3
1983	3,823	1,068	3.6
1984	4,027	1,084	3.7
Jan-Sept.--			
1984	3,079	849	3.6
1985	2,912	828	3.5

Table 2.--Western red cedar shakes: U.S. production, exports of domestic merchandise, imports for consumption, and apparent consumption, 1978-84, January-September 1984, and January-September 1985

Period	Production 1/	Exports 2/	Imports 3/	Apparent consumption	Ratio (percent) of imports to consumption
	Quantity (squares)				
1978	3,302,000	0	1,671,417	4,973,417	33.6
1979	2,820,000	0	2,108,821	4,928,821	42.8
1980	2,066,980	0	2,092,080	4,159,060	50.3
1981	1,573,506	0	1,848,215	3,421,721	54.0
1982	1,170,614	0	1,663,333	2,833,947	58.7
1983	1,773,980	0	2,048,834	3,822,814	53.6
1984	1,535,067	0	2,491,477	4,026,544	61.9
Jan.-Sept--					
1984	1,227,066	0	1,851,481	3,078,547	60.1
1985	848,306	0	2,063,898	2,912,204	70.9
	Value (1,000 dollars)				
1978	169,690	-	75,693	245,383	30.8
1979	127,577	-	95,826	223,403	42.9
1980	89,294	-	90,389	179,683	50.3
1981	63,334	-	78,499	141,833	55.4
1982	42,985	-	62,738	105,723	59.3
1983	83,537	-	92,394	175,931	52.5
1984	54,480	-	109,423	163,903	66.8
Jan.-Sept--					
1984	55,770	-	82,672	138,442	59.7
1985	31,990	-	78,517	110,507	71.0
	Unit value (per square)				
1978	$51.39	-	$45.29	$49.34	4/
1979	45.24	-	45.44	45.33	4/
1980	43.20	-	43.21	43.20	4/
1981	40.25	-	42.47	41.45	4/
1982	36.72	-	37.72	37.31	4/
1983	47.09	-	45.10	46.02	4/
1984	35.49	-	43.92	40.71	4/
Jan.-Sept--					
1984	45.45	-	44.65	44.97	4/
1985	37.71	-	38.04	37.95	4/

1/ Estimated from data supplied by inspection bureaus.
2/ Assumes that the United States does not export wood shakes.
3/ Estimated from Statistics Canada data and official statistics of the U.S. Department of Commerce.
4/ Not meaningful.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

U.S. consumption of western red cedar shingles followed the same trend as did total wood shakes and shingles, and wood shakes, falling from 2.6 million squares in 1978 to 1.4 million squares in 1982 and then increasing to 1.7 million squares in 1983 and 1984 (table 3).

As shown in the following tabulation, the quantity of red cedar shingles consumed for each privately owned, single-family housing start in the United States trended upward from 1978 to 1981 and 1982 and then declined thereafter:

	U.S. consumption of western red cedar shingles (1,000 squares)	U.S. single-family housing starts (1,000 units)	U.S. consumption of western red cedar shingles per housing start (squares per unit)
1978	2,560	1,433	1.8
1979	1,992	1,194	1.7
1980	1,702	852	2.0
1981	1,494	705	2.1
1982	1,369	663	2.1
1983	1,726	1,068	1.6
1984	1,666	1,084	1.5
Jan-Sept.--			
1984	1,295	849	1.5
1985	1,321	828	1.6

U.S. consumption of wood shingles other than western red cedar (believed to be primarily northern white cedar shingles) remained relatively stable during 1978-83 and then increased in 1984 and 1985 (table 4).

As shown in the following tabulation, the quantity of shingles other than western red cedar consumed for each privately owned, single-family housing start in the United States rose from 1978 to 1982 and then receded somewhat:

	U.S. consumption of other wood shingles (1,000 squares)	U.S. single-family housing starts (1,000 units)	U.S. consumption of other wood shingles per housing start (squares per unit)
1978	857	1,433	0.6
1979	801	1,194	.7
1980	887	852	1.0
1981	785	705	1.1
1982	773	663	1.2
1983	859	1,068	.8
1984	1,078	1,084	1.0
Jan-Sept.--			
1984	746	849	.9
1985	846	828	1.0

Virtually all the shingles and shakes consumed in the United States are used on the roofs or sides of buildings (particularly in residential

Table 3.--Western red cedar shingles: U.S. production, exports of domestic merchandise, imports for consumption, and apparent consumption, 1978-84, January-September 1984, and January-September 1985

Period	Production 1/	Exports 2/	Imports 3/	Apparent consumption	Ratio (percent) of imports to consumption
	Quantity (squares)				
1978	961,000	39,038	1,638,319	2,560,281	64.0
1979	661,000	57,861	1,388,837	1,991,976	69.7
1980	576,529	46,213	1,171,496	1,701,812	68.8
1981	524,062	70,321	1,040,421	1,494,162	69.6
1982	461,862	53,468	960,871	1,369,265	70.2
1983	642,260	81,009	1,165,044	1,726,295	67.5
1984	603,519	108,502	1,171,383	1,666,400	70.3
Jan.-Sept--					
1984	503,096	97,786	889,829	1,295,139	68.7
1985	375,160	47,831	993,334	1,320,663	75.2
	Value (1,000 dollars)				
1978	44,571	1,303	75,997	119,265	63.7
1979	31,973	1,756	58,757	88,974	66.0
1980	27,229	1,702	49,287	74,814	65.9
1981	24,620	1,869	43,699	66,450	65.8
1982	18,913	2,157	36,370	53,126	68.5
1983	31,278	2,424	52,539	81,393	64.6
1984	28,559	3,258	53,094	78,395	67.7
Jan.-Sept--					
1984	25,955	2,643	42,097	65,409	64.4
1985	14,950	2,194	40,023	52,779	75.8
	Unit value (per square)				
1978	$46.38	$33.37	$46.39	46.58	4/
1979	48.37	30.34	42.31	44.67	4/
1980	47.23	36.84	42.07	43.96	4/
1981	46.98	26.58	42.00	44.47	4/
1982	40.95	40.35	37.85	38.80	4/
1983	48.70	29.92	45.10	47.15	4/
1984	47.32	30.02	45.33	47.04	4/
Jan.-Sept--					
1984	51.59	27.03	47.31	50.50	4/
1985	39.85	45.88	40.29	39.96	4/

1/ Estimated from data supplied by inspection bureaus and official statistics of the U.S. Department of Commerce.

2/ Assumes that all exports of wood shakes and shingles include only western red cedar shingles.

3/ Estimated from Statistics Canada data and official statistics of the U.S. Department of Commerce.

4/ Not meaningful.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

Table 4.--Wood shingles other than western red cedar: U.S. production, exports of domestic merchandise, imports for consumption, and apparent consumption, 1978-84, January-September 1984, and January-September 1985

Period	Production 1/	Exports 2/	Imports 1/	Apparent consumption	Ratio (percent) of imports to consumption
	Quantity (squares)				
1978	449,580	0	407,054	856,634	47.5
1979	367,100	0	433,717	800,817	54.2
1980	330,067	0	556,482	886,549	62.8
1981	261,901	0	523,509	785,410	66.6
1982	203,200	0	569,398	772,598	73.7
1983	301,690	0	557,391	859,081	64.9
1984	267,023	0	810,627	1,077,650	75.2
Jan.-Sept--					
1984	216,027	0	529,598	745,625	71.0
1985	152,761	0	692,776	845,573	81.9
	Value (1,000 dollars)				
1978	19,602	-	10,198	29,800	34.2
1979	16,692	-	9,894	26,586	37.2
1980	14,655	-	10,026	24,681	40.6
1981	11,566	-	10,076	21,642	46.6
1982	7,800	-	9,977	17,777	56.1
1983	13,811	-	13,218	27,029	48.9
1984	11,877	-	20,058	31,935	62.8
Jan.-Sept--					
1984	10,475	-	14,288	24,763	57.7
1985	5,722	-	16,928	22,650	74.7
	Unit value (per square)				
1978	$43.60	-	$25.05	$34.79	3/
1979	45.47	-	22.81	33.20	3/
1980	44.40	-	18.02	27.84	3/
1981	44.16	-	19.25	27.56	3/
1982	38.38	-	17.52	23.01	3/
1983	45.78	-	23.71	31.46	3/
1984	44.48	-	24.74	29.63	3/
Jan.-Sept--					
1984	48.49	-	26.98	33.21	3/
1985	37.46	-	24.44	26.79	3/

1/ Estimated from data supplied by inspection bureaus and official statistics of the U.S. Department of Commerce.

2/ Assumes that the only shingles that are exported are made from western red cedar.

3/ Not meaningful.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

applications) and, as mentioned previously, in years of near-average housing starts about 75 percent of U.S. consumption of shingles and shakes is on new structures, with re-roofing or re-siding accounting for the remainder. Because of this relationship with the residential home market, demand for shakes and shingles is highly dependent on housing construction and related factors, especially interest rates.

In 1984, about 40 percent of the red cedar shakes and shingles consumed domestically were shipped to two States, California and Texas--down from about 50 percent annually during 1979-81. In 1984, California was reported to have taken nearly one-third of all red cedar shakes and shingles sold in the United States, and Texas consumed about 10 percent of the total--down from about 14 percent in 1980. Combined, the four States of California, Texas, Washington, and Oregon accounted for over 60 percent of all red cedar shakes and shingles sold in the United States 1984. The following tabulation shows the percentage distribution of shipments within the United States of all red cedar shakes and shingles 1/ by leading States during 1978-84 (in percent):

	1978	1979	1980	1981	1982	1983	1984
California	32.8	36.8	37.7	32.2	28.6	31.6	31.6
Texas	15.7	13.3	13.6	15.2	11.5	11.5	10.6
Washington	10.5	10.7	8.5	9.2	10.9	9.8	8.7
Oregon	6.5	7.0	7.8	6.8	6.2	8.2	9.7
All other	34.5	32.2	32.5	36.5	42.8	39.0	39.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

As shown, the share of shipments to the traditional markets of California and Texas has declined in recent years, and the share going to Washington and Oregon has remained relatively stable. The share going to smaller share-holding States has increased.

Reported percentage distribution of shipments within the United States of red cedar shakes and shingles by U.S. Census regions indicates that no major shifts have occurred since 1978, as shown in the following tabulation (in percent):

	1978	1979	1980	1981	1982	1983	1984
West:							
Pacific	50.5	55.8	54.8	49.0	46.6	50.8	51.0
Mountain	8.0	7.9	6.4	8.0	10.3	8.6	9.8
Midwest	16.0	13.8	13.2	15.3	14.9	14.9	14.0
Northeast	3.7	3.2	4.3	4.0	5.7	5.0	4.6
South	21.7	19.3	21.3	23.7	22.4	20.8	20.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1/ Based on information furnished by member mills of the Red Cedar Shingle & Handsplit Shake Bureau (based on a survey of the members' shipments, with both Canadian and U.S. mills included). Does not include data on shipments of shingles of other than western red cedar.

The distribution pattern of western red cedar shakes differs from that of western red cedar shingles. Western red cedar shakes are primarily distributed to California, whereas western red cedar shingles are largely delivered to Texas.

The following tabulation shows the percentage distribution of shipments within the United States of western red shakes 1/ by leading States during 1978-84 (in percent):

	1978	1979	1980	1981	1982	1983	1984
California	42.7	46.6	47.3	41.5	37.3	40.1	38.4
Oregon	7.0	7.6	8.5	6.7	5.8	7.9	9.6
Colorado	6.9	6.0	5.0	6.8	9.4	8.1	9.0
Washington	10.5	9.1	6.5	6.1	7.5	7.4	7.5
Florida	2.1	3.1	4.0	4.9	5.5	5.6	5.8
All other	30.8	27.6	28.7	34.0	34.5	30.9	29.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

It is believed that the higher share of shipments to California in 1979 and 1980 reflects the greater strength in that States' housing market compared with other States. The respondents argued that the decline in the share of shipments of western red cedar shakes to California since 1980 is the result of an increase in the number of local building codes, particularly in southern California, aimed at restricting, and in some cases preventing, the use of untreated wood shakes or shingles as roofing or siding. Restrictions on treated shakes and shingles are more lenient in that area than for untreated shakes and shingles, however, the treating process is said to double the raw material costs for roofing.

As shown in the following tabulation, 1/ the decline in the share of western red cedar shakes distributed to California during 1978-84 generally follows the share held by California of building permits issued in the United States during 1978-84 (in percent):

	Share of western red cedar shake shipments	Share of total building permits issued in the United States, single family
1978	42.7	12.2
1979	46.6	13.1
1980	47.3	12.2
1981	41.5	9.2
1982	37.3	9.3
1983	40.1	11.3
1984	38.4	12.5

1/ Based on information furnished by member mills of the Red Cedar Shingle & Handsplit Shake Bureau (based on a survey of the members' shipments, with both Canadian and U.S. mills included). Does not necessarily indicate the final destination of shipments.

The following tabulation shows the percentage distribution of shipments within the United States of western red cedar shingles 1/ by leading States during 1978-84 (in percent):

	1978	1979	1980	1981	1982	1983	1984
Texas	40.3	35.3	35.2	34.5	25.2	26.9	27.6
California	12.9	15.1	17.1	14.7	11.9	15.1	16.3
Washington	10.5	14.4	12.8	15.1	17.5	14.4	11.2
Oregon	5.5	5.7	6.1	7.1	6.9	8.8	9.9
Oklahoma	4.5	3.9	3.8	6.3	9.0	7.1	6.6
New York	1.5	1.5	1.5	2.3	5.0	3.3	5.1
All other	24.8	24.1	23.5	20.0	24.5	24.4	23.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The respondents also argued that the decline during 1978-84 in the share of shipments to Texas of western red cedar shingles is the result of an increase in the number of local building codes aimed at restricting the use of untreated, and in some cases treated, wood shakes and shingles as roofing or siding. As shown in the following tabulation as the share of western red cedar shingles distributed to Texas 1/ generally declined, the share of U.S. building permits issued in Texas increased (in percent):

	Share of western red cedar shingle shipments	Share of total building permits issued in the United States, single family
1978	40.3	8.0
1979	35.3	7.8
1980	35.2	9.4
1981	34.5	11.7
1982	25.2	14.1
1983	26.9	11.2
1984	27.6	9.4

Shakes and shingles produced from species other than red cedar are generally marketed in the area of production and are not included with red cedar distribution statistics. Appendix D shows U.S. distribution of red cedar shakes and shingles in 1984, by States, as published by the Red Cedar Shingle & Handsplit Shake Bureau.

1/ Based on information furnished by member mills of the Red Cedar Shingle & Handsplit Shake Bureau (based on a survey of the members' shipments, with both Canadian and U.S. mills included). Does not necessarily indicate the final destination of shipments.

Marketing

Wood shake and shingle producers generally sell and distribute their products through wholesalers. However, some producers have developed direct contacts with builders or roofers, thus eliminating the middleman. If the contact happens to be a particularly aggressive builder or roofer, it will often give a producer a competitive edge during periods of slow housing starts. However, the bad debt risk tends to rise when such direct contacts are utilized, and in past years some producers reported problems with some of their direct contacts who would pay cash for their first few orders, later ask for credit on a larger order, and subsequently go bankrupt.

Most wood shakes and shingles produced in the United States are delivered by truck. The typical trailer load is about 200 squares, now worth between $8,000 and $13,000 wholesale. A typical trucking cost (from the Olympic Peninsula to the Los Angeles area) is between $1,000 and $1,500 per truckload, or about $5.00 to $7.50 per square.

Wood shakes and shingles produced in the West destined for eastern markets are shipped primarily by rail. The actual rail freight, not including transportation to and from the rail site, is about $10 per square. Nearly all eastern-produced shingles are shipped by truck.

Most of the market promotion of shakes and shingles in the United States and Canada is handled by the Red Cedar Shingle & Handsplit Shake Bureau, which maintains an inspection service that certifies the quality of each member mill's production. Other duties of the bureau include research and development, advertising, and market promotion. Although there are other grading and inspection associations in the West, the bureau is by far the largest. Grading standards are highly similar among the associations.

The greatest effect the bureau and other associations have had on the shake and shingle industry has probably been the standardization of grades. Before the uniform grading systems, U.S. producers often marketed shingles and shakes under their own mill grades. These mill grades were often of poor and irregular quality; some industry people state that such poor and erratic quality standards helped to open the U.S. roofing and siding markets to competitive products.

The primary competition for wood shakes and shingles is asphalt roofing shingles, which are used extensively throughout the country. Other products that compete with wood shingles and shakes include asbestos shingles, tile, metal roofing, aluminum and vinyl siding, other types of wood siding, and slate.

The Question of Increased Imports

U.S. imports

Wood shakes and shingles.--U.S. imports of wood shakes and shingles fell from 3.7 million squares, valued at $162.0 million, in 1978 to 3.2 million squares, valued at $109.1 million, in 1982, and then rose to 4.5 million squares, valued $182.6 million, in 1984, for an overall increase of 20

percent, by quantity, and 13 percent by value, during 1978-84 (table 1). Imports increased in quantity, but decreased in value, from January-September 1984 to January-September 1985. Virtually all imports of wood shakes and shingles were from Canada (table 5).

Western red cedar shakes.--U.S. imports of western red cedar shakes rose sharply from 1.7 million squares, valued at $75.7 million, in 1978 to 2.1 million squares, valued at $95.8 million, in 1979, and then fell to 1.7 million squares, valued at $62.7 million, in 1982, before increasing again to 2.5 million squares, valued at $109.4 million, in 1984 (representing an overall increase of 49 percent in terms of quantity and 45 percent in terms of value during 1978-84) (table 2). All imports were from Canada (table 6). Imports increased in quantity, but decreased in value, from January-September 1984 to January-September 1985. There is no known production of shakes from any wood other than western red cedar; therefore, U.S. imports of western red cedar shakes are equivalent to U.S. imports of all wood shakes.

Western red cedar shingles.--U.S. imports of western red cedar shingles fell from 1.6 million squares, valued at $76.0 million, in 1978 to 961,000 squares, valued at $36.4 million, in 1982, and then rose to 1.2 million squares, valued at $53.1 million, in 1984, for an overall decline of 28 percent in terms of quantity and 30 percent in terms of value during the period (table 3). Imports rose in quantity, but declined in value, from January-September 1984 to January-September 1985. Virtually all imports of western red cedar shingles were from Canada (table 7).

Data on imports of western red cedar shakes and western red cedar shingles by U.S. Customs districts are aggregated and cannot reasonably be segregated. Such aggregate data indicate that the Seattle, WA, U.S. Customs district was the leading port of entry for U.S. imports of western red cedar shakes and shingles. Imports into the Seattle district totaled 3.3 million squares in 1984, accounting for 89 percent of total imports of such articles (table 8).

Shingles other than western red cedar.--U.S. imports of shingles made from wood other than western red cedar rose unevenly from 409,590 squares in 1978 to 810,627 squares in 1984 (table 4). In terms of value, such imports ranged from $10.0 million in 1979 to $20.1 million in 1984. Imports rose in value and quantity from January-September 1984 to January-September 1985. Virtually all imports were from Canada (table 9). Although it is impossible to determine the exact species composition of U.S. imports of shingles other than western red cedar, it is believed that between 90 and 95 percent of such imports were of northern white cedar, grown in eastern Canada, with some imports made of spruce and pine.

Portland, ME, was the leading U.S. Customs district through which U.S. imports of shingles other than western red cedar were entered (table 10). Such imports into that district accounted for 41 percent, in terms of quantity, of all U.S. imports of such articles in 1984. Due to the nature and design of the Canadian and U.S. rail and truck transportation systems, it is likely that all imports into the Portland, ME, Customs district were of the eastern species of wood.

U.S. imports of shingles other than western red cedar into the St. Albans, VT,; Ogdensburg, NY; and Buffalo, NY, Customs districts accounted for

Table 5.--Wood shakes and shingles: U.S. imports for consumption, by principal sources, 1980-84, January-September 1984, and January-September 1985

Souce	1980	1981	1982	1983	1984	January-September--	
						1984	1985
	Quantity (squares)						
Canada	3,819,538	3,411,801	3,193,102	3,769,343	4,473,487	3,270,908	3,748,296
Chile	0	0	0	150	0	0	0
Costa Rica	0	0	262	1,756	0	0	0
Japan	0	0	0	20	0	0	0
Mexico	310	344	236	0	0	0	60
All other	210	0	2	0	0	0	1,652
Total	3,820,058	3,412,145	3,193,602	3,771,269	4,473,487	3,270,908	3,750,008
	Value (1,000 dollars)						
Canada	149,681	132,254	109,073	158,144	182,575	139,056	135,409
Chile	-	-	-	2	-	-	-
Costa Rica	-	-	1/	2	-	-	-
Japan	-	-	-	2	-	-	-
Mexico	15	20	11	-	-	-	2
All other	5	-	1	-	-	-	57
Total	149,702	132,274	109,085	158,150	182,575	139,056	135,468
	Unit value (per square)						
Canada	$39.19	$38.76	$34.16	$41.96	$40.81	$42.51	$36.13
Chile	-	-	-	15.82	-	-	-
Costa Rica	-	-	1.48	1.08	-	-	-
Japan	-	-	-	91.30	-	-	-
Mexico	49.86	59.01	46.55	-	-	-	29.68
All other	24.00	-	637.50	-	-	-	34.71
Average	39.19	38.77	34.16	41.94	40.81	42.67	36.12

1/ Less than $500.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Note.--Because of rounding, figures may not add to the totals shown.

Table 6.--Western red cedar shakes: U.S. imports for consumption, by principal sources, 1980-84, January-September 1984, and January-September 1985

Source	1980	1981	1982	1983	1984	January-September--	
						1984	1985
	Quantity (squares)						
Canada	2,092,080	1,848,215	1,663,333	2,048,834	2,491,477	1,851,481	2,063,898
All other	0	0	0	0	0	0	0
Total	2,092,080	1,848,215	1,663,333	2,048,834	2,491,477	1,851,481	2,063,898
	Value (1,000 dollars)						
Canada	90,389	78,499	62,738	92,394	109,423	82,672	78,517
All other	-	-	-	-	-	-	-
Total	90,389	78,499	62,738	92,394	109,423	82,672	78,517
	Unit value (per square)						
Canada	$43.21	$42.47	$37.72	$45.10	$43.92	$44.65	$38.04
All other	-	-	-	-	-	-	-
Average	43.21	42.47	37.72	45.10	43.92	44.65	38.04

Source: Derived from a combination of Statistics Canada data (export statistics for western red cedar shakes) and official statistics of the U.S. Department of Commerce.

Note.--Assumes U.S. imports of shakes are from Canada only.

Table ---Western red cedar shingles: U.S. imports for consumption, by principal sources, 1980-84, January-September 1984, and January-September 1985

Source	1980	1981	1982	1983	1984	January-September--	
						1984	1985
	Quantity (squares)						
Canada	1,171,186	1,040,077	960,635	1,165,024	1,171,383	889,829	991,918
All other	310	344	236	20	-	-	1,416
Total	1,171,496	1,040,421	960,871	1,165,044	1,171,383	889,829	993,334
	Value (1,000 dollars)						
Canada	49,272	43,679	36,359	52,537	53,094	42,097	39,981
All other	15	20	11	2	-	-	42
Total	49,287	43,699	36,370	52,539	53,094	42,097	40,023
	Unit value (per square)						
Canada	$42.07	$42.00	$37.85	$45.10	$45.33	$47.31	$40.31
All other	49.86	59.01	46.55	91.30	-	-	29.66
Average	42.07	42.00	37.85	45.10	45.33	47.31	40.29

Source: Derived from Statistics Canada data and official statistics of the U.S. Department of Commerce.

Note.--Assumes U.S. imports of shakes are from Canada only.

Table 8.--Western red cedar shakes and shingles: U.S. imports for consumption by Customs districts, 1980-84, January-September 1984, and January-September 1985

Customs district	1980	1981	1982	1983	1984	January-September--	
						1984	1985
	Quantity (squares)						
Seattle, WA	2,205,643	2,087,522	2,036,054	2,856,416	3,266,119	2,431,608	2,673,833
Pembina, ND	450,396	296,736	199,059	125,507	122,359	86,488	151,440
Duluth, MN	397,960	374,977	308,123	152,334	86,572	56,713	103,384
Buffalo, NY	109,871	59,161	14,352	45,092	54,626	51,176	5,500
Ogdensburg, NY	1,672	4,074	6,908	2,896	28,679	19,615	18,483
All other	98,034	66,166	59,708	31,633	104,505	95,710	104,592
Total	3,263,576	2,888,636	2,624,204	3,213,878	3,662,860	2,741,310	3,057,232
	Value (1,000 dollars)						
Seattle, WA	96,509	89,647	79,354	131,001	149,671	115,483	106,763
Pembina, ND	20,090	12,784	7,217	5,109	4,963	3,525	5,440
Duluth, MN	16,249	15,851	10,627	6,200	4,279	2,937	4,069
Buffalo, NY	3,743	2,024	205	1,689	1,744	1,631	163
Ogdensburg, NY	26	63	80	24	806	391	514
All other	3,059	1,829	1,625	909	1,054	802	1,591
Total	139,676	122,198	99,108	144,932	162,517	124,769	118,540
	Unit Value (per square)						
Seattle, WA	$43.76	$42.94	$38.97	$45.86	$45.83	$47.49	$39.93
Pembina, ND	44.60	43.08	36.26	40.71	40.56	40.76	35.92
Duluth, MN	40.83	42.27	34.49	40.70	49.43	51.79	39.35
Buffalo, NY	34.07	34.21	14.26	37.46	31.93	31.87	29.56
Ogdensburg, NY	15.83	15.46	11.53	8.40	28.09	19.93	27.82
All other	31.20	27.64	27.22	28.74	10.09	8.39	15.21
Average	42.80	42.30	37.77	45.10	44.37	45.51	38.77

Source: Compiled from official statistics at the U.S. Department of Commerce.

Table 9.--Shingles other than western red cedar: U.S. imports for consumption, by principal sources, 1980-84, January-September 1984, and January-September 1985

Source	1980	1981	1982	1983	1984	January-September--	
						1984	1985
	Quantity (squares)						
Canada	556,272	523,509	569,134	555,485	810,627	529,598	692,480
Chile	0	0	0	150	0	0	0
Costa Rica	0	0	262	1,756	0	0	0
Jamaica	0	0	2	0	0	0	0
Yemen	210	0	0	0	0	0	0
All other	0	0	0	0	0	0	296
Total	556,482	523,509	569,398	557,391	810,627	529,598	692,776
	Value (1,000 dollars)						
Canada	10,021	10,076	9,976	13,213	20,058	14,288	16,911
Chile	-	-	-	2	-	-	-
Costa Rica	-	-	1/	2	-	-	-
Jamaica	-	-	1	-	-	-	-
Yemen	5	-	-	-	-	-	-
All other	-	-	-	-	-	-	17
Total	10,026	10,076	9,977	13,218	20,058	14,288	16,928
	Unit value (per square)						
Canada	$18.01	$19.25	$17.53	$23.79	$24.74	$26.98	$24.42
Chile	-	-	-	15.82	-	-	-
Costa Rica	-	-	1.48	1.08	-	-	-
Jamaica	-	-	637.50	-	-	-	-
Yemen	24.00	-	-	-	-	-	-
All other	-	-	-	-	-	-	56.60
Average	18.02	19.25	17.52	23.71	24.74	26.98	24.44

1/ Less than $500.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Note.--Because of rounding, figures may not add to the totals shown. It is assumed that there are no imports of shakes of other than western red cedar.

Table 10.--Shingles other than western red cedar: U.S. imports for consumption by Customs districts, 1980-84, January-September 1984, and January-September 1985

Customs district	1980	1981	1982	1983	1984	January-September-- 1984	January-September-- 1985
	Quantity (squares)						
Portland, ME	227,749	212,866	222,332	273,606	334,006	243,065	289,173
St. Albans, VT	46,334	61,936	92,179	87,907	206,271	78,614	145,012
Ogdensburg, NY	246,676	209,631	200,498	111,584	151,910	109,845	186,668
Buffalo, NY	6,236	3,295	1,998	11,789	81,066	73,942	32,239
Detroit, MI	25,618	32,504	50,251	70,282	29,193	20,146	36,999
All other	3,869	3,277	2,140	2,223	8,181	3,986	2,685
Total	556,482	523,509	569,398	557,391	810,627	529,598	692,776
	Value (1,000 dollars)						
Portland, ME	6,761	6,834	6,836	9,019	11,886	8,463	9,905
St. Albans, VT	964	1,234	1,349	2,296	3,601	2,383	3,055
Ogdensburg, NY	1,712	1,596	1,416	1,377	2,559	1,732	3,415
Buffalo, NY	226	83	51	177	1,332	1,256	296
Detroit, MI	158	313	255	301	254	216	125
All other	205	16	70	48	426	238	132
Total	10,026	10,076	9,977	13,218	20,058	14,288	16,928
	Unit value (per square)						
Portland, ME	$29.69	$32.10	$30.74	$32.96	$35.58	$34.82	$34.25
St. Albans, VT	20.81	19.92	14.64	26.12	17.46	30.31	21.07
Ogdensburg, NY	6.94	7.61	7.06	12.34	16.84	15.77	18.30
Buffalo, NY	36.30	25.26	25.45	15.01	16.43	16.99	9.19
Detroit, MI	6.19	9.64	5.08	4.28	8.71	10.72	3.37
All other	52.99	4.88	32.71	21.59	52.07	59.71	49.16
Average	18.02	19.25	17.52	23.71	24.74	26.98	24.44

Source: Compiled from based in Statistics Canada data and official statistics of the U.S. Department Commerce.

Note.--It is assumed that there are no imports of shakes of other than western red cedar.

54 percent, in terms of quantity, of imports in 1984. The species composition of such imports is undetermined; however, it is believed that most such imports were of the eastern species of wood (primarily northern white cedar), despite the availability of rail transportation from Western Canada to these Customs districts.

