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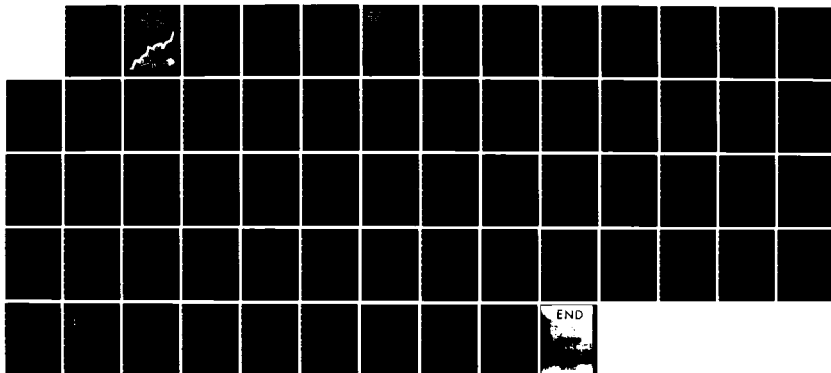
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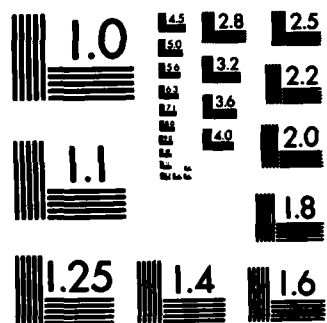
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FPL 14

July 1984

Trends in the Production and Consumption of Major Forest Products in the United States

David B. McKeever
Cherilyn A. Hatfield

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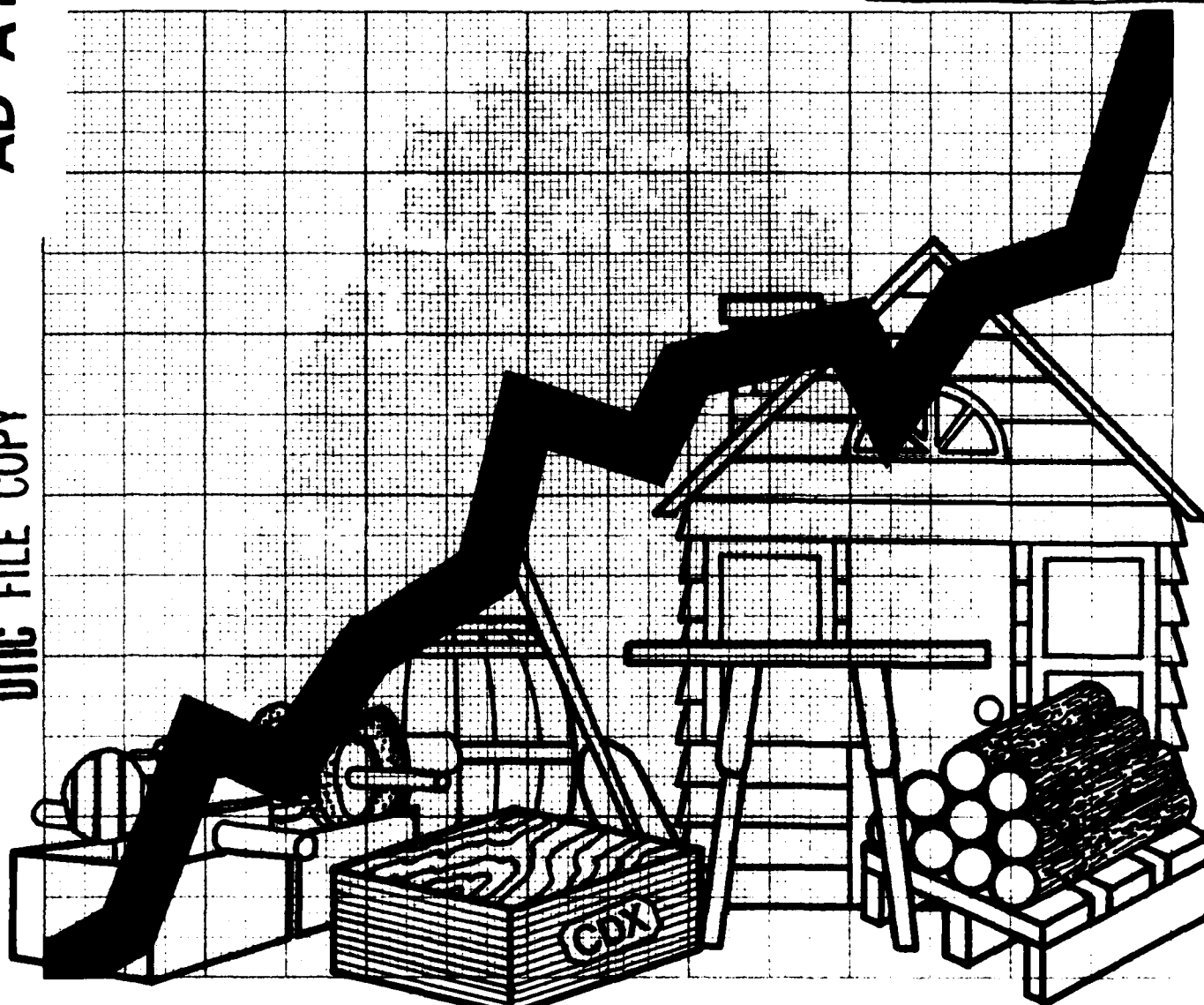
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Abstract

