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The Softwood Plywood Industry in the United States, 1965-82

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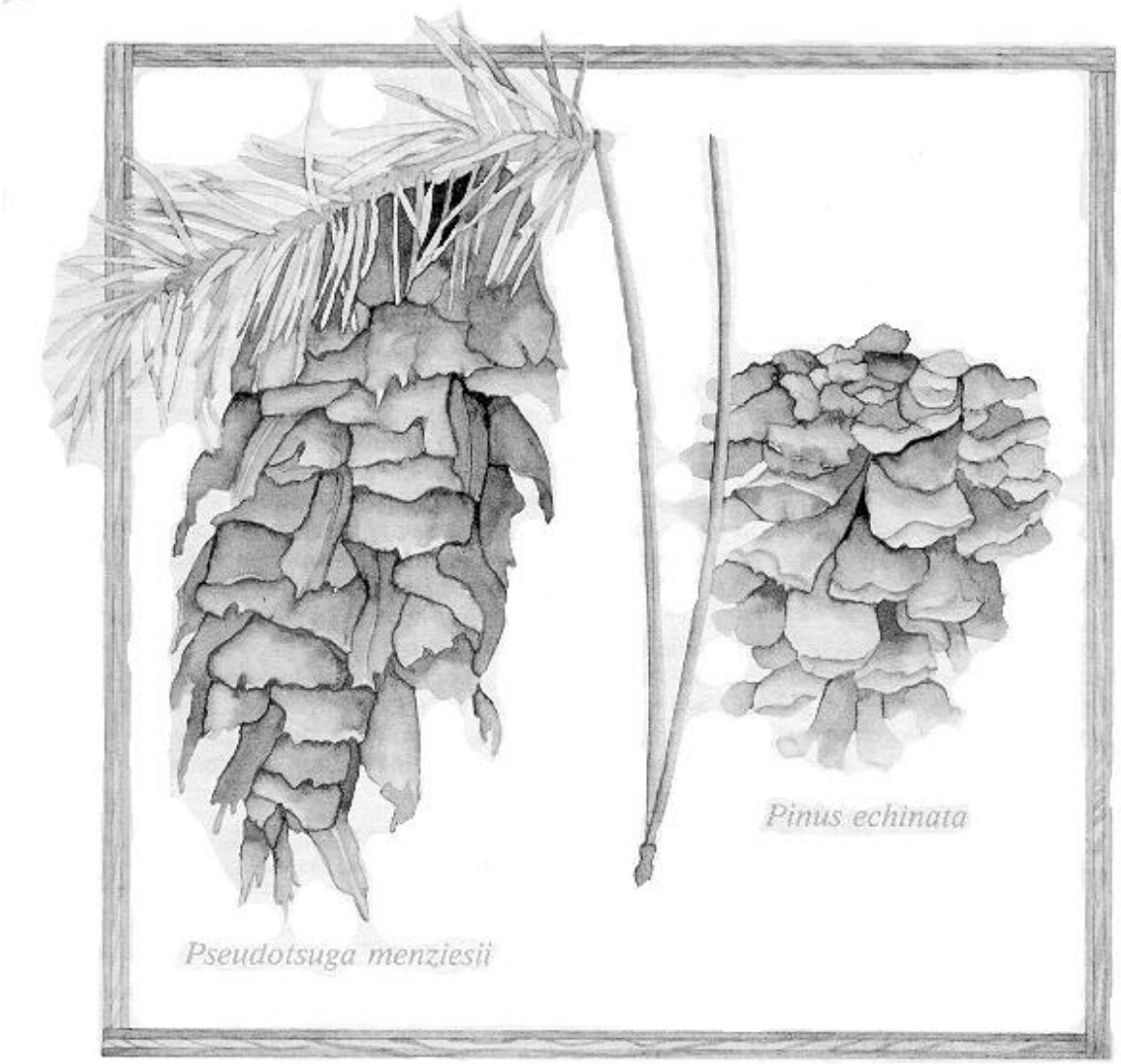

Abstract

In 1982, 175 softwood plywood plants operated in the United States with a combined production capacity of nearly 23.1 billion square feet (ft^2) (3/8-in. basis) per year, 60 percent greater than in 1965. The West was the region with largest capacity in 1982--12.5 billion ft^2. The South had 10.5 billion ft^2 and the North less than half a billion ft^2. Approximately 1.1 billion cubic feet (roundwood equivalent) of peeler logs were consumed in 1982 to produce 15.1 billion ft^2 of softwood plywood. Domestic softwood plywood consumption in 1982 was 14.6 billion ft^2, with residential construction accounting for half.

Keywords: Softwood plywood, capacity, production, log prices, growing stock volumes, foreign trade.

Highlights

- In 1982, 175 softwood plywood plants with a combined production capacity of nearly 23.1 billion square feet (ft^2) (3/8-in. basis) operated in the United States. This is a 60 percent increase in capacity since 1965.
- In 1982, the average softwood plywood plant had an annual capacity of 132 million ft^2, up from 83 million in 1965. From 1965 to 1982, production averaged 88 percent of capacity.
- Industry capacity in the West has remained relatively unchanged since 1965, whereas the South has made net increases.
- In 1982, net exports in softwood plywood were 480 million ft^2, only 2 percent of domestic production. Of the softwood plywood consumed domestically, nearly 50 percent went for residential construction, including additions and alterations.

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The Softwood Plywood Industry in the United States, 1965-82

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Introduction

The first softwood plywood plant in the United States began production in 1905 in Portland, Oreg. Since then the industry has expanded and changed in many ways. The 175 plants operating in 1982 employed an estimated 40 thousand workers and produced 15.1 billion square feet (ft^2) (3/8-in. basis) of softwood plywood valued at $2.7 billion.[1]

This report examines the current status of the U.S. softwood plywood industry as well as reasons for regional capacity and production shifts. Estimates of individual plant capacities for the years 1965, 1970, 1975, and 1982 are presented. Production, imports, exports, apparent domestic consumption, and industry raw material requirements are examined. The Forest Service estimates individual plant capacities based on a variety of published sources including industry directories, corporate annual reports, trade journals, and association reports. Capacity is defined here to be the square feet of softwood plywood (3/8-in. basis) that can be produced under normal operating conditions on a 3-shift, 5-day basis. This report includes only softwood plywood plants. It does not include plants that produce structural panels from chips, wafers, flakes, or oriented wood strands. No attempt was made to identify plants that were idle for less than a year.

[1] Forest Service estimates of employment and value of shipments based on data from the U.S. Department of Commerce, Bureau of the Census (1981).

[2] Active plants include those that were operational for all or part of the production year.

[3] The American Plywood Association (APA) estimates softwood plywood production in 1982 to be 15.8 billion square feet. The APA figure includes both shop and reject panels which are sold in the market place; U.S. Department of Commerce data do not.

United States Capacity and Production

The softwood plywood industry in the United States is a dynamic, growing segment of the Nation's primary wood-processing industries. It was larger in 1982, in terms of total industry capacity, than at any time in its 77-year history. The combined estimated annual capacity of the 175 active[2] plants is in excess of 23 billion ft^2 (3/8-in. basis) (table A-1, fig. 1). The average plant is capable of producing 132 million ft^2. With 1982 production estimated to be 15.1 billion ft^2 (based on preliminary U.S. Department of Commerce data[3]), the industry operated at 65 percent of capacity.

The softwood plywood industry grew rapidly between 1965 and 1975. Total capacity increased by more than 6 billion ft^2, from 14.3 to 20.6 billion (table A-1, fig. 1). Capacity growth averaged 3.7 percent per year. Total number of active plants also increased, but at a rate lower than capacity, resulting in an increase in average plant size.

Between 1975 and 1982, net additions to capacity slowed dramatically, to less than half the annual rate of the previous 10-year period. The number of active plants declined nearly 8 percent, from 190 to 175. Average plant size, however, continued to increase. The average plant in 1982 had 132 million ft^2 of capacity, 59 percent greater than in 1965. This steady increase is due in part to additions to capacity of existing plants, the larger average size of new plants, and the closing of smaller plants. Between 1975 and 1982, for example, new plants averaged 141 million ft^2 of capacity, while plants that closed averaged just 88 million ft^2.

In 1978, softwood plywood production peaked at nearly 19.5 billion ft^2 (3/8-in. basis), over 1-1/2 times the 1965 production level (table A-2, fig. 1). In 1982, production was estimated at 15.1 billion ft^2, down nearly 23 percent from the record 1978 level.