Ratios of imports to production

Wood shakes and shingles.--The increase in the quantity of imports of wood shakes and shingles since 1978, coupled with the corresponding decline in U.S. production (see table 1), has resulted in an increase in imports relative to domestic production. The ratio of imports to domestic production increased sharply from 79 percent in 1978 to 186 percent in 1984, and continued to increase sharply from 168 percent during January-September 1984 to 272 percent during January-September 1985, as shown in the following tabulation:

Period	Imports (1,000 squares)	U.S. production (1,000 squares)	Ratio of imports to production (percent)
1978	3,719	4,713	78.9
1979	3,934	3,848	102.2
1980	3,820	2,974	128.4
1981	3,412	2,359	144.6
1982	3,194	1,836	174.0
1983	3,771	2,718	138.7
1984	4,473	2,406	185.9
January-September--			
1984	3,271	1,946	168.1
1985	3,750	1,376	272.5

Western red cedar shakes.--Similarly, the ratio of imports of western red cedar shakes to domestic production (see table 2) increased from 51 percent in 1978 to 162 percent in 1984, and continued to increase from January-September 1984 (151 percent) to January-September 1985 (243 percent), as shown in the following tabulation:

Period	Imports (1,000 squares)	U.S. production (1,000 squares)	Ratio of imports to production (percent)
1978	1,671	3,302	50.6
1979	2,109	2,820	74.8
1980	2,092	2,067	101.2
1981	1,848	1,574	117.4
1982	1,663	1,171	142.0
1983	2,049	1,774	115.5
1984	2,491	1,535	162.3
January-September--			
1984	1,851	1,227	150.9
1985	2,064	848	243.4

Western red cedar shingles.--The relative stability in the quantity of imports of western red cedar shingles during 1978-84 resulted in a relatively stable, but high, ratio of imports to production during that period (see table 3). The ratio of imports to domestic production increased sharply from 177 percent during January-September 1984 to 265 percent during the corresponding period of 1985, as shown in the following tabulation:

Period	Imports (1,000 squares)	U.S. production (1,000 squares)	Ratio of imports to production (percent)
1978	1,638	961	170.4
1979	1,389	661	210.0
1980	1,171	577	203.0
1981	1,040	524	198.5
1982	961	462	208.0
1983	1,165	642	181.5
1984	1,171	604	193.9
January-September--			
1984	890	503	176.9
1985	993	375	264.8

Shingles other than western red cedar.--The ratio of imports of shingles other than western red cedar to domestic production (see table 4) increased from 91 percent in 1978 to 304 percent in 1984, and continued to increase from 245 percent during January-September 1984 to 453 percent during January-September 1985, as shown in the following tabulation:

Period	Imports (1,000 squares)	U.S. production (1,000 squares)	Ratio of imports to production (percent)
1978	410	450	91.1
1979	436	367	118.8
1980	556	330	168.5
1981	524	262	200.0
1982	569	203	280.3
1983	557	302	184.4
1984	811	267	303.8
January-September--			
1984	530	216	245.4
1985	693	153	452.9

The Question of Serious Injury to the Domestic Industry

U.S. production

Wood shakes and shingles.--Total U.S. production of wood shakes and shingles decreased from 4.7 million squares, valued at $234 million, in 1978 to 1.8 million squares, valued at $70 million, in 1982, and then increased to 2.7 million squares, valued at $129 million, in 1983 before declining to 2.4 million squares, valued at $95 million, in 1984 (table 1). Production during

January-September 1985 was 1.4 million squares, valued at $53 million, down from 1.9 million squares, valued at $92 million, during the corresponding period of 1984.

Western red cedar shakes.--U.S. production of western red cedar shakes followed the same trends as did U.S. production of all wood shakes and shingles. Domestic western red cedar shake production declined from 3.3 million squares, valued at $170 million, in 1978, to 1.2 million squares, valued at $43 million, in 1982 and then rose to 1.5 million squares, valued at $54 million, in 1984 (table 2). Production during the January-September periods declined from 1.2 million squares, valued at $56 million, in 1984 to 848,000 squares, valued at $32 million, in 1985.

Western red cedar shingles.--U.S. production of western red cedar shingles followed the same trend as did U.S. production of all wood shakes and shingles. Domestic western red cedar shingle production ranged from 961,000 squares, valued at $45 million, in 1978 to 462,000 squares, valued at $19 million, in 1982 and declined 37 percent in terms of quantity, and 36 percent in terms of value during 1978-84 (table 3). Production during the January-September periods declined from 503,000 squares, valued at $26 million, in 1984 to 375,000 squares, valued at $15 million, in 1985.

Shingles other than western red cedar.--U.S. production of shingles other than western red cedar followed the same trends as did U.S. production of all wood shakes and shingles. Domestic production of shingles other than western red cedar ranged from 450,000 squares, valued at $20 million, in 1978 to 203,000 squares, valued at $8 million, in 1982 and declined 41 percent in terms of quantity and 39 percent in terms of value during 1978-84 (table 4). Production during the January-September periods declined from 216,000 squares, valued at $10 million, in 1984 to 153,000 squares, valued at $6 million, in 1985.

Capacity

Industry wide data on production capacity of wood shake and shingle mills are not readily available. However, responses to questionnaires sent to such producers by the Commission show that average mill capacity rose by 6 percent from 1980 to 1984, as presented in the following tabulation (in thousands of squares). 1/

Period	Shakes	Shingles	Total
1980	20.0	14.4	34.4
1981	25.4	13.9	39.4
1982	20.0	14.5	34.5
1983	23.0	13.6	36.6
1984	23.0	13.5	36.5
January-September--			
1984	15.5	10.5	26.0
1985	15.5	10.4	25.9

1/ The information presented in the tabulation came from 27 respondents, all of which produce western red cedar shakes and/or shingles.

However, from the data submitted in response to the Commission's questionnaires, it is estimated that the overall wood shake and shingle production capacity of all U.S. producers fell 15 percent during 1980-84 from 5.9 million squares in 1980 to 5.0 million squares in 1984. Wood shake mill capacity accounted for nearly 80 percent of all wood shake and shingle mill capacity in 1984, as shown in the following tabulation (in thousands of squares):

Period	Shakes	Shingles	Total
1980	5,900	1,500	7,400
1981	6,200	1,600	7,800
1982	5,900	1,400	7,300
1983	5,800	1,400	7,200
1984	5,000	1,300	6,300
January-September--			
1984	3,800	1,000	4,800
1985	3,400	1,100	4,500

Capacity utilization

Industry wide data on capacity utilization of shake and shingle mills are not available. According to responses to questionnaires sent to U.S. wood shake and shingle manufacturers by the Commission, the average capacity utilization of these mills fluctuated between 38 and 58 percent during 1980-84. The following tabulation, based upon 27 respondents, shows capacity utilization, during 1980-84, January-September 1984, and January-September 1985 (in percent):

Period	Shakes	Shingles	Total
1980	50	59	54
1981	30	54	38
1982	30	49	38
1983	45	79	58
1984	46	78	58
January-September--			
1984	49	74	59
1985	40	51	44

Although the preceding tabulation shows wood shingle capacity utilization increasing sharply in 1983-84, it results from an overall decrease in capacity as well as the increase in production during that period.

The 27 firms that responded to the Commission's questionnaire are, on average, significantly larger than an "average" shake/shingle producer. Accordingly, the estimated capacity data for all producers at the top of this page reflects lower average capacity per firm than the average for the 27 firms (23,000 squares versus 36,500 squares in 1984). Estimated data on capacity utilization for all firms, based on the production data presented on pages A-25 and A-26 and the capacity data presented on this page, are shown below (in percent):

	Shakes	Shingles	Total
1980	35	60	40
1981	25	49	30
1982	20	48	25
1983	31	67	38
1984	31	67	38
January-September--			
1984	32	72	40
1985	25	48	31

U.S. exports of domestic production

U.S. exports of domestically produced wood shakes and shingles increased from 39,038 squares, valued at $1.3 million, in 1978 to 108,502 squares, valued at $3.3 million, in 1984, but fell from 97,786 squares, valued at $2.6 million, during January-September 1984 to 47,831 million squares, valued at $2.2 million, during the corresponding period of 1985. Canada was the leading market for such exports, receiving 35 percent by quantity and 45 percent by value of 1984 exports (table 11). Other leading markets, in terms of quantity, in 1984 were the Bahamas (receiving 9 percent), the French Pacific Islands (receiving 5 percent), and Jamaica (receiving 5 percent).

The leading U.S. Customs districts for exports of wood shakes and shingles in 1984 were Seattle, WA, (handling one-third, by quantity, of all such exports), and Miami, FL (handling 54 percent) (table 12). There are no known exports of shakes or shingles other than western red cedar.

Number of U.S. firms

Wood shakes and shingles have been produced in the United States by fewer firms each year since 1978. The number of firms producing wood shakes and shingles (based on data for 4 States) is estimated to have declined from 445 in 1978 to 274 in 1984, or by 38 percent. The tabulation on page A-31 shows the distribution of firms, by States, for 1978-84, January-June 1984, and January-June 1985: 1/

1/ Data supplied by the U.S. Department of Labor and the States of Washington, Oregon, Idaho, and Maine, except as noted. The data reported are for SIC group 2429 (Special Product Sawmills, n.e.c.) and may include small amounts of data attributable to the cooperage industry.

Table 11.--Wood shakes and shingles: U.S. exports of domestic merchandise, by principal markets, 1980-84, January-September 1984, and January-September 1985

Market	1980	1981	1982	1983	1984	January-September--	
						1984	1985
	Quantity (squares)						
Canada	27,126	21,207	21,721	41,670	37,772	32,920	29,823
Bahamas	9,562	10,812	11,915	27,980	9,276	7,474	3,536
French Pacific Islands	1,338	1,847	2,452	2,049	5,161	4,774	2,309
Jamaica	457	2,625	3,249	5,103	5,362	4,026	3,369
Australia	0	710	1,187	94	1,665	1,152	487
All other	7,730	33,120	12,944	4,113	49,266	47,440	8,307
Total	46,213	70,321	53,468	81,009	108,502	97,786	47,831
	Value (1,000 dollars)						
Canada	857	824	892	1,379	1,460	1,249	1,188
Bahamas	419	422	438	471	502	430	152
French Pacific Islands	81	99	130	110	491	389	124
Jamaica	26	138	114	283	397	292	250
Australia	-	38	41	4	83	63	22
All other	320	347	542	176	325	220	457
Total	1,702	1,869	2,157	2,424	3,258	2,643	2,194
	Unit value (per square)						
Canada	$31.60	$38.85	$41.08	$33.10	$38.64	$37.92	$39.85
Bahamas	43.82	39.02	36.78	16.83	54.10	57.46	42.92
French Pacific Islands	60.67	53.78	52.87	53.83	95.14	81.46	53.70
Jamaica	55.86	52.52	35.20	55.55	73.98	72.53	74.35
Australia	-	54.22	34.32	39.57	50.11	54.90	45.83
All other	41.34	10.49	41.89	42.86	6.60	4.66	55.04
Average	36.84	26.58	40.35	29.92	30.02	27.03	45.88

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 12.--Wood shakes and shingles: U.S. exports of domestic merchandise, by Customs districts, 1980-84, January-September 1984, and January-September 1985

Customs district	1980	1981	1982	1983	1984	January-September--	
						1984	1985
	Quantity (squares)						
Seattle, WA	17,922	16,500	18,523	39,531	36,125	31,417	29,049
Miami, FL	11,939	41,034	21,043	32,042	58,440	54,754	12,594
Portland, OR	3,418	1,872	3,133	952	6,811	5,926	1,971
Mobile, AL	-	-	155	3,493	2,276	1,526	1,302
Buffalo, NY	426	703	986	1,234	1,723	1,723	-
All other	12,508	10,212	9,628	3,757	3,127	2,440	2,915
Total	46,213	70,321	53,468	81,009	108,502	97,786	47,831
	Value (1,000 dollars)						
Seattle, WA	520	634	771	1,299	1,406	1,201	1,159
Miami, FL	549	684	812	688	914	713	709
Portland, OR	166	104	147	52	574	452	96
Mobile, AL	-	-	9	176	159	105	93
Buffalo, NY	17	28	39	49	69	69	-
All other	450	419	379	160	136	103	137
Total	1,702	1,869	2,157	2,424	3,258	2,643	2,194
	Unit value (per square)						
Seattle, WA	$28.99	$38.43	$41.63	$32.86	$38.93	$38.24	$39.89
Miami, FL	45.99	16.68	38.57	21.49	15.65	13.04	56.32
Portland, OR	48.59	55.70	46.88	54.59	84.25	76.29	48.48
Mobile, AL	-	-	58.50	50.33	70.01	69.18	71.59
Buffalo, NY	39.95	40.05	39.93	40.01	40.00	40.00	-
All other	35.98	41.03	39.36	42.59	43.49	42.21	47.00
Average	36.84	26.58	40.35	29.92	30.02	27.03	45.88

Source: Compiled from official statistics of the U.S. Department of Commerce.

Period	Washington		Oregon		Idaho	
	Firms	Percentage change	Firms	Percentage change	Firms	Percentage change
1978	335	-	71	-	28	-
1979	331	-1.2	70	-1.4	32	+14.3
1980	296	-10.6	59	-15.7	30	-6.2
1981	260	-12.2	52	-11.9	26	-13.3
1982	227	-12.7	41	-21.9	30	+15.4
1983	218	-4.0	41	0	26	-13.3
1984	208	-4.6	39	4.9	22	-15.4
January-June--						
1984 2/	208	-	39	-	22	-
1985	192	-7.7	38	-2.6	20	-9.1

	Maine 1/		Total	
	Firms	Percentage change	Firms	Percentage change
1978	11	-	445	-
1979	8	-27.3	441	-0.9
1980	8	0	393	-10.9
1981	6	-25.0	344	-12.5
1982	4	-33.3	302	-12.2
1983	5	+25.0	290	-4.0
1984	5	0	274	-5.5
January-June--				
1984 2/	5	-	274	-
1985	5	0	255	-6.9

1/ The number of firms reported in Maine is known to be below the actual number; however, such data are used since it reconciles with the data on employment and wages following in this report.

2/ Estimated by the staff of the U.S. International Trade Commission.

As can be seen in the tabulation, Washington is the leading State in terms of number of firms producing wood shakes and shingles, accounting for three-fourths of such firms in 1984. The number of firms operating in Washington declined by 38 percent during 1978-84. Oregon and Idaho also showed substantial declines in the number of firms producing wood shakes and shingles.

U.S. producers' employment

Annual average employment.--The annual average number of employees in the U.S. shake and shingle industry fell from 4,531 in 1978 to 1,904 in 1982, and then rose to 2,375 in 1983, before falling to 2,146 in 1984. The following

tabulation shows the distribution of employees, by States, for 1978-84, January-June 1984, and January-June 1985: 1/

Period	Washington	Oregon	Idaho	Maine 1/	Total
1978	3,521	704	255	51	4,531
1979	3,063	647	268	32	4,010
1980	2,144	482	230	77	2,933
1981	1,749	378	217	41	2,385
1982	1,414	277	208	5	1,904
1983	1,910	275	180	10	2,375
1984	1,763	201	175	7	2,146
January-June--					
1984 2/	1,763	201	175	7	2,146
1985	1,238	209	118	2/ 7	1,572

1/ The number of employees reported for Maine is known to be below the actual number, however; such data are used since it reconciles with data on number of firms and wages also in this report.
2/ Estimated by the staff of the U.S. International Trade Commission.

As shown in the tabulation, employment in all concerned States decreased during 1978-84, and, except in Oregon and Maine, continued to decline in 1985.

Annual average employment per U.S. shake and shingle firm fell from 10.2 persons per firm in 1978 to 6.3 persons per firm in 1982, rose to 8.2 persons per firm in 1983, and then fell to 7.8 persons per firm in 1984. The following tabulation shows the average annual employment per U.S. shake and shingle firm, by States, during 1978-84, January-June 1984, and January-June 1985: 1/

Period	Washington	Oregon	Idaho	Maine 1/	Total
1978	10.5	9.9	9.1	4.6	10.2
1979	9.3	9.2	8.4	4.0	9.1
1980	7.2	8.2	7.7	9.6	7.5
1981	6.7	7.3	8.3	6.8	6.9
1982	6.2	6.8	6.9	1.2	6.3
1983	8.8	6.7	6.9	2.0	8.2
1984	8.5	5.2	8.0	1.4	7.8
January-June--					
1984 2/	8.5	5.2	8.0	1.4	7.8
1985	6.4	5.5	5.9	2/ 1.4	6.2

1/ The number of employees and firms reported for Maine is known to be low for at least 1982-84; however, such data are used as it reconciles with other pertinent data in this report.
2/ Estimated by the staff of the U.S. International Trade Commission.

1/ Data suplied by the U.S. Department of Labor and the States of Washington, Oregon, Idaho, and Maine, except as noted. The data reported are for SIC group 2429 (Special Product Sawmills n.e.c.) and may include small amounts of data attributable to the cooperage industry.

Employee wages.--Average annual wages in the U.S. shake and shingle industry rose from $12,127 in 1978 to $13,862 per employee in 1980, fell to $13,380 per employee in 1983, and then increased to $14,627 per employee in 1984, increasing 21 percent overall. The following tabulation shows the average annual gross wages per U.S. shake and shingle employee, by State, during 1978-84: 1/

Year	Washington	Oregon	Idaho	Maine	Average
1978	$12,682	$10,880	$8,942	$7,221	$12,127
1978	13,952	12,240	9,974	6,642	13,350
1980	14,452	14,183	9,991	7,143	13,862
1981	14,329	13,772	10,475	9,887	13,815
1982	14,099	12,813	10,476	7,443	13,525
1983	13,861	11,740	11,111	7,419	13,380
1984	14,742	12,507	11,166	9,201	14,627

Financial experience of U.S. producers

The Commission mailed a total of 285 questionnaires to U.S. producers requesting income-and-loss information. Usable data were provided by 25 producers out of 53 questionnaires received by the Commission. These 25 firms accounted for about 24.5 percent of the value of shipments (as approximated by production) in 1984.

Aggregated data are presented in table 13. Four firms did not provide income-and-loss data for 1980. Three firms commenced their operations on wood shakes and/or shingles in 1983. Net sales of wood shakes and/or wood shingles were $13.4 million as reported by 18 producers in 1980. Net sales declined by 22 percent from $15.7 million in 1981 to $12.2 million in 1982, and then increased by 81 percent to $22.2 million in 1983. Such sales rose by 5 percent to $23.3 million in 1984. During the interim period ended September 30, 1985, net sales dropped sharply (by 46 percent) to $8.0 million, compared with $14.8 million in the corresponding period of 1984.

The responding producers reported net losses of $283,000, or 2.1 percent of net sales, in 1980. Such losses increased to $601,000, or 3.8 percent of net sales, in 1981 and peaked at $645,000, or 5.3 percent of net sales, in 1982. In 1983, the reporting firms earned a net income before income taxes of $1.0 million, equivalent to 4.5 percent of net sales, on rapidly increasing sales. However, such net income fell to $112,000, or only 0.5 percent of net sales, in 1984 in spite of increasing sales. During the interim period ended September 30, 1985, U.S. producers reported an aggregate net income before income taxes of $272,000, or 3.4 percent of net sales, compared with $404,000, or 2.7 percent of net sales, in the corresponding period of 1984.

1/ Data suplied by the U.S. Department of Labor and the States of Washington, Oregon, Idaho, and Maine, except as noted. The data reported are for SIC group 2429 (Special Product Sawmills n.e.c.) and may include small amounts of data attributable to the cooperage industry.

Table 13.--Income-and-loss experience of 25 U.S. producers 1/ on their operations producing wood shakes and/or wood shingles, accounting years 1980-84, and interim periods ended Sept. 30, 1984, and Sept. 30, 1985

Item	1980	1981	1982	1983	1984	Interim period ended Sept. 30--2/	
						1984	1985
Net sales---------1,000 dollars--	13,364	15,654	12,215	22,165	23,252	14,798	8,013
Other income or (expense) 3/ 1,000 dollars--	295	130	105	282	(26)	24	63
Total sales and other income 1,000 dollars--	13,659	15,784	12,320	22,447	23,226	14,822	8,076
Operating expenses:							
Cost of wood----1,000 dollars--	7,958	8,993	6,609	11,799	13,007	8,351	4,004
Labor 4/----------do----	3,270	4,188	3,364	5,496	5,841	3,628	2,215
Fuel and energy----------do----	199	310	281	357	385	250	192
Interest expense---------do----	234	205	335	240	218	92	102
Depreciation----------do----	294	335	320	275	226	129	165
All other expenses-------do----	1,987	2,354	2,056	3,278	3,437	1,968	1,126
Total operating expenses 1,000 dollars--	13,942	16,385	12,965	21,445	23,114	14,418	7,804
Net income or (loss) before income taxes--1,000 dollars--	(283)	(601)	(645)	1,002	112	404	272
As a share of net sales:							
Cost of wood----------percent--	59.5	57.4	54.1	53.2	55.9	56.4	50.0
Labor----------do----	24.5	26.8	27.5	24.8	25.1	24.5	27.6
Fuel and energy----------do----	1.5	2.0	2.3	1.6	1.7	1.7	2.4
Interest expense---------do----	1.8	1.3	2.7	1.1	.9	.6	1.3
Depreciation----------do----	2.2	2.1	2.6	1.2	1.0	.9	2.1
All other expenses-------do----	14.9	15.0	16.8	14.8	14.8	13.3	14.1
Total operating expenses percent--	104.3	104.7	106.1	96.8	99.4	97.4	97.4
Other income or (expense) percent--	2.2	.8	.9	1.3	(0.1)	.2	.8
Net income or (loss) before income taxes--------percent--	(2.1)	(3.8)	(5.3)	4.5	.5	2.7	3.4
Number of firms reporting net losses----------	4	11	10	4	6	4	5

1/ Four producers did not provide data for 1980. Three producers started their operations in 1983. Hence, there are 18 producers reporting data in 1980 and 22 producers reporting data in 1981 and 1982.

2/ There are 17 producers reporting data for both interim periods. Data for 5 producers are for their entire fiscal year. Fiscal years of 2 producers ended June 30; for another 2 producers the year ended Aug. 31 and for 1 producer the year ended Sept. 30.

3/ For some producers, this line item includes net income from chip sales, log sales, and hog fuel.

4/ Labor includes officers' salaries for some of the companies.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Selected individual operating expenses expressed in percentages of net sales are also presented in table 13. These data show that wood is the major cost item. Such costs declined from 59.5 percent of net sales in 1980 to 53.2 percent in 1983, but then increased to 55.9 percent in 1984. They declined to 50.0 percent during the interim period ending September 30, 1985, compared with 56.4 percent in the corresponding period of 1984. The second major expense is labor, which includes officers' salaries for many firms. This cost, as a percent of net sales, increased from 24.5 percent in 1980 to 27.5 percent in 1982, and then declined to 24.8 percent in 1983. Such costs increased to 25.1 percent in 1984 and 27.6 percent in the interim period ended September 30, 1985, compared with 24.5 percent during the corresponding period of 1984. Officers' salaries may fluctuate during each year based on an individual firm's financial performance and individual officer's tax status. Fuel and energy, interest expense, and depreciation are not significant expenses in relation to net sales. Such expenses varied between a low of 0.6 percent and a high of 2.7 percent during the periods for which data were collected. All other operating expenses, which include repairs and maintenance, inspection fees, taxes and licenses, insurance, telephone, supplies and postage, dues and subscriptions, accounting and legal, and other general and administrative expenses, fluctuated between 15 and 17 percent of net sales during 1980-84. Other income or expense items, which include net income from chip sales, log sales, and hog fuel for some producers, and other miscellaneous income or expenses like any gain or loss on disposal of fixed assets, interest or dividend income, and so forth, declined from $295,000 in 1980 to $105,000 in 1982 and then increased to $282,000 in 1983. Such items were a negative $26,000 in 1984 and increased to a positive $63,000 during the interim period ended September 30, 1985, compared with a positive $24,000 in the corresponding period of 1984.

The number of firms reporting net losses increased from 4 out of 18 in 1980 to 11 and 10 out of 22 in 1981 and 1982, respectively. In 1984, 6 out of 25 firms sustained net losses, and 4 firms reported such losses in 1983. During the interim period ended September 30, 1985, the number of firms reporting net losses was 5 out of 17, compared with 4 in the corresponding period of 1984.

One reporting firm, * * *, accounting for * * * percent of net sales for 1984, was sold at auction in the latter part of 1985. This firm advised the Commission that the sale of the company was attributable to a lack of business and financial hardship due to Canadian imports.

Financial condition of U.S. producers.--Selected information on the assets and liabilities of 19 U.S. producers that provided such data are presented in table 14. These 19 firms represented about 20.8 percent of the value of shipments (production) in 1984. Four firms did not supply such data for 1980. Three firms began manufacturing wood shakes and/or shingles in 1983.

Total assets of the responding firms were $5.2 million in 1980. Such assets declined by 22 percent from $6.0 million in 1981 to $4.7 million in 1982, and then increased to $5.2 million in 1983 and $5.4 million in 1984. Three new firms' assets accounted for about 8.0 percent and 13.4 percent of total assets in 1983 and 1984, respectively. During the interim period ended September 30, 1985, such assets fell by 18 percent to $3.0 million from $3.6 million in the corresponding period of 1984.

Table 14.--Selected financial information of 19 U.S. producers 1/ on their operations producing wood shakes and/or wood shingles, accounting years 1980-84, and interim periods ended Sept. 30, 1984, and Sept. 30, 1985

Item	1980	1981	1982	1983	1984	Interim period ended Sept. 30-- 2/	
						1984	1985
Net sales---------1,000 dollars--	8,844	11,951	9,639	17,570	19,715	14,375	7,715
Net income or (loss) before income taxes----------do----	(123)	(437)	(333)	891	249	383	283
Total assets 3/----------do----	5,176	6,046	4,688	5,166	5,440	3,646	2,981
Total liabilities 3/-------do----	2,728	3,823	3,098	3,765	3,952	3,041	2,647
Capital or stockholders equity 3/----------do----	2,448	2,223	1,590	1,401	1,488	605	334
Debt-to-equity ratio----times----	1.11	1.72	1.95	2.69	2.66	5.03	7.93
Ratio of net income or (loss) before income taxes to--							
Net Sales---------percent----	(1.4)	(3.7)	(3.5)	5.1	1.3	2.7	3.7
Total assets----------do----	(2.4)	(7.2)	(7.1)	17.2	4.6	10.5	9.5
Capital or stockholders' equity----------do----	(5.0)	(19.7)	(20.9)	63.6	16.7	63.3	84.7

1/ Four producers did not provide data for 1980. Three producers started their operations in 1983. Hence there are 12 producers reporting data in 1980 and 16 producers reporting data in 1981 and 1982.

2/ There are 13 producers reporting data for both interim periods. Data for 5 producers are for their entire fiscal year. Fiscal years of 2 producers ended June 30; for another 2 producers the year ended Aug. 31 and for 1 producer the year ended Sept. 30.

3/ These data are as of the end of the fiscal periods.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Total liabilities of the reporting firms were $2.7 million in 1980. Such liabilities dropped by 19 percent from $3.8 million in 1981 to $3.1 million in 1982 and then increased to $3.8 million in 1983 and $4.0 million in 1984. The liabilities of three new firms accounted for 8.7 percent and 15.0 percent of total liabilities in 1983 and 1984, respectively. During the interim period ended September 30, 1985, total liabilities declined by 13 percent to $2.6 million, compared with $3.0 million in the corresponding period of 1984.

Total capital or stockholders' equity was $2.4 million in 1980 and showed a steady decline each year from $2.2 million in 1981 to $1.4 million in 1983 and then increased slightly to $1.5 million in 1984. Three new firms' aggregate capital accounted for about 6 percent of total capital in 1983 and 1984. Aggregate capital fell by 45 percent from $605,000 in the interim period ended September 30, 1984, to $334,000 in the corresponding period of 1985.

The ratio of debt to equity is computed to determine debt paying ability of an entity. Further, this ratio helps to determine how well creditors are protected in case of insolvency of a company. The debt-to-equity ratio of the responding firms was 1.11 in 1980, and then increased steadily each year from 1.72 in 1981 to 2.69 in 1983 and 2.66 in 1984. This trend indicates that liabilities were increasing at a faster rate than capital or stockholders' equity.

To provide an additional measure of profitability, return on total assets and return on capital or stockholders' equity are also presented in table 14. The return on investment ratios measure the effectiveness of management in employing the resources available to it. Both measures of return on investment followed the same trend as did the ratios of net income or loss to net sales. The return on total assets was a negative 2.4 percent in 1980, and then increased to about a negative 7.0 percent in 1981 and 1982. This ratio showed a return of 17.2 percent in 1983, and then dropped to 4.6 percent in 1984. The return on capital or stockholders' equity showed a similar trend, although much higher negative returns are shown during 1980-82, and higher positive returns during 1983-84.

Capital expenditures.--Thirteen producers, accounting for 14.9 percent of the value of production of wood shakes and shingles in 1984, provided usable data on capital expenditures for building, machinery, equipment, and fixtures used for producing wood shakes and shingles. Such data are presented in the following tabulation (in thousands of dollars):

Period 1/	Capital expenditures
1980	315
1981	125
1982	32
1983	155
1984	350

1/ Some producers reported data based on their fiscal years, which ended between February 28 and September 30. In 1984, some producers reported data for their fiscal year ended in 1985, which included 2 to 9 months of 1985.

The reporting producers' capital expenditures declined from $315,000 in 1980 to $32,000 in 1982 and then increased to $155,000 in 1983 and $350,000 in 1984. One firm, * * *, which started its operation in 1983, incurred capital expenditures of * * * in 1984.

The Question of Threat of Serious Injury

Foreign producers

Canada.--The Canadian shake and shingle industry consisted of 98 mills in 1983, down from 124 mills in 1980. 1/ In 1983, those mills were reported to have employed 1,417 production and related workers, down from almost 1,900 in 1980. In 1983, British Columbia accounted for 76 of the 98 mills, with the balance as shown in the following tabulation:

Province	Mills					
	1978	1979	1980	1981	1982	1983
British Columbia	65	92	100	95	86	76
Quebec	13	16	13	13	14	12
New Brunswick	6	8	10	9	7	9
Alberta	-	-	1	1	-	-
Nova Scotia	-	-	-	1	1	1
Total	84	116	124	119	108	98

Canadian statistics do not account for all establishments producing shakes and shingles because much of the industry consists of small or part-time operations. Therefore, based on information published by the Red Cedar Shingle & Handsplit Shake Bureau (which had a Canadian membership of 136 manufacturers in 1985, all in British Columbia), the total number of producing mills in Canada is estimated to be at least 200.