This report presents statistical information in tables and graphs on past trends in the production, consumption, and foreign trade of forest products in the United States. It follows the flow of wood through the U.S. economy from the Nation's forests, through the primary and secondary wood-processing industries, to the final end uses.

Keywords: Timber products output, timber commodities, foreign trade, wood products production, wood products consumption, end-use demand.

Note

The Forest Service has printed a companion publication which contains the charts from this publication, printed in a larger format for use with opaque projectors or in preparing transparencies for overhead projectors. If you need visual aids to present information on the trends in the production and consumption of major forest products in the United States, you may request the companion publication:

McKeever, David B.; Hatfield, Cheryl A. Trends in the production and consumption of major forest products in the United States: Charts for use in classes or meetings. Resour. Bull. FPL 14 A. Madison, WI: U.S. Department of Agriculture, Forest Service, Forest Products Laboratory; 1984. 71 p.

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Trends in the Production and Consumption of Major Forest Products in the United States

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Introduction

This bulletin presents statistical information on trends in the production, consumption, and foreign trade of major forest products in the United States. It follows the flow of wood through the U.S. economy, from the Nation's forests, through the primary and secondary wood-processing industries, to the final end uses.

The terms used in this bulletin are defined in a glossary following the Introduction.

All data are presented in both tables and figures, which are each grouped in four parts:

1. Timber products output (figs. 1-18, tables 1-10)
2. Timber commodities (figs. 19-48, tables 11-28)
3. Foreign trade (figs. 49-57, tables 29-33)
4. End-use demand for timber (figs. 58-124, tables 34-60).

The Standard Industrial Classification (SIC) definitions of industries are presented in the Appendix.

Data for this report were obtained from a variety of published sources, including U.S. Department of Agriculture Forest Service research reports, U.S. Department of Commerce industry reports, and trade association reports. An extensive bibliography is included for individuals interested in obtaining more detailed or specific information.

¹Italicized numbers in parentheses refer to literature cited at end of report.

Glossary

The definitions included in this glossary are from the American Society for Testing and Materials' publication "Standard Definitions of Terms Relating to Wood-Base Fiber and Particle Panel Materials."⁽⁶⁾

Bleached pulp. — A chemical pulp altered by an oxidizing or reducing agent to a G.E. brightness over 75.

Board foot. — A piece of lumber measuring 1 inch thick, 12 inches wide, and 12 inches long, or its equivalent.

Capacity. — The quantity of output that could be produced during a stated time period under normal conditions with full use of equipment and an adequate supply of raw materials and labor.

Chemical paper grade pulp. — Includes white pulp and unbleached sulphate pulp.

Chemical pulp. — Includes chemical paper grade, dissolving, and special alpha pulps.

Chemimechanical pulp. — A pulp produced primarily through mechanical fiberization. Mild chemical treatments are employed to improve the quality of the pulp. The pulp produced is usually coarse fibred.