Regional Capacity, Production, and Timber Resources

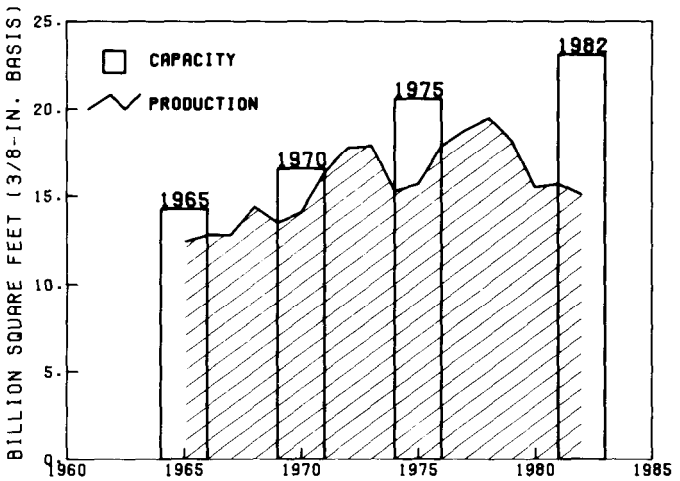

Figure 1.—U.S. softwood plywood production and capacity, 1965-1982. *(ML83 5496-2)*

In general, softwood plywood production (and thus capacity utilization) is very sensitive to U.S. economic conditions. During times of economic growth, such as the period 1971 to 1973, industry production averages nearly 95 percent of capacity; during times of economic recession, such as the period 1974 to 1975, industry production averages well below 80 percent of capacity.

Since 1980, less than 70 percent of capacity has been used. On the average, softwood plywood production is between 85 and 95 percent of industry capacity.

Douglas-fir and southern pine are the two major tree species used to produce softwood plywood. Their combined 1982 production was 14.2 billion ft^2 (3/8-in. basis)--90 percent of total production (table A-2). The remaining 10 percent consists of a variety of species: cedar, hemlock, ponderosa pine, spruces, and firs. Douglas-fir is traditionally the most widely used species for softwood plywood production. In 1965, 10.9 billion ft^2 of Douglas-fir plywood was produced--88 percent of total production. During the late 1960's and early 1970's, Douglas-fir plywood production changed little, averaging just over 10 billion ft^2 per year. Its production share was declining, however, because of more competitive southern pine plywood in eastern and midwestern markets. During the late 1970's, Douglas-fir plywood production declined in both absolute and relative terms. In 1981, when 6.7 billion ft^2 was produced, southern pine plywood production of 7.5 billion ft^2 exceeded Douglas-fir plywood production for the first time. Reasons for these changes will be discussed later in this report.

Individual plant locations and capacities are listed in table A-3. The map at the end of this report shows plant locations (fig. A-1).

Capacity

The softwood plywood industry in the West currently has more production capacity than any other region. The 106 active plants are capable of producing nearly 12.5 billion ft^2 (3/8-in. basis) annually--54 percent of total industry capacity (table A-l, fig. 2). The average western plant has 118 million ft^2 of capacity. The industry in the South is second largest in terms of both numbers of plants and total capacity. The 67 active plants have annual capacity of 10.5 billion ft^2 with an average of nearly 157 million ft^2 per plant. Thus, although there are 37 percent fewer plants in the South than in the West, they are, on the average, 33 percent larger. The North, never a large producing region, has just two plants and 90 million ft^2 of capacity.

Prior to 1964, the softwood plywood industry was located entirely in the West. The 157 plants in operation there in 1963 produced 10.3 billion ft^2 (3/8-in. basis) of softwood plywood. Virtually all of this (92 pct) was Douglas-fir. In 1964, after the successful development of the technology necessary to produce plywood from the rapidly expanding southern pine resource, the first southern plywood plants opened in Arkansas and Texas. Nine new plants were added in 1965 bringing the number to 12. Thus, in 1965 there were 173 active softwood plywood plants in the United States--161 in the West, 12 in the South. Industry capacity was 14.3 billion ft^2--13.2 billion in the West, 1.1 billion in the South.

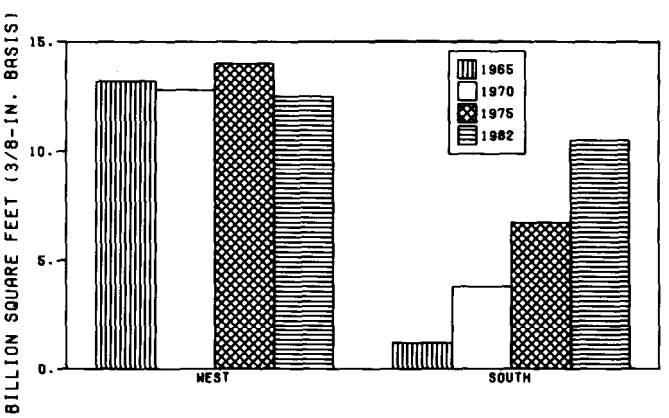

Figure 2.—U.S. softwood plywood plant *capacity by region, 1965-1982. (ML83 5496-1)*

During the next 17 years, total capacity in the West remained fairly constant, averaging approximately 13 billion ft². The number of active plants dropped steadily, however--from 161 to 106--as newer, larger plants replaced older, smaller plants. Southern capacity increased rapidly from 1.1 to 10.5 billion ft² as did the number of active plants from 12 to 67. Average plant capacity in both regions increased steadily.

Production

Regional softwood plywood production trends closely follow regional capacity trends. Western producers dominated the softwood plywood market through 1979. Production was fairly constant at approximately 11 billion ft² per year from 1965 through 1980 (table A-4, fig. 3). Their share of total production, however, steadily declined from a high of nearly 97 percent in 1965 to just 54 percent in 1980. Meanwhile, southern plywood producers steadily increased production and their share of total production. By 1981, the West accounted for less than half of total U.S. softwood plywood production. The South is now the largest producing region, exceeding the West by 150 million ft². Southern plants operate at 72 percent of capacity, western plants at 60 percent.

Timber Resources

Regional production and capacity differences in the softwood plywood industry are largely attributable to regional differences in the forest resource base. Timber volumes, size, quality, and cost dictate the types of panels that can be economically produced. Douglas-fir is traditionally the preferred species of western plywood producers. In 1981, nearly 87 percent of all western plywood produced was Douglas-fir. Old growth stands provide the top-quality, large-diameter peeler logs needed to produce the high-quality sanded and specialty plywood grades. Sheathing production was developed as a sideline to use lower quality logs and excess capacity. In contrast, the southern pine resource is ideally suited for sheathing-grade plywood production. Peeler logs are generally small diameter and low quality. Little if any difference exists between southern pine peeler logs and southern pine sawlogs.

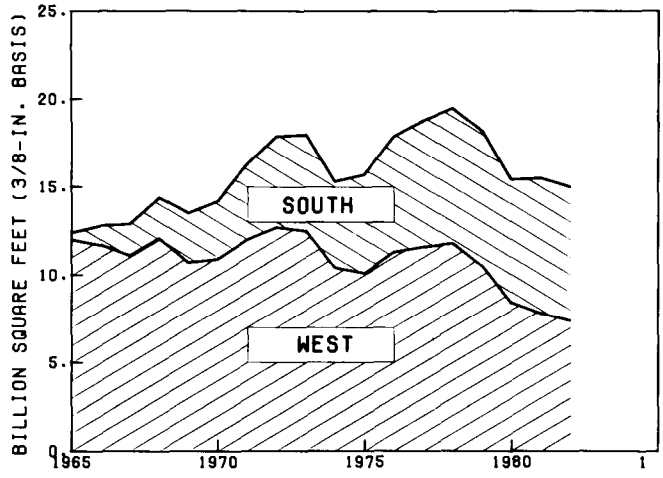

Figure 3.—U.S. cumulative softwood plywood production by region, 1965-1982. (ML83 5496-5)

Size and quality differences between Douglas-fir and southern pine peeler logs are directly reflected in their prices. Large-diameter, high-quality Douglas-fir logs are consistently more expensive than southern pine logs. In 1967, the average price for Douglas-fir peeler logs from western Washington and northwestern Oregon sold domestically was $103.8 per thousand board feet (M fbm) (table A-5, fig. 4). Southern pine logs from Louisiana, meanwhile, were selling for an average $52.8 per M fbm. Since 1967, prices for both Douglas-fir and southern pine peeler logs have risen steadily. Douglas-fir peeler logs now sell for about $300 more per M fbm than do southern pine logs. This price differential encourages production of lower valued sheathing-grade plywood in the South. Western producers must produce higher valued sanded and specialty plywood grades to cover their higher raw material costs.