The Canadian industry is capable of producing both wood shakes and wood shingles. According to information supplied by the Red Cedar Shingle & Handsplit Shake Bureau, in 1985, 65 percent of all mills produced wood shingles (8 percent only produced shingles) and 92 percent produced shakes (35 percent only produced shakes); 57 percent produced both shakes and shingles.

In the Canadian red cedar shake and shingle industry, as in the United States, there is a heavier concentration of shake-producing machinery than of shingle producing machinery. Based on information supplied by the Bureau, in 1985, there were 1.3 shingle machines and 1.7 shake machines per mill. This difference in machinery is compounded by the higher production levels of shake-producing lines compared with shingle-producing lines. 2/

Estimated Canadian consumption of shakes and shingles declined from 407,000 squares in 1978 to 225,000 squares in 1982, and then increased to

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1/ Statistics Canada, Catalogue 35-204.

2/ Telephone conversation between * * * and the staff of the U.S. International Trade Commission, Jan. 28, 1986.

241,000 squares in 1984, declining 41 percent overall during 1978-84 (table 15).

Shipments (approximately equal to production) as reported by Statistics Canada do not include data for numerous "mom-and-pop" mills in the country. Because exporting requires the processing of documents and much of production goes essentially unreported, more exports are reported in official Canadian statistics than production. Therefore, Canadian production figures presented in table 15 were estimated from Statistics Canada data on housing starts and comparable U.S. statistics. Exchange rates used to estimate the value of Canadian imports and exports are shown in appendix E.

British Columbia accounts for most of the Canadian wood shake and shingle production. It is estimated 1/ that, in 1984, British Columbia accounted for 4.2 million squares of the total 4.8 million squares produced in Canada.

Roughly 60 percent of the Canadian production of wood shakes and shingles is attributable to the production of shakes. Therefore, of the 4.8 million squares produced in Canada in 1984, approximately 2.9 million squares of shakes were produced (table 16). Most shakes were produced in British Columbia; however, in 1980 (the latest year for which such data are available), production of shakes in Quebec and Alberta accounted for 2 percent of Canadian shake production. It is believed that virtually all such production occurred in Alberta, not Quebec, since western red cedar (which grows only in the West) is suitable for shake production and northern white cedar (which grows only in the East) is not.

Canadian production of western red cedar shakes is estimated to have increased from 1.8 million squares in 1978 to 2.9 million squares in 1984 (table 16). About 95 percent of such production was exported to the United States, and most of the remainder was consumed domestically.

Canadian production of western red cedar shingles fell from about 1.8 million squares in 1978 to 1.1 million squares in 1982, and then rose to 1.5 million squares in 1983 and 1.4 million squares in 1984 (table 17). In 1984, 92 percent of such production was exported to the United States and 7 percent was consumed domestically.

Canadian production of shingles other than western red cedar increased from 329,000 squares in 1978 to 515,000 squares in 1984 (table 18). In 1984, about 95 percent of Canadian production was exported to the United States, and 4 percent was domestically consumed.

Other countries.--The United States and Canada are the only countries in the world that have large commercial resources of old-growth western red cedar, from which most shakes and shingles are produced. Countries other than the United States and Canada may produce shakes and shingles for domestic consumption and exportation from other species, but the quantity of such production is believed to be insignificant.

1/ Estimated from Statistics Canada data.

Table 15.--Wood shakes and shingles: Canadian production, exports of domestic merchandise, imports for consumption, and apparent consumption, 1978-84, January-September 1984, and January-September 1985

Period	Production 1/	Exports	Exports to the United States	Imports 2/	Apparent consumption	Ratio (percent) of imports to consumption
	Quantity (1,000 squares)					
1978	3,976	3,592	3,528	23	407	5.7
1979	3,888	3,578	3,515	41	351	11.7
1980	3,770	3,513	3,457	27	284	9.5
1981	3,624	3,327	3,251	21	318	6.6
1982	3,439	3,236	3,170	22	225	9.8
1983	4,376	4,127	4,048	42	291	14.4
1984	4,770	4,567	4,501	38	241	15.8
Jan.-Sept.--						
1984	3,525	3,372	3,323	33	186	17.7
1985	3,825	3,652	3,604	30	203	14.8
	Value (U.S. 1,000 dollars)					
1978	3/	162,834	159,726	667	3/	3/
1979	3/	163,690	160,388	1,021	3/	3/
1980	3/	152,901	149,810	857	3/	3/
1981	3/	142,157	138,151	824	3/	3/
1982	3/	126,765	123,454	892	3/	3/
1983	3/	188,352	184,181	1,379	3/	3/
1984	3/	204,250	200,652	1,460	3/	3/
Jan.-Sept.--						
1984	3/	155,559	152,775	1,249	3/	3/
1985	3/	144,773	152,722	1,188	3/	3/
	Unit value (per square)					
1978	-	$45.33	$45.27	$28.83	-	-
1979	-	45.74	45.63	25.03	-	-
1980	-	43.52	43.34	31.60	-	-
1981	-	42.73	42.50	38.85	-	-
1982	-	39.18	38.94	41.08	-	-
1983	-	45.64	45.50	33.10	-	-
1984	-	44.73	44.58	38.64	-	-
Jan.-Sept.--						
1984	-	46.14	45.98	37.94	-	-
1985	-	39.64	39.60	39.85	-	-

1/ Estimated by the staff of the U.S. International Trade Commission based on Statistics Canada data.

2/ Estimated from U.S. export statistics.

3/ Not available.

Source: Statistics Canada, except as noted.

Table 16.--Western red cedar shakes: Canadian production, exports of domestic merchandise, imports for consumption, and apparent consumption, 1978-84, January-September 1984, and January-September 1985

Period	Production 1/	Exports	Exports to the United States	Imports 2/	Apparent consumption	Ratio (percent) of imports to consumption 1/
	Quantity (1,000 squares)					
1978	1,841	1,663	1,634	0	178	0
1979	2,121	1,951	1,925	0	170	0
1980	2,176	2,028	2,006	0	148	0
1981	2,071	1,901	1,877	0	170	0
1982	1,927	1,813	1,795	0	114	0
1983	2,499	2,356	2,327	0	143	0
1984	2,866	2,744	2,728	0	122	0
Jan.-Sept.--						
1984	2,095	2,001	1,989	0	94	0
1985	2,265	2,162	2,151	0	103	0
	Value (U.S. 1,000 dollars)					
1978	3/	76,412	75,236	-	3/	3/
1979	3/	94,958	93,824	-	3/	3/
1980	3/	92,222	91,104	-	3/	3/
1981	3/	83,889	82,658	-	3/	3/
1982	3/	72,989	72,028	-	3/	3/
1983	3/	110,849	109,462	-	3/	3/
1984	3/	125,214	124,399	-	3/	3/
Jan.-Sept.--						
1984	3/	93,960	93,347	-	3/	3/
1985	3/	88,163	87,613	-	3/	3/
	Unit value (per square)					
1978	-	$45.95	$46.04	-	-	-
1979	-	48.67	48.74	-	-	-
1980	-	45.47	45.42	-	-	-
1981	-	44.13	44.04	-	-	-
1982	-	40.26	40.13	-	-	-
1983	-	47.05	47.04	-	-	-
1984	-	45.63	45.60	-	-	-
Jan.-Sept.--						
1984	-	46.96	46.93	-	-	-
1985	-	40.78	40.73	-	-	-

1/ Estimated from Statistics Canada data.
2/ Estimated from U.S. export statistics.
3/ Not available.

Source: Statistics Canada, except as noted.

Table 17.--Western red cedar shingles: Canadian production, exports of domestic merchandise, imports for consumption, and apparent consumption, 1978-84, January-September 1984, and January-September 1985

Period	Production 1/	Exports	Exports to the United States	Imports 2/	Apparent consumption	Ratio (percent) of imports to consumption
	Quantity (1,000 squares)					
1978	1,806	1,631	1,599	23	198	0
1979	1,418	1,304	1,269	41	155	0
1980	1,240	1,155	1,123	27	112	0
1981	1,205	1,106	1,057	21	120	0
1982	1,148	1,080	1,037	22	90	0
1983	1,452	1,369	1,323	42	125	0
1984	1,389	1,330	1,283	38	97	0
Jan.-Sept.--						
1984	1,033	991	956	33	75	0
1985	1,143	1,091	1,068	30	82	0
	Value (U.S. 1,000 dollars)					
1978	3/	77,395	75,547	667	3/	3/
1979	3/	59,580	57,461	1,021	3/	3/
1980	3/	51,554	49,668	857	3/	3/
1981	3/	48,680	45,997	824	3/	3/
1982	3/	43,946	41,735	892	3/	3/
1983	3/	64,865	62,243	1,379	3/	3/
1984	3/	63,017	60,352	1,460	3/	3/
Jan.-Sept.--						
1984	3/	49,601	47,527	1,249	3/	3/
1985	3/	43,777	42,601	1,188	3/	3/
	Unit value (per square)					
1978	-	$47.45	$47.25	$29.00	-	-
1979	-	45.69	45.28	24.90	-	-
1980	-	44.64	44.23	31.74	-	-
1981	-	44.01	43.52	39.24	-	-
1982	-	40.69	40.25	40.55	-	-
1983	-	47.38	47.05	32.83	-	-
1984	-	47.38	47.04	38.42	-	-
Jan.-Sept.--						
1984	-	50.05	49.71	37.85	-	-
1985	-	40.13	39.89	39.60	-	-

1/ Estimated from Statistics Canada data.
2/ Estimated from U.S. export statistics.
3/ Not available.

Source: Statistics Canada, except as noted.

Table 18.--Shingles other than western red cedar: Canadian production, exports of domestic merchandise, imports for consumption, and apparent consumption, 1978-84, January-September 1984, and January-September 1985

Period	Production 1/	Exports	Exports to the United States	Imports 2/	Apparent consumption	Ratio (percent) of imports to consumption
	Quantity (1,000 squares)					
1978	329	298	295	0	31	0
1979	349	321	320	0	28	0
1980	354	330	327	0	24	0
1981	348	319	317	0	29	0
1982	364	342	339	0	22	0
1983	425	401	398	0	24	0
1984	515	493	490	0	22	0
Jan.-Sept.--						
1984	396	379	377	0	17	0
1985	418	399	387	0	19	0
	Value (U.S. 1,000 dollars)					
1978	3/	9,028	8,944	-	3/	3/
1979	3/	9,151	9,103	-	3/	3/
1980	3/	9,125	9,038	-	3/	3/
1981	3/	9,588	9,495	-	3/	3/
1982	3/	9,831	9,690	-	3/	3/
1983	3/	12,638	12,476	-	3/	3/
1984	3/	16,019	15,901	-	3/	3/
Jan.-Sept.--						
1984	3/	11,997	11,900	-	3/	3/
1985	3/	12,832	12,508	-	3/	3/
	Unit value (per square)					
1978	-	$30.30	$30.32	-	-	-
1979	-	28.51	28.45	-	-	-
1980	-	27.65	27.64	-	-	-
1981	-	30.06	29.95	-	-	-
1982	-	28.75	28.58	-	-	-
1983	-	31.52	31.35	-	-	-
1984	-	32.49	32.45	-	-	-
Jan.-Sept.--						
1984	-	31.65	31.56	-	-	-
1985	-	32.16	32.32	-	-	-

1/ Estimated from Statistics Canada data.
2/ Estimated from U.S. export statistics.
3/ Not available.

Source: Statistics Canada , except as noted.

The western red cedar supply in British Columbia

The supply of mature 1/ western red cedar in British Columbia is located in two distinct regions--coastal and interior--which have vastly different levels of inventory and harvesting rates. Due to differences in forest inventory systems between the United States and Canada, comparable data on the inventory levels of western red cedar timber in Canada on an annual basis are not available. Annual inventory data reported by the British Columbia Ministry of Forests (MOF) in the British Columbia Council of Forest Industries (COFI) statistical reports is not updated annually, and therefore represents only an approximate quantity during most years. The following tabulation shows the approximate inventory of mature western red cedar in British Columbia, by region, in 1984 (billion board feet scribner 2/): 3/

	Inventory
Coast	128
Interior	28
Total	156

Based on the average level of harvest of western red cedar during 1980-84, the western red cedar inventory in the coast region of British Columbia would last 132 years; the inventory in the interior region would last 93 years.

Based on COFI statistics, it is estimated that lumber production consumed about 70 percent of the western red cedar harvest in 1984, shakes and shingles consumed about 25 percent, log exports consumed about 2 percent, and plywood and siding consumed the remaining 3 percent.

The Question of Increased Imports as a Substantial Cause of Serious Injury or Threat Thereof

U.S. consumption and the ratio of imports to consumption

Wood shakes and shingles.--Total U.S. consumption of wood shakes and shingles fell from 8.4 million squares in 1978 to 5.0 million squares in 1982, and then increased to 6.8 million squares in 1984 (table 1). Domestic consumption remained virtually unchanged from January-September 1984 to

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1/ 120 years old or greater.

2/ Conversion factor for converting cubic meters to 1,000 board feet scribner is 5.91 m^3 per 1,000 board feet. Conversion factor derived from data on Canadian production by grade and a cross border study that derived conversion factors by grade.

3/ Data supplied by COFI from MOF statistics.

January-September 1985, with consumption at 5.1 million squares during both periods.

The share of domestic consumption of wood shakes and shingles provided by imports increased from 44.3 percent in 1978 to 66.1 percent in 1984, and rose from 63.9 percent during January-September 1984 to 73.8 percent during the corresponding period of 1985.

Western red cedar shakes.--Total U.S. consumption of western red cedar shakes fell from 5.0 million squares in 1978 to 2.8 million squares in 1982 and then increased to 4.0 million squares in 1984 (table 2). Domestic consumption during the January-September periods fell from 3.1 million squares in 1984 to 2.9 million squares in 1985.

The share of domestic consumption of western red cedar shakes provided by imports increased from 33.6 percent in 1978 to 61.9 percent in 1984, and rose from 60.1 percent during January-September 1984 to 70.9 percent during the corresponding period of 1985.

Western red cedar shingles.--Total U.S. consumption of western red cedar shingles fell from 2.6 million squares in 1978 to 1.4 million squares in 1982 and then increased to 1.7 million squares in 1984 (table 3). Domestic consumption remained virtually unchanged from January-September 1984 to January-September 1985, with consumption at 1.3 million squares during both periods.

The share of domestic consumption of western red cedar shingles provided by imports trended upward from 64.0 percent in 1978 to 70.3 percent in 1984, and rose from 68.7 percent during January-September 1984 to 75.2 percent during the corresponding period of 1985.

Shingles other than western red cedar.--Total U.S. consumption of shingles other than western red cedar trended downward from 857,000 squares in 1978 to 773,000 squares in 1982 and then increased to 1.1 million squares in 1984 (table 4). Domestic consumption rose from 746,000 squares during January-September 1984 to 846,000 squares during the corresponding period of 1985.

The share of domestic consumption of shingles other than western red cedar provided by imports trended upward from 47.5 percent in 1978 to 75.2 percent in 1984, and rose from 71.0 percent during January-September 1984 to 81.9 percent during the corresponding period of 1985.

Prices

Wood shakes and shingles are normally sold on an f.o.b. mill basis. The prices of shakes and shingles are determined by negotiation between buyers and sellers based on market perceptions, and often change daily. Price data gathered and published in the industry publication Random Lengths' Weekly Lumber Price Guide are often used as a reference point in the negotiation of the transaction price. Some U.S. producers reportedly sell at strictly the Random Lengths' published price. Some producers maintain price lists, but only for reference in price negotiations.

The Commission requested quarterly price data on two western red cedar shake and two western red cedar shingle product specifications from U.S. producers and importer/purchasers for the period 1981 through 1985. 1/ Product 1 accounts for roughly 65 percent of western red cedar shakes sold in the United States, while product 2 accounts for 23 percent. Product 3 accounts for approximately 26 percent of western red cedar shingles sold in the United States, while product 4 accounts for 40 percent. 2/ Twenty U.S. producers provided usable price data for both shake products and one of the shingle products (table 19, fig. 1, and fig. 2). 3/

Price trends.--Prices for the same four western red cedar products for which price data were requested in the questionnaires are published weekly by Random Lengths (table 20, fig. 1, and fig. 2). The Random Lengths' published prices are f.o.b. wholesale prices based on telephone surveys of numerous U.S. and Canadian producers and wholesalers. The prices are for sales in the U.S. market and are reportedly weighted by the volume sold. Because imports are a substantial share of sales that are surveyed, these price series reflect the influence of Canadian imports, which accounted for 66 percent of U.S. consumption in 1984. The published prices for shakes and shingles followed similar patterns to the Commission's questionnaire responses, reaching a low in mid-1982 and a high in late 1983, and falling again in 1984-85.

Prices reported by U.S. producers for western red cedar shakes and shingles followed similar trends, reaching a low in mid-1982 and a high in late 1983, falling again in 1984 to roughly the level of the low in mid-1982, and increasing moderately in 1985. Prices of the two shake products increased from early 1981 through mid-1981, by approximately 5 percent. Prices for product 1 then decreased by 16 percent to a period low during October-December 1982, and prices for product 2 declined by 13 percent to a period low during January-March 1983. Prices for the two shake products then increased rapidly in 1983, by 28 percent from their low points, to a period high in the fourth quarter of 1983. Shake prices then decreased by approximately 14 percent over 1984 to the first quarter of 1985. Prices received by U.S. producers were relatively stable during mid-1985, before increasing by approximately 5 percent during Ocotober-December 1985, yielding approximately a 3 percent increase over the period January-March 1981 to October-December 1985.

1/ Product 1: #1, 1/2" x 24" handsplit and resawn western red cedar shakes.
Product 2: #1, 3/4" x 24" handsplit and resawn western red cedar shakes.
Product 3: #1, (blue label), 5X (16-inch) western red cedar shingles.
Product 4: #1, (blue label), Perfection (18-inch) western red cedar shingles.

2/ Estimates of product share of total sales in the U.S. market are based on the Red Cedar Shingle & Handsplit Shake Bureau's production reports for 1982, 1983, and 1984. These estimates are used to calculate the weighted-average composite western red cedar shake and shingle prices in the following pages of this report.

3/ Only one U.S. producer reported price data for product 4.

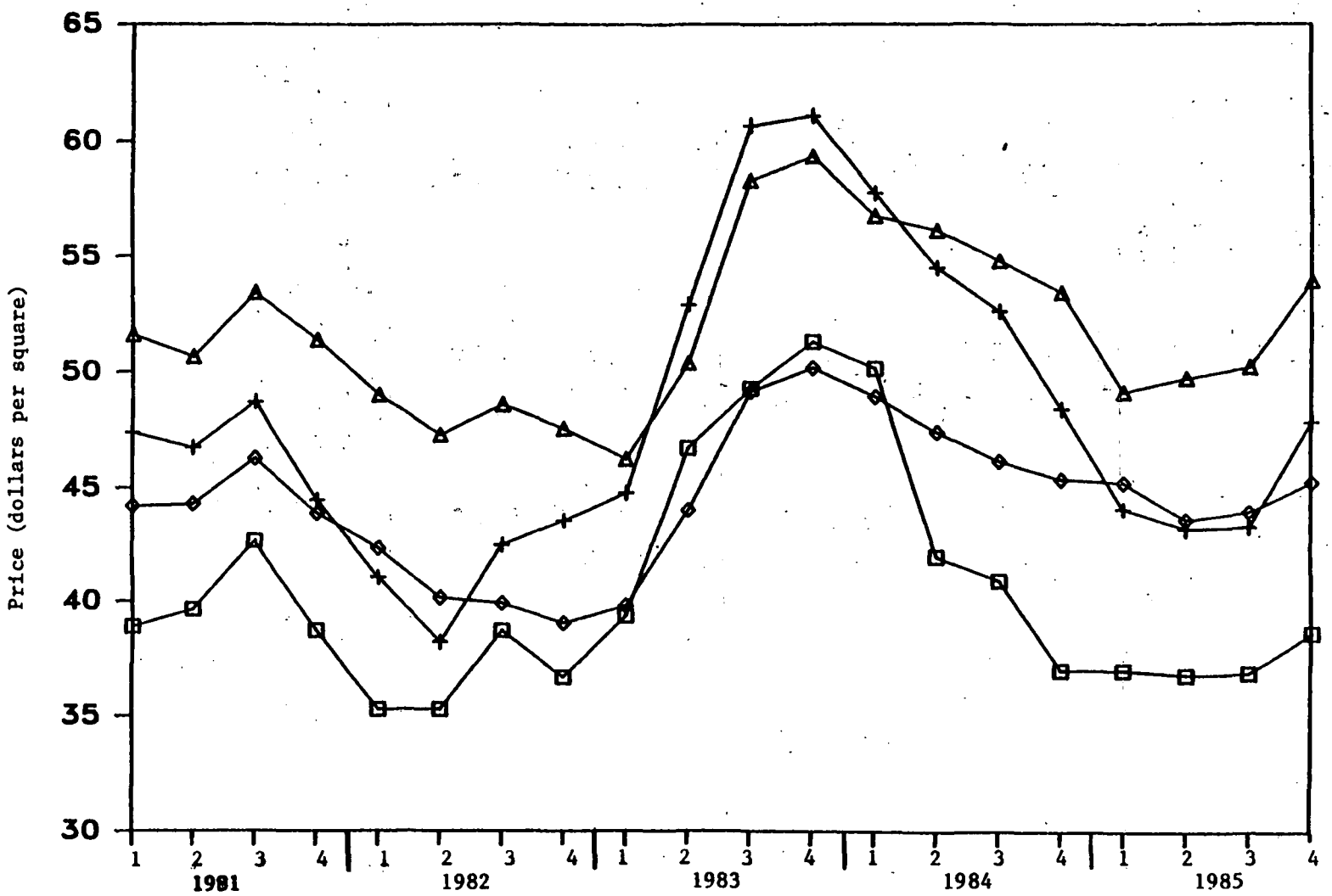
Table 19.--Western red cedar shakes and shingles: Average f.o.b. selling prices reported by U.S. producers, by quarters, January 1981-December 1985

Period	Western red cedar shakes 1/		Western red cedar shingles 2/	
	Product 1	Product 2	Product 3	Product 4
	Per square			
1981:				
January-March	$44.21	$51.63	$52.03	-
April-June	44.32	50.68	50.47	-
July-September	46.30	53.44	52.84	-
October-December	43.91	51.40	50.56	-
1982:				
January-March	42.35	49.06	45.33	-
April-June	40.19	47.32	45.47	-
July-September	39.95	48.64	47.52	-
October-December	39.08	47.61	43.61	-
1983:				
January-March	39.86	46.28	43.63	$51.00
April-June	44.06	50.41	48.80	51.00
July-September	49.19	58.29	58.65	61.00
October-December	50.21	59.34	59.52	62.00
1984:				
January-March	48.97	56.76	55.35	65.00
April-June	47.45	56.13	54.20	63.75
July-September	46.17	54.78	50.11	-
October-December	45.35	53.41	46.19	-
1985:				
January-March	45.20	49.13	42.77	-
April-June	43.55	49.75	44.70	-
July-September	43.89	50.21	46.42	49.00
October-December	45.23	53.89	44.20	46.50

1/ Product 1: #1, 1/2" x 24" handsplit and resawn western red cedar shakes.
Product 2: #1, 3/4" x 24" handsplit and resawn western red cedar shakes.
2/ Product 3: #1, (blue label), 5X (16-inch) western red cedar shingles.
Product 4: #1, (blue label), perfection (18-inch) western red cedar shingles. Data on product 4 are based on the response of one U.S. producer.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Figure 1.--Western red cedar shakes: Average f.o.b. selling prices reported by U.S. producers and published f.o.b. prices for products sold in the United States, by quarters, January 1981-December 1985.



□ Published price for shake product 1.

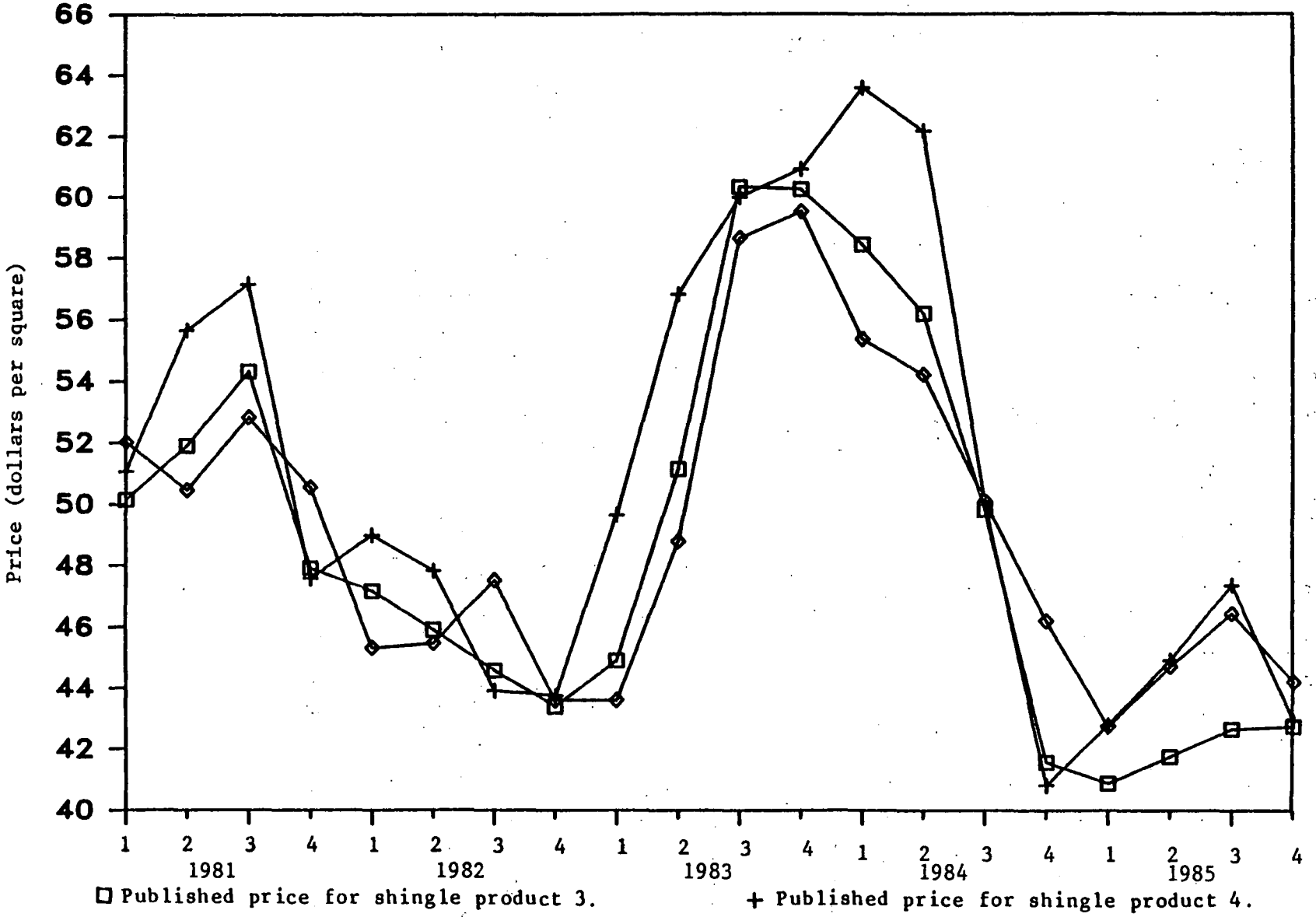
+ Published price for shake product 2.

◇ U.S. producers' price for shake product 1.

△ U.S. producers' price for shake product 2.

Source: Based on data in tables 19 and 20.

Figure 2.--Western red cedar shingles: Average f.o.b. selling prices reported by U.S. producers and published f.o.b. prices for products sold in the United States, by quarters, January 1981-December 1985.



Source: Based on data in tables 19 and 20.

Table 20.--Western red cedar shakes and shingles: Published prices for products sold in the United States, net f.o.b. mill, by quarters, January 1981-December 1985

Period	Western red cedar shakes 1/		Western red cedar shingles 2/	
	Product 1	Product 2	Product 3	Product 4
	Per square			
1981:				
January-March	$38.92	$47.42	$50.17	$51.08
April-June	39.67	46.75	51.92	55.67
July-September	42.67	48.75	54.33	57.17
October-December	38.75	44.50	47.92	47.58
1982:				
January-March	35.33	41.08	47.17	49.00
April-June	35.32	38.25	45.92	47.83
July-September	38.75	42.50	44.58	43.92
October-December	36.75	43.58	43.42	43.75
1983:				
January-March	39.42	44.83	44.92	49.67
April-June	46.75	52.92	51.17	56.83
July-September	49.33	60.67	60.33	60.00
October-December	51.33	61.08	60.25	60.92
1984:				
January-March	50.17	57.75	58.42	63.58
April-June	42.00	54.50	56.17	62.17
July-September	40.92	52.58	49.83	50.08
October-December	37.00	48.42	41.58	40.83
1985:				
January-March	37.00	44.04	40.90	42.80
April-June	36.81	43.15	41.75	44.93
July-September	36.89	43.25	42.67	47.34
October-December	38.61	47.86	42.77	42.92

1/ Product 1: #1, 1/2" x 24" handsplit and resawn western red cedar shakes.
Product 2: #1, 3/4" x 24" handsplit and resawn western red cedar shakes.
2/ Product 3: #1, (blue label), 5X (16-inch) western red cedar shingles.
Product 4: #1, (blue label), Perfection (18-inch) western red cedar shingles.

Source: Random Lengths' Publications, Lumber Price Guide.