Commercial buildings. — Buildings primarily for the rental of office space, to house banks and other financial institutions, or for use in wholesale, retail, and service trades such as stores, restaurants, and garages.

Consumption. — The amount of a product used in its final form during a stated time period, usually 1 year. Consumption is defined to be production plus imports minus exports. Also referred to as apparent consumption.

Cord. — A pile of stacked wood measuring 128 cubic feet. The standard dimensions are 4 by 4 by 8 feet.

Defibrated/exploded pulp. — Pulps prepared by subjecting chips to high-pressure steam treatment followed by quick release of pressure, causing fibers to separate. Used to make hardboard and roofing felt.

Dissolving and special alpha pulps (sulfite and sulfate). — Highly refined, bleached, white sulfite or sulfate pulps with a high content of alpha (pure cellulose) fiber used to make photographic base papers, overlay papers, resin saturating papers, and cellulose derivatives, such as rayon, cellulose acetate, and cellulose nitrate.

Educational buildings. — Buildings used for administration and teaching of formal academic or technical courses, such as offered by colleges and universities, elementary and secondary schools, libraries, museums, and art galleries, as well as laboratories not part of manufacturing establishments.

End-use demand. — The types and quantities of timber commodities consumed in final end uses such as residential construction, furniture manufacturing, etc.

Fuelwood (roundwood basis). — All fuelwood cut directly from trees or parts of trees, including that cut from dead and cull timber as well as from growing stock.

Groundwood pulp. — A pulp produced from debarked, cleaned short logs that are pressed sideways against a revolving natural or artificial pulpstone, thereby reducing them to a fibrous mass of short fibers, which discolors in time on exposure to light and air. The wood is almost always from softwoods, although in certain pulp, hardwoods are used. Freedom from pitch is desirable. Groundwood pulp is used in papers where permanence and strength are of minor importance, but where absorbency, bulk, opacity, and compressibility are the chief characteristics desired.

Hardboard. — A generic term for a panel manufactured primarily from interfelted lignocellulosic fibers (usually wood), consolidated under heat and pressure in a hot press to density of 31 lb/ft³ (specific gravity 0.50) or greater, and to which other materials may have been added during manufacture to improve certain properties. (From the American Society for Testing and Materials.)

Hardwoods. — Dicotyledonous trees, usually broad leaved and deciduous.

Hospital buildings. — Buildings primarily used for providing hospital and institutional care, such as general, mental, and tuberculosis hospitals, clinics or infirmaries, sanitariums, nursing homes, homes for the aged, and orphanages.

Industrial buildings. — Buildings of manufacturing establishments, as defined in major groups 19-39 of the Standard Industrial Classification Manual, used to house production, assembly, and warehousing activities, as well as auxiliary facilities such as administration buildings.

Industry. — A group of establishments primarily engaged in the same or similar lines of manufacturing and having a high degree of specialization within the industry.

Insulation board. — A generic term for a homogeneous panel made from lignocellulosic fibers (usually wood or cane) characterized by an integral bond produced by interfelting of the fibers, to which other materials may have been added during manufacture to improve certain properties, but which has not been consolidated under heat and pressure as a separate stage in manufacture, said board having a density of less than 31 lb/ft³ (specific gravity 0.50) but having a density of more than 10 lb/ft³ (specific gravity 0.16).

Manufacturing industries. — Manufacturing industries comprise all establishments primarily engaged in manufacturing as defined in the 1972 revision of the Standard Industrial Classification (SIC) Manual. The SIC Manual defines manufacturing as the mechanical or chemical transformation of substances into products. The assembly of component parts or products is also considered to be manufacturing if the result is neither a structure nor other fixed improvement. These activities are usually carried on in plants, factories, or mills, which characteristically use power-driven machines and handling equipment.

Medium-density fiberboard (MDF). — A panel product manufactured from lignocellulosic fibers combined with a synthetic resin or other suitable binder. The panels are manufactured by the application of heat and pressure by a process in which the interfiber bond is substantially created by the added binder.

Miscellaneous industrial. — Includes cooperage, piling, poles, round products mine timbers, round and split posts, and others.