The changing U.S. timber resource situation has contributed, and will continue to contribute, to the price differential between Douglas-fir and southern pine peeler logs. Since 1962, total volumes of small-diameter (18-in. diameter class and below) Douglas-fir have remained unchanged, while volumes in the large-diameter classes have declined steadily (table A-6, fig. 5). Much of this decline has been in the more accessible, large-diameter, old-growth stands. Douglas-fir supply is thus smaller than simple reductions in total volume would indicate. The volume decline is particularly steep for the 29-inch-diameter and larger sizes, which are difficult to obtain. Increased acquisition and removal costs, a large Japanese log export market, and the withdrawal of large national forest acreages from production for wilderness review are factors contributing to higher Douglas-fir log prices.

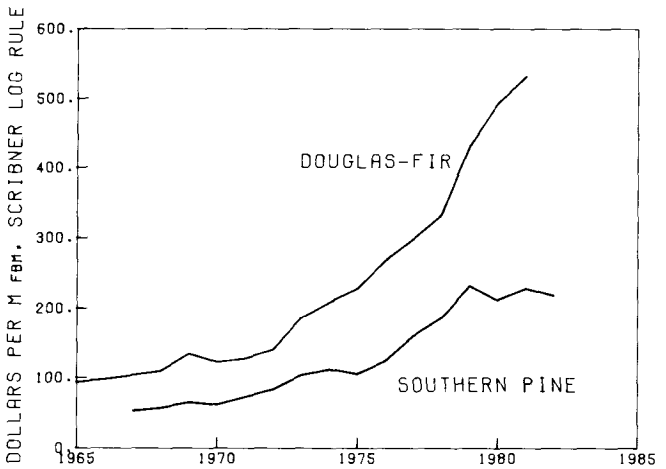

Figure 4.—U.S. Douglas-fir and southern pine peeler log prices, 1965-1982. (ML83 5499)

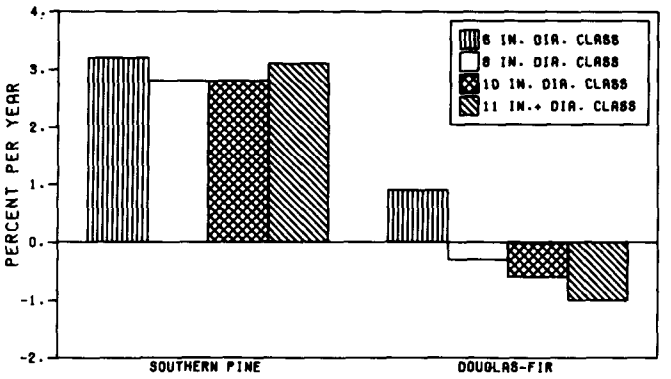

Figure 5.—U.S. average annual change in growing stock volume by species and diameter c/ass, 1962-1977. (ML83 5496-4)

In 1982, the southern pine resource had larger volumes in all diameter classes than in 1962. Total volume was over 50 percent greater. Growth in the larger diameter classes had been particularly rapid. Reforestation and forest fire control programs were very effective. Also, since little acreage is in the National Forest System, legislation setting aside forest land for wilderness and recreational uses did not adversely affect the timber supply situation. Large private commercial forest holdings were also helping assure a consistant log supply to southern mills. Today these factors continue to help moderate southern pine log prices.

The consistent supply of lower quality logs at substantially lower costs, along with closer proximity to major east coast markets, is enabling the southern plywood producers to expand rapidly into eastern sheathing markets. These markets are economically unavailable to west coast producers. However, markets for the higher valued sanded and specialty plywood grades, as well as west coast sheathing markets, are still dominated by western plywood. These regional differences have allowed rapid expansion of the southern softwood plywood industry over the past 20 years while allowing western producers to substantially retain their traditional markets.

Exports, Imports, and Apparent Domestic Consumption

Foreign trade in softwood plywood is small compared to domestic production. In 1982, softwood plywood exports were estimated to be 500 million ft² (3/8-in. basis), just 3 percent of domestic production (table A-7). Imports were 20 million ft², just 0.1 percent of domestic production. Seventy percent of imports in 1979 came from three countries--the Philippines, the Republic of Korea, and Taiwan (table 1). Seventy-five percent of U.S. exports went to European markets. Softwood plywood imports peaked in 1978 at 63 million ft²; exports in 1975 at 791 million ft² .

Table 1.—Percent of softwood plywood imports to and exports from the United States, by country, 1979

Imports		Exports	
Origin	Percent	Destination	Percent
Philippines	25	United Kingdom	23
Republic of Korea	26	Belgium	20
Taiwan	19	Denmark	16
Mexico	13	Canada	11
Honduras	7	Federal Republic of Germany	5
Canada	6	Italy	3
Brazil	2	Japan	2
Guatemala	(1)	Other	12
Other	1		
Total	100	Total	100

[1] Less than 0.5 percent.

Source: U.S. International Trade Commission (1981)

Apparent domestic softwood plywood consumption[4] closely parallels domestic production because of low levels of net foreign trade. Consumption in 1982 was 14.6 billion ft², nearly 5 billion ft² less than the record consumption of 19.3 billion ft² in 1978 (table A-7).

Consumption rose rapidly between 1965 and 1978 (with the exception of the recession years of 1974-75), averaging 3.5 percent per year. One reason for this rapid increase is the substitution of plywood for lumber (particularly sheathing-grade plywood) in a variety of construction applications. These include sheathing and subflooring in residential construction and concrete formwork in nonresidential construction. These substitutions are reflected in the mix of plywood grades produced. In 1965, nearly 5.6 billion ft² of sanded softwood plywood was produced domestically--45 percent of total production (table A-8, fig. 6). The remaining 55 percent was sheathing-grade plywood. From production) was produced. Sheathing production increased to 15.2 billion ft² by 1978, 78 percent of total production. In 1979, 12 percent of total U.S. plywood production was specialty grade. Prior to 1979, specialty production was included in sanded and sheathing production. Sanded production was 19 percent, and sheathing was 69 percent. Preliminary 1982 estimates

[4] Domestic consumption = domestic production + imports - exports.

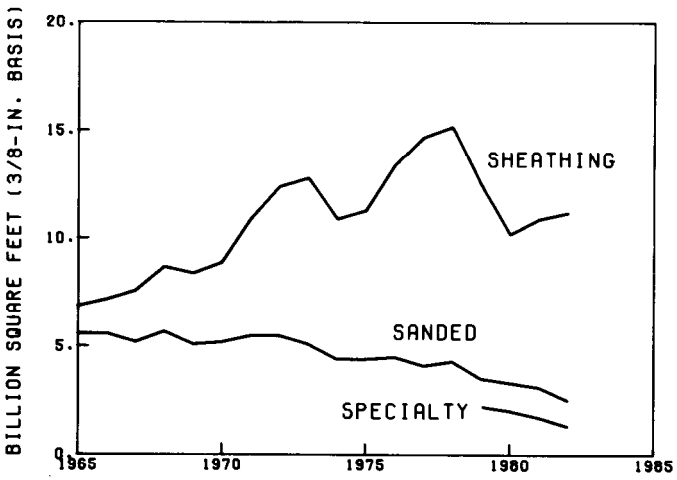

Figure 6.—U.S. softwood plywood production by grade, 1965-1982. (ML83 5496-3)

indicate just 17 percent of U.S. production to be sanded, 74 percent sheathing, and 9 percent specialty.

New residential construction is the major end use for softwood plywood, accounting for 32 percent of domestic consumption in 1982 (table 2). The increased average size of these new residential units is one of the factors affecting the shifts in domestic consumption patterns. Residential alterations and additions, new nonresidential construction, industrial uses, and other uses account for nearly equal amounts of the remaining 68 percent.

Table 2.—Estimates[1] of U.S. softwood plywood consumption by major end uses, 1982

End use	Softwood plywood consumption	Percent
	Billion ft² (3/8-in. basis)	
New residential construction	4.7	32
Residential additions and alterations	2.6	18
New nonresidential construction	2.6	18
Industrial [2]	2.5	17
Other	2.2	15
Total, all end uses	14.6	100

[1] Forest Service estimates based on data from the American Plywood Association.

[2] Industrial includes materials handling, transportation equipment, products made for sale, and plant maintainence and repalr.

Source: Anderson (1983).