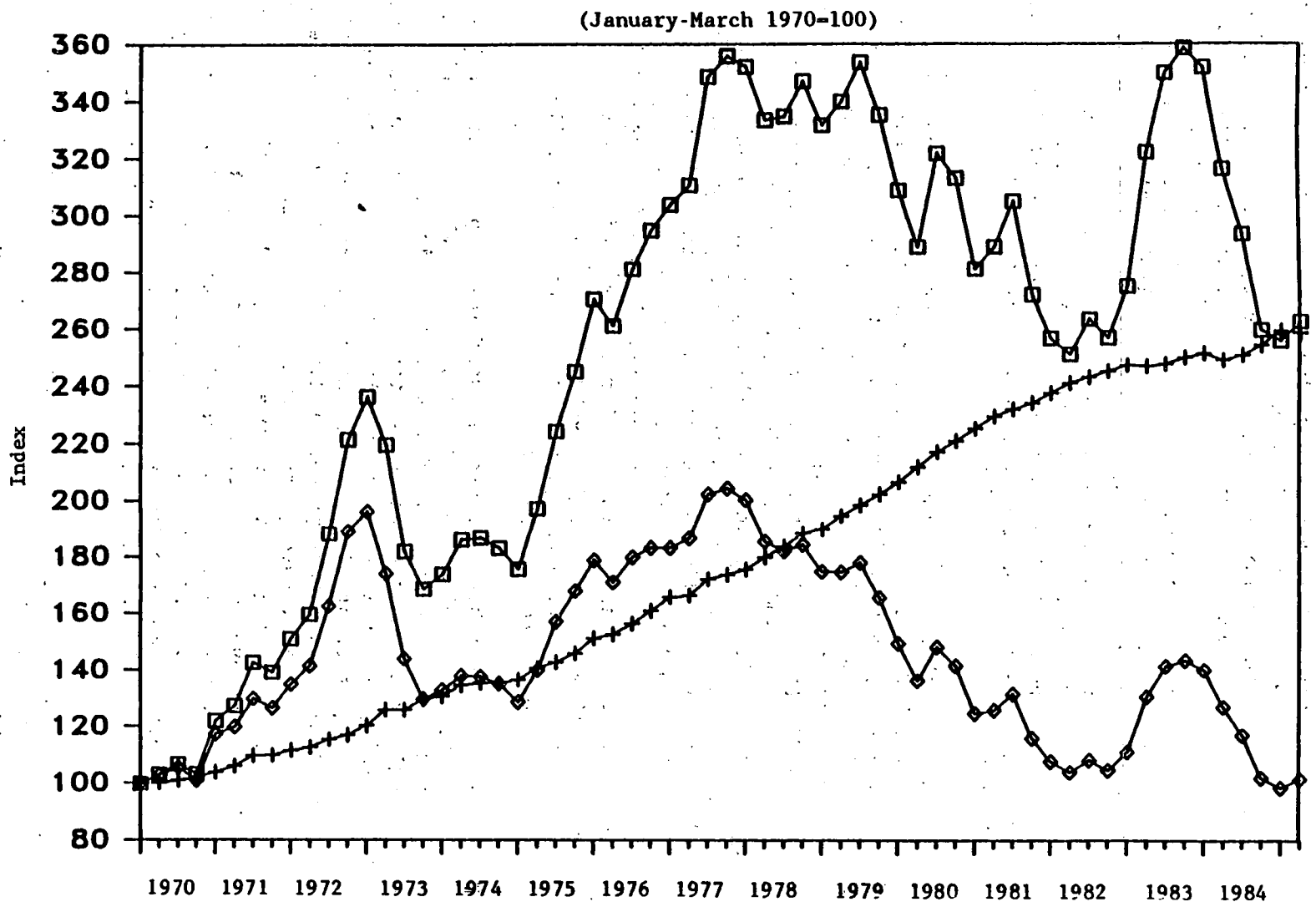
Prices for the western red cedar shingle product for which U.S. producers reported prices (product 3) followed a very similar trend to the series for western red cedar shakes. Shingle prices increased by 2 percent from the first to the third quarter of 1981 before declining by 17 percent through the fourth quarter of 1982. Like shake prices, the price for shingles increased rapidly in 1983, by 36 percent. The 1984 price decline for shingles of 28 percent ended in a period low during January-March 1985. Shingle prices rose by 8 percent from the first to the third quarter of 1985, before decreasing by 5 percent in the fourth quarter, yielding a 15-percent decrease over the period January-March 1981 to October-December 1985. Prices published by Random Lengths followed trends similar to those of the price series derived from questionnaire responses of U.S. producers, although the published shake prices decreased by greater amounts from October-December 1983 to January-March 1985.

Western red cedar shake and shingle prices (indexed), as indicated by the Random Lengths published data, and the implicit price deflator for lumber and building materials are presented in figure 3 and in table F-1, appendix F. The influence of inflation on the composite price index for western red cedar shakes and shingles can be netted out by dividing the shake and shingle price index by the implicit price deflator for lumber and building materials. The deflated index shows shake and shingle prices at their highest levels during October-December 1977, slightly higher than their preceding peak during January-March 1973, with 1970 to 1985 as the reference period. The deflated shake and shingle price index fluctuated while decreasing by 49 percent from October-December 1977 to April-June 1982, before increasing by 37 percent through the second quarter of 1982. The deflated shake and shingle price index then decreased by 43 percent through April-June 1985. Western red cedar shake and shingle prices ended the period January-March 1970 to April-June 1985 with roughly the same price change as that of lumber and building materials in general over the same period.

A price series for northern white cedar shingles is published in The Commercial Bulletin, an industry trade journal, for two white cedar shingle grades, extras and clears (table 21). The published price series for northern white cedar shingles followed a trend unlike that of the prices of western red cedar shakes or shingles. Prices for extras increased by 17 percent from the first to the fourth quarter of 1981, and prices of clears increased by 21 percent over the same period; such prices declined irregularly, by 11 percent and 14 percent, respectively, through April-June 1983. Prices of extras then increased by 23 percent through July-September 1985, and the price of clears increased by 49 percent over the same period. In contrast, the price of western red cedar shakes and shingles decreased markedly in 1984. Prices of the two white cedar shingle products both decreased by approximately 3 percent during October-December 1985, yielding a 24-percent increase for extras and a 50-percent increase for clears from January-March 1981 to October-December 1985.

Price comparisons.--Virtually all importers that responded to the Commission's questionnaire reported that they also purchase U.S.-produced shakes and/or shingles. Sixteen importers/purchasers provided f.o.b. mill price data on their purchases of U.S.-produced and Canadian-produced western red cedar shakes and shingles. Comparisons of purchase prices generally showed Canadian-produced western red cedar shakes and shingles selling at higher prices in the U.S. market than comparable U.S.-produced material.

Figure 3.--Indexes of nominal and deflated composite U.S. prices for western red cedar shakes and shingles and U.S. prices for lumber and building materials, by quarters, January 1970- June 1985



Source: Based on data in App. F.

Table 21.--Average delivered wholesale prices of white cedar shingles sold in the Boston area, by quarters, January 1981-December 1985

Period	Extras 1/		Clears 1/	
	Per square	Index	Per square	Index
1981:				
January-March	$45.50	100.0	$35.00	100.0
April-June	47.50	104.3	37.50	107.1
July-September	47.50	104.3	37.50	107.1
October-December	53.50	117.5	42.50	121.4
1982:				
January-March	51.50	113.1	40.50	115.7
April-June	53.50	117.5	42.50	121.4
July-September	53.50	117.5	42.50	121.4
October-December	51.50	113.1	40.50	115.7
1983:				
January-March	51.50	113.1	40.50	115.7
April-June	47.50	104.3	36.50	104.2
July-September	47.50	104.3	36.50	104.2
October-December	50.50	110.9	41.00	117.1
1984:				
January-March	51.50	113.1	43.50	124.2
April-June	51.50	113.1	43.50	124.2
July-September	56.50	124.1	52.50	150.0
October-December	56.50	124.1	52.50	150.0
1985:				
January-March	56.50	124.1	52.50	150.0
April-June	58.50	128.5	54.50	155.7
July-September	58.50	128.5	54.50	155.7
October-December	56.50	124.1	52.50	150.0

1/ Grading rules for northern white cedar shingles appear in app. B.

Source: The Commercial Bulletin.

Purchase prices of Canadian-produced shake product 1 were higher than U.S.-produced product 1 in all but 2 quarters during the period January-March 1981 to January-March 1984, by margins ranging from 6 percent to 20 percent and averaging 12 percent (table 22). Thereafter, from April-June 1984 through July-September 1985, the Canadian product 1 price was lower than the comparable U.S.-produced shakes in all 6 quarters, by margins ranging from 1 to 13 percent and averaging 6 percent. Although data on the price comparisons for the other grade shake (product 2) were less complete than for product 1, the Canadian product's price was higher than that of the U.S. product in 7 of the 10 quarters in which comparisons could be made, by margins ranging from 0.3 percent to 26 percent and averaging 12 percent (table 23). The U.S. price for product 2 was higher than that of the Canadian-produced product 2 in the remaining 3 quarters, by an average margin of 5 percent.

Purchase prices of Canadian-produced shingle product 3 were higher than those of U.S.-produced product 3 in 18 of the 20 quarters over the period for which data were requested, January-March 1981 through October-December 1985, by margins ranging from 1 percent to 20 percent and averaging 11 percent (table 24). The Canadian product 3 price was lower than the comparable U.S.-produced price by 1 percent during January-March 1984 and by 5 percent during October-December 1984. The price of Canadian-produced shingle product 4 was lower than the price of the comparable U.S.-produced shingles in 6 of the 9 quarters for which comparisons could be made, by margins ranging from 28 percent to 5 percent and averaging 13 percent (table 25). The U.S. product 4 price was lower than the price of the comparable shingles produced in Canada by an average margin of 8 percent in the remaining 3 quarters.

Other Possible Causes of Injury

Demand factors

Demand for shakes and shingles is determined largely by new housing construction and to a lesser degree by the replacement of deteriorated roofing and siding. Demand is not evenly distributed on a regional basis; instead, a disproportionately large share of shipments is sold in the Western States. Prices of shakes and shingles appear to be correlated with changes in housing construction activity. During 1970-85, shake and shingle prices closely tracked housing under construction in the western region of the country 1/ (fig. 4 and app. table F-2).

New housing 2/.--The number of one-unit structures of housing under construction in the western region of the country peaked during July-September 1978, 62 percent above the preceding peak during April-June 1973. The period July-September 1978 through July-September 1979 was marked by a relatively large amount of construction of one-unit structures in the western region. Similarly, shake and shingle prices were also at relatively high levels at that time.

1/ U.S. Census region, as defined by the Bureau of the Census of the U.S. Department of Commerce.

2/ Additional information on the relationship between housing starts and consumption of wood shakes and shingles is presented on pp. A-6 through A-15 of this report.

Table 22.--Western red cedar shakes: Comparisons of purchase prices reported by U.S. purchasers for U.S.-produced and Canadian-produced product 1, 1/ by quarters, January 1981-December 1985

(Per square)

Period	Purchase price of U.S. product	Purchase price of Canadian product	Margin of underselling (overselling)	
			Amount	Percent
1981:				
January-March	$42.53	$49.68	$(-7.16)	(-16.83)
April-June	45.64	48.70	(-3.06)	(-6.70)
July-September	45.23	47.72	(-2.49)	(-5.51)
October-December	47.12	47.07	.04	.09
1982:				
January-March	42.52	45.31	(-2.79)	(-6.57)
April-June	37.67	44.62	(-6.95)	(-18.45)
July-September	39.25	45.93	(-6.68)	(-17.03)
October-December	38.32	43.27	(-4.95)	(-12.91)
1983:				
January-March	45.07	44.58	.49	1.08
April-June	47.16	50.01	(-2.86)	(-6.06)
July-September	47.32	56.28	(-8.96)	(-18.93)
October-December	46.91	56.29	(-9.38)	(-19.99)
1984:				
January-March	53.15	56.37	(-3.21)	(-6.05)
April-June	52.51	51.20	1.31	2.49
July-September	54.54	49.15	5.39	9.88
October-December	49.77	43.06	6.71	13.49
1985:				
January-March	44.11	42.64	1.47	3.33
April-June	47.91	44.49	3.42	7.14
July-September	45.28	44.69	.58	1.29
October-December	-	44.76	-	-

1/ Product 1: #1, 1/2" x 24" handsplit and resawn western red cedar shakes.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 23.--Western red cedar shakes: Comparisons of purchase prices reported by U.S. purchasers for U.S.-produced and Canadian-produced product 2, 1/ by quarters, January 1981-December 1985

(Per square)

Period	Purchase price of U.S. product	Purchase price of Canadian product	Margin of underselling (overselling)	
			Amount	Percent
1981:				
January-March	-	$59.76	-	
April-June	-	61.98	-	
July-September	-	63.71	-	
October-December	-	56.44	-	
1982:				
January-March	-	58.53	-	-
April-June	-	56.25	-	-
July-September	$49.00	51.21	$(-2.21)	(4.52)
October-December	48.00	48.14	(-.14)	(.28)
1983:				
January-March	-	51.02	-	-
April-June	-	60.63	-	-
July-September	58.58	58.46	.12	.20
October-December	60.00	69.19	(-9.19)	(-15.31)
1984:				
January-March	70.15	64.20	5.95	8.48
April-June	52.23	65.76	(-13.53)	(-25.90)
July-September	50.39	60.39	(-10.00)	(-19.80)
October-December	-	54.73	-	-
1985:				
January-March	48.44	52.12	(-3.68)	(-7.60)
April-June	43.68	49.12	(-5.45)	(-12.47)
July-September	53.25	50.23	3.02	5.67
October-December	-	54.34	-	-

1/ Product 2: #1, 3/4" x 24" handsplit and resawn western red cedar shakes.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 24.--Western red cedar shingles: Comparisons of purchase prices reported by U.S. purchasers for U.S.-produced and Canadian-produced product 3, 1/ by quarters, January 1981-December 1985

(Per square)

Period	Purchase price of U.S. product	Purchase price of Canadian product	Margin of underselling (overselling)	
			Amount	Percent
1981:				
January-March	$49.62	$53.76	$(-4.14)	(-8.34)
April-June	50.19	52.00	(-1.81)	(-3.60)
July-September	52.86	60.71	(-7.85)	(-14.85)
October-December	48.39	53.58	(-5.18)	(-10.71)
1982:				
January-March	45.95	55.00	(-9.05)	(-19.68)
April-June	45.26	51.24	(-5.98)	(-13.21)
July-September	44.87	54.37	(-9.50)	(-21.17)
October-December	45.91	52.50	(-6.59)	(-14.36)
1983:				
January-March	45.78	54.59	(-8.81)	(-19.24)
April-June	52.37	59.48	(-7.11)	(-13.57)
July-September	58.42	62.38	(-3.96)	(-6.78)
October-December	62.31	64.03	(-1.73)	(-2.77)
1984:				
January-March	63.30	62.50	.80	1.27
April-June	58.19	64.13	(-5.94)	(-10.21)
July-September	55.68	56.28	(-.60)	(-1.07)
October-December	52.53	50.16	2.37	4.51
1985:				
January-March	43.00	49.65	(-6.65)	(-15.46)
April-June	47.64	51.51	(-3.87)	(-8.12)
July-September	52.37	54.08	(-1.71)	(-3.27)
October-December	49.41	53.77	(-4.36)	(-8.83)

1/ Product 3: #1, (blue label), 5X (16-inch) western red cedar shingles.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 25.--Western red cedar shingles: Comparisons of purchase prices reported by U.S. purchasers for U.S.-produced and Canadian-produced product 4, 1/ by quarters, January 1981-December 1985

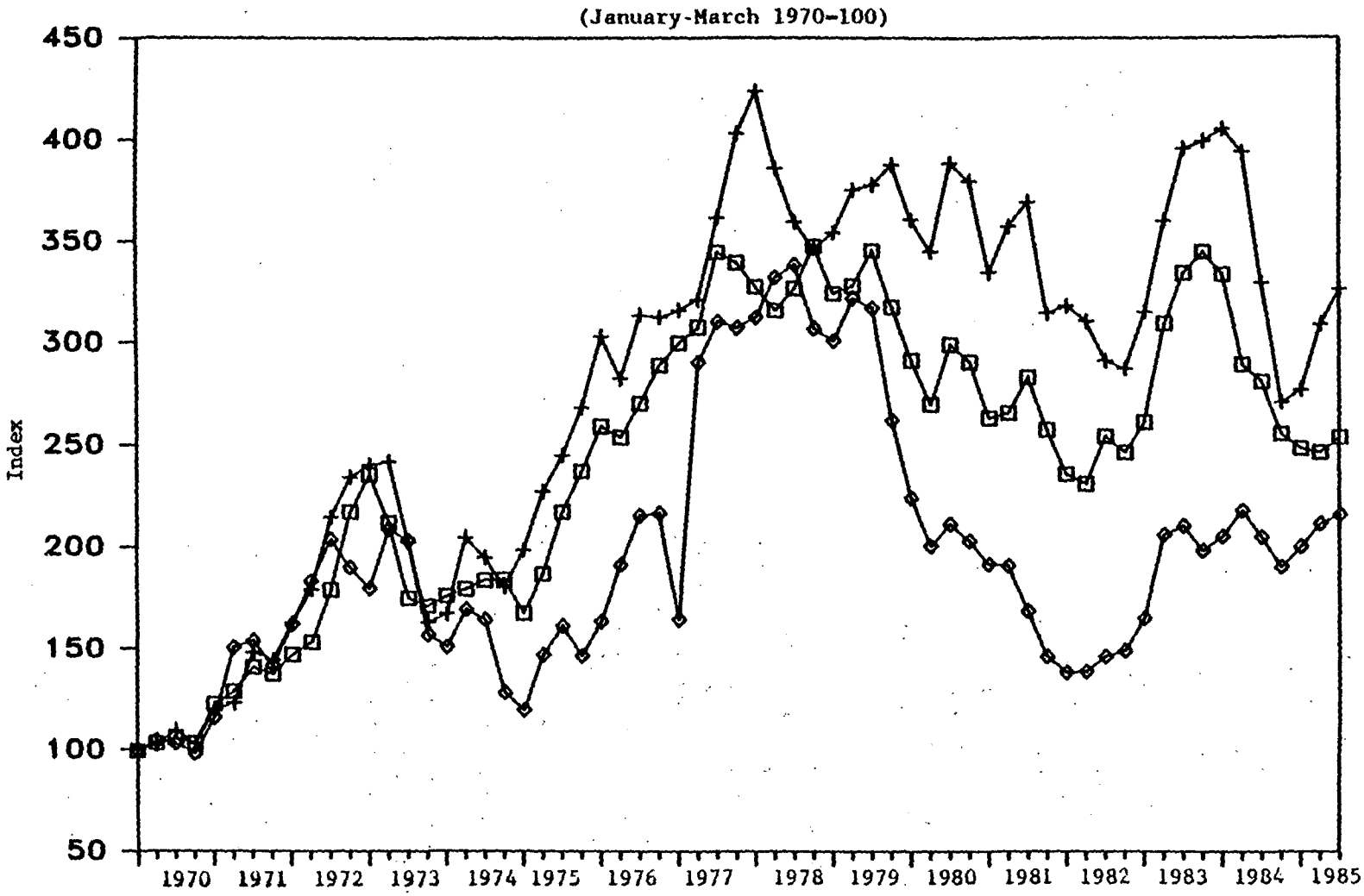
(Per square)

Period	Purchase price of U.S. product	Purchase price of Canadian product	Margin of underselling (overselling)	
			Amount	Percent
1981:				
January-March	$62.75	$54.17	$8.58	13.67
April-June	-	55.30	-	-
July-September	-	55.29	-	-
October-December	61.97	51.18	10.79	17.41
1982:				
January-March	-	50.95	-	-
April-June	53.56	57.47	(-3.91)	(-7.30)
July-September	-	54.08	-	-
October-December	-	54.84	-	-
1983:				
January-March	60.25	56.91	3.34	5.54
April-June	60.87	54.85	6.02	9.89
July-September	58.77	66.89	(-8.12)	(-13.81)
October-December	64.37	65.81	(-1.44)	(-2.23)
1984:				
January-March	68.40	49.28	19.12	27.95
April-June	-	59.33	-	-
July-September	61.25	58.29	2.96	4.83
October-December	-	54.41	-	-
1985:				
January-March	-	51.83	-	-
April-June	-	56.60	-	-
July-September	-	54.81	-	-
October-December	-	54.96	-	-

1/ Product 4: #1, (blue label), Perfection (18-inch) western red cedar shingles.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Figure 4.--Indexes of U.S. prices of western red cedar shakes and shingles and one-unit housing under construction in the western region of the United States, by quarters, January 1970-September 1985



□ Composite price of western red cedar shakes. + Composite price of western red cedar shingles.

◇ Housing under construction in the western region.

Source: Based on data in table F-2.

Housing under construction in the western region then decreased significantly and steadily, by 59 percent from July-September 1979 to a trough during January-March 1982. 1/ Shake and shingle prices also decreased significantly, although less steadily, over the period, with much of the decrease occurring between July-September 1981 and July-September 1982. Housing construction then picked up again, increasing by 41 percent from October-December 1982 to July-September 1983. Shake prices increased by 36 percent and shingle prices by 38 percent over the same period.

Housing under construction in the western region fluctuated while roughly maintaining the level attained during July-September 1983 through to the second quarter of 1984, before decreasing by 13 percent from the second to the fourth quarter of 1984. Shake and shingle prices also fell, but by greater percentages and over a longer period. Shake prices fell by 26 percent from October-December 1983 to the corresponding period of 1984. Shingle prices fell by 33 percent from the first to the fourth quarter of 1984. Housing construction rebounded in 1985, increasing by 13 percent from October-December 1984 to July-September 1985. Shingle prices similarly rebounded over the same period by 20 percent. Shake prices, however, have been virtually unchanged in 1985.

Replacement.--The replacement market is a more stable source of demand. Because replacement usually is done in the summer, prices generally follow a seasonal trend, with price increases reportedly occurring in the summer months. However, adverse weather can also cause sudden increases in demand for replacement shakes and shingles, which result in precipitous price increases. For example, a 65-percent increase in the price of No. 2, perfection shingles in July 1985 was attributed to a severe hail storm in the Lubbock, TX, area. Approximately one-fourth of all shingle shipments are to Texas (app. D). The shake and shingle analyst at Random Lengths reported that prices of other shake and shingle products reportedly also increased "in sympathy" during the same period.

Safety concerns.--Another factor reportedly affecting the demand for wood shakes and shingles is the fear that these products catch fire more easily than other roofing and siding materials. This concern has led producers of competing roofing materials, specifically clay tiles, to market their products by emphasizing this concern. Clay tiles are touted to be fireproof and compete directly with shakes and shingles as attractive roofing material for higher cost housing.

A chemical fire retardant can be added 2/ to shakes and shingles to improve them to a "class B" roof covering, accepted by building codes and insurance companies in the United States, but the treatment reportedly roughly doubles the cost of the untreated shakes or shingles, thereby making them less competitive with competing roofing materials, such as clay tiles or asphalt roofing shingles.

1/ The trough in the first quarter of 1982 was 15 percent higher than the preceding trough in the first quarter of 1975.

2/ The process involves impregnating the shakes or shingles under pressure with a chemical treatment.

The price of asphalt roofing shingles 1/ as indicated by the Producer Price Index does not appear to be nearly as volatile as the price of western red cedar shakes and shingles from 1970 to 1985 (fig. 5 and app. table F-3). The price of asphalt roofing shingles did not experience the rapid rise and fall from 1972 to 1974 that western red cedar shakes and shingles did. The price of asphalt shingles is significantly affected by changes in the price of oil, a primary input in its production, which is reflected in the rapid price increase in 1974. More recently, asphalt shingle prices have roughly maintained the level of the third quarter of 1980, and western red cedar prices show a precipitous rise and decline, an increase and once again a rapid decline since 1980. Western red cedar shingle prices ended the period January-March 1970 to July-September 1985 with roughly the same price change as that of asphalt roofing shingles over the same period. Western red cedar shake prices, however, ended the same period 21 percent below those of asphalt roofing shingles.

Shipments of asphalt roofing shingles were also not as volatile as apparent consumption of wood shakes and shingles (table 26). Shipments of asphalt roofing shingles decreased by 29 percent from 1978 to 1981, and apparent consumption of wood shakes and shingles continued to decrease into 1982, declining by 41 percent from 1978 to 1982. Shipments of asphalt roofing shingles and apparent consumption of wood shakes and shingles both increased in 1983 and 1984. However, wood shakes and shingles ended the 1978-84 period with a 19-percent decline in apparent consumption, but asphalt roofing shingle shipments declined by only 3 percent over the same period.

Table 26.--U.S. shipments of asphalt roofing shingles and apparent U.S. consumption of wood shakes and shingles, 1978-84

Year	Total shipments of asphalt roofing shingles		Apparent consumption of wood shakes and shingles	
	Quantity	Index	Quantity	Index
	1,000 squares		1,000 squares	
1978	79,308.7	100.0	8,392.9	100.0
1979	80,853.4	101.9	7,724.0	92.7
1980	61,994.4	78.1	6,747.4	81.0
1981	56,233.8	70.9	5,701.3	68.4
1982	59,004.3	74.3	4,975.8	59.7
1983	74,224.2	93.5	6,408.2	76.9
1984	76,648.6	96.6	6,770.6	81.2

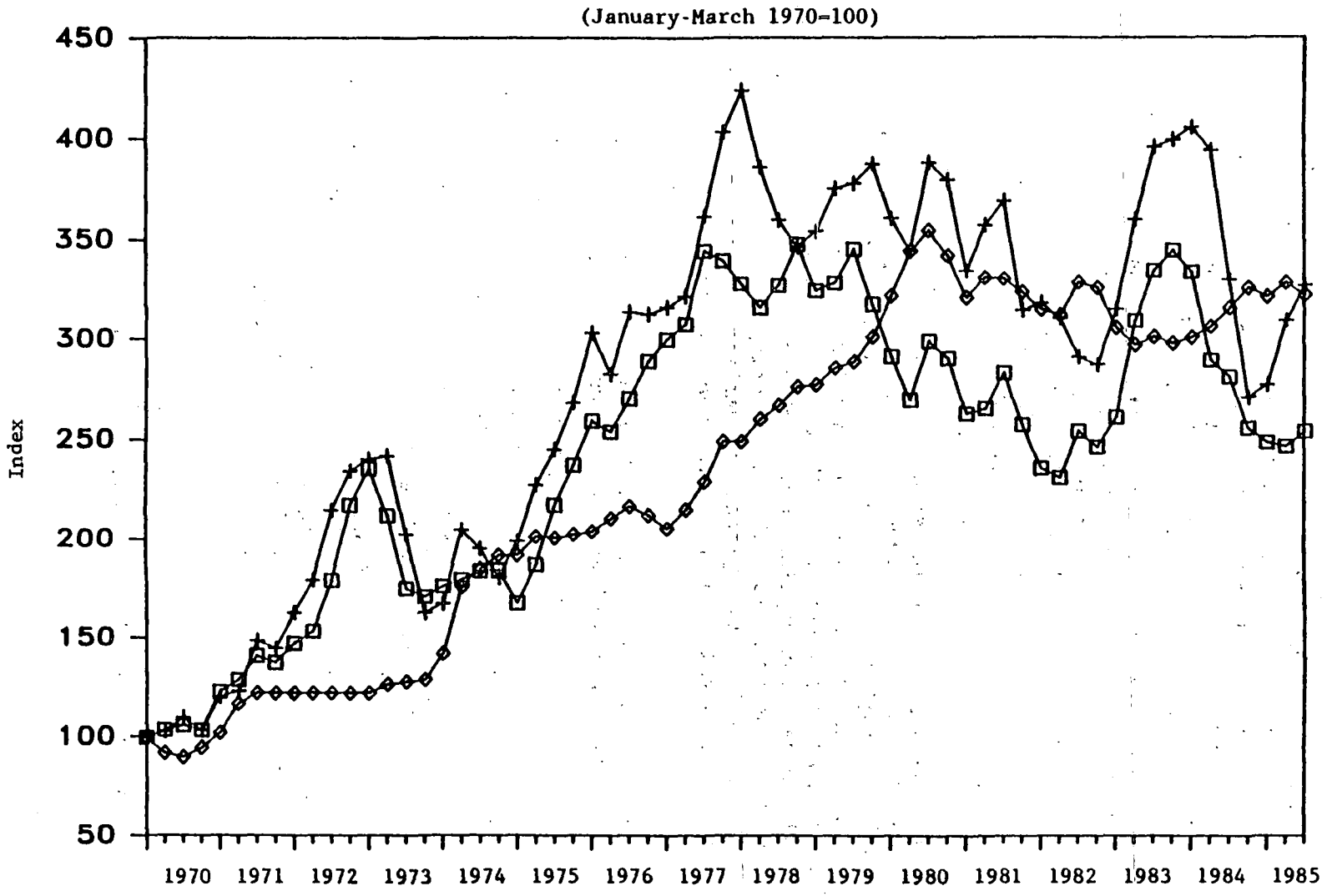
Source: Compiled from official statistics of the U.S. Department of Commerce and data supplied by shake and shingle inspection bureaus.

Supply factors

Low barriers to entry.--Shakes and shingles are produced at numerous relatively small mills with no individual mill having any significant

1/ Prices and shipments of other competing products were not available.

Figure 5.--Indexes of U.S. prices of western red cedar shakes, western red cedar shingles, and asphalt roofing shingles, by quarters, January 1970-September 1985



Source: Based on data in table F-3.

influence on the market price. Production of shakes and shingles is often described as a "cottage industry." Because the industry is characterized by relative ease of entry, i.e., fixed costs are very low, prices tend to be highly competitive. As demand for shakes and shingles increases, new firms, or firms that had temporarily shutdown, enter production, thereby suppressing price increases that might otherwise occur. Conversely, when demand decreases, some firms discontinue production, thereby alleviating to some extent the price decrease that would have occurred if this were a high fixed-cost industry.

Supply conditions add instability to the market for shakes and shingles. The cost of logs accounts for approximately one-half the total operating cost of most producers. As log prices rise, the cost of production increases significantly. If the market price for shakes and shingles does not increase likewise, the affected firm would be forced to shutdown production awaiting either higher market prices for shakes and shingles or lower log prices.

U.S. stumpage costs.--U.S. production of shakes and shingles is concentrated in the Pacific Northwest. Sales of western red cedar from National Forests are a major source of log supply to U.S. producers. The prices paid for stumpage on public lands are generally the prices paid through open auction, oral or sealed bid, with the highest bidder usually awarded the sale. The bid prices are available from the U.S. Forest Service and from most public owners, by region and by species. The Commission assembled prices of western red cedar sold by the U.S. Forest Service from National forests in the Pacific Northwest (Washington, Oregon, and a small portion of northern California) (table 27 and fig. 6). However, because the stumpage bought by bid is usually sold under contracts that generally allow harvesting over a 3 to 5-year period, prices bid are reflective of expected future market conditions. Although stumpage prices are the most often quoted, they are not indicative of prices currently being paid for timber harvested.