Mobile home. — A structure transportable in one or more sections, which exceeds either 8 body feet in width or 32 body feet in length, built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities, and includes the plumbing, heating, air-conditioning, and electrical systems contained therein.

National Forest System. — Federal lands designated by Executive Order or statute as National Forests or purchase units, and other lands under the administration of the Forest Service including experimental areas and Bankhead-Jones Title III lands.

Nonhousekeeping buildings. — Buildings providing residential facilities other than housing units, generally characterized as hotels (other than apartment hotels), motels, and dormitories.

Other buildings. — Buildings, except farm and public utilities, not elsewhere classified, such as auditoriums, theaters, indoor swimming pools, fire stations, and bus and air passenger terminals.

Paper grade pulp. — Includes chemical paper grade, semichemical, and mechanical pulp.

Particleboard. — A generic term used to describe panel products made from discrete particles of wood or other lignocellulosic material. Other materials can be added during the production process to improve the board. Thermosetting resins are added to the particles to serve as a binder. The particles are bound into a solid board when the particles and resins are placed under heat and pressure.

Plant byproducts. — Wood material from primary manufacturing plants (such as slabs, edgings, trimmings, miscuts, sawdust shavings, veneer cores and clippings, and pulp screenings) that are used for some products.

Primary wood-processing plants. — Plants (industries) using roundwood products (industries) such as sawlogs, pulpwood bolts, veneer logs, etc.

Product. — The end item from materials processed by manufacturing establishments. The final product of a manufacturing establishment may be "finished" in the sense that it is ready for utilization or consumption, or it may be "semifinished" to become a raw material for an establishment engaged in further manufacturing.

Pulpwood. — The wood used in the manufacture of woodpulp. Includes roundwood and residues.

Region. — The three major *producing* regions are: North — Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, New Jersey, Delaware, Maryland, West Virginia, Ohio, Michigan, Indiana, Kentucky, Wisconsin, Illinois, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas. South — Virginia, North Carolina, South Carolina, Georgia, Florida, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, Texas. West — Montana, Idaho, Wyoming, Nevada, Utah, Colorado, Arizona, New Mexico, Washington, Oregon, California, Alaska, Hawaii.

Religious buildings. — Buildings used primarily for religious services and functions or to house and train religious personnel—churches, synagogues, convents, monasteries, theological seminaries, etc., as well as funeral parlors, mausoleums, and crematories.

Residues. — Coarse: Plant residues suitable for chipping, such as slabs, edgings, and ends. Fine: Plant residues not suitable for chipping, such as sawdust, shavings, and veneer clippings. Logging: The unused portions of sawtimber and poletimber trees cut or killed by logging. Plant: Wood materials from primary manufacturing plants that are not used for any product. Urban: Wood materials from urban areas, such as newspapers, lumber and plywood from building demolition, and used packaging and shipping materials.

Roundwood equivalent. — The volume of logs or other round products required to produce the lumber, plywood, woodpulp, paper, or other similar products.

Sawlog. — A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight, and with a minimum diameter inside bark for softwoods of 6 inches (8 in. for hardwoods) or other combinations of size and defect specified by regional standards.

Secondary wood-processing. — Plants using primary manufactured products plants (industries)(timber commodities) such as lumber, woodpulp, veneer, or plywood.

Section. — The four major Forest Service survey sections are: North — Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, New Jersey, Delaware, Maryland, West Virginia, Ohio, Michigan, Indiana, Kentucky, Wisconsin, Illinois, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas. South — Virginia, North Carolina, South Carolina, Georgia, Florida, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, Texas. Rocky Mountain — Montana, Idaho, Wyoming, Nevada, Utah, Colorado, Arizona, New Mexico. Pacific Coast — Washington, Oregon, California, Alaska, Hawaii

Semibleached pulp. — A chemical pulp altered by an oxidizing or reducing agent to a G.E. brightness between 45 and 75. (In statistical tabulations, included with bleached pulp.)