Raw Material Requirements

Softwood plywood recovery (output per unit of input) varies from plant to plant and region to region. Variations result from many factors including plant equipment and panel types produced and log sizes, species, and quality. The average plant in the West requires 72.5 cubic feet (ft^3) of logs to produce 1,000 ft^2 (3/8-in. basis) of softwood plywood, a recovery rate of 43.1 percent.[5] Recovery in the South is slightly higher at 44.4 percent. Southern plants require 70.4 ft^3 of logs to produce 1,000 $ft.^2$ Lower recovery in the West is due, in part, to the larger volume of sanded plywood produced. Based on these recovery rates, the 7.4 billion ft^2 of softwood plywood produced in the West in 1982 used 537 million ft^3 of softwood peeler logs. Southern production of nearly 7.6 billion ft^2 used 532 million ft^3 of logs. Thus, 1,069 million ft^3 of softwood logs was consumed by the softwood plywood industry in 1982. This translates to approximately 13 percent of the total U.S. softwood roundwood harvest.

Technologies to improve recovery are currently being developed. The powered back-up roll (PBR) is one example (Fronczak and Loehnertz 1982). The PBR provides a practical and efficient means to provide auxiliary torque to veneer bolts, thus minimizing spinout, reducing core size, and making previously unpeelable logs peelable. Test results indicate a 2 percent increase in veneer recovery using the PBR (Loehnertz 1982). Such new technologies may increase the profits in softwood plywood manufacture by reducing raw material requirements.

[5] Source: Personal correspondence with Robert G. Anderson, Director, Market Research and Economic Services Division, American Plywood Association, Tacoma, Wash., June 14, 1983. On file with the author.

Summary and Conclusions

The softwood plywood industry is an important segment of the primary wood-processing industries in the United States. It employs an estimated 40 thousand workers and annually produces 15.1 billion ft^2 (3/8-in. basis) of softwood plywood valued at $2.7 billion. The 175 active plants in the United States in 1982 had a combined annual capacity of nearly 23.1 billion ft^2.

Prior to 1964, Oregon, Washington, and California were the major softwood plywood producing states. In 1964, the South began producing plywood and became the major industry growth center. In 17 years its capacity increased from under a billion ft^2 to over 10 billion ft^2 per year. Reasons for this rapid capacity growth include lower raw material costs that allow for the production of low-cost sheathing-grade panels; close proximity to major markets in the East and Midwest; and relatively newer, more efficient technology. The West, however, remains the region with largest capacity at 12.5 billion ft^2, slighly less than its 1965 capacity.

Future prospects for the U.S. softwood plywood industry are mixed and uncertain. New residential construction, which accounts for nearly a third of total domestic consumption, is beginning to rebound after an extended 3-year slump. The renewed housing market is expected to stimulate production, although record production levels set in the late 1970's are not expected to be regained. Increasing competition from structural panels made from reconstituted wood (i.e., waferboard, flakeboard, and oriented strandboard) threaten to capture an increasing share of the residential sheathing market. New technologies currently being developed will help increase industry productivity.

The powered back-up roll, for example, will increase raw material utilization by reducing chuck spin-out and core size in veneer peeling.

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Appendix A
Statistical Tables

Table A-1. Number of, and total annual and average annual capacity of, active softwood plywood plants in the United States by region and state, 1965, 1970, 1975, and 1982

Region and state	1965			1970			1975			1982		
	Plants	Annual capacity		Plants	Annual capacity		Plants	Annual capacity		Plants	Annual capacity	
		Total	Average		Total	Average		Total	Average		Total	Average
	No.	Million ft², 3-8-in. basis		No.	Million ft², 3/8-in. basis		No.	Million ft², 3/8-in. basis		No.	Million ft², 3/8-in. basis	
North	0	0	0	1	50	50	0	0	0	2	90	45
South	12	1,160	97	40	3,785	95	57	6,675	117	67	10,515	157
West	161	13,170	82	138	12,770	93	133	13,960	105	106	12,465	118
United States	173	14,330	83	179	16,605	93	190	20,635	109	175	23,070	132

Source: Table A-3.

Table A-2--U.S. softwood plywood production, by species, 1965-1982

Year	Total production	Douglas-fir [1]	Southern pine	Other softwoods
	Million ft.², 3/8-in. basis			
1965	12,428	10,902	373	1,153
1966	12,849	10,258	1,100	1,491
1967	12,840	9,694	1,710	1,436
1968	14,385	10,423	2,349	1,613
1969	13,538	9,370	2,802	1,366
1970	14,149	9,636	3,316	1,197
1971	16,353	10,498	4,312	1,543
1972	17,843	10,955	5,200	1,688
1973	17,929	10,680	5,437	1,812
1974	15,306	8,942	5,307	1,447
1975	15,706	8,779	5,439	1,488
1976	17,906	9,315	6,790	1,801
1977	18,877	9,675	7,438	1,764
1978	19,492	9,646	7,753	2,093
1979	18,204	[2]8,481	[2]7,975	[2]1,748
1980	15,483	7,262	[2]6,735	[2]1,486
1981	15,714	6,748	[2]7,457	[2]1,509
1982	[3]15,100	[4]NA	NA	NA

[1] Includes plywood with Douglas-fir face veneers and inner veneers of other species.
[2] Forest Service estimate.
[3] Preliminary.
[4] NA = not available.

Source: U.S. Department of Commerce, Bureau of the Census (1982).

Table A-3.--U.S. softwood plywood plants by location and capacity, 1965, 1970, 1975, and 1982

State	Plant No.	Plant name	Plant location	Year opened	Year closed	Annual capacity			
						1965	1970	1975	1982
						Million ft², 3/8-in. basis			
			NORTH						
Michigan	1	Forest Fiber Products	Bessemer	1970		0	[1,2]50	[3]0	40
		Total active capacity				0	50	0	40
		Total active plants				0	1	0	1
New York	2	Whitehall Plywood Co.	Whitehall	1981		0	0	0	50
		Total active capacity				0	0	0	50
		Total active plants				0	0	0	1
		Total active capacity, North				0	50	0	90
		Total active plants, North				0	1	0	2
			SOUTH						
Alabama	3	Champion International	Cordova	1970		0	[1]50	70	90
	4	Georgia-Pacific Corp.	Peterman	1978		0	0	0	230
	5	Georgia-Pacific Corp.	Talladega	1975		0	0	[1]160	220
	6	MacMillan Bloedel Inc.	Pine Hill	1968		0	110	110	150
	7	Scotch Plywood Co.	Fulton	1965		[1]60	100	100	230
	8	Sumter Plywood Corp.	Livingston	1971		0	0	100	100
	9	TMA Forest Products	Andalusia	1970		0	[1]50	50	70
	10	Union Camp Corp.	Chapman	1968		0	110	110	190
	11	Weyerhaeuser Co.	Millport	1977		0	0	0	80
		Total active capacity				60	420	700	1,360
		Total active plants				1	5	7	9
Arkansas	12	Georgia-Pacific Corp. No. 1	Crossett	1965		[1]155	155	200	200
	13	Georgia-Pacific Corp. No. 2	Crossett	1965		[1]145	145	200	200
	14	Georgia-Pacific Corp.	Fordyce	1964		85	135	150	230
	15	International Paper Co.	Gurdon	1967		0	100	[4]100	250
	16	Manville Forest Products	Huttig	1970		0	[1]70	70	80
	17	Umpire Timber Products Inc.	Glenwood	1975	1978	0	0	[1]50	0
	18	Weyerhaeuser Co.	Dierks	1971		0	0	85	130
	19	Weyerhaeuser Co.	Mountain Pine	1971		0	0	85	130
	20	Willamette Industries Inc.	Emerson	1979		0	0	0	150
		Total active capacity				385	605	840	1,370
		Total active plants				3	5	7	8
Florida	21	Boise Cascade Corp.	Pensacola	1971	1974	0	0	0	0
	22	Coastal Lumber Co.	Havana	1981		0	0	0	125
	23	Georgia-Pacific Corp.	Chiefland	1967	1981	0	90	[4]90	0
	24	Georgia-Pacific Corp.	Hawthorne	1982		0	0	0	180
		Total active capacity				0	90	0	305
		Total active plants				0	1	0	2
Georgia	25	Champion International	Waycross	1968		0	55	55	75
	26	Georgia Kraft Co.	Madison	1979		0	0	0	200
	27	Georgia-Pacific Corp.	Monticello	1970		0	[1]90	200	260
	28	Georgia-Pacific Corp.	Savannah	1966		0	50	100	[3]0
	29	Georgia-Pacific Corp.	Warm Springs	1975		0	0	[1]165	200
	30	Great Southern Plywood Co.	Cedar Springs	1968		0	100	100	100
		Total active capacity				0	295	620	835
		Total active plants							

Table A-3.--U.S. softwood plywood plants by location and capacity, 1965, 1970, 1975, and 1982--con.