Bid stumpage prices of western red cedar sold by the U.S. Forest Service moved similarly to prices of shakes and shingles although they were less stable. Both stumpage prices and shake and shingle prices generally decreased from 1981 through mid-1982, before increasing to a high for the 1981-85 period in late 1983/early 1984. Prices for stumpage and shakes and shingles then generally declined through the end of 1985.

U.S. log prices 1/.--The U.S. Forest Service publishes an annual price series on western red cedar logs sold in western Washington and northwestern Oregon (table 28 and fig. 7). 2/ From 1970 to 1984, the price of shake grade and shingle grade 3/ western red cedar logs followed a very similar trend to that of shakes and shingles sold in the United States, but log prices increased by significantly more than did shake and shingle prices.

1/ A discussion of U.S. western red cedar log production, trade, and consumption is presented in app. G.

2/ The published price series is based on data collected by the Industrial Forestry Association, whose members voluntarily submit transaction prices. The data are based on the sales representing approximately 15 percent of total sales of western red cedar logs in the United States.

3/ No. 2 logs are generally considered shake grade and are of higher quality than No. 3 logs, which are generally considered shingle grade.

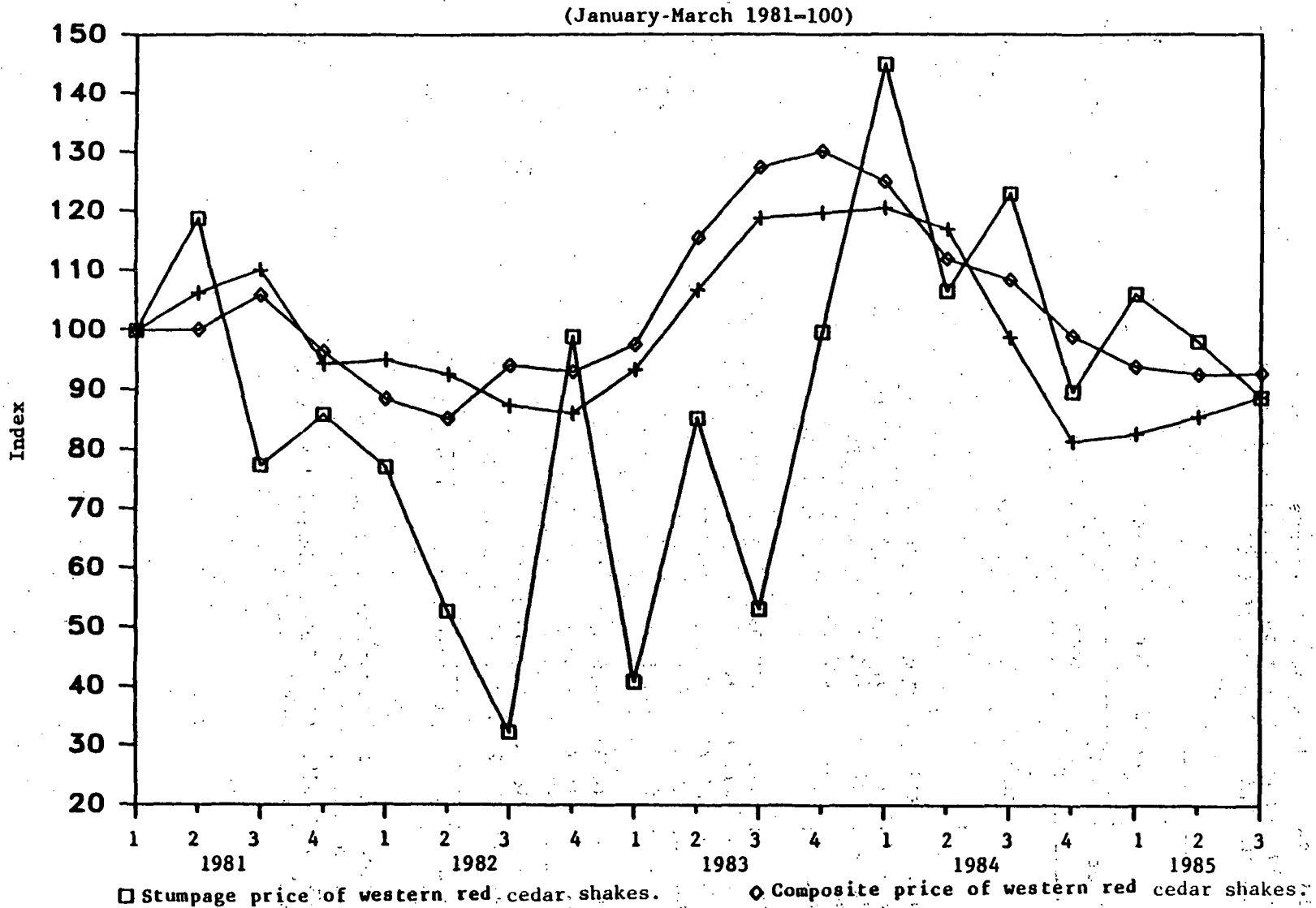
Table 27.--Indexes of U.S. prices of western red cedar shakes, western red cedar shingles, and western red cedar stumpage sold by the U.S. Forest Service, by quarters, January 1981-September 1985

(January-March 1981=100.0)

Period	Shake price index	Shingle price index	Stumpage prices	
			Per thousand board feet	Index
1981:				
January-March	100.00	100.00	$122.26	100.00
April-June	100.10	106.24	145.28	118.83
July-September	105.89	110.12	94.60	77.38
October-December	96.43	94.32	105.02	85.90
1982:				
January-March	88.51	94.96	94.16	77.02
April-June	85.22	92.59	64.44	52.71
July-September	94.11	87.41	39.52	32.32
October-December	93.05	86.09	120.85	98.85
1983:				
January-March	97.59	93.40	50.03	40.92
April-June	115.44	106.67	104.27	85.29
July-September	127.41	118.85	65.01	53.17
October-December	130.21	119.65	121.89	99.70
1984:				
January-March	125.00	120.49	177.15	144.90
April-June	111.78	116.87	130.09	106.40
July-September	108.30	98.68	150.39	123.01
October-December	98.94	81.40	109.66	89.69
1985:				
January-March	93.87	82.67	129.57	105.98
April-June	92.61	85.61	119.86	98.04
July-September	92.83	88.88	108.54	88.78

Source: Random Lengths Publications, and the U.S. Forest Service.

Figure 6.--Indexes of U.S. prices of western red cedar shakes, western red cedar shingles, and western red cedar stumpage sold by the U.S. Forest Service, by quarters, January 1981-September 1985



Source: Based on data in table 27.

Table 28.--Indexes of U.S. prices of western red cedar shakes, western red cedar shingles, and shake and shingle grade western red cedar logs sold in the United States, 1970-84

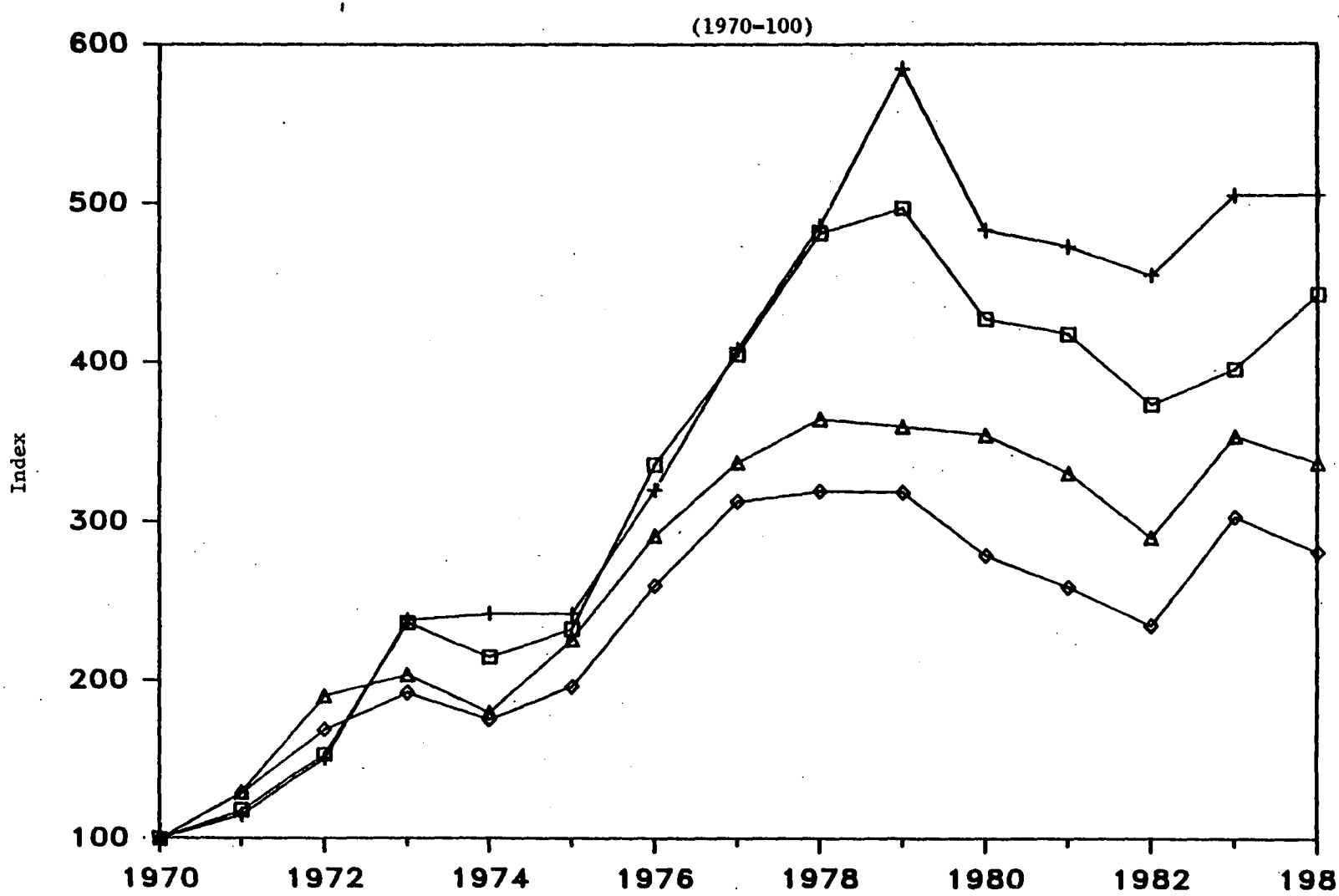
(1970=100)

Year	Shake prices		Shingle prices		No. 2 western red cedar logs 1/		No. 3 western red cedar logs 1/	
	Unit value	Index	Unit value	Index	Unit value	Index	Unit value	Index
	Per square		Per square		Per 1,000 board feet		Per 1,000 board feet	
1970	$16.13	100.00	$15.79	100.00	$85.40	100.00	$57.70	100.00
1971	20.71	128.39	20.38	129.02	100.40	117.56	66.30	114.90
1972	27.22	168.71	30.04	190.21	130.70	153.04	86.90	150.61
1973	31.00	192.13	32.17	203.71	201.70	236.18	137.50	238.30
1974	28.28	175.28	28.38	179.71	183.60	214.99	139.70	242.11
1975	31.61	195.94	35.69	225.96	198.50	232.44	139.50	241.77
1976	41.90	259.75	45.99	291.20	286.60	335.60	184.60	319.93
1977	50.43	312.61	53.23	337.02	345.60	404.68	235.40	407.97
1978	51.46	318.98	57.55	364.38	410.40	480.56	280.00	485.27
1979	51.36	318.39	56.79	359.57	424.10	496.60	337.30	584.58
1980	44.93	278.52	55.93	354.10	364.40	426.70	278.40	482.50
1981	41.75	258.82	52.19	330.42	356.30	417.21	272.50	472.27
1982	37.77	234.13	45.80	289.97	318.70	373.19	261.90	453.90
1983	48.80	302.49	55.82	353.43	337.50	395.20	291.10	504.51
1984	45.28	280.70	53.14	336.46	377.30	441.80	291.30	504.85

1/ No. 2 logs are generally considered shake grade, and No. 3 logs, shingle grade.

Source: Derived from data published by Random Lengths' Publications for shake and shingle prices, and by U.S. Department of Agriculture, Forest Service, Production, Prices, Employment, and Trade in the Northwest Forest Industries for nonexport log prices.

Figure 7.--Indexes of U.S. prices of western red cedar shakes, western red cedar shingles, and western red cedar logs sold in the United States, 1970-84



□ Price of shake grade western cedar logs.

+ Price of shingle grade western red cedar logs.

◇ Composite price of western red cedar shakes.

△ Composite price of western red cedar shingles.

Source: Based on data in table 28.

Canadian log prices 1/.--Production of shakes and shingles in Canada is concentrated in British Columbia. In British Columbia, timber sales from Provincial lands account for approximately 90 percent of the harvest. Generally, British Columbia timber dues are adjusted monthly in response to a change in market value of not less than plus or minus Can$1.00 per cubic meter (about Can$5.00 per 1,000 board feet) for log-based appraisals. These adjustments moderate for the buyer both the potential for profit in rising markets and losses in falling markets.

The Commission assembled average log prices for western red cedar sold in the Vancouver, British Columbia, log market from data compiled by COFI (table 29 and fig. 8). The COFI data are submitted on a voluntary basis for "arm's length" transactions and represent about 15 percent of all logs sold in the Vancouver log market. The remaining 85 percent represent intracompany transfers.

Although the British Columbia western red cedar log prices are in Canadian dollars, the log prices followed a very similar trend to that of prices of shakes and shingles sold in the U.S. market (in U.S. dollars) from January-March 1981 2/ to October-December 1985. Shake and shingle prices increased from January-March 1981 through July-September 1981, before decreasing to a period low in mid-1982. Prices of British Columbia cedar logs increased from January-March 1981 through April-June 1982, although declining in October-December 1981. British Columbia cedar log prices then declined through the end of 1982. Prices for shakes and shingles and British Columbia log prices then increased, reaching a peak at the end of 1983, before declining through the end of 1984. The price of western red cedar logs in British Columbia ended the period January-March 1981 to October-December 1985 with a 13-percent increase, and the price of western red cedar shakes and shingles sold in the United States decreased by 5 percent over the same period.

Prices of shakes and shingles sold in the U.S. market and western red cedar log prices in British Columbia follow similar trends because both are likely determined for the most part by changes in demand for cedar products in the U.S. market, i.e., shake and shingle demand caused by changes in housing construction. In 1984, Canada's shake and shingle exports to the United States accounted for the vast majority of Canadian production, approximately 95 percent, and also accounted for 66 percent of total U.S. apparent consumption. In addition to being used as the primary input to shake and shingle production, British Columbia western red cedar is also used to produce lumber, which is similarly dependent on U.S. construction.

Resource availability.--Both U.S. and Canadian shake and shingle producers are dependent upon available supplies of adequate wood for their production processes. In the U.S. Northwest and British Columbia the primary wood species used is western red cedar, and in the U.S. Northeast and Eastern Canada, northern white cedar is the preferred species.

1/ A discussion of Canadian western red cedar log production, trade, and consumption is presented in app. H.

2/ A consistent price series on British Columbia western red cedar logs for earlier periods was not available because of changes in log grading standards in British Columbia.

Table 29.--Composite U.S. prices for western red cedar shakes and shingles and prices of western red cedar logs sold in British Columbia, by quarters, January 1981-December 1985

(January-March 1981=100)

Period	Composite price of western red cedar logs in British Columbia 1/		Composite price of western red cedar shakes and shingles 2/	
	Value	Index	Value	Index
	Per cubic meter		Per square	
1981:				
January-March	Can$47.65	100.00	$43.62	100.00
April-June	48.09	100.92	44.82	102.75
July-September	51.92	108.94	47.33	108.51
October-December	47.96	100.65	42.18	96.71
1982:				
January-March	49.70	104.30	39.82	91.28
April-June	53.67	112.63	38.96	89.32
July-September	43.74	91.79	40.88	93.72
October-December	43.14	90.53	39.84	91.34
1983:				
January-March	42.86	89.93	42.65	97.77
April-June	49.96	104.83	49.99	114.60
July-September	57.64	120.95	54.30	124.48
October-December	63.33	132.88	55.62	127.51
1984:				
January-March	77.17	161.93	54.59	125.15
April-June	75.59	158.63	49.04	112.43
July-September	50.76	106.51	45.50	104.31
October-December	49.63	104.14	40.24	92.25
1985:				
January-March	48.85	102.52	39.66	90.90
April-June	56.85	119.30	40.71	93.32
July-September	3/ 52.31	3/ 109.77	42.23	96.81
October-December	3/ 53.71	3/ 112.70	41.47	95.07

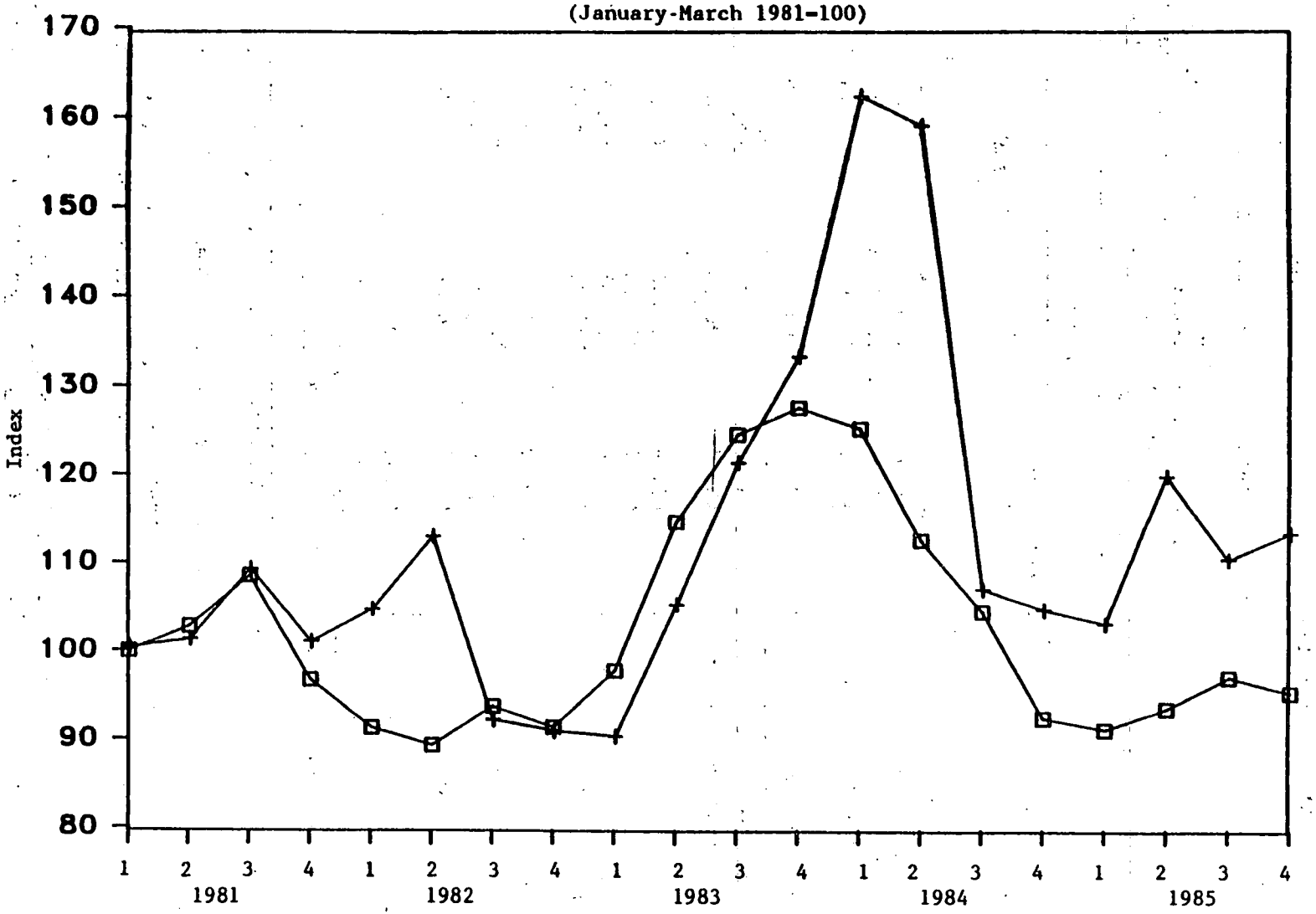
1/ Weighted-average of prices for the three shake and shingle grades sold in British Columbia.

2/ Composite prices and indexes based on sales of shakes and shingles in the U.S. market in U.S. dollars.

3/ Third and fourth quarters of 1985 based on British Columbia Ministry of Forests Average Log Price Reports; other data are from COFI Average Log Price Reports.

Source: Random Lengths' Publications, Lumber Price Guide; Council of Forest Industries of British Columbia, Average Log Prices Report; and British Columbia Ministry of Forests, Average Log Prices Report.

Figure 8.--Indexes of composite U.S. prices for western red cedar shakes and shingles and prices of western red cedar logs sold in British Columbia, by quarters, January 1981-December 1985



Source: Based on data in table 29.

The northern white cedar supply in the United States and Canada.--Data on the availability, harvest levels, and standing inventory 1/ of northern white cedar in the U.S. Northeast and in Eastern Canada are not available. However, it is believed that current white cedar shingle production levels can be maintained in both the U.S. Northeast and in Eastern Canada in future years without diminishing the supply of northern white cedar trees.

The western red cedar supply in the U.S. Northwest.--Current data on the supply of western red cedar in the Pacific Northwest are not available. 2/ However, by combining Washington State statistics and U.S. Forest Service data, certain estimates can be made on the availability of western red cedar in western Washington. The respondents presented a detailed analysis of the western red cedar timber supply based on such data. The Commission's staff also analyzed the available Washington State and U.S. Forest Service data and estimated that the inventory 3/ of western red cedar suitable for, but not dedicated solely to, the production of western red cedar shakes in Western Washington declined from 5.3 billion board feet in 1980 (Jan. 1, 1980) to 4.3 billion board feet in 1985, or by 19 percent. At the rate of harvest that occurred during 1980-84, the suitable inventory would last until 2006. 4/ The inventory of western red cedar suitable for, but not dedicated solely to, the production of western red cedar shingles in Western Washington declined from 6.2 billion board feet in 1980 (Jan. 1, 1980) to 5.1 billion board feet in 1985, or by 18 percent. At the rate of harvest that occurred during 1980-84, the suitable inventory would last until 2007. 5/

Although western red cedar inventory data are not available for areas of the United States other than western Washington, that region accounted for 36 percent of the total U.S. inventory of western red cedar in 1977 (net volume of live western red cedar saw timber on commercial forest lands), as indicated in the following tabulation (in millions of board feet (scribner rule)):

Western Washington----	12,202
Eastern Washington----	846
Total Washington--	13,048
Western Oregon--------	4,994
Eastern Oregon--------	34
Total Oregon------	5,028
Alaska----------	6,324
Idaho----------	7,852
Montana----------	1,418
California----------	76
All States--------	33,746

1/ Standing inventory is defined here as those trees in the forest that are of sufficient size and quality to be used to produce shakes or shingles.

2/ The latest information on the total supply of western red cedar in the Western United States was based on 1977 data, USDA Forest Service Resource Bulletin PNW-85, 1979.

3/ Includes dead and down material.

4/ Assumes a minimum diameter breast height of 29 inches and a harvest age of 160 years plus.

5/ Assumes a minimum diameter breast height of 25 inches, interpolated on a linear scale between 21 and 29 inches, and a harvest age of 100 years plus.

The data in the preceding inventory tabulation include volume for trees at least 9 inches in diameter, breast height, with at least 25 percent of the board foot volume free of defect. As such, the inventory data overstate the amount of wood suitable for the production of shakes (requires trees with a diameter of about 29 inches or greater) or shingles (requires trees with a diameter of about 25 inches 1/).

The use of the red cedar inventory is dependent upon many factors. Western red cedar is seldom found in pure stands, and its harvest is highly dependent on the demand and harvest of all species in a stand. As an example of its dependence on the harvest of other species, the harvest of all types of cedars in Western Washington in 1984 accounted for 6.7 percent of the total harvest from all lands, whereas Douglas-fir and western hemlock accounted for 43.4 percent and 27.1 percent, respectively; the harvest of cedar 100 years of age or greater accounted for 6.3 percent of the total harvest.

Although western red cedar is a minor component of the total harvest in western Washington (it is believed to account for an even smaller share of the total harvest in all other regions of the United States), the shake and shingle industry ranks second in the consumption of the western red cedar harvest.

In 1984, in Washington State, the harvest of western red cedar logs in excess of 100 years old was consumed in the following proportions: lumber, 42 percent; shakes and shingles, 34 percent; exports, 20 percent; veneer and plywood, 2 percent; and posts, poles, and pilings, 2 percent. 2/

Exchange rates

Quarterly data reported by the International Monetary Fund indicate that during the period January 1981 through September 1985, the nominal value of the Canadian dollar depreciated relative to its U.S. counterpart in 10 out of 18 quarters by an overall 12.2 percent (table 30). 3/ In response to the higher level of inflation in Canada compared with that in the United States over the 18-quarter period, the real value of the Canadian currency depreciated by only 0.8 percent relative to the U.S. dollar--significantly less than the apparent depreciation of 12.2 percent represented by the change in the nominal exchange rate.

1/ In telephone conversations with the staff of the U.S. International Trade Commission, several U.S. shake and shingle producers stated that they can use logs with a small-end diameter of 12 to 14 inches for shingle production; however, the use of such logs is very limited, and the shingle recovery factor drops significantly when using small diameter logs.

2/ Respondent submission "The Western Red Cedar Timber Resource in the United States As It Relates to the United States Production of Shakes and Shingles, and the Washington State Department of Natural Resources--Washington Mill Survey, 1984 preliminary.

3/ International Financial Statistics, April and December 1985.

Table 30.--U.S.-Canadian exchange rates: 1/ Nominal exchange-rate equivalents of the Canadian dollar in U.S. dollars, real exchange-rate equivalents, and producer price indicators in the United States and Canada, 2/ indexed by quarters, January 1981-September 1985

(January-March 1981=100.0)

Period	U.S. Producer Price Index	Canadian Producer Price Index	Nominal-exchange-rate index	Real-exchange-rate index 3/
			US$ per Can$	
1981:				
January-March	100.0	100.0	100.0	100.0
April-June	102.2	102.2	99.6	99.6
July-September	102.9	104.4	98.5	99.9
October-December	102.8	105.7	100.2	103.0
1982:				
January-March	103.7	107.2	98.7	102.0
April-June	103.8	109.3	95.9	100.9
July-September	104.3	110.1	95.5	100.8
October-December	104.4	110.5	96.9	102.6
1983:				
January-March	104.5	111.2	97.3	103.5
April-June	104.8	112.9	97.0	104.5
July-September	105.8	113.8	96.8	104.2
October-December	106.4	114.3	96.4	103.6
1984:				
January-March	107.5	116.2	95.1	102.8
April-June	108.2	117.6	92.3	100.3
July-September	107.9	118.3	90.8	99.5
October-December	107.7	118.6	90.5	99.7
1985:				
January-March	107.5	119.8	88.2	98.3
April-June	107.6	120.6	87.2	97.7
July-September	106.8	120.8	87.8	99.2

1/ Exchange rates expressed in U.S. dollars per unit of Canadian currency.

2/ Producer price indicators--intended to measure final product prices--are based on average quarterly indexes presented in line 63 of the International Financial Statistics.

3/ The real value of a currency is the nominal value adjusted for the difference between inflation rates as measured here by the Producer Price Index in the United States and in Canada. Producer prices in the United States increased by 6.8 percent during January 1981 through September 1985, compared with a 20.8-percent increase in Canada during the same period.

Source: International Monetary Fund, International Financial Statistics, April and December 1985.

Efforts by U.S. Producers To Compete With Imports

In their responses to the Commission's questionnaire, many U.S. producers of wood shakes and/or shingles identified actions that they have taken since 1980 in an effort to become more competitive with imports. A few producers indicated that no such efforts have been made, stating that their equipment was adequate, but the cost of cedar (their raw material) too high for them to be competitive.

Most of the competitive efforts reported were intended to either lower costs through increased productivity, or lower costs directly. Productivity was improved through the purchase of new sawing equipment (including automatic sawing equipment for some firms), splitters, stackers, and drying kilns. Several firms added or upgraded chipping facilities so that waste from the sawing operation could be sold as fuel. One firm purchased retorts in 1984 for * * that enabled the production (and sale) of cedar oil (a fungicide).

Direct cost savings were accomplished by lowering wages and/or reducing employee benefits, laying off employees, and shutting down mills for periods of time. One firm entered into a wood-sharing agreement with another mill in an attempt to lower raw material costs.

Other cited efforts for competing included lowering prices, stressing product quality in marketing, offering a premium-quality 3/4-inch shake that is not imported, purchasing lower grade logs, and marking each bundle with "Made in America."

Adjustments To Be Made by U.S. Producers To Compete With Imports During a Period of Import Relief

Most firms responding to the Commission's questionnaire either stated that they had no adjustment plans, or left the question unanswered. Twelve of the 32 firms that answered the question indicated that they did have an adjustment plan. Those plans typically involved the purchase of equipment that would improve productivity (for example, automatic saws and drying kilns) or diversify operations into new products (resawn shakes, fuel, lumber, and so forth). Some firms said they would reopen closed facilities, replace laid off employees, and start second-shift operations.

The Commission also asked in its questionnaire if the collective effect of all adjustments that firms planned to make during the period of import relief would enable successful competition with imports after the relief expired. Of the 12 firms reporting adjustment plans, 7 stated that they thought those adjustments would make them competitive with imports, but the other 5 expressed doubts. One firm stated that there would need to be an improvement in U.S./Canadian exchange rates before they would be competitive. Others offering comments indicated that they had serious concerns about the viability of their operations as long as Canadian producers had access to

lower cost cedar logs than are available in the United States. A typical response was as follows:

> . . . it is not technology that we are behind on, nor is it manufacturing efficiently, nor lack of sales expertise, nor lack of markets to which we have access, nor lack of capital, nor diversification, nor expansion, etc. We've competed in the past, and with subsidies removed, we can compete now, or in the future.