Semichemical pulp. — Pulp in which only a part of the lignin of the wood is removed during cooking. High yields are obtained in this process. The term "semichemical" indicates a relatively mild degree of cooking, such as a quick-cook sulfite or sulfate cook, and is not specific to any of the chemical pulping processes. After cooking, the softened chips are mechanically disintegrated by a suitable refiner. This type of pulp is chiefly used in the unbleached state, and is characterized by a relatively low color (dependent upon the wood used) and yields a sheet of paper or board that has a dense formation and a high degree of stiffness and rigidity.

Soda pulp. — The term used for the pulp in which the active cooking agent is caustic soda, the digestion taking place at fairly high temperatures. Soda pulp is made principally from hardwoods, such as aspen, birch, maple, gum, and tulip poplar. When bleached, it reaches a fairly white color. In general, it possesses very little physical strength, but imparts the desirable properties of smoothness, bulk, opacity, and uniform formation for printing requirements. Some soda pulp is also made from coniferous woods.

Softwoods. — Coniferous trees, usually evergreen, having needles or scalelike leaves.

Standard Industrial Classification (SIC). — A system to define industries in accordance with the composition and structure of the economy, covering the entire field of economic activities. It is periodically revised to reflect the changing industrial composition of the economy. The latest revision was made in 1972.

U.S. Timber Products Output Total Output by Section

Sulfate pulp. — A term commonly used for all grades of pulp cooked by the process in which the makeup chemical is essentially sodium sulfate. Originally, sulfate pulps were used for the most part in the manufacture of various grades of paper and paperboard where physical strength was of primary importance. However, increasing amounts of sulfate pulps are being used for absorbent tissues, wadding, and for chemical conversion grades. Although the stronger grades are made from softwoods, very large quantities of hardwood kraft pulps are produced.

Sulfite pulp. — A pulp usually manufactured from coniferous woods of low resin content, such as spruce, balsam-fir, and hemlock, by dissolution of the ligneous material (lignin) with calcium bisulphite cooking acid. Dolomite limes, containing a fair percentage of magnesium along with the calcium, are sometimes used when economical. Sulfite pulp is used either bleached or unbleached in nearly all classes of papers, and bleached sulfite pulp is used in the manufacture of rayon and cellulose esters and ethers.

Timber commodities. — Includes lumber, veneer, plywood, hardboard, insulation board, particleboard, medium-density fiberboard, woodpulp, and other commodities manufactured from timber products.

Timber products. — Includes (a) roundwood products such as sawlogs, veneer logs and bolts, cooperage logs and bolts, pulpwood, fuelwood, piling, poles, posts, hewn ties, mine timbers, and other round, split, or hewn products, and (b) byproducts of primary wood-manufacturing plants.

Timber products output. — The volume of timber products cut from growing stock on commercial forest land and from other sources such as cull trees, salvable dead trees, limbs, saplings, material less than 4 inches in diameter, timber on noncommercial and nonforest lands, and plant residues.

Unbleached pulp. — A chemical pulp altered by an oxidizing or reducing agent to a G.E. brightness less than 45.

Veneer log. — Roundwood logs used to produce veneer. Generally of higher quality than other roundwood logs. Also called peeler logs.

Wooden containers. — These include nailed and lock-corner wooden boxes and shooks; wirebound boxes made from lumber, veneer, and plywood; veneer and plywood containers, except boxes and crates, including pails, drums, tubs, fruit and vegetable baskets, and hampers.

Woodpulp. — A pulp manufactured either by mechanical or chemical means or both from softwood or hardwood trees. Used as part or all of the fiber composition in practically every type of paper, and constitutes approximately 90 percent of the virgin pulp fiber used by the world's paper and board industries.

Table 1.—Total timber products' output in the United States by section,² 1952, 1962, 1970, and 1976