State	Plant No.	Plant name	Plant location	Year opened	Year closed	Annual capacity			
						1965	1970	1975	1982
						Million ft², 3/8-in. basis			
			SOUTH--con.						
Louisiana	31	Anthony Forest Products Co.	Plain Dealing	1968	1979	0	70	70	0
	32	Boise Cascade Corp.	Dequincy	1973		0	0	80	[4]125
	33	Boise Southern Corp.	Florien	1965		[1]130	130	165	175
	34	Boise Southern Corp.	Oakdale	1965		[1]130	130	165	175
	35	Champion International	Hammond	1966		0	95	95	100
	36	Crown Zellerbach	Joyce	1967		0	70	85	200
	37	Georgia-Pacific Corp.	Logansport	1979		0	0	0	160
	38	Hunt Plywood Co.	Pollock	1981		0	0	0	75
	39	International Paper Co.	Springhill	1981		0	0	0	220
	40	Louisiana-Pacific Corp.	Urania	1970		0	[1]140	200	220
	41	Manville Forest Products	Winnfield	1966		0	100	100	100
	42	Santiam Southerm Corp.	Ruston	1965		[1]80	80	85	85
	43	Willamette Industries Inc.	Dodson	1966		0	130	130	150
	44	Willamette Industries Inc.	Minden	1966	1981	0	[4]60	75	0
	45	Willamette Industries Inc.	Natchitoches	1967		0	75	75	85
	46	Willamette Industries Inc.	Taylor	1978		0	0	0	130
	47	Willamette Industries Inc.	Zwolle	1978		0	0	0	105
		Total active capacity				340	1,020	1,325	1,980
		Total active plants				3	10	12	14
Maryland	48	Chesapeake Bay Plywood Corp.	Pocomoke City	1966		0	60	60	90
		Total active capacity				0	60	60	90
		Total active plants				0	1	1	1
Mississippi	49	Georgia-Pacific Corp.	Gloster	1967		0	150	175	230
	50	Georgia-Pacific Corp.	Louisville	1966		0	90	150	280
	51	Georgia-Pacific Corp.	Taylorsville	1970		0	[1]90	190	250
	52	International Paper Co.	Wiggins	1971		0	0	100	130
	53	Weyerhaeuser Co.	Beaumont	1966		0	90	90	100
	54	Weyerhaeuser Co.	Philadelphia	1965		[1]55	55	55	65
		Total active capacity				55	475	760	1,055
		Total active plants				1	5	6	6
North Carolina	55	Boise Cascade Corp.	Moncure	1967		0	80	80	80
	56	Georgia-Pacific Corp.	Dudley	1980		0	0	0	[5]140
	57	Georgia-Pacific Corp.	Whiteville	1971		0	0	150	200
	58	Weyerhaeuser Co.	Jacksonville	1966		0	100	100	130
	59	Weyerhaeuser Co.	Plymouth	1965		[1]80	80	80	80
		Total active capacity				80	260	410	630
		Total active plants				1	3	4	5
Oklahoma	60	Weyerhaeuser Co.	Wright City	1971		0	0	85	110
		Total active capacity				0	0	85	110
		Total active plants				0	0	1	1
South Carolina	61	Boise Cascade Corp.	Chester	1981		0	0	0	150
	62	Champion International	Newberry	1974		0	0	150	180
	63	Georgia-Pacific Corp.	Prosperity	1975		0	0	[1]95	140
	64	Georgia-Pacific Corp.	Russellville	1969		0	120	150	150
	65	Holly Hill Lumber Co.	Holly Hill	1972		0	0	100	[4]100
		Total active capacity				0	120	495	620
		Total active plants				0	1	4	4

Table A-3.--U.S. softwood plants by location and capacity, 1965, 1970, 1975, and 1982--con.

State	Plant No.	Plant name	Plant location	Year opened	Year closed	Annual capacity			
						1965	1970	1975	1982
						Million ft², 3/8-in. basis			
			SOUTH--con.						
Texas	66	Champion International	Camden	1979		0	0	0	260
	67	Champion International	Corrigan	1972		0	0	190	230
	68	International Paper Co.	Nacogdoches	1970		0	[1]110	110	160
	69	Kirby Forest Industries Inc.	Bon Wier	1975		0	0	[1]160	230
	70	Kirby Forest Industries Inc.	Cleveland	1980		0	0	0	200
	71	Kirby Forest Industries Inc.	Silsbee	1964		60	60	120	150
	72	Louisiana-Pacific Corp.	Lufkin	1965		[1]100	100	100	140
	73	Louisiana-Pacific Corp.	New Waverly	1971		0	0	200	210
	74	Owens-Illinois Inc.	Jasper	1971		0	0	100	140
	75	Temple-Eastex Inc.	Diboll	1964		80	80	120	125
	76	Temple-Eastex Inc.	Pineland	1974		0	0	120	155
		Total active capacity				240	350	1,220	2,000
		Total active plants				3	4	9	11
Virginia	77	Georgia-Pacific Corp.	Emporia	1966		0	90	160	160
		Total active capacity				0	90	160	160
		Total active capacity				0	90	160	160
		Total active plants				0	1	1	1
		Total active capacity, South				1,160	3,785	6,675	10,515
		Total active plants, South				12	40	57	67
			WEST						
California	78	Arcata Plywood Corp.	Arcata	1952	1967	70	0	0	0
	79	American Forest Products Corp.	Martell	1959		60	75	75	95
	80	Cal-Coast Plywood	Arcata	1979	1979	0	0	0	0
	81	Carolina-California Plywood Inc.	Salyer	1958	1966	70	0	0	0
	82	Champion International	Shasta	1952		100	100	[4]100	135
	83	Cloverdale Products Co.	Cloverdale	1957	1979	50	50	40	0
	84	Diamond International Corp.	Red Bluff	1956		55	65	65	80
	85	Fortuna Veneer Co.	Fortuna	1955	1975	120	120	[6]120	0
	86	Gold Rey Forest Prods., Inc.	Redding	1971	1973	0	0	0	0
	87	International Paper Co.	Weed	1911	1975	65	70	[6]70	0
	88	Lindroth Timber Products	Cloverdale	1959	1966	50	0	0	0
	89	Lorenz Lumber Co.	Burney	1963	1978	50	[3]0	0	0
	90	Louisiana-Pacific Corp.	Ft. Bragg	1969	1977	0	120	120	0
	91	Louisiana-Pacific Corp.	Samoa	1959	1977	110	125	125	0
	92	Louisiana-Pacific Corp., Sonora	Standard	1960		65	65	75	75
	93	Northern California Plywood Inc.	Crescent City	1952	1967	95	0	0	0
	94	Orleans Veneer & Plywood co.	Arcata	1955	1974	70	70	0	0

Table A-3.--U.S. softwood plywood plants by location and capacity, 1965, 1970, 1975, and 1982--con.

State	Plant No.	Plant name	Plant location	Year opened	Year closed	Annual capacity			
						1965	1970	1975	1982
						Million ft², 3/8-in. basis			
			WEST--con.						
California--con.	95	Pacific Lumber Co.	Redcrest	1959	1965	[6]35	0	0	0
	96	Pacific Lumber Co.	Scotia	1966		0	70	70	[4]70
	97	Plywood Mfg. of Calif., Inc.	Torrance	1953		60	[3]0	[3]0	[3]0
	98	Simpson Timber Co., Mad River	Arcata	1947	1979	90	120	120	0
	99	Simpson Timber Co.	Eureka	1948	1969	75	0	0	0
	100	Simpson Timber Co., Fairhaven	Eureka	1950		100	75	75	[4]75
	101	Standard Plywood Co.	Crescent City	1954	1975	70	70	[6]70	0
	102	Tri State Plywood Co.	Santa Clara	1954	1967	50	0	0	0
		Total active capacity				1,510	1,195	1,025	385
		Total active plants				21	14	12	4
Colorado	103	Montezuma Plywood Co	1965	1975		[1]85	85	[6]70	0
		Total active capacity				85	85	70	0
		Total active plants				1	1	1	0
Idaho	104	Boise Cascade Corp.	Emmett	1971		0	0	100	120
	105	Boise Cascade Corp.	Payette	1960	1969	0	0	0	0
	106	Idaho Veneer Co.	Post Falls	1964		5	5	5	15
	107	Potlatch Corp.	Lewiston	1952		100	150	150	160
	108	Potlatch Corp.	Pierce	1966		0	150	150	150
	109	Potlatch Corp.	St. Maries	1964		60	125	125	185
		Total active capacity				165	430	530	630
		Total active plants				4	4	5	5
Montana	110	Champion International	Bonner	1974		0	0	300	350
	111	Champion International	Polson	1956	1967	65	0	0	0
	112	Evans Products Co.	Missoula	1960	1980	130	130	130	0
	113	Montana Plywood, Inc.	Whitefish	1958	1970	15	[6]15	0	0
	114	Pack River Plywood Co.	Polson	1970	1972	0	[1]65	0	0
	115	Plum Creek Lumber Co.	Columbia Falls	1965		70	100	100	100
	116	Plum Creek Lumber Co.	Kalispell	1960		100	100	100	100
	117	St. Regis Paper Co.	Libby	1962		70	80	80	80
		Total active capacity				450	490	710	630
		Total active plants				6	6	5	4
Oregon	118	Alpine Veneers Inc.	Portland	1969		0	65	75	75
	119	Astoria Plywood Corp.	Astoria	1951		80	80	90	100
	120	Bohemia, Inc.	Culp Creek	1959		60	65	85	95
	121	Bohemia, Inc.	Drain	1958		70	70	80	100
	122	Bohemia, Inc.	Gardiner	1951		95	95	95	100
	123	Bohemia, Inc.	Junction City	1960		65	65	[4]90	90
	124	Bohemia, Inc.	Vaughn	1956		80	80	80	95
	125	Boise Cascade Corp.	Albany	1959		80	80	80	80
	126	Boise Cascade Corp.	Corvallis	1954		160	160	160	80
	127	Boise Cascade Corp.	Elgin	1964		85	150	150	110
	128	Boise Cascade Corp.	Independence	1959		130	130	130	130
	129	Boise Cascade Corp.	Medford	1964		90	180	240	275
	130	Boise Cascade Corp.	Sweet Home	1958		50	50	65	65