APPENDIX A

THE COMMISSION'S NOTICE OF INVESTIGATION AND CALENDAR OF PUBLIC HEARING

[Investigation No. TA-201-56]

Wood Shingles and Shakes

AGENCY: International Trade Commission.

ACTION: Institution of an investigation under section 201 of the Trade Act of 1974 (19 U.S.C. 2251) and scheduling of a hearing to be held in connection with the investigation.

SUMMARY: Following receipt of a petition on September 25, 1985, on behalf of domestic wood shingle and shake producers, the United States International Trade Commission instituted investigation No. TA-201-56 under section 201 of the Trade Act of 1974 to determine whether wood shingles and shakes, provided for in item 200.85 of the Tariff Schedules of the United States, are being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing an article like or directly competitive with the imported article. The Commission will make its determination in this investigation by March 25, 1986 (see section 201(d)(2) of the act (19 U.S.C. 2251(d)(2))).

For further information concerning the conduct of this investigation, hearing procedures, and rules of general application, consult the Commission's Rules of Practice and Procedure, part 206, subparts A and B (19 CFR 206), and part 201, subparts A through E (19 CFR part 201).

EFFECTIVE DATE: September 25, 1985.

FOR FURTHER INFORMATION CONTACT: Tom Westcot (202-724-0095), U.S. International Trade Commission, 701 E Street NW., Washington, DC 20436. Hearing-impaired individuals are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on 202-724-0002.

SUPPLEMENTARY INFORMATION:

Participation in the investigation. Persons wishing to participate in the investigation as parties must file an entry of appearance with the Secretary to the Commission, as provided in § 201.11 of the Commission's rules (19 CFR 201.11), not later than twenty-one (21) days after publication of this notice in the **Federal Register**. Any entry of appearance filed after this date will be referred to the Chairwoman, who will determine whether to accept the late entry for good cause shown by the person desiring to file the entry.

Service list—Pursuant to § 201.11(d) of the Commission's rules (19 CFR 201.11(d)), the Secretary will prepare a service list containing the names and addresses of all persons, or their representatives, who are parties to this investigation upon the expiration of the period for filing entries of appearance. In accordance with § 201.16(c) of the rules (19 CFR 201.16(c)), each document filed by a party to the investigation must be served on all other parties to the investigation (as identified by the service list), and a certificate of service must accompany the document. The Secretary will not accept a document for filing without a certificate of service.

Hearing. The Commission will hold a hearing in connection with this investigation beginning at 10:00 a.m. on January 9, 1986, in room 331 of the U.S. International Trade Commission Building, 701 E Street NW., Washington, DC. Requests to appear at the hearing should be filed in writing with the Secretary to the Commission not later than the close of business (5:15 p.m.) on December 30, 1985. All persons desiring to appear at the hearing and make oral presentations should file prehearing briefs and attend a prehearing conference to be held at 10:00 a.m. on January 3, 1986, in room 117 of the U.S. International Trade Commission Building. The deadline for filing prehearing briefs is January 3, 1986. Posthearing briefs must be submitted not later than the close of business on January 17, 1986. Confidential material should be filed in accordance with the procedures described below.

Parties are encouraged to limit their testimony at the hearing to a nonconfidential summary and analysis of material contained in prehearing briefs and to information not available at the time the prehearing brief was submitted. Any written materials

submitted at the hearing must be filed in accordance with the procedures described below and any confidential materials must be submitted at least three (3) working days prior to the hearing (see § 201.6(b)(2) of the Commission's rules (19 CFR 201.6(b)(2))).

Written submissions. As mentioned, parties to this investigation may file prehearing and posthearing briefs by the dates shown above. In addition, any person who has not entered an appearance as a party to the investigation may submit a written statement of information pertinent to the subject of the investigation on or before January 17, 1986. A signed original and fourteen (14) copies of each submission must be filed with the Secretary to the Commission in accordance with § 201.8 of the Commission's rules (19 CFR 201.8). All written submissions except for confidential business data will be available for public inspection during regular business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary to the Commission.

Any business information for which confidential treatment is desired shall be submitted separately. The envelope and all pages of such submissions must be clearly labeled "Confidential Business Information." Confidential submissions and requests for confidential treatment must conform with the requirements of § 201.6 of the Commission's rules (19 CFR 201.6).

Remedy. In the event that the Commission makes an affirmative injury determination in this investigation, remedy briefs will be due to the Secretary no later than the close of business on March 4, 1986, and must conform with the requirements of § 201.6 of the Commission's rules. Parties are reminded that no separate hearing on the issue of remedy will be held. Those parties wishing to present oral arguments on the issue of remedy may do so at the hearing scheduled for January 9, 1986.

Authority

This investigation is being conducted under the authority of section 201 of the Trade Act of 1974. This notice is published pursuant to § 201.10 of the Commission's rules (19 CFR 201.10).

Issued: October 17, 1985.

By order of the Commission.

Kenneth R. Mason,

Secretary.

FR Doc. 85-25283 Filed 10-22-85; 8:45 am]

BILLING CODE 7020-02-M

CALENDAR OF PUBLIC HEARING

Those listed appeared as witnesses at the United States International Trade Commission's hearing:

Subject : Wood Shingles and Shakes

Inv. No. : TA-201-56

Date and time: January 9, 1986 - 10:00 a.m.

Sessions were held in the Hearing Room of the United States International Trade Commission, 701 E Street, N.W., in Washington.

Congressional appearance:

Honorable Al Swift, United States Representative, State of Washington

IN SUPPORT OF THE PETITION:

Northwest Independent Forest Manufacturers, an association of shake and shingle manufacturers, sawmills, plywood plants and veneer plants
Tacoma, Washington

M. J. "Gus" Kuehne, Executive Vice President of Northwest Independent Forest Manufacturers

Dean Hurn, President of Sol Duc Shake Company, a manufacturer of western red cedar shakes and shingles

Stewart Ferguson, owner of Aloha Shake Co., Inc., a manufacturer of red cedar shakes and shingles

Ray Drake, Owner, Superior Shake

Bruce Miller, Jr., Vice President of Miller Shingle Company, a manufacturer of western red cedar shakes and shingles

Stanley Dennison, Georgia Pacific Corporation

IN OPPOSITION TO THE PETITION:

Arnold & Porter--Counsel
Washington, D.C.
on behalf of

The Canadian respondents including members of the Council of Forest Industries of British Columbia, the Quebec Lumber Manufacturers Association, Maibec Industries, The Canadian Forest Industries Council, Clayton Cedar Products, Ltd., Anglo-American Cedar Products, Ltd., Evergreen Cedar Products, Ltd., Canadian International Cedar Corp., Rainbow Cedar Products, Ltd., and Ocean Cedar Products, Ltd.

Jack MacMillan, Canadian Forest Products Ltd.

Wesley Rickard, Wesley Rickard, Inc.

David Jendro, Wesley Rickard, Inc.

Tom Faris, Olympic Cascade Corporation (appearing in his individual capacity)

Phil Gilbert, Council of Forest Industries of British Columbia

Alan O. Sykes)
Claire E. Reade) --OF COUNSEL

APPENDIX B

GRADING RULES FOR RED CEDAR SHAKES AND SHINGLES AND WHITE CEDAR SHINGLES

GRADING RULES

FOR CERTIGRADE RED CEDAR SHINGLES

16-inch 5/2" Fivex (XXXXX)—18-inch 5/2¼" (Perfections)—24-inch 4/2" (Royals,

RANDOM WIDTH SHINGLES

No. 1 Blue Label Grade

General: No. 1 grade shingles must be edge-grain, clear and contain no sapwood. Shingles must be reasonably uniform in thickness, well manufactured, and butts and one face must be reasonably smooth. Color of wood is not a grade characteristic. Shingles are to be graded from their best face, but blind rot defects not permitted. Shingles must possess parallel sides within a tolerance of ¼". Bolter edges are permitted if sufficiently parallel. Cross grain is a defect when it runs from one face of the shingle to the other within a longitudinal distance of 3" or less in any portion within 6" from the butt. Diagonal grain is a defect when the grain diverges or slants 2" or more in 12" of length measured from the butt.

Width: Maximum width shall be 14". Minimum width of 16-inch and 18-inch shingles shall be 3", with not more than 10% of the running inches (combined widths) in any bundles less than 4" in width. Minimum width of 24-inch shingles shall be 4".

Length: Length shall not exceed 1" more, or ¼" less, than nominal lengths, except a minus tolerance of 1" below nominal is permitted in 10% of the running inches in the bundle.

Thickness: Bundles of 16-inch, 18-inch and 24-inch shingles must measure 8", 8⅛" and 6½"-7", respectively, across butts when green, with a minus tolerance of 3% of the bundle thickness when dry.

Packing: Shingles shall be packed so that a square will cover 100 sq. ft. of area when laid at the standard weather exposure (5", 5½" and 7½" for 16-inch, 18-inch and 24-inch shingles, respectively). 16-inch, 18-inch and 24-inch shingles normally are packed 20/20, 18/18 and 13/14 courses to the bundle, respectively, 4 bundles per square, but alternate methods of packing are permitted provided adequate per-square coverage is achieved. For number of running inches per square when green and dry, see chart.

Red Label Grade

The 16-inch, 18-inch and 24-inch shingles of Red Label grade must be 10", 11", and 16" clear or better, respectively. Up to 1" of sapwood is permitted for the first 10" above the butt; above 10" the amount of sapwood is not limited. Short shingles, including shims and feather tips, not less than 15", 16" and 20" long permitted in 16-inch, 18-inch and 24-inch shingles, respectively. No shingles shall be wider than 14" or narrower than 3". Not more than 20% of the running inches in any bundle shall be less than 4" wide. Defects may consist of knots or knot holes up to 3" in diameter, small rot pockets or worm holes. When knots are cut on an angle, diameter is determined by measuring the narrow way. Aggregate defects must not exceed one-half the width of the shingle. Shingles are to be graded from their best face, but blind defects containing rot not permitted below the clear line. Color of wood is not a grade characteristic. Badly cross-grained shingles not permitted. A tolerance of ¼" in edge parallelism is permitted in 16-inch and 18-inch shingles, and ⅜" in 24-inch shingles. Bolter edges permitted if sufficiently parallel. The same packing and bundle thickness requirements applicable as for No. 1 grades.

No. 3 Black Label Grade

The 16-inch and 18-inch shingles of this grade must be 6" clear or better, and the 24-inch shingles must be 10" clear or better. Sapwood is permitted without limit. Short shingles, including shims and feather tips, not less than 14", 16" and 18" long permitted in 16-inch, 18-inch and 24-inch shingles, respectively. Maximum width is 14" and minimum width is 3", except that minimum width of 16-inch shingles of this grade is 2½". Not more than 30% of the running inches in any bundle shall be less than 4" wide. Defects may consist of knots or knot holes up to 3" diameter, small rot pockets or worm holes. Diameter of knots is determined by measuring the narrow way. Aggregate defects must not exceed two-thirds the width of the shingle. Shingles are to be graded from their best face, but blind defects containing rot not permitted below the clear line. Color of wood is not a grade characteristic. A tolerance of ⅜" in edge parallelism is permitted. Bolter edges permitted if sufficiently parallel. Badly cross-grained shingles not permitted. Bundles of 16-inch, 18-inch and 24-inch shingles must measure 7¾", 7⅞" and 6¼"-6¾", respectively, across butts when green, with a minus tolerance of 3% when dry. The same packing requirements applicable as for No. 1 and Red Label grades.

Undercoursing Grade

Defects may occur throughout area of shingle. Butt edges must be sound, and no knots or knot holes permitted on butt corners if such defects materially weaken the butt. No shingles shall be wider than 17" or narrower than 2½". Shims and feather tips not less than 14" long permitted in 16-inch and 18-inch shingles of this grade. Both edges of each shingle must be trimmed.

Special Undercoursing Grade

Same grade requirements as Undercoursing Grade, except that each bundle also is to contain the machine production of No. 3 grade shingles.

DIMENSION SHINGLES

No. 1 24" × 6" — 4/2" Dimensions: Packed 3 shingles per course, 14/14 courses per bundle, net count 84 pieces. 4 bundles to the roofing square based on 7½" exposure; 3 bundles to the sidewall square based on 10" exposure.

No. 1 18" × 5" — 5/2¼" Dimensions: Packed 4 shingles per course, 16/16 courses per bundle, with 8 additional cross shingles, net count 136 pieces. 4 bundles to the square, based on 5½" exposure.

No. 1 18" × 6" — 5/2¼" Dimensions: Packed 3 shingles per course, 17/18 courses per bundle, with 8 additional cross shingles, net count 113 pieces. 4 bundles to the square, based on 5½" exposure.

No. 1 16" × 5" — 5/2" Dimensions: Packed 4 shingles per course, 18/18 courses per bundle, with 8 additional cross shingles, net count 152 pieces. 4 bundles to the square, based on 5" exposure.

No. 1 16" × 6" — 5/2" Dimensions: Packed 3 shingles per course, 19/20 courses per bundle, with 8 additional cross shingles, net count 125 pieces. 4 bundles to the square, based on 5" exposure.

Red Label 16" × 5" — 5/2" Dimensions: Packed 4 shingles per course, 18/18 courses per bundle, with 8 additional cross shingles, net count 152 pieces. 4 bundles to the square, based on 5" exposure.

Red Label 16" × 6" — 5/2" Dimensions: Packed 3 shingles per course, 19/20 courses per bundle, with 8 additional cross shingles, net count 125 pieces. 4 bundles to the square, based on 5" exposure.

Reinspection — In case of reinspection, 10 or more bundles selected at random shall constitute an adequate sampling of the shipment. Shingles shall be adjudged off-grade if lineal inches of defective shingles exceed 4% of total.

Summary of Sizes, Packing and Running Inches

GRADES	Shingle Thicknesses (Green)	Approximate Bundle Thickness, Inches		No. of Courses per Bundle	Number Running Inches Per 4-Bundle Square	
		Green	Dry		Green	Dry
No. 1—24" (Royals)	4 Butts = 2"	6½/7	6½/6¾	13/14	1998	1920
No. 1—18" (Perfections)	5 Butts = 2¼"	8⅛	7⅞	18/18	2664	2620
No. 1—16" (Fivex 5X)	5 Butts = 2"	8	7¾	20/20	2960	2880
Red Label—24" (16" Clear)	4 Butts = 2"	6½/7	6½/6¾	13/14	1998	1920
Red Label—18" (11" Clear)	5 Butts = 2¼"	8⅛	7⅞	18/18	2664	2620
Red Label—16" (10" Clear)	5 Butts = 2"	8	7¾	20/20	2960	2880
No. 3—24" (10" Clear)	4 Butts = 2"	6¾/6¾	6/6½	13/14	1998	1920
No. 3—18" (6" Clear)	5 Butts = 2¼"	7⅛	7⅛	18/18	2664	2620
No. 3—16" (6" Clear)	5 Butts = 2"	7¾	7½	20/20	2960	2880

RED CEDAR SHINGLE & HANDSPLIT SHAKE BUREAU
Suite 275, 515 - 116th Ave. N.E., Bellevue, WA 98004
(206) 453-1323
(In Canada, #1500 - 1055 W. Hastings St., Vancouver, B.C. V6E 2H1)

GRADING RULES

. for Certi-Split Red Cedar Shakes

HANDSPLIT-AND-RESAWN SHAKES have split faces and sawn backs, and are produced by running cedar blanks or boards of proper thickness diagonally through a bandsaw to produce two tapered shakes from each blank.

TAPERSPLIT SHAKES are produced mainly by hand, using a sharp-bladed steel froe and a wooden mallet. A natural shingle-like taper, from butt to tip, is achieved by reversing the block, end-for-end, with each split.

STRAIGHT-SPLIT SHAKES are split in the same manner as tapersplit shakes, except that the splitting is done from one end of the block only, producing shakes which are the same thickness throughout.

1. Shakes shall be one hundred per cent (100%) clear, graded from the split face in the case of handsplit-and-resawn shakes and from the best face in the case of tapersplit and straight-split shakes.

   Shakes shall be one hundred per cent (100%) heartwood, except that not to exceed one-eighth inch (⅛") of sapwood is permitted on one edge.

   Tapersplit shakes and straight-split shakes shall be one hundred per cent (100%) edge-grain; handsplit-and-resawn shakes may include not to exceed twenty per cent (20%) of flat grain in the lineal inches of any bundle.

2. Curvatures in the sawed face of handsplit-and-resawn shakes shall not exceed one inch (1") from a level plane in the length of the shake. Excessive grain sweeps on the split face shall not be permitted.

3. (a) *Length.* Nominal shake lengths shall be eighteen inches (18") and twenty-four inches (24"), within a minus tolerance of one-half inch (½"). A reduction, including shims or feathertips, of one (1") below these nominal lengths shall be permitted in five per cent (5%) of the lineal inches of shakes in any bundle. The fifteen-inch (15") starter-finish course grade shall permit a tolerance of one inch (1") over and under the nominal fifteen-inch (15") length. Maximum Lengths of 24" and 18" shakes shall be 26" and 20" respectively.

   (b) *Thickness.* Shake thickness shall be determined by measurement of the area within one-half inch (½") from each edge. If corrugations or valleys exceed one-half inch (½") in depth, a minus tolerance of one-eighth inch (⅛") is permitted in the minimum specified thickness. The 24" × ⅜" handsplit shake shall permit a minus tolerance of one-eighth inch (⅛") in not to exceed one-half (½) the width of each shake.

   (c) *Width.* Shakes shall be of random width, none narrower than four inches (4"). Handsplit-and-resawn shakes shall have a maximum width of fourteen inches (14").

   (d) *Edges.* Edges of shakes shall be parallel within one inch (1").

4. True-Edge grade of 18" × ⅜" straight-split shakes shall have an edge parallelism tolerance of one-fourth inch (¼"), lengths shall not be less than 17¼" or more than 18½", and corrugations shall not exceed three-eighths inch (⅜").

5. In case of reinspection, ten (10) bundles or more selected at random shall constitute an adequate sampling of the shipment. Shakes shall be adjudged off-grade if lineal inches of defective shakes exceed seven per cent (7%) of total.

RED CEDAR SHINGLE & HANDSPLIT SHAKE BUREAU
Suite 275, 515 - 116th Ave. N.E., Bellevue, WA 98004
(206) 453-1323
(In Canada, #1500 - 1055 W. Hastings St., Vancouver, B.C. V6E 2H1)

HANDSPLIT SHAKES — SUMMARY OF SIZES, PACKING REGULATIONS AND COVERAGE (m)

Shake Type, Length and Thickness	No. of Courses per Bundle	No. of Bundles per Square	Approximate coverage (in sq. ft.) of one square, when shakes are applied with ½" spacing, at following weather exposures (in inches):								
			5½	6½	7	7½	8½	10	11½	14	16
18" x ½" Medium Resawn	9/9 (a)	5 (b)	55(c)	65	70	75(d)	85(e)	100(f)			
18" x 3/4" Heavy Resawn	9/9 (a)	5 (b)	55(c)	65	70	75(d)	85(e)	100(f)			
24" x 3/8" Handsplit	9/9 (a)	5		65	70	75(g)	85	100(h)	115(i)		
24" x ½" Medium Resawn	9/9 (a)	5		65	70	75(c)	85	100 (j)	115(i)		
24" x 3/4" Heavy Resawn	9/9 (a)	5		65	70	75(c)	85	100 (j)	115(i)		
24" x ½" Tapersplit	9/9 (a)	5		65	70	75(c)	85	100 (j)	115(i)		
18" x 3/8" True-Edge Straight-Split	14 (k) Straight	4								100	112(l)
18" x 3/8" Straight-Split	19 (k) Straight	5	65(c)	75	80	90 (j)	100(i)				
24" x 3/8" Straight-Split	16 (k) Straight	5		65	70	75(c)	85	100 (j)	115(i)		
15" Starter-Finish Course	9/9 (a)	5	Use supplementary with shakes applied not over 10" weather exposure.								

(a) Packed in 18" wide frames.

(b) 5 bundles will cover 100 sq. ft. roof area when used as starter-finish course at 10" weather exposure, 6 bundles will cover 100 sq. ft. wall area when used at 8½" weather exposure, 7 bundles will cover 100 sq. ft. roof area when used at 7½" weather exposure; see footnote (m)

(c) Maximum recommended weather exposure for three-ply roof construction.

(d) Maximum recommended weather exposure for two-ply roof construction; 7 bundles will cover 100 sq. ft. roof area when applied at

(e) Maximum recommended weather exposure for sidewall construction; 6 bundles will cover 100 sq. ft. when applied at 8½" weather exposure; see footnote (m).

(f) Maximum recommended weather exposure for starter-finish course application; 5 bundles will cover 100 sq. ft. when applied at 10" weather exposure; see footnote (m).

(g) Maximum recommended weather exposure for application on roof pitches between 4-in-12 and 8-in-12.

(h) Maximum recommended weather exposure for application on roof pitches of 8-in-12 and steeper.

(i) Maximum recommended weather exposure for single-coursed wall construction.

(j) Maximum recommended weather exposure for two-ply roof construction.

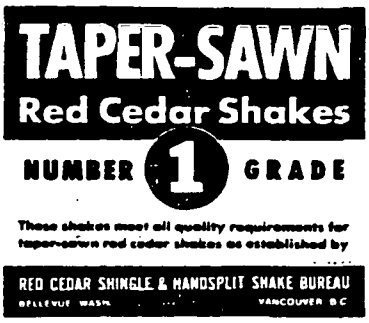
(k) Packed in 20" wide frames.

(l) Maximum recommended weather exposure for double-coursed wall construction.

(m) All coverage based on ½" spacing between

GRADING RULES for TAPER-SAWN RED CEDAR SHAKES

No. 1 TAPER-SAWN SHAKES



Blue Label

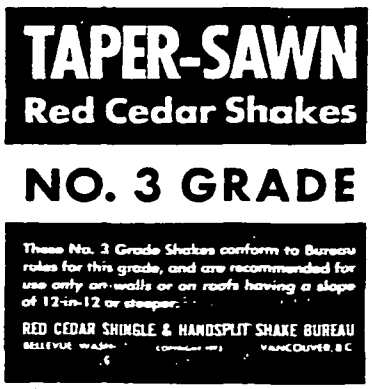
1. Shakes shall be 100% clear graded from the best face. Not to exceed 1/8th-inch of sapwood permitted on one edge.
2. Lengths shall be nominally 24-inch, 18-inch and 15-inch, within a minus tolerance of ½-inch and a plus tolerance of 2 inches. A variation, including shims or feather-tips, of 1-inch below the nominal lengths permitted in 5% of lineal inches of shakes per bundle.
3. Minimum width shall be 4 inches.
4. Thickness shall be 5/8ths-inch with a minus tolerance of 1/8th-inch permitted in not to exceed 10% of lineal inches of shakes per bundle. Maximum thickness shall be 1-inch.
5. Edges shall be parallel within ½-inch.
6. Shakes may include not to exceed 10% of flat-grain in the lineal inches of any bundle.
7. Cross grain is a defect when it runs from one face of the shake to the other within a longitudinal distance of 3 inches or less in any portion within 10 inches or 7½ inches from the butt of 24-inch and 18-inch shakes, respectively.

No. 2 TAPER-SAWN SHAKES

Red Label

1. Shakes shall be of sound and serviceable material, graded from the best face.
2. Shakes shall be edge or flat grain. Sapwood permitted without limit on one side of shake; opposite side shall conform with No. 1 grade.
3. 24-inch shakes shall be 12 inches clear, 18-inch shakes 9 inches clear, and 15-inch shakes 7½ inches clear, with tight knots and worm holes not larger than ½-inch in their larger dimension permitted in top half of shake. Cross grain permitted.
4. Thickness shall be not less than ½-inch nor more than 1¼-inch.
5. Minimum length of 24-inch, 18-inch and 15-inch shakes shall be 22 inches, 16 inches and 14 inches, respectively.
6. Minimum width shall be 3 inches. Edges shall be parallel within 1-inch.
7. Rules for No. 1 grade shall apply in all other respects.

No. 3 TAPER-SAWN SHAKES



Black Label

1. Shakes shall have no holes or bark which extend from face to back of shake in lower half, except that worm holes not larger than ½-inch permitted throughout.
2. No loose knots permitted in lower half of shakes.
3. Sapwood permitted without limit.
4. Minimum lengths of 24-inch, 18-inch and 15-inch shakes shall be 20 inches, 15 inches and 12 inches, respectively, with no restrictions as to maximum lengths.
5. Rules for No. 2 grade shall apply in all other respects.

IMPORTANT See other side for Application Recommendations

RED CEDAR SHINGLE & HANDSPLIT SHAKE BUREAU
515 116th Ave. N.E., Suite 275, Bellevue, WA 98004
(In Canada - 1055 W. Hastings St., Vancouver, B.C.)

Printed in USA

Rev 5/81

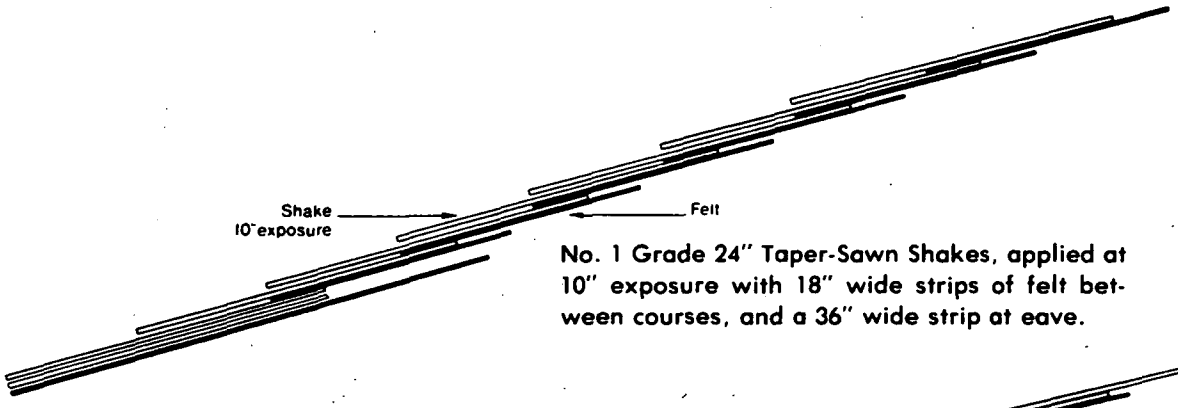
APPLICATION RECOMMENDATIONS TAPER-SAWN RED CEDAR SHAKES

No. 1 Taper-Sawn Shakes: 24-inch shakes are to be applied with maximum roof weather exposure of 10", and 18-inch shakes of 7½". Minimum roof pitch of 4-in-12. Courses to be interlaid with 18-inch wide strips of Type 15 minimum felt, the bottom edge of each strip to be positioned above the butt line of the course it covers a distance equal to twice the weather exposure being used. On walls, maximum weather exposure to be 11½" and 8½" for 24-inch and 18-inch shakes, respectively.

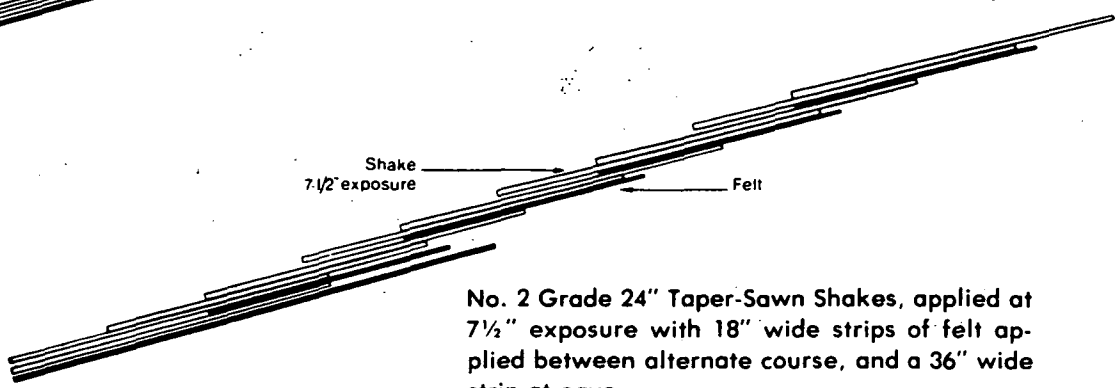
No. 2 Taper-Sawn Shakes: 24-inch shakes are to be applied on roofs with maximum roof weather exposure of 7½", except 10" exposure permissible for hips and ridges. Every other course to be interlaid with 18-inch wide strips of Type 15 minimum felt, the bottom edge of each strip to be positioned above the butt line of the course it covers a distance equal to twice the weather exposure being used. 18-inch shakes to be applied on roofs with maximum exposure of 5½", or 7½" on hips and ridges.

No. 3 Taper-Sawn Shakes: Recommended for use only on walls or on roofs 12-in-12 or steeper. 24-inch shakes to be applied with maximum roof weather exposure of 7½", and 18-inch shakes of 5½". Other recommendations same as for No. 2 grade.

See Sketches Below for roof cross-section detail showing positioning of felt paper between courses for No. 1 and No. 2 grade applications described above.



No. 1 Grade 24" Taper-Sawn Shakes, applied at 10" exposure with 18" wide strips of felt between courses, and a 36" wide strip at eave.



No. 2 Grade 24" Taper-Sawn Shakes, applied at 7½" exposure with 18" wide strips of felt applied between alternate course, and a 36" wide strip at eave.