Section	1952	1962	1970	1976
Sawlogs (Billion board feet)				
North	5.4	4.0	5.4	5.9
South	14.1	10.3	11.9	13.1
Rocky Mountain	2.5	3.6	4.6	4.1
Pacific Coast	17.3	16.3	17.5	17.9
Total, all sections	39.3	34.2	39.4	41.0
Veneer logs (Billion board feet)				
North	.24	.25	.22	.24
South	.72	.76	2.2	3.5
Rocky Mountain	.01	.13	.48	.42
Pacific Coast	1.5	4.8	4.8	5.4
Total, all sections	2.47	6.19	7.7	9.56
Pulpwood (Million cords)				
North	5.8	7.9	9.7	9.6
South	14.5	25.6	33.5	33.7
Rocky Mountain	.2	1.1	.3	.3
Pacific Coast	2.9	8.6	5.0	3.9
Total, all sections	23.4	43.2	48.5	47.5
Miscellaneous industrial (Million cubic feet)				
North	218.0	194.0	151.0	127.0
South	371.0	224.0	175.0	160.0
Rocky Mountain	26.0	20.0	22.0	20.0
Pacific Coast	82.0	67.0	76.0	71.0
Total, all sections	679.0	505.0	424.0	378.0
Fuelwood (Million cords)				
North	10.8	9.0	2.1	3.1
South	15.0	10.8	4.4	4.3
Rocky Mountain	.7	.3	.3	.3
Pacific Coast	.7	.7	.4	.4
Total, all sections	27.2	20.8	7.2	8.1

¹Includes cooperage, piling, poles, round mine timbers, round and split posts, and other miscellaneous products.

²See map at end of this report for Forest Service sections.

Source: U.S. Department of Agriculture, Forest Service (27-30).

Output by Type of Product, Species Group, and Section

Table 2.—Timber products output in the United States by type of product, species group, and section,¹ 1976

	Sawlogs			Veneer logs			Pulpwood			Miscellaneous industrial products ²			Fuelwood		
	Soft-wood	Hard-wood	Total	Soft-wood	Hard-wood	Total	Soft-wood	Hard-wood	Total	Soft-wood	Hard-wood	Total	Soft-wood	Hard-wood	Total
	— Million board feet —			— Million board feet —			— Million cords —			— Million cubic feet —			— Million cords —		
North	1,552.5	4,306.8	5,859.3	21.1	216.7	237.8	4.0	5.5	9.5	27.0	99.8	126.8	0.05	3.0	3.1
South	9,271.3	3,872.1	13,143.4	3,147.8	382.6	3,530.4	25.0	8.7	33.7	121.9	37.7	159.6	1.0	3.3	4.3
Rocky Mountain	4,106.7	6.2	4,112.9	417.2	.2	417.4	.3	(³)	.3	18.2	1.6	19.8	.3	(³)	.3
Pacific Coast	17,621.8	233.2	17,855.0	5,339.5	12.3	5,351.8	3.6	.3	3.9	71.2	(³)	71.2	.3	.1	.4
Total, all sections	32,552.3	8,418.3	40,970.6	8,925.6	611.8	9,537.4	32.9	14.5	47.4	283.3	139.1	377.4	1.7	6.4	8.1

¹See map at end of this report for Forest Service sections.

²Includes cooperage, pilings, poles, round mine timbers, round and split posts, and other miscellaneous products.

³Less than 50,000 units.

Source: U.S. Department of Agriculture, Forest Service (27-30).

Sawlogs



Figure 1. — Sawlog production in the United States, 1952, 1962, 1970, and 1976. (ML84 5001)

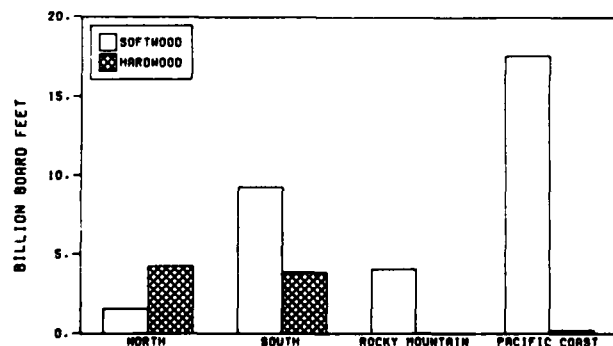


Figure 2. — Sawlog production in the United States by section and species group, 1976. (ML84 5002)