Table A-3.--U.S. softwood plywood plants by location and capacity, 1965, 1970, 1975, and 1982--con.

State	Plant No.	Plant name	Plant location	Year opened	Year closed	Annual capacity			
						1965	1970	1975	1982
						Million ft², 3/8-in. basis			
			WEST--con.						
Oregon--con.	131	Boise Cascade Corp.	Valsetz	1958		70	70	80	80
	132	Boise Cascade Corp.	White City	1962		100	100	100	100
	133	Brand-S Corp., Benton Div.	Corvallis	1953		75	75	85	[4]85
	134	Brand-S Corp., Leading Div.	Corvallis	1963		100	100	100	100
	135	Camac Veneer, Inc.	Eugene	1949	1969	80	0	0	0
	136	Champion International	Eugene	1940	1970	90	[6]90	0	0
	137	Champion International	Gold Beach	1960		120	120	140	165
	138	Champion International	Lebanon	1941		1980	200	215	265
	139	Champion International	Mapleton	1948	1975	85	100	[6]100	0
	140	Champion International	Reedsport	1963	1966	80	0	0	0
	141	Champion International	Roseburg	1958		115	125	150	210
	142	Champion International	Willamina	1939		85	100	115	115
	143	Coast Range Plywood Inc.	McMinnville	1955		45	45	[4]60	[4]60
	144	Columbia Plywood Corp.	Klamath Falls	1957	1972	50	50	0	0
	145	Coos Head Timber Co.	Coos Bay	1956		40	40	45	45
	146	Diamond International Corp.	Redmond	1965		[1]115	115	125	150
	147	D-L Veneer & Plywood Co.	McMinnville	1962	1966	50	0	0	0
	148	Ellingson Timber Co.	Baker	1964		85	85	85	30
	149	Emerald Forest Products	Cresswell	1966		0	[4]50	75	75
	150	Emerald Forest Products	Eugene	1953		80	95	100	135
	151	Fir-Ply Inc. No. 2	White City	1957	1973	65	65	0	0
	152	Falcon Plywood Co.	Eugene	1956		80	80	150	40
	153	Forest Industries Inc.	Dillard	1952	1967	60	0	0	0
	154	Fourply Inc.	Grants Pass	1961		100	100	100	110
	155	Georgia-Pacific Corp.	Coos Bay	1959	1979	145	145	145	0
	156	Georgia-Pacific Corp.	Coquille	1936		180	190	190	200
	157	Georgia-Pacific Corp. Irving Rd.	Eugene	1955	1976	[3]0	[3]0	50	0
	158	Georgia-Pacific Corp.	Mohawk	1959	1971	85	85	0	0
	159	Georgia-Pacific Corp. No. 1	Springfield	1940	1970	50	[6]60	0	0
	160	Georgia-Pacific Corp. No. 2	Springfield	1960		160	160	160	170
	161	Georgia-Pacific Corp.	Toledo	1953		90	135	140	140
	162	Gregory Timber Resources	Glendale	1963		65	70	160	160
	163	Hines Lumber Co.	Hines	1965		60	60	80	[4]80
	164	Kinzua Corp.	Kinzua	1974	1979	0	0	130	0
	165	Kogap Mfg. Co.	Medford	1974		0	0	150	225
	166	Lane Plywood Inc.	Eugene	1950		150	150	160	170
	167	Lang & Gangnes Corp.	White City	1952		65	65	80	95
	168	Linnton Plywood Assn.	Portland	1953		75	85	100	130
	169	Louisiana-Pacific Corp.	Tillamook	1958		100	100	100	40
	170	Martin Bros. Container & Timber	Oakland	1949	1966	85	0	0	0
	171	Medford Corp.	Medford	1961		100	140	150	210
	172	Menasha Corp.	North Bend	1949	1967	100	0	0	0
	173	Merlin Forest Products Co.	Merlin	1963	1970	20	[6]20	0	0
	174	Miller Redwood Co.	Merlin	1956		80	80	80	80
	175	Milwaukie Plywood Corp.	Milwaukie	1950	1977	120	100	100	0
	176	Mt. Jefferson Lumber Co.	Lyons	1967		0	40	40	40
	177	Mt. Mazama Plywood, Inc.	Sutherlin	1954		100	120	125	125
	178	Multnomah Plywood Corp.	Portland	1950	1968	100	0	0	0
	179	Multnomah Plywood Corp.	St. Helens	1962		85	85	120	160
	180	Murphy Co.	Springfield	1955		100	[4]100	100	110
	181	Myrtle Creek Plywood Inc.	Myrtle Creek	1947	1966	100	0	0	0
	182	North Santiam Plywood Co.	Mill City	1964		120	120	120	135

Table A-3.--U.S. softwood plants by location and capacity, 1965, 1970, 1975, and 1982--con.

State	Plant No.	Plant name	Plant location	Year opened	Year closed	Annual capacity			
						1965	1970	1975	1982
						Million ft², 3/8-in. basis			
			WEST--con.						
Oregon--con.	183	Oregon Washington Plywood Co.	Garibaldi	1946	1974	90	90	0	0
	184	Pacific Teollisuus, Inc.	Gold Beach	1974	1975	0	0	[6]75	0
	185	Plyboard Corp.	Brownsville	1981		0	0	0	[5]25
	186	Port Plywood Co.	Astoria	1959	1966	50	0	0	0
	187	Publishers Paper Co.	Portland	1958	1977	60	110	125	0
	188	Rosboro Lumber Co.	Springfield	1960		65	65	85	135
	189	Roseburg Lumber Co. No. 1	Dillard	1952		80	75	150	150
	190	Roseburg Lumber Co. No. 2	Dillard	1956		120	150	150	150
	191	Roseburg Lumber Co. No. 3	Roseburg	1946		85	110	110	110
	192	Roseburg Lumber Co. No. 4	Riddle	1970		0	[1]200	250	310
	193	Roseburg Lumber Co. No. 5	Coquille	1961	1974	120	120	0	0
	194	Roseburg Lumber Co. No. 6	Coquille	1952		70	70	110	135
	195	Sel-Ply Products	White City	1968		0	50	[3,4]0	[3,4]0
	196	Simpson Timber Co.	Albany	1941		65	65	65	75
	197	Simpson Timber Co.	Lyons	1954	1967	90	0	0	0
	198	Southern Oregon Plywood Co.	Grants Pass	1949		75	90	90	110
	199	South Coast Lumber Co.	Brookings	1952		90	100	100	100
	200	Southwest Forest Industries No. 1	Albany	1955		185	185	185	185
	201	Southwest Forest Industries No. 3	Grants Pass	1962		150	150	150	150
	202	Southwest Forest Industries No. 4	Grants Pass	1955		95	110	120	130
	203	Southwest Forest Industries No. 5	White City	1955		95	110	120	130
	204	Southwest Forest Industries No. 6	White City	1955		100	130	130	130
	205	Timber Products Co.	Medford	1947	1975	90	90	[6]90	0
	206	Tim-Ply Co.	Grants Pass	1953		110	110	110	110
	207	Treplex Inc. No. 1	Eugene	1957	1978	70	80	[4]85	0
	208	Warm Springs Forest Products	Warm Springs	1956		60	[4]60	50	50
	209	West Ridge Plywood Inc.	Westfir	1951		60	60	70	75
	210	Western States Plywood Co-op	Port Orford	1953	1974	70	70	0	0
	211	Weyerhaeuser Co.	Cottage Grove	1956		75	85	90	100
	212	Weyerhaeuser Co.	Klamath Falls	1971		0	0	90	90
	213	Weyerhaeuser Co.	North Bend	1963		65	150	150	150
	214	Weyerhaeuser Co.	Springfield	1952		80	80	85	125
	215	White City Plywood Co. No. 1	White City	1957		95	95	95	65
	216	Willamette Industries Inc.	Lebanon	1961		70	85	110	110
	217	Willamette Industries Inc. Grigg	Lebanon	1949		80	80	80	110
	218	Willamette Industries Inc.	Aumsville	1952	1967	85	0	0	0
	219	Willamette Industries Inc.	Dallas	1955		145	145	150	150
	220	Willamette Industries Inc.	Foster	1958		125	140	150	150
	221	Willamette Industries Inc.	Springfield	1966		0	65	75	105
	222	Willamette Industries Inc.	Sweet Home	1959		70	70	80	115
	223	Winchester Plywood Co.	Winchester	1951	1969	50	0	0	0
		Total active capacity				8,415	8,420	9,065	8,735
		Total active plants				94	85	80	72