GRADING RULES
FOR CERTIGRADE SHINGLE
HIP-&-RIDGE UNITS

1. **Shingle hip-&-ridge units shall be either 7 inches or 8 inches minimum nominal size, measured over the top at the butt end. Units more than 1/8″ narrower than these nominal sizes not permitted.**
2. **Butt misalignment of shingle pairs in excess of 1/8″ not permitted.**
3. **On the outer edges of the units, top corners shall be not more than 90-degree angle.**
4. **The bevel cut of the narrow piece shall be not less than one-half the normal full bevel cut.**
5. **Fasteners shall be rust-resistant, not less than .103″ wide, .020″ thick, and 7/16″ crown width.**
6. **Units shall be joined with not less than two fasteners, applied not less than 2 inches apart.**
7. **Sixteen-inch shingle units shall be packed 20/20 per bundle, eighteen-inch shingle units 18/18 per bundle.**

RED CEDAR SHINGLE & HANDSPLIT SHAKE BUREAU

Suite 275, 515 - 116th Ave. N.E., Bellevue, WA 98004
(206) 453-1323
(In Canada, #1500 - 1055 W. Hastings St., Vancouver, B.C. V6E 2H1)

100% Edge-grain 100% All Clear 100% Heartwood

THESE SHINGLES MEET ALL THE QUALITY REQUIREMENTS OF COMMERCIAL STANDARD C. S. 31-52 FOR RED CEDAR SHINGLES AS ISSUED BY U. S. DEPARTMENT OF COMMERCE, WASHINGTON, D. C.

THIS LABEL IS TO DESIGNATE A MIXED-GRAIN SHINGLE WHICH MEETS ALL QUALITY REQUIREMENTS OF RED LABEL GRADE SHINGLES AS SHOWN IN CURRENT GRADING AND PACKING RULES

GRADING RULES

NUMBER ONE GRADE CERTIGROOVE MACHINE-GROOVED SHAKES

NUMBER ONE GRADE CERTIGRADE REBUTTED-REJOINTED SHINGLES

(These grading rules conform with the specifications of Commercial Standard 199-55 as issued by the U. S. Department of Commerce.)

1 Grading of machine-grooved shakes and rebutted-rejointed shingles shall be governed by the grading rules for No. 1 grade shingles based on Commercial Standard CS31-52. Only shakes and rebutted-rejointed shingles produced from these No. 1 grade shingles shall be recognized as No. 1 grade.

2 All machine-grooved shakes and rebutted-rejointed shingles shall have parallel edges at right angles to the butts, within a tolerance of 1/16th-inch, except that a maximum of 3 per cent of the total lineal inches in a shipment may have a tolerance up to 1/8th-inch within the length of the shake or shingle.

3 Minimum length of machine-grooved shakes and rebutted-rejointed shingles shall be 3/4-inch less than the published regular shingle length, except that a maximum of 10 per cent of the total lineal inches in a shipment may have a minus tolerance not to exceed 1-1/4 inches of the published regular shingle length.

4 Minimum width of machine-grooved shakes and rebutted-rejointed shingles shall be 3 inches, with not more than 10 per cent of the total lineal inches in a shipment to be 4 inches or less in width.

5 Machine-grooved shakes and rebutted-rejointed shingles shall be packed in frames of a minimum width of 19-1/2 inches. Shakes shall be bundled or cartoned in units of sidewall squares, each square to cover 100 square feet of area at the prescribed standard weather exposure.

5 *(a)* Shakes manufactured from No. 1 grade 16-inch (XXXXX) shingles to be packed 2 bundles or cartons, 16/17 courses, per square—or a total of 66 courses per square. Each bundle or carton shall total not less than 600 lineal inches, or 1,200 lineal inches per square, based on 12-inch standard weather exposure.

5 *(b)* Shakes manufactured from No. 1 grade 18-inch (Perfection) shingles to be packed 2 bundles or cartons, 14/14 courses, per square—or a total of 56 courses per square. Each bundle or carton shall total not less than 515 lineal inches, or 1,030 lineal inches per square, based on 14-inch standard weather exposure.

5 *(c)* Shakes manufactured from No. 1 grade 24-inch (Royal) shingles to be packed 2 bundles or cartons, 12/12 courses, per square—or a total of 48 courses per square. Each bundle or carton shall total not less than 437 lineal inches, or 874 lineal inches per square, based on 16-1/2-inch standard weather exposure.

5 *(d)* Packaging of rebutted-rejointed shingles shall be optional—either in conventional roof-pack squares or in sidewall-pack squares as set forth in paragraphs *(a)*, *(b)* and *(c)*, above.

6 The maximum weight of machine-grooved shakes and rebutted-rejointed shingles per sidewall square shall be as follows:

	Weight (Unstained) (Pounds)
No. 1 16-inch (XXXXX)	60
No. 1 18-inch (Perfections)	60
No. 1 24-inch (Royals)	85

7 Machine-grooved shakes shall be well manufactured, with smooth, reasonably clean-cut grooves which shall run parallel to the edges and which shall be uniform for the full exposed length of the shake. Shakes shall be free from chipped butts and grooving skips.

8 In case of re-inspection of machine-grooved shakes and rebutted-rejointed shingles, a minimum of any 10 bundles or cartons shall be selected at random as a representative sample of the shipment. The shipment is off-grade if more than 3 per cent of the total lineal inches of shakes or shingles are found to be defective in excess of the tolerances permitted in these grading rules.

Red Cedar Shingle & Handsplit Shake Bureau
Suite 275, 515-116th Ave. N.E., Bellevue, WA 98004
In Canada: 1055 West Hastings St., Vancouver, B.C. V6E 2H1

TITLE 30 MUNICIPALITIES AND COUNTIES

CHAPTER 220 COMMERCIAL STANDARD FOR MAINE WHITE-CEDAR SHINGLES

§ 3701. Purpose

The purpose of this chapter is to establish a standard method of testing, rating, labeling and certifying of Maine white-cedar shingles, and to provide a uniform base for fair competition.

§ 3702. Raw material

Shingles labeled under this chapter shall be sawn from wood of the tree, Thuja occidentalis L., Northern White-Cedar, also known as Eastern Arborvitae.

§ 3703. Maine commercial standard shingles

1. Maine commercial standard shingles. "Maine commercial standard shingles," MCST, shall mean northern white cedar shingles that are graded by producers authorized by the State Forestry Department to label northern white-cedar shingles under this chapter.

2. Application. The Maine commercial standard for northern white-cedar shingles shall apply only to those bundles of shingles which are imprinted as described under section 3710 of this chapter.

§ 3704. Grades

Five grades of shingles shall be used and the grade shall be detrmined from poorer face of a shingle. Not more than 5 shingles in a bundle may be below the grade designated on the bundle.

1. Extra. "Extra" means heartwood shingles which are completely clear with no defects or sapwood. No wane is permitted.

2. Clear. "Clear" means heartwood shingles which are clear of defects for 6 inches from the butt end. Sound red knots no wider than 1/3 the width of the shingle and unsound defects such as holes, black knots and slightly decayed knots not more than ¾ inch in diameter are permitted between 6 inches and 11 inches of the butt end. Above 11 inches from the butt end, any combination of defects is permitted which will not impair the use of the shingle. Sapwood is permitted above 11 inches from the butt end.

3. 2nd clear. "2nd clear" means heartwood shingles which may contain sound red knots no larger than a United States 50c piece for 6 inches from the butt end. No other defect is permitted for 6 inches from the butt end. Sound red knots up to ½ the width of the shingle are permitted between 6 inches and 11 inches of the butt end. Holes, black knots, decayed knots, rot pockets or streaks are permitted between 6 inches and 11 inches of the butt end if no more in width or length than ½ the width of the shingle. Sapwood is permitted above 6 inches from the butt end. Above 11 inches from the butt end any combination of defects is permitted which will not impair the use of the shingle. Wane is permitted above 6 inches from the butt end.

4. Clear wall. "Clear wall" means heartwood and sapwood shingles

which are clear of defects for 6 inches from the butt end. Sound red knots up to ½ the width of the shingle are permitted between 6 inches and 11 inches of the butt end. Holes, black knots, decayed knots, rot pockets or streaks shall be permitted between 6 inches and 11 inches of the butt end if no more in width or length than ½ the width of the shingle. Wane is permitted above 6 inches from the butt end. Above 11 inches from the butt end any combination of defects is permitted which will not impair the use of the shingle.

5. Utility. "Utility" means heartwood and sapwood shingles which may contain sound red knots and other small defects in the entire length of the shingle, but no holes, black knots, decayed knots, rot pockets or streaks shall be permitted within 4 inches of the butt end. Holes, black knots, decayed knots, rot pockets or streaks shall be permitted between 4 inches and 11 inches of the butt end if no more in width or length than ½ the width of the shingle. Wane is permitted above 4 inches from the butt end. Above 11 inches from the butt end any combination of defects is permitted which will not impair the use of the shingle.

§ 3705. Nomenclature and definitions

The following terms and definitions shall apply to the grading of Maine northern white-cedar shingles under this chapter.

1. Black knot. "Black knot" means a knot which results when a dead branch is surrounded by wood. It is generally black in color and it is not grown in its entirety into the surrounding wood.

2. Commercial standard. "Commercial standard" means that standard which is set up and established by authority as a rule for the measure of quantity, quality, weight, extent or value of a commodity.

3. Defects. "Defects" shall include holes, knots, rot pockets, rot streaks, wane, uneven feather tip, splits and checks, shake, stain and pith.

4. Even feather tip. "Even feather tip" means a condition of manufacture found on the thin ends of some shingles where the saw comes out of a piece prematurely, producing a thin, flimsy, feather-like edge which extends across the entire width of the shingle.

5. Rot and decay. "Rot and decay" means a disintegration of the wood which occurs through the action of wood-destroying fungi. Dote shall be deemed synonymous with rot and decay.

6. Sapwood. "Sapwood" means wood containing wood cells which were alive at the time the tree was cut in contrast to the inactive heartwood cells. Sapwood is distinguished from heartwood by its light color in contrast to the reddish to reddish-brown color of heartwood.

7. Shake. "Shake" means a lengthwise separation of the wood which usually occurs between and parallel to the growth rings. It is a defect.

8. Shingle. "Shingle" means a piece of sawn wood of various widths, with nearly parallel sides, which tapers so that the butt end is thicker than the other.

9. Sound red knot. "Sound red knot" means a knot which is solid

across its face, as hard as the surrounding wood, shows no sign of decay, and is in its entirety firmly grown into the wood.

10. Split or check. "Split or check" means a lengthwise separation of the wood usually occurring across the growth rings. A split or check over ½ inch in length at the butt end is a defect.

11. Uneven feather tip. "Uneven feather tip" means a condition similar to "even feather tip" except that the feather-like edge is coarse and irregular in outline across the width of the shingle. It is a defect.

12. Wane. "Wane" means bark or the lack of wood or bark on the edge of a shingle.

§ 3706. Dimension of shingles

All measurements for the standard established under this chapter shall be based upon green fresh sawn shingles.

1. Length. All shingles under this standard will have a minimum measurement of 16 inches in length with a tolerance of one inch allowed.

2. Width. The minimum width of the butt end of a shingle in the first 4 grades shall be 3½ inches and the maximum width shall be 12 inches. The minimum width of the butt end of a shingle in grade "utility" shall be 3 inches and the maximum width shall be 12 inches. In the first 4 grades, the tip ends of shingles shall be no wider than the butt ends, and the maximum difference in width shall not exceed ⅛ inch at 11 inches from the butt end.

3. Breadth. The butt end of shingles of the 5 grades when measured green shall be no less than 5/2 (5 shingles = 2 inches).

§ 3707. Dimension of bundles

A standard bundle of Maine northern white-cedar shingles shall contain 40 courses of shingles overlapping under the band stick with 20 courses on each side of the stick. When green, a bundle shall measure 22½ inches long with a tolerance of ½ inch; 20 inches wide with a tolerance of ½ inch; 8½ inches thick with a tolerance of ½ inch. The minimum lineal inches of butts in a course in a bundle shall be 18½ inches. When the shingles are air-dry, 12-15% moisture content, the minimum bundle thickness when bunched tightly shall be no less than 7¾ inches.

§ 3708. Sawing

All shingles of the higher 4 grades shall be sawed with sufficient care so as to yield reasonably smooth surfaces.

§ 3709. Area coverage

The shingles in a standard bundle, when laid 5 inches to the weather, shall cover 25 square feet. Four standard bundles shall equal one square and one square shall cover 100 square feet when the shingles are laid 5 inches to the weather.

§ 3710. Labeling

Maine northern white-cedar shingle producers ascribing to the stand-

ard established by this chapter shall be authorized to imprint on one or both ends of the shingle bundle the proper grade name for the quality of northern white-cedar shingles in the bundle. The grade name (EXTRA, CLEAR, 2ND CLEAR, CLEAR WALL, UTILITY) for the grade of shingle contained in the bundle shall be precisely as given in the standard under section 3704 and the name shall be imprinted in black letters one inch high, and also, below the grade designation shall be imprinted the letters, "MCST," in black, for Maine Commercial Standard in letters of a height equal to those used for the grade name. Following the designation "MCST" they shall imprint their registered mill number assigned to them by the State Forestry Department in numerals of equal height to the letters, "MCST." The numerals shall be separated from the letters, "MCST," by a hyphen.

Northern white-cedar shingles manufactured or purchased by a registered mill may be graded and the bundles imprinted with the proper grade designations: Maine Commercial Standard (MCST) and the registered mill number of the grading mill. The mill whose number is designated on the bundle shall be responsible for the accuracy of the grade designated on the bundle.

§ 3711. Registration

The privilege to use the MCST grades shall depend on proper mill registration with the State Forestry Department and the assignment by the Forest Commissioner of a MCST mill number to the shingle producer. The initial mill registration fee shall be $25 for each Maine shingle mill desiring to identify their shingles as being of the Maine Commercial Standard with the right given to imprint the letters, "MCST" on their bundles of northern white-cedar shingles, as well as their registered mill number. Subsequent annual registration fees shall be $10 for each calendar year payable to the State Forestry Department before January of that year. Registration fees shall be credited to the General Fund.

Those mills who wish to follow the grade names as given above in section 3704 may do so, but those who are unwilling to agree to the specifications of each grade as to measurements, tolerances, defects and definitions including dimensions of shingles and bundles shall not imprint either the letters, "MCST" or a registered mill number on the bundle, band, tie or on any label affixed to the bundle or shingle. Nor will such unwilling mill state, imply or infer that the shingles they are selling are Maine Commercial Standard (MCST) shingles in correspondence, publicity or solicitations.

§ 3712. Grading and reinspection

1. Inspection. The State Forestry Department may authorize the use of the standard and shall periodically verify the proper use of this standard by shingle manufacturers registered under this chapter.

2. Reinspection. Grade complaints, not reconciled by the parties concerned, shall be handled by the State Forestry Department and a reinspection shall be made when requested. Grade complaints shall be

recognized by the State for the purpose of reinspection when made by a producer, wholesaler, retailer or consumer, within 10 days of his receipt of MCST shingles. The expense of reinspection by the State Forestry Department when such request is initiated by either the buyer or seller shall be divided between the buyer and seller, or paid by either, according to their agreement.

§ 3713. Penalties and appeal

Penalties for misgrading or unauthorized use of MCST grades shall be as follows:

1. Replacement. The mill whose registered mill number appears on the bundle shall replace with bundles of the proper grade all bundles of shingles proven by reinspection to have been misgraded under this chapter.

2. Penalties for improper labeling or registration. Any person who violates section 3710 or 3711 shall be punished by a fine of not less than $25, nor more than $100 for the first offense, and by a fine of $200 for each subsequent offense. Fines after deduction of court costs shall be credited to the General Fund.

3. Revocation. The Forest Commissioner, after due notice and hearing, may revoke the registration granted to any registered mill for violation of sections 3710 and 3711 for a period not to exceed 2 years, after which time said mill may make application for reinstatement as a registered mill.

4. Appeal. Any person, firm or corporation aggrieved by a decision of the Forest Commissioner revoking a registration may, within 30 days after notice thereof from the Forest Commissioner, appeal therefrom to the Superior Court in any county where the appellant has a regular place of business, or if the appellant has no such place of business within the State, to the Superior Court in Kennebec County. The appellant shall, when such appeal is taken, file an affidavit stating his reasons for appeal and serve a copy thereof on the Forest Commissioner, and in the hearing of the appeal shall be confined to the reasons of appeal set forth in such affidavit. Jurisdiction is granted to the Superior Court to hear and determine such appeal and to enter such order and decrees as the nature of the case may require. The decision of said court upon all questions of fact shall be final. Decisions shall be certified to the Forest Commissioner.

White Cedar Shingles

Grading rules

	A	B	C	CLEAR WALL
AGGREGATE OF DEFECTS	none	1/3 width	1/2 width	2/3 width
SAPWOOD	none	3/4 inch at 10 inches from butt	1 1/2 inches at 6 inches from butt	no restriction
DECAY	none	none	streaks 1 sq. inch at 6 inches from butt	
COLORATION	Maximun 3/4 square inch at 12 inches from butt	no restriction up to 8 inches from butt	no restriction	no restriction
INGROWN BARK	none	1 square inch at 8 inches from butt	2 square inch at 6 inches from butt	
WANE	none	3/4 inch at 6 inches from butt		
SLOPE OF GRAIN	**Diagonal:** 1 in 6 at 10 inches from butt **Cross:** 3 inches long at 10 inches from butt	1 in 4 at 8 inches from butt 3 inch long at 8 inches from butt	1 in 3 at 6 inches from butt 2 inches long at 6 inches from butt	1 in 3 at 6 inches from 2 inches long at 6 from butt
MANUFACTURING DEFECTS	**Torn grain:** - 10% of running inches **Uneven ridges:** 10% of running inches **Even feather tip:** none	30% of running inches 30% of running inches permitted	no restriction no restriction permitted	no restriction no restriction permitted
KNOTS	none	**Sound:** 1/3 width at 6 inches from butt **Loose:** refer to Holes	**Sound:** all encased, black-max. 1 inch at 6 inches from butt **Loose:** refer to Holes	**Sound:** encased, black-maximum 1 inch at 6 from butt **Loose:** refer to Holes
WORM AND KNOT HOLES	none	1 inch diameter at 8 inches from butt	1 inch diameter at 6 inches from butt	1 inch diameter at 6 inches from butt

	SIZES	
LENGTH	16 inches + or - 1/4 inch	10% - 15 inches permitted
WIDTH	3 to 14 inches	2 to 14 inches
THICKNESS	not less than 3/8 inch at butt	
RUNNING INCHES	18 1/2 inch average per row with total length of 2960 inches per square	
BUNDLES	Each bundle consists of 20 rows of overlapping shingles on either side of a 19 1/2 inches long binder stick for a total of 40 rows. Each bundle measure 20 inches wide by 24 1/2 inches long by 8 1/2 inches high	

APPENDIX C

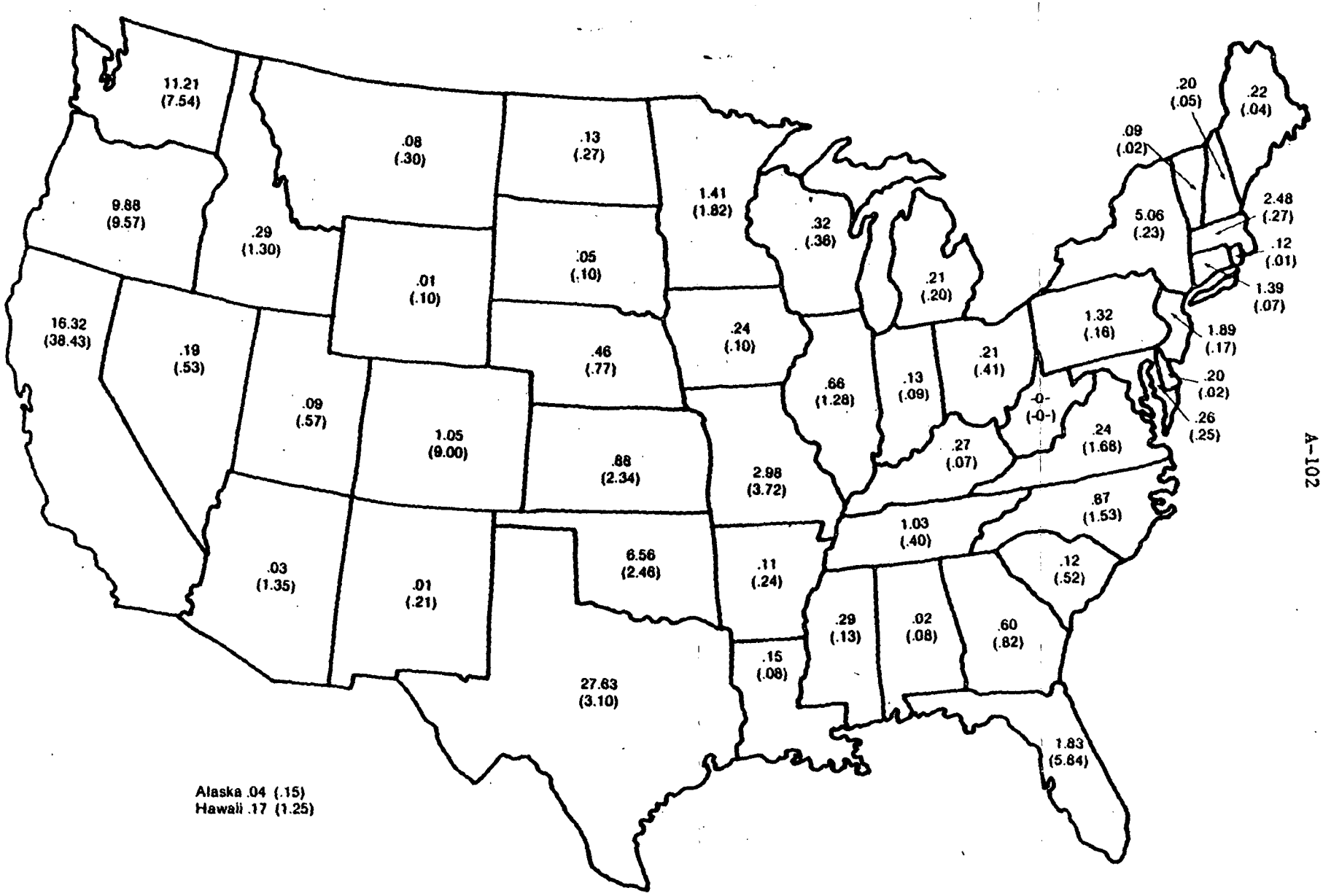
TSUS ITEM 200.85 AND HEADNOTES

TARIFF SCHEDULES OF THE UNITED STATES ANNOTATED (1986)

Item	Stat. Suf-fix	Articles	Units of Quantity	Rates of Duty		
				1	Special	2
		PART 1. - WOOD AND WOOD PRODUCTS				
		Part 1 headnotes:				
		1. For the purposes of subparts D, E, and F of this part, hardboard shall be deemed to be wood.				
		2. The effectiveness of the proviso to section 304(a)(3)(J) of the Tariff Act of 1930 (19 U.S.C. 1304(a)(3)(J)), to the extent permitted by that section and as provided for in Schedules XX to the General Agreement on Tariffs and Trade, is suspended, with the result that sawed lumber and sawed timbers however provided for, telephone, trolley, electric-light, and telegraph poles of wood, and bundles of shingles, other than redcedar shingles, shall not be required to be marked to indicate the country of origin.				
		Subpart A. - Rough and Primary Wood Products; Wood Waste				
		Subpart A headnotes:				
		1. The term "wood waste", as used in this subpart, means residual material other than firewood resulting from the processing of wood, including scraps, shavings, sawdust, veneer clippings, chipper rejects and similar small wood residues, and also larger or coarser solid types of residual wood such as slabs, edgings, cull pieces, and veneer log cores.				
		2. The provisions for wood products in items 200.60 (poles, piles, and posts), 200.65 (laths), 200.75 (fence pickets, palings, and rails), 200.80 (railroad ties), and 200.85 (shingles and shakes) cover such products whether or not they have been treated with creosote or other wood preservatives.				
200.85		Wood shingles and shakes	.....	Free		Free
	20	Red cedar	Square			
	40	Other	Square			

APPENDIX D

U.S. DISTRIBUTION OF RED CEDAR SHINGLES AND SHAKES, 1984



1984 DISTRIBUTION

(The first figure given for each state is that state's percentage of total national shipments of Certigrade Shingles; the second figure, in brackets, represents Certi-Split Shake percentages.)

APPENDIX E

EXCHANGE RATES USED TO CALCULATE THE VALUE OF CANADIAN IMPORTS AND EXPORTS

Exchange rates 1/ used to calculate the value of Canadian imports and exports

Period	Canadian currency	U.S. currency
1978	$1.1407	$1.00
1979	1.1714	1.00
1980	1.1693	1.00
1981	1.1989	1.00
1982	1.2337	1.00
1983	1.2324	1.00
1984	1.2951	1.00
January-September--		
1984	1.2873	1.00
1985	1.3597	2/ 1.00

1/ According to statistics of the International Monetary Fund.
2/ January-August.

APPENDIX F

SUPPLEMENTAL PRICE TABLES

Table F-1.--Nominal and deflated composite U.S. prices for western red cedar shakes and shingles and indexes of U.S. prices for lumber and building materials, by quarters, January 1970-December 1985

(January-March 1970=100)

Period	Composite shake and shingle price		Composite price of lumber and building materials	Deflated composite price of shakes and shingles
	Value	Index	Index	Index
	Per square			
1970:				
January-March	$15.52	100.00	100.00	100.00
April-June	16.03	103.30	100.27	103.02
July-September	16.59	106.90	101.22	105.61
October-December	16.04	103.37	102.21	101.14
1971:				
January-March	18.96	122.18	104.08	117.39
April-June	19.77	127.39	106.25	119.89
July-September	22.15	142.76	109.88	129.92
October-December	21.62	139.32	110.11	126.53
1972:				
January-March	23.44	151.07	111.82	135.10
April-June	24.80	159.79	112.85	141.59
July-September	29.21	188.23	115.68	162.72
October-December	34.38	221.56	117.24	188.98
1973:				
January-March	36.71	236.58	120.52	196.30
April-June	34.09	219.72	126.09	174.26
July-September	28.23	181.91	126.16	144.19
October-December	26.18	168.74	129.86	129.94
1974:				
January-March	26.99	173.90	130.82	132.94
April-June	28.86	186.00	134.78	138.00
July-September	28.96	186.64	135.55	137.69
October-December	28.41	183.10	135.43	135.20
1975:				
January-March	27.25	175.62	136.61	128.55
April-June	30.60	197.20	140.85	140.01
July-September	34.81	224.34	142.87	157.03
October-December	38.05	245.21	146.03	167.91
1976:				
January-March	41.96	270.42	151.26	178.78
April-June	40.53	261.18	152.71	171.03
July-September	43.64	281.25	156.41	179.82
October-December	45.77	294.93	160.98	183.21

Table continued on following page.

Table F-1.--Nominal and deflated composite U.S. prices for western red cedar shakes and shingles and indexes of U.S. prices for lumber and building materials, by quarters, January 1970-December 1985--Continued

(January-March 1970=100)

Period	Composite shake and shingle price		Composite price of lumber and building materials	Deflated composite price of shakes and shingles
	Value	Index	Index	Index
	Per square			
1977:				
January-March	$47.14	303.80	165.87	183.16
April-June	48.22	310.77	166.48	186.67
July-September	54.10	348.62	172.27	202.36
October-December	55.19	355.85	173.95	204.48
1978:				
January-March	54.63	352.08	175.74	200.34
April-June	51.77	333.60	179.98	185.35
July-September	51.96	334.85	183.87	182.11
October-December	53.86	347.12	188.41	184.24
1979:				
January-March	51.48	331.79	189.78	174.83
April-June	52.77	340.05	194.70	174.65
July-September	54.86	353.53	198.55	178.06
October-December	52.03	335.33	202.44	165.64
1980:				
January-March	47.92	308.84	206.67	149.43
April-June	44.82	288.85	211.94	136.29
July-September	49.93	321.74	217.12	148.18
October-December	48.58	313.06	221.17	141.55
1981:				
January-March	43.62	281.09	225.40	124.71
April-June	44.82	288.83	229.56	125.82
July-September	47.33	305.01	232.15	131.38
October-December	42.18	271.86	234.29	116.04
1982:				
January-March	39.82	256.59	237.83	107.89
April-June	38.96	251.08	241.27	104.07
July-September	40.88	263.45	243.29	108.29
October-December	39.84	256.76	245.27	104.68
1983:				
January-March	42.65	274.83	247.33	111.12
April-June	49.99	322.12	246.95	130.44
July-September	54.30	349.96	247.67	141.30
October-December	55.62	358.44	249.92	143.42

Table continued on following page.

Table F-1.--Nominal and deflated composite U.S. prices for western red cedar shakes and shingles and indexes of U.S. prices for lumber and building materials, by quarters, January 1970-December 1985--Continued

(January-March 1970=100)

Period	Composite shake and shingle price		Composite price of lumber and building materials	Deflated composite price of shakes and shingles
	Value	Index	Index	Index
	Per square			
1984:				
January-March	$54.59	351.82	251.37	139.96
April-June	49.04	316.04	249.01	126.92
July-September	45.50	293.21	250.72	116.94
October-December	40.24	259.31	254.16	102.03
1985:				
January-March	39.66	255.58	259.12	98.64
April-June	40.71	262.32	258.24	101.58
July-September	42.23	272.14	-	-
October-December	41.47	267.27	-	-

Source: Random Lengths' Publications, and the U.S. Department of Labor, Bureau of Labor Statistics.