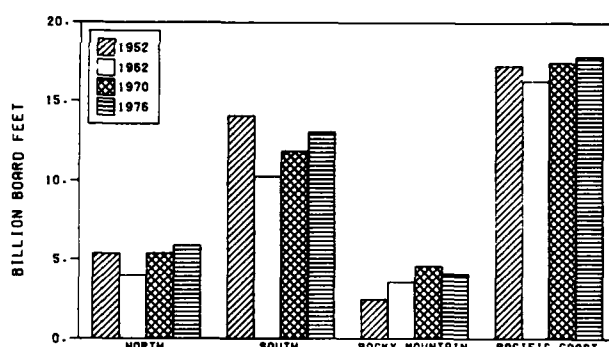


Figure 3. — Sawlog production in the United States by section and year, 1952, 1962, 1970, and 1976. (ML84 5003)

Table 3.—Sawlog production in the United States, by section,¹ 1952, 1962, 1970, and 1976 (Billion board feet)

Section	1952	1962	1970	1976
North	5.4	4.0	5.4	5.9
South	14.1	10.3	11.9	13.1
Rocky Mountain	2.5	3.6	4.6	4.1
Pacific Coast	17.3	16.3	17.5	17.9
Total, all sections	39.3	34.2	39.4	41.0

¹See map at end of this report for Forest Service sections.

Source: U.S. Department of Agriculture, Forest Service (27-30).

Veneer Logs

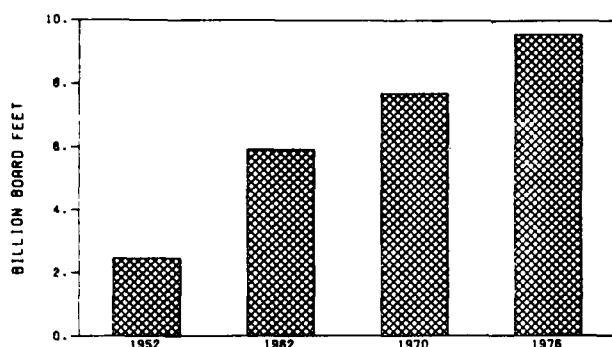


Figure 4. — Veneer log production in the United States, 1952, 1962, 1970, and 1976. (ML84 5004)

Table 4.—Veneer log production in the United States by section,¹ 1952, 1962, 1970, and 1976 (Million board feet)

Section	1952	1962	1970	1976
North	237.1	245.9	215.0	237.8
South	721.1	756.3	2,150.5	3,530.3
Rocky Mountain	8.5	130.7	481.4	417.4
Pacific Coast	1,500.6	4,784.2	4,830.3	5,351.8
Total, all sections	2,467.3	5,917.1	7,677.2	9,537.3

¹See map at end of this report for Forest Service sections.

Source: U.S. Department of Agriculture, Forest Service (27-30).

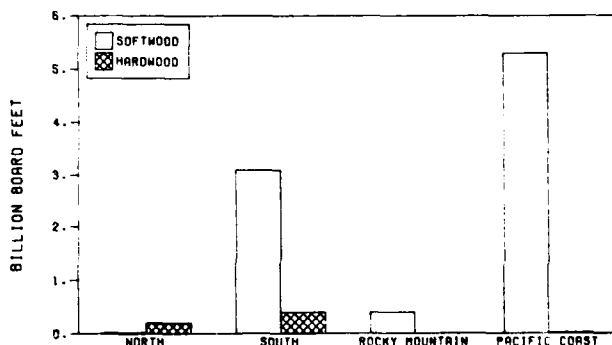


Figure 5. — Veneer log production in the United States by section and species group, 1976. (ML84 5005)

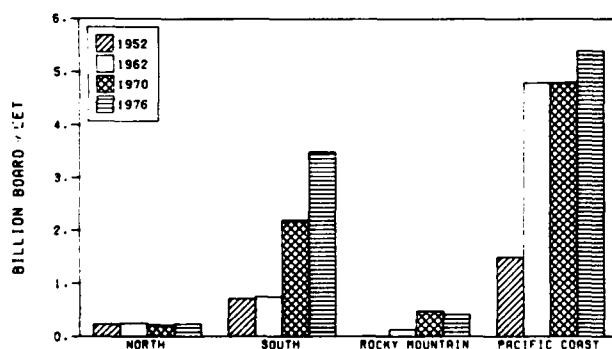


Figure 6. — Veneer log production in the United States by section and year, 1952, 1962, 1970, and 1976. (ML84 5006)

Pulpwood