Table A-3.--U.S. softwood plywood plants by location and capacity, 1965, 1970, 1975, and 1982--con.

State	Plant No.	Plant name	Plant location	Year opened	Year closed	Annual capacity			
						1965	1970	1975	1982
						Million ft², 3/8-in. basis			
			WEST--con						
Washington	224	Bingen Plywood Co.	Bingen	1958		60	60	60	125
	225	Boise Cascade Corp.	Kettle Falls	1967		0	100	110	120
	226	Boise Cascade Corp.	Spokane	1968	1979	0	50	90	0
	227	Boise Cascade Corp.	Yakima	1962		60	130	130	130
	228	Buffelen Woodworking Co.	Tacoma	1916		[2]35	[3]0	[2]35	[3]0
	229	Centralia Plywood, Inc.	Centralia	1951	1978	85	[4]85	60	0
	230	Champion International	Seattle	1929		[2]75	25	25	25
	231	Crown Zellerbach	Omak	1970		0	[1]115	120	145
	232	Elma Plywood Corp.	Elma	1952		25	45	65	65
	233	Evans Products Cd., Apco Div.	Aberdeen	1927	1968	50	0	0	0
	234	Evans Products Co., Harbor Div.	Aberdeen	1925		80	80	80	95
	235	Everett Plywood Corp.	Everett	1923	1975	125	100	[6]100	0
	236	Farwest Plywood Co.	Tacoma	1948	1974	25	25	0	0
	237	Fort Vancouver Plywood Co.	Vancouver	1928		125	130	150	175
	238	Georgia-Pacific Corp.	Olympia	1929	1967	60	0	0	0
	239	Hardel Mutual Plywood Corp.	Olympia	1950		55	55	100	120
	240	Hoquiam Plywood Co., Inc.	Hoquiam	1947		35	40	50	60
	241	Industrial Lumber Products	Tacoma	1972		0	0	50	[3]0
	242	International Paper Co.	Chelatchie	1960	1979	85	85	85	0
	243	Lacey Plywood Co., Inc.	Lacey	1951		50	50	60	75
	244	Lowell Plywood Co., Inc.	Everett	1924	1965	70	0	0	0
	245	Lyle Plywood Co.	Tacoma	1933	1970	20	[6]10	0	0
	246	Mt. Baker Plywood Inc.	Bellingham	1950		50	50	50	75
	247	North Pacific Plywood Inc.	Tacoma	1921		60	60	80	85
	248	Olympic Plywood, Inc.	Aberdeen	1936	1969	150	0	0	0
	249	Peninsula Plywood Corp.	Port Angeles	1941		100	100	100	100
	250	Pope & Talbot, Inc.	Kalama	1949	1979	80	80	80	0
	251	Publishers Forest Products Co.	Anacortes	1939		135	135	135	115
	252	Puget Sound Plywood Inc.	Tacoma	1942		120	120	120	100
	253	Scandia Ply	Tacoma	1966	1970	0	[6]50	0	0
	254	Simpson Timber Co.	McCleary	1912		[2]65	120	120	140
	255	Simpson Timber Co., Central	Olympia	1925	1967	35	0	0	0
	256	Simpson Timber Co., Olympic	Shelton	1941	1975	20	20	[6]20	0
	257	Simpson Timber Co., Shelton	Shelton	1975		0	0	[1]35	35
	258	St. Regis Paper Company	Olympia	1921	1967	120	0	0	0
	259	St. Regis Paper Company	Tacoma	1936	1969	65	0	0	0
	260	Stevenson Co-Ply, Inc.	Stevenson	1949		65	65	80	125
	261	Textured Forest Products	Washougal	1971		0	0	20	[4]20

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Table A-3.--U.S. softwood plywood plants by location and capacity, 1965, 1970, 1975, and 1982--con.

State	Plant No.	Plant name	Plant location	Year opened	Year closed	Annual capacity 1965	1970	1975	1982
						Million ft², 3/8-in. basis			
			WEST--con.						
Washington --con.	262	Three Rivers Plywood & Timber Co.	Darrington	1955	1965	[6]45	0	0	0
	263	Tidewater Plywood, Inc.	Everett	1964	1965	[6]65	0	0	0
	264	Weyerhaeuser Co.	Longeview	1947		180	180	275	65
	265	Weyerhaeuser Co.	Snoqualmie Falls	1959		70	70	75	110
		Total active capacity				2,545	2,150	2,560	2,085
		Total activeplants				35	28	30	21
		Total active capacity, West				13,170	12,770	13,960	12,465
		Total active plants, West				161	138	133	106
		Total active capacity, U ited States				14,330	16,605	20,635	23,070
		Total active plants, United States				173	179	190	175

[1] Plant opened during current year, included in totals.
[2] Includes hardwood plywood capacity.
[3] Softwood plywood operations ceased, other operations still active, excluded from totals.
[4] Plant idle during current year, excluded from totals.
[5] Composite panel plant.
[6] Plant closed during current year, included in totals.

Sources: American Plywood Association (1981)
Anderson, Robert G. (1976,1979,1980,1981,1982)
C.C. Crow Publications, Inc. (1975)
Georgia-Pacific Corp. (1981)
Forest Industries (1965,1970,1975,1976,1980,1981)
Miller Freeman Publications (1982)
Publications Development, Inc. (1981)

Table A-4.--U.S. softwood plywood production, by region, 1965-1982.

Year	Total production	Regional production[1] West Volume	West Percent	South Volume	South Percent	North Volume	North Percent
		Million ft², 3/8-in. basis					
1965	12,428	12,030	96.8	398	3.2	--	--
1966	12,849	11,731	91.3	1,118	8.7	--	--
1967	12,840	11,081	86.3	1,759	13.7	--	--
1968	14,385	12,069	83.9	2,316	16.1	--	--
1969	13,538	10,695	79.0	2,843	21.0	--	--
1970	14,149	10,867	76.8	3,268	23.1	14	0.1
1971	16,353	12,003	73.4	4,334	26.5	16	.1
1972	17,843	12,669	71.0	5,174	29.0	--	--
1973	17,929	12,479	69.6	5,450	30.4	--	--
1974	15,306	10,362	67.7	4,944	32.3	--	--
1975	15,706	10,146	64.6	5,560	35.4	--	--
1976	17,906	11,281	63.0	6,625	37.0	--	--
1977	18,877	11,628	61.6	7,249	38.4	--	--
1978	19,492	11,773	60.4	7,719	39.6	--	--
1979	18,204	10,486	57.6	7,718	42.4	--	--
1980	15,483	8,392	54.2	6,952	44.9	139	.9
1981	15,714	7,779	49.5	7,668	48.8	267	1.7
[2]1982	15,100	7,400	49.0	7,550	50.0	150	1.0

[1] Forest Service estimates based on regional American Plywood Association data.
[2] Preliminary.

Source: Anderson (1982.) U.S. Department of Commerce, Bureau of the Census (1982).