Table F-2.--U.S. prices of western red cedar shakes and shingles and one-unit housing under construction in the western region of the United States, by quarters, January 1970-December 1985

(January-March 1970=100)

Period	Shake price		Shingle price		Housing under construction	
	Value	Index	Value	Index	Quantity	Index
	Per square		Per square		1,000 units	
1970:						
January-March	$15.63	100.00	$15.19	100.00	65.00	100.00
April-June	16.17	103.43	15.63	102.91	68.20	104.92
July-September	16.56	105.90	16.68	109.79	67.10	103.23
October-December	16.17	103.44	15.68	103.19	63.90	98.31
1971:						
January-March	19.21	122.86	18.26	120.21	75.40	116.00
June	20.13	128.78	18.74	123.36	97.90	150.62
July-September	22.02	140.84	22.53	148.32	100.20	154.15
October-December	21.49	137.47	21.98	144.68	92.30	142.00
1972:						
January-March	22.98	147.02	24.73	162.83	105.30	162.00
April-June	23.94	153.11	27.22	179.17	119.10	183.23
July-September	28.00	179.09	32.62	214.74	132.40	203.69
October-December	33.95	217.16	35.59	234.31	123.50	190.00
1973:						
January-March	36.79	235.32	36.49	240.25	116.80	179.69
April-June	33.15	212.07	36.75	241.90	135.70	208.77
July-September	27.34	174.87	30.73	202.33	132.10	203.23
October-December	26.70	170.81	24.72	162.74	102.00	156.92
1974:						
January-March	27.54	176.16	25.42	167.36	98.20	151.08
April-June	28.06	179.51	31.12	204.84	110.10	169.38
July-September	28.73	183.80	29.60	194.88	106.70	164.15
October-December	28.77	184.06	27.39	180.32	83.50	128.46
1975:						
January-March	26.20	167.62	30.20	198.84	78.00	120.00
April-June	29.20	186.81	34.53	227.33	95.60	147.08
July-September	33.96	217.20	37.22	245.05	104.80	161.23
October-December	37.08	237.17	40.79	268.51	95.30	146.62
1976:						
January-March	40.51	259.15	46.04	303.11	106.20	163.38
April-June	39.69	253.88	42.88	282.31	124.40	191.38
July-September	42.24	270.19	47.59	313.32	140.00	215.38
October-December	45.17	288.94	47.44	312.31	140.80	216.62

Table continued on following page.

Table F-2.--U.S. prices of western red cedar shakes and shingles and one-unit housing under construction in the western region of the United States, by quarters, January 1970-December 1985--Continued

(January-March 1970=100)

Period	Shake price		Shingle price		Housing under construction	
	Value	Index	Value	Index	Quantity	Index
	Per square		Per square		1,000 units	
1977:						
January-March	$46.85	299.69	$47.96	315.74	106.80	164.31
April-June	48.03	307.22	48.77	321.06	188.60	290.15
July-September	53.80	344.17	54.92	361.52	201.50	310.00
October-December	53.04	339.28	61.26	403.30	199.60	307.08
1978:						
January-March	51.17	327.30	64.40	423.93	203.00	312.31
June	49.33	315.51	58.63	386.00	215.80	332.00
July-September	51.02	326.37	54.60	359.41	219.80	338.15
October-December	54.32	347.47	52.57	346.08	199.30	306.62
1979:						
January-March	50.66	324.04	53.81	354.26	195.50	300.77
April-June	51.25	327.83	57.03	375.45	209.10	321.69
July-September	53.95	345.10	57.41	377.94	205.90	316.77
October-December	49.59	317.24	58.90	387.77	170.30	262.00
1980:						
January-March	45.51	291.08	54.74	360.34	145.60	224.00
April-June	42.16	269.66	52.33	344.47	130.40	200.62
July-September	46.70	298.74	59.00	388.41	137.30	211.23
October-December	45.36	290.16	57.64	379.45	131.80	202.77
1981:						
January-March	41.09	262.85	50.73	333.97	124.40	191.38
April-June	41.48	265.33	54.22	356.96	123.90	190.62
July-September	44.22	282.88	56.08	369.16	109.30	168.15
October-December	40.22	257.28	47.71	314.09	94.80	145.85
1982:						
January-March	36.81	235.43	48.29	317.93	89.80	138.15
April-June	36.07	230.74	47.10	310.04	90.10	138.62
July-September	39.71	254.01	44.17	290.80	94.90	146.00
October-December	38.50	246.26	43.62	287.17	96.80	148.92
1983:						
January-March	40.80	261.00	47.84	314.93	107.20	164.92
April-June	48.33	309.14	54.65	359.78	133.90	206.00
July-September	52.23	334.12	60.13	395.84	136.70	210.31
October-December	53.83	344.32	60.66	399.34	128.80	198.15

Table continued on following page.

Table F-2.--U.S. prices of western red cedar shakes and shingles and one-unit housing under construction in the western region of the United States, by quarters, January 1970-December 1985--Continued

(January-March 1970=100)

Period	Shake price		Shingle price		Housing under construction	
	Value	Index	Value	Index	Quantity	Index
	Per square		Per square		1,000 units	
1984:						
January-March	52.21	333.31	61.59	405.49	133.30	205.08
April-June	45.20	289.13	59.86	394.05	141.40	217.54
July-September	43.90	280.83	49.99	329.07	133.20	204.92
October-December	39.92	255.37	41.12	270.71	123.50	190.00
1985:						
January-March	38.80	248.21	42.07	276.95	130.10	200.15
April-June	38.50	246.27	46.92	308.87	137.40	211.38
July-September	39.63	253.51	49.54	326.14	140.10	215.54
October-December	40.98	262.13	42.86	282.15	-	-

Source: Based on data published in Random Lengths Publications, Lumber Price Guide, U.S. Department of Commerce, and U.S. Department of Housing and Urban Development.

Table F-3.--U.S. prices of western red cedar shakes and shingles, and indexes of U.S. prices of asphalt roofing shingles, by quarters, January 1970-December 1985

(January-March 1970=100)

Period	Shake price		Shingle price		Producer price of asphalt roofing shingles
	Value	Index	Value	Index	Index
	Per square		Per square		
1970:					
January-March	$15.63	100.00	$15.19	100.00	100.00
April-June	16.17	103.43	15.63	102.91	91.76
July-September	16.56	105.90	16.68	109.79	89.87
October-December	16.17	103.44	15.68	103.19	94.46
1971:					
January-March	19.21	122.86	18.26	120.21	102.08
June	20.13	128.78	18.74	123.36	116.67
July-September	22.02	140.84	22.53	148.32	122.21
October-December	21.49	137.47	21.98	144.68	122.21
1972:					
January-March	22.98	147.02	24.73	162.83	122.21
April-June	23.94	153.11	27.22	179.17	122.21
July-September	28.00	179.09	32.62	214.74	122.21
October-December	33.95	217.16	35.59	234.31	122.21
1973:					
January-March	36.79	235.32	36.49	240.25	122.21
April-June	33.15	212.07	36.75	241.90	126.71
July-September	27.34	174.87	30.73	202.33	127.87
October-December	26.70	170.81	24.72	162.74	129.19
1974:					
January-March	27.54	176.16	25.42	167.36	142.09
April-June	28.06	179.51	31.12	204.84	175.87
July-September	28.73	183.80	29.60	194.88	184.62
October-December	28.77	184.06	27.39	180.32	191.57
1975:					
January-March	26.20	167.62	30.20	198.84	191.57
April-June	29.20	186.81	34.53	227.33	201.10
July-September	33.96	217.20	37.22	245.05	200.25
October-December	37.08	237.17	40.79	268.51	202.17
1976:					
January-March	40.51	259.15	46.04	303.11	203.68
April-June	39.69	253.88	42.88	282.31	210.47
July-September	42.24	270.19	47.59	313.32	216.55
October-December	45.17	288.94	47.44	312.31	212.11

Table continued on following page.

Table F-3.--U.S. prices of western red cedar shakes and shingles, and indexes of U.S. prices of asphalt roofing shingles, by quarters, January 1970-December 1985--Continued

(January-March 1970=100)

Period	Shake price		Shingle price		Producer price of asphalt roofing shingles
	Value	Index	Value	Index	Index
	Per square		Per square		
1977:					
January-March	$46.85	299.69	$47.96	315.74	205.35
April-June	48.03	307.22	48.77	321.06	214.91
July-September	53.80	344.17	54.92	361.52	228.81
October-December	53.04	339.28	61.26	403.30	248.95
1978:					
January-March	51.17	327.30	64.40	423.93	248.95
April-June	49.33	315.51	58.63	386.00	260.18
July-September	51.02	326.37	54.60	359.41	266.81
October-December	54.32	347.24	52.57	346.08	276.12
1979:					
January-March	50.66	324.04	53.81	354.26	277.10
April-June	51.25	327.83	57.03	375.45	285.24
July-September	53.95	345.10	57.41	377.94	288.74
October-December	49.59	317.24	58.90	387.77	300.98
1980:					
January-March	45.51	291.08	54.74	360.34	321.14
April-June	42.16	269.66	52.33	344.47	344.04
July-September	46.70	298.74	59.00	388.41	354.42
October-December	45.36	290.16	57.64	379.45	341.74
1981:					
January-March	41.09	262.85	50.73	333.97	320.38
April-June	41.48	265.33	54.22	356.96	330.48
July-September	44.22	282.88	56.08	369.16	329.79
October-December	40.22	257.28	47.71	314.09	323.09
1982:					
January-March	36.81	235.43	48.29	317.93	314.56
April-June	36.07	230.74	47.10	310.04	311.86
July-September	39.71	254.01	44.17	290.80	327.96
October-December	38.50	246.26	43.62	287.17	325.32
1983:					
January-March	40.80	261.00	47.84	314.93	305.28
April-June	48.33	309.14	54.65	359.78	296.95
July-September	52.23	334.12	60.13	395.84	300.75
October-December	53.83	344.32	60.66	399.34	297.55

Table continued on following page.

Table F-3.--U.S. prices of western red cedar shakes and shingles, and indexes of U.S. prices of asphalt roofing shingles, by quarters, January 1970-December 1985--Continued

(January-March 1970=100)

Period	Shake price		Shingle price		Producer price of asphalt roofing shingles
	Value	Index	Value	Index	Index
	Per square		Per square		
1984:					
January-March	$52.11	333.31	$61.59	405.49	300.38
April-June	45.20	289.13	59.86	394.05	305.66
July-September	43.90	280.83	49.99	329.07	315.07
October-December	39.92	255.37	41.12	270.71	324.94
1985:					
January-March	38.80	248.21	42.07	276.95	320.60
April-June	38.50	246.27	46.92	308.87	327.43
July-September	39.63	253.51	49.54	326.14	321.14
October-December	40.98	262.13	42.86	282.15	318.87

Source: Based on data published by Random Lengths Publications, and the U.S. Department of Labor, Bureau of Labor Statistics.

APPENDIX G

U.S. WESTERN RED CEDAR LOG PRODUCTION, TRADE, AND CONSUMPTION

U.S. Western Red Cedar Log Production, Trade, and Consumption 1/

This section focuses on the effects of western red cedar log trade on raw material prices and supply for red cedar shake and shingle manufacturers.

U.S. log production

During 1978-84, the value of production of western red cedar logs fluctuated as stumpage values fluctuated, in part, as a result of speculation on U.S. Forest Service timber sales, primarily in the coastal Pacific Northwest. Such production rose 22 percent in quantity, from 711 million board feet in 1978 to 870 million board feet in 1980 before falling 26 percent to 648 million board feet in 1984 (table G-1). The recent decline, which continued in 1985 (down from 486 million board feet during January-September 1984 to 421 million board feet during the same period of 1985), can be attributed in part to the decreasing production by U.S. western red cedar shake and shingle producers and the declining supply of mature western red cedar trees.

U.S. log imports

Western red cedar log imports, entirely from Canada, trended downward from 19 million board feet, valued at $3.8 million, in 1978 to 7 million board feet, valued at $1.6 million, in 1984 (table G-2). Such imports were primarily border transactions, resulting from special provisions as set forth by the Canadian Government (see app. H for a discussion of Canadian log export policies).

U.S. log exports

During 1978-84, U.S. western red cedar log exports fluctuated between a high of 184 million board feet, valued at $54.6 million, in 1980 and a low of 37 million board feet, valued at $16.9 million, in 1981 (table G-3). As in previous years, exports were of high-quality logs, primarily destined for Japan, which received 56 percent of the total quantity of western red cedar log exports in 1984, and the Republic of Korea (43 percent). Most exports of western red cedar logs leave from Washington and Oregon and are composed of logs grown in those States. During 1978-80, Canada received about 44 percent of all such U.S. exports. However, since 1981, exports to Canada have fallen to less than 1 percent in 1984.

U.S. log consumption

U.S. consumption of western red cedar logs rose from 646 million board feet, valued at $139 million, in 1978 to 780 million board feet, valued at

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1/ A discussion of Canadian western red cedar log production, trade, and consumption is presented in app. H.

Table G-1.--Western red cedar logs: 1/ U.S. production, exports of domestic merchandise, imports for consumption, and apparent consumption, 1978-84, January-September 1984, and January-September 1985

Period	Production 2/	Exports	Imports	Apparent consumption	Ratio (percent) of imports to consumption
	Quantity (million board feet)				
1978	711	84	19	646	2.9
1979	783	166	29	646	4.5
1980	870	184	14	700	2.0
1981	809	37	8	780	1.0
1982	797	61	11	747	1.5
1983	794	81	1	711	0.1
1984	648	50	7	605	1.2
Jan.-Sept.--					
1984	486	39	6	453	1.3
1985	421	33	12	400	3.0
	Value (million dollars) 3/				
1978	173.4	38.2	3.8	139.0	2.7
1979	205.1	83.7	9.1	130.5	7.0
1980	232.0	54.6	3.7	181.1	2.0
1981	188.5	16.9	2.2	173.8	1.3
1982	171.4	24.5	2.0	148.9	1.3
1983	197.9	37.3	0.5	161.1	0.3
1984	195.5	26.2	1.6	170.9	0.9
Jan.-Sept.--					
1984	145.2	21.3	1.2	125.1	1.0
1985	103.6	14.8	3.7	92.5	4.0
	Unit value (per 1,000 board feet)				
1978	$243.88	$453.21	$193.45	$215.17	-
1979	261.91	502.82	309.97	202.01	-
1980	266.65	296.22	257.84	258.71	-
1981	232.98	460.43	291.30	222.82	-
1982	215.11	403.79	234.40	199.33	-
1983	249.28	462.66	422.37	226.58	-
1984	301.66	520.74	218.82	282.48	-
Jan.-Sept.--					
1984	298.71	547.74	195.55	276.16	-
1985	246.09	451.25	295.76	231.25	-

1/ Includes logs for lumber, export, veneer, and fencing, as well as shakes and shingles.

2/ Estimated by the staff of the U.S. International Trade Commission.

3/ Delivered cost.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

Table G-2.--Western red cedar logs: U.S. imports for consumption, by principal sources, 1978-84, January-September 1984, and January-September 1985

Source	1978	1979	1980	1981	1982	1983	1984	Jan.-Sept.-- 1984	Jan.-Sept.-- 1985
	Quantity (1,000 board feet)								
Canada	19,457	29,445	14,280	7,590	11,075	1,082	7,111	6,384	12,402
All other	0	0	0	0	0	0	0	0	0
Total	19,457	29,445	14,280	7,590	11,075	1,082	7,111	6,384	12,402
	Value (1,000 dollars)								
Canada	3,764	9,127	3,682	2,211	2,596	457	1,556	1,242	3,668
All other	-	-	-	-	-	-	-	-	-
Total	3,764	9,127	3,682	2,211	2,596	457	1,556	1,242	3,668
	Unit value (per 1,000 board feet)								
Canada	$193.45	$309.97	$257.84	$291.30	$234.40	$422.37	$218.82	$194.55	$295.76
All other	-	-	-	-	-	-	-	-	-
Average	193.45	309.97	257.84	291.30	234.40	422.37	218.82	194.55	295.76

Source: Compiled from Statistics Canada data.

Table G-3. Western red cedar logs: U.S. exports of domestic merchandise, by principal markets, 1978-84, January-September 1984, and January-September 1985

Market	1978	1979	1980	1981	1982	1983	1984	January-September--	
								1984	1985
	Quantity (1,000 board feet)								
Japan	66,813	93,897	57,477	23,547	33,491	35,622	28,228	20,021	12,454
Republic of Korea	5,751	11,155	9,599	8,884	25,081	40,263	21,859	18,701	19,736
Canada	11,434	61,259	117,126	1,316	2,073	4,502	230	111	608
New Zealand	0	0	0	0	0	0	0	0	45
Saudi Arabia	3	0	0	0	14	282	0	0	39
All other	191	76	184	3,012	60	0	30	30	0
Total	84,192	166,387	184,386	36,759	60,719	80,669	50,347	38,863	32,882
	Value (1,000 dollars)								
Japan	33,819	69,317	35,295	12,288	14,797	18,769	16,204	12,757	6,204
Republic of Korea	1,985	5,135	4,207	3,277	9,242	16,778	9,905	8,445	8,340
Canada	2,262	9,201	14,989	276	431	1,639	88	64	252
New Zealand	-	-	-	-	-	-	-	-	23
Saudi Arabia	5	-	-	-	7	135	-	-	19
All other	85	10	129	1,084	41	-	21	21	-
Total	38,156	83,663	54,620	16,925	24,518	37,322	26,218	21,287	14,838
	Unit value (per 1,000 board feet)								
Japan	$506.17	$738.23	$614.07	$521.83	$441.82	$526.90	$574.04	$637.12	$498.12
Republic of Korea	345.16	460.34	438.30	368.87	368.49	416.72	453.12	451.58	422.59
Canada	197.80	150.21	127.98	209.80	208.08	364.15	382.84	576.57	414.21
New Zealand	-	-	-	-	-	-	-	-	504.78
Saudi Arabia	1,771.33	-	-	-	500.00	480.41	-	-	498.62
All other	445.02	115.97	701.08	359.89	683.33	-	700.00	700.00	-
Average	453.21	502.82	296.22	460.43	403.79	462.66	520.74	547.74	451.24

Source: Compiled from official statistics of the U.S. Department of Commerce.

$174 million, in 1981 and then declined to 605 million board feet, valued at $171 million, in 1984 (table G-1). U.S. consumption fell 12 percent from 453 million board feet, valued at $125 million, during January-September 1984, to 400 million board feet, valued at $92 million, during January-September 1985.

U.S. restrictions on exports of logs

Since October 1973, Congress has banned the export of unprocessed timber from Federal lands in the West. 1/ Before this ban, exports from Federal lands west of the 100th meridian had been restricted (since Jan. 1, 1969) by the Morse Amendment (82 Stat. 966) to 350 million board feet annually. Softwood log exports from Federal lands in Alaska have been restricted since 1928 and from State-owned lands from 1960 to mid-1984. On May 22, 1984, the U.S. Supreme Court reversed a Court of Appeals holding that Congress has authorized Alaska's primary manufacturing of softwood lumber from logs within Alaska, and remanded the case to the lower court. 2/ As a result of the U.S. Supreme Court decision, Alaska now permits exports of softwood logs from State lands regardless of primary manufacturing.

The U.S. Supreme Court decision has had no effect on the log export policy of the State of California. California continues to restrict all log exports from State lands, as it has for many years.

Also, as the result of a decision by an Oregon State's Attorney, the State of Oregon now permits the export of softwood logs from all common school lands in the State; however, the State continues to restrict exports from all other State lands as it has for many years. Recently, the Idaho State Legislature struck down previous legislation that restricted log exports from that State (effective 1985).

Western red cedar log export ban

Due to the limited supply of old-growth western red cedar, the Export Administration Act of 1979 (Public Law 96-72, Sept. 29, 1979) placed limitations on western red cedar log exports from State and Federal lands. This act gradually phased out western red cedar log exports during a 3-year period ending in 1982.

The long-term effects of the Export Administration Act will primarily affect the western red cedar sawmill veneer, and plywood mills that can utilize second-growth cedar logs. The State of Washington has stated in a 1979 report that "there is very little reason to believe that export restrictions would help the duration of the supply of old-growth red cedar for the shake and shingle industry.... It is further doubtful that such restrictions would significantly affect the prices paid for standing old-growth western red cedar in view of its limited supply.... Even if the

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1/ Department of the Interior and Related Agencies Appropriations Act, 1974 (Public Law 93-120, Oct. 4, 1973), sec 301.

2/ South Central Timber Development, Inc., Petitioner v. Esther Wunnicke, Commission, Department of Natural Resources of Alaska, et al. No. 82-1608.

high quality cedar logs now being exported could be purchased and used by the shake and shingle industry, it would only delay the inevitable by about 5 years." 1/

1/ Western Red Cedar, Department of Natural Resources, State of Washington, Jan. 8, 1979, pp. 51 and 52.

APPENDIX H

CANADIAN WESTERN RED CEDAR LOG PRODUCTION, TRADE, AND CONSUMPTION

Canadian Western Red Cedar Log Production, Trade, and Consumption

This section focuses on the effects of western red cedar log trade on the raw material prices and supply for Canadian shake and shingle manufacturers.

Canadian log production

Canadian production of western red cedar logs used to produce shakes and shingles decreased 44 percent during 1978-82, as shake and shingle production fell 14 percent. Such log production fell from 1.9 billion board feet, valued at $458 million, in 1978 to 1.0 billion board feet, valued at $205 million, in 1982 (table H-1); this decrease coincides with the decline in housing starts in the United States. However, as U.S. housing starts recovered during 1983-85, Canadian western red cedar log production rose 43 percent from the 1982 low to 1.5 billion board feet, valued at $286 million, in 1984; production rose 40 percent from 1.1 billion board feet, valued at $222 million, during January-September of 1984 to 1.5 billion board feet, valued at $252 million, in the corresponding period of 1985.

Canadian log imports

Canadian imports of western red cedar logs, all of which come from the United States, rose from 11 million board feet, valued at $2.3 million, in 1978 to 117 million board feet, valued at $15 million, in 1980 (table H-1). However, such imports fell dramatically to only 230,000 board feet, valued at $88,000, in 1984. These Canadian imports come from Oregon, Washington, and Idaho.

Canadian log exports

Canadian western red cedar log exports fluctuated during 1978-84, with the low years being 1981-83 (primarily a result of declining domestic production); the average for those 3 years was 29 million board feet, valued at $8 million, compared with 49 million board feet, valued at $16 million, in the remaining years (table H-2). Japan was Canada's primary market for western red cedar logs, receiving 72 percent of total 1984 exports. The United States (17 percent) and the Republic of Korea (11 percent) recieved nearly all of the remaining exports.

Canadian log consumption

Canadian consumption or western red cedar logs fell 44 percent from 1.8 billion board feet, valued at $449 million, in 1978 to 1.0 billion board feet, valued at $195 million, in 1982 before rising 44 percent to 1.4 billion board feet, valued at $272 million, in 1984. Comparing the January-September 1984 and 1985 periods, such consumption rose 41 percent from 1.1 billion board feet, valued at $212 million, in 1984 to 1.5 billion board feet, valued at $245 million, in 1985 (table H-1).

Table H-1.--Western red cedar logs: 1/ Canadian production, exports of domestic merchandise, imports for consumption, and apparent consumption, 1978-84, January-September 1984, and January-September 1985

Period	Production 2/	Exports	Imports	Apparent consumption	Ratio (percent) of imports to consumption
	Quantity (million board feet)				
1978	1,853	45	11	1,819	0.6
1979	1,578	57	61	1,582	3.9
1980	1,430	52	117	1,495	7.8
1981	1,140	25	1	1,116	0.1
1982	1,030	38	2	994	0.2
1983	1,286	23	5	1,268	0.4
1984	1,470	41	3/	1,429	4/
Jan.-Sept.--					
1984	1,102	30	3/	1,072	4/
1985	1,539	27	1	1,513	0.1
	Value (million U.S. dollars)				
1978	457.9	11.6	2.3	448.6	0.5
1979	413.9	19.6	9.2	403.5	2.3
1980	274.0	17.0	15.0	272.0	5.5
1981	215.4	6.9	0.3	208.8	0.1
1982	204.9	9.9	0.4	195.4	0.2
1983	279.6	7.4	1.6	273.8	0.6
1984	285.6	14.2	0.1	271.5	4/
Jan.-Sept.--					
1984	222.4	10.7	0.1	211.8	0.1
1985	252.5	7.6	0.3	245.2	0.1
	Unit value (per 1,000 board feet)				
1978	$247.13	$255.85	$197.80	$246.62	-
1979	262.28	344.33	150.21	255.06	-
1980	191.59	329.57	127.98	181.94	-
1981	188.97	276.33	209.80	187.10	-
1982	198.89	257.82	208.08	196.58	-
1983	217.42	327.40	364.15	215.93	-
1984	194.29	342.82	382.84	189.99	-
Jan.-Sept.--					
1984	201.84	361.76	580.76	197.57	-
1985	164.07	277.72	414.21	162.06	-

1/ Includes logs for lumber, export, veneer, and fencing, as well as shakes and shingles.

2/ Estimated by the staff of the U.S. International Trade Commission.

3/ Less than 500,000 board feet.

4/ Less than 0.05 percent.

Source: Compiled from official statistics of the U.S. Department of Commerce and Statistics Canada, except as noted.

Table H-2.--Western red cedar logs: Canadian exports of domestic merchandise, by principal markets, 1978-84, January-September 1984, and January-September 1985

Market	1978	1979	1980	1981	1982	1983	1984	Jan.-Sept. 1984	Jan.-Sept. 1985
	Quantity (1,000 board feet)								
Japan	24,038	27,597	35,346	17,427	23,459	20,320	29,619	20,573	11,760
Republic of Korea	1,961	0	2,060	0	2,016	1,281	4,620	2,550	2,801
United States	19,457	29,445	14,280	7,590	11,075	1,082	7,111	6,384	12,402
All other	0	0	0	0	1,825	25	63	42	431
Total	45,456	57,042	51,686	25,017	38,375	22,708	41,413	29,549	27,394
	Value (1,000 U.S. dollars)								
Japan	7,434	10,515	12,744	4,702	6,325	6,517	11,292	8,628	3,001
Republic of Korea	431	-	609	-	481	466	1,334	797	859
United States	3,764	9,127	3,682	2,211	2,596	457	1,556	1,242	3,668
All other	-	-	-	-	491	6	8	8	79
Total	11,630	19,641	17,034	6,913	9,894	7,446	14,190	10,675	7,608
	Unit value (per 1,000 board feet)								
Japan	$309.26	$381.02	$360.55	$269.81	$269.62	$320.72	$381.24	$419.38	$255.19
Republic of Korea	219.79	-	295.63	-	238.59	363.78	288.74	312.55	306.68
United States	193.45	309.97	257.84	291.30	234.40	422.37	218.82	194.55	295.76
All other	-	-	-	-	269.04	240.00	126.98	190.48	183.29
Average	255.85	344.33	329.57	276.33	257.82	327.90	342.82	361.26	277.72

Source: Statistics Canada (may include small quantities of cedar other than western red cedar).

Canadian Log export policy

Provincial laws prohibit the export of any unprocessed logs except when the log is considered surplus to Canadian needs (for a summation of log export policies by Province see app. I). In British Columbia, in order to receive a permit for export, logs must first be advertised for public sale. If offers are received that meet the fair domestic price criteria, 1/ then such logs may be sold on the export market. The advertising and review process usually takes from 1 to 2 months. For all practical purposes, Canada's log exports are of minor volumes, although logs can be exported from some Indian-owned lands.

1/ The fair domestic price is as determined by the Log Export Advisory Committee, which is governed by guidelines but not by law. The Ministry of Forests has the final decision as to whether the logs meet the fair domestic price criteria.

APPENDIX I

CANADIAN LOG EXPORT POLICIES

Canadian Log Export Policies, By Province 1/

Canada

The Federal Act that controls the export of forest products is the Export and Import Permits Act that has been in effect since 1941. In terms of the controlled items under this Act, Canadian exporters must apply to External Affairs for a permit. External Affairs evaluates these permit requests and the exporter is issued an export permit. The Canadian exporter then produces this document along with any other necessary documents to a customs official at the port of exit. Under the terms of the Act, no distinction is made between softwood and hardwood logs or between logs and pulpwood.

Alberta.--Under Section 31, subsection (1) and (2), (1) No person shall transport logs, trees, or wood chips except dry pulpwood or Christmas trees to any destination outside Alberta from any forest lands and, (2) Not withstanding subsection (1), the Minister may:

(a) authorize any person to transport logs, trees, or wood chips to be used for research or experimental purposes to any destination outside Alberta from any forest lands; or

(b) exempt any logs, trees, or wood chips from any specified forest land from the application of the subsection for a period not to exceed one year.

British Columbia.--Unless exempted under the Forest Act, part 12, RSBC 1979, section 135, timber that is harvested from Crown land granted by the Crown after March 12, 1906, or from land granted by the Crown on or before March 12, 1906, in a tree farm license area and wood residue produced from the timber shall be--

a. used in the Province; or

b. manufactured in the Province into

(i) lumber;
(ii) sawn wood products, other than lumber manufactured to an extent required by the Minister;
(iii) shingles or fully manufactured shakes;
(iv) veneer, plywood or other wood-based panel products;
(v) pulp, newsprint, or paper;
(vi) peeled poles and piles having top diameters less than 28 cm and fence posts;
(vii) Christmas trees; or
(viii) sticks and timbers having diameters less than 15 cm, ties and mining timbers.

1/ A White paper provided by the Canadian Government.

Under section 136 exemptions--

(1) The Lieutenant Governor in Council may exempt from section 135:

(a) a species of timber or kind of wood residue and may limit the volume of a species of timber or a kind of wood residue to which the exemption applies for a period of successive periods of time; and

(b) a volume of timber, whether or not harvested, or a volume of a wood residue, on receiving an application in a form required by the Minister.

(2) On receiving an application in the form required by him, the Minister may exempt from section 135 a volume of timber that has been harvested, not exceeding 15,000 cubic meters for each applications.

(3) An exemption shall not be given under this section unless the Lieutenant Governor in Council or the Minister, as the case may be, is satisfied that:

(a) the timber or wood residue will be surplus to requirements of timber processing facilities in the Province;

(b) the timber or wood residue cannot be processed economically in the vicinity of the land from which it is cut or produced, and cannot be transported economically to a processing facility located elsewhere in the Province; or

(c) the exemption would prevent the waste of or improve the utilization of timber cut from Crown Land.

Quebec.--Under the Forest Resources Utilization Act, utilization of forest resources for the benefit of the Province--

(2) Notwithstanding any legislation provision inconsistent herewith, all wood derived from the public domain of Quebec, whatever be the nature of the forest concession on which the right to cut is based, must be completely processed in Quebec. Wood is completely processed within the meaning of this act when it has undergone all the treatments and processes of manufacture and has passed through all phases of transformation necessary to render it suitable for the use to which it is intended finally to be put, in such manner that the products thereof have acquired the definitive form in which the merchandise is to be delivered to the consumer. Nevertheless, the Lieutenant Governor in Council may, by way of exception, authorize the shipment outside the Province of Quebec of incompletely processed wood derived from the public domain of Quebec, whenever it deems it in the interest of the Province or of a region thereof, by reason of particular industrial, economic, or social conditions. Such authorization shall be given by means of special permits, for such quantity (sic) and on such conditions as the Lieutenant Governor in Council may determine.