Table A-5.--Douglas-fir and southern pine peeler log prices in the United States, 1965-1982

Year	Douglas-fir peeler logs[1]	Southern pine peeler logs[2, 3]	Percent difference
	----------Dollar per M fbm, Scribner log rule----------		
1965	93.9	NA[4]	--
1966	97.9	NA	--
1967	103.8	52.8	97
1968	109.8	57.3	92
1969	134.4	65.1	106
1970	122.3	61.7	98
1971	127.6	72.9	75
1972	140.6	83.8	68
1973	186.0	103.9	79
1974	208.9	112.4	86
1975	228.6	105.7	116
1976	268.7	124.3	116
1977	299.4	160.3	87
1978	333.5	186.3	79
1979	433.1	232.3	86
1980	493.8	212.0	133
1981	532.4	228.8	133
1982	NA	218.8	NA

[1] Prices for domestic sales in western Washington and northwestern Oregon. Prices may include transportation and handling costs.
[2] Prices for sales from private lands in Louisiana.
[3] Prices for 1967-1976 are Forest Service estimates based on average sawlog prices.
[4] NA = not available.

Source: Ruderman, Florence K. (1976, 1982). Timber Mart South, Inc. (1982). Ulrich, Alice H. (1981).

Table A-6.--U.S. net growing stock volume by region, species, and diameter class, 1962, 1970, and 1977

Region	Year	Diameter class (in.)						
		5-6.9	7-8.9	9-10.9	11-18.9	19-28.9	29+	Total
		---------- Billion ft[3] ----------						
		DOUGLAS-FIR						
West	1962	2.9	4.8	6.0	24.6	25.4	42.5	106.1
	1970	3.5	4.7	5.5	24.6	23.0	35.6	96.9
	197	3.3	4.6	5.5	25.1	22.7	32.3	93.5
Percent change per year		.9	-.3	-.6	.2	-.7	-1.7	-.8
		SOUTHERN PINE						
South	1962	6.7	10.1	11.1	26.3	3.2	.1	57.5
	1970	8.2	11.8	13.2	33.7	5.0	.1	72.0
	1977	10.8	15.3	16.7	40.5	6.0	.2	89.5
Percent change per year		3.2	2.8	2.8	2.9	4.3	4.7	3.0

Source: U.S. Department of Agriculture, Forest Service (1965, 1973, 1982).

Table A-7.--Production, imports, exports, and apparent domestic consumption of softwood plywood in the United States. 1950-1980

Year	Domestic production	Imports	Exports	Apparent domestic consumption [1]
	Million ft², 3/8-in, basis			
1965	12,428	5	30	12,402
1966	12,849	3	48	12,804
1967	12,840	3	85	12,758
1968	14,385	10	64	14,332
1969	13,538	15	199	13,354
1970	14,149	2	114	14,038
1971	16,354	3	99	16,258
1972	17,843	6	221	17,629
1973	17,929	9	411	17,527
1974	15,306	4	542	14,769
1975	15,706	7	791	14,922
1976	17,906	12	716	17,202
1977	18,877	18	287	18,609
1978	19,492	63	298	19,257
1979	18,204	27	402	17,829
1980	15,483	37	373	15,147
1981	15,714	21	686	15,049
[2] 1982	15,100	20	500	14,620

[1] Production + imports - exports.
[2] Preliminary.

Source: Ulrich, Alice H. (1981). U.S. Department of Commerce, Bureau of the Census (1982).

Table A-8.--Softwood plywood production in the United States, by grade, 1965-1982

Year	Total production	Production by grade					
		Sanded[1]		Sheathing[1]		Specialties	
		Volume	Percent	Volume	Percent	Volume	Percent
	Million ft², 3/8-in. basis						
1965	12,428	5,562	45	6,866	55	[2]NA	--
1966	12,849	5,635	44	7,214	56	NA	--
1967	12,840	5,212	41	7,628	59	NA	--
1968	14,385	5,685	40	8,700	60	NA	--
1969	13,538	5,128	38	8,410	62	NA	--
1970	14,149	5,210	37	8,939	63	NA	--
1971	16,354	5,455	33	10,899	67	NA	--
1972	17,843	5,464	31	12,379	69	NA	--
1973	17,929	5,141	29	12,788	71	NA	--
1974	15,306	4,444	29	10,862	71	NA	--
1975	15,706	4,377	28	11,329	72	NA	--
1976	17,906	4,512	25	13,394	75	NA	--
1977	18,877	4,138	22	14,739	78	NA	--
1978	19,492	4,254	22	15,237	78	NA	--
1979	18,204	3,508	19	12,527	69	2,169	12
1980	15,483	3,265	21	10,212	66	2,006	13
1981	15,714	3,086	20	10,879	69	1,749	11
[3]1982	15,100	2,530	17	11,226	74	1,344	9

Source: Anderson (1983). U.S. Department of Commerce, Bureau of the Census (1982).

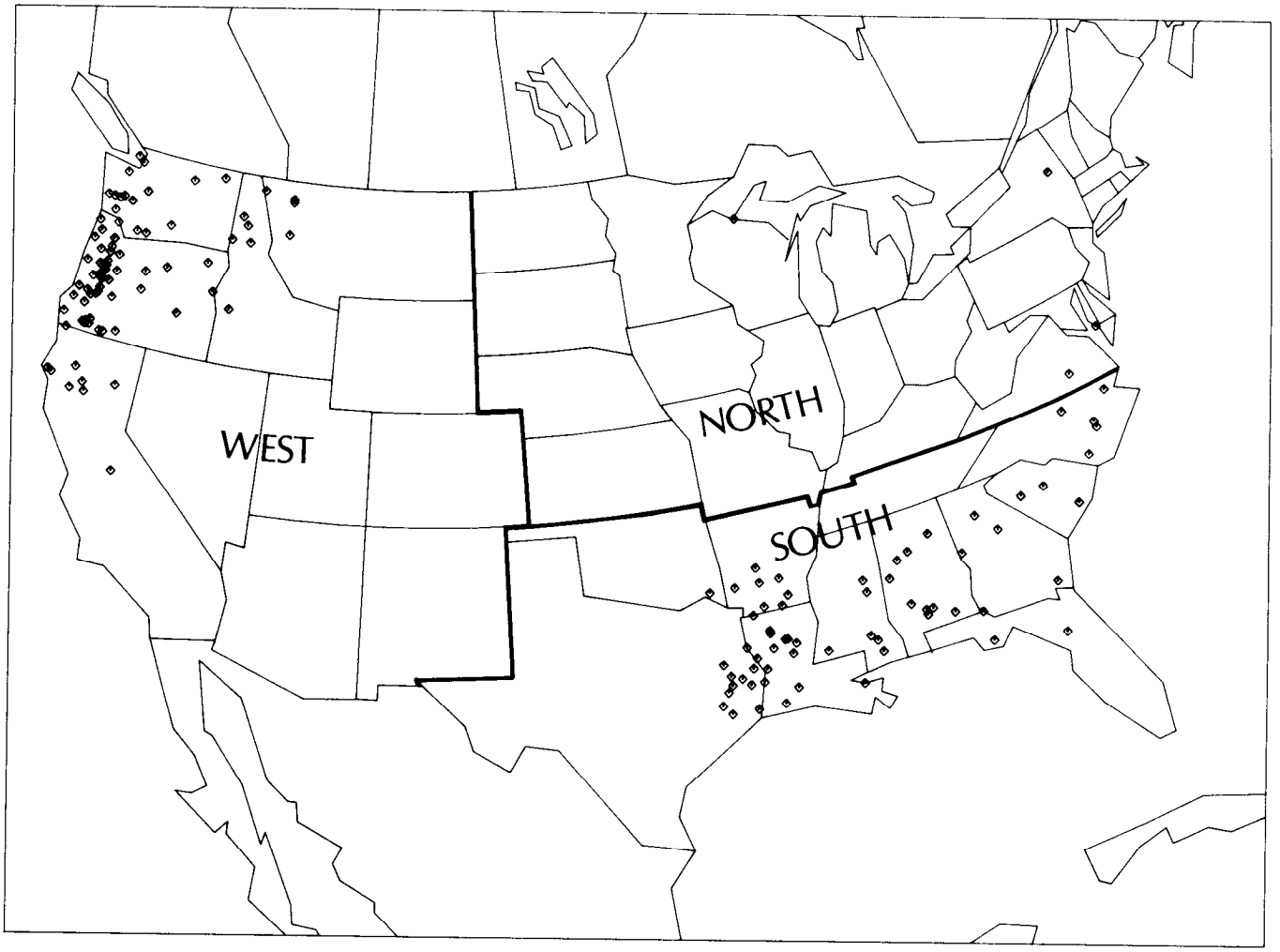

Figure A-1.—U.S. softwood plywood plant locations and regional breakdown used in this report.

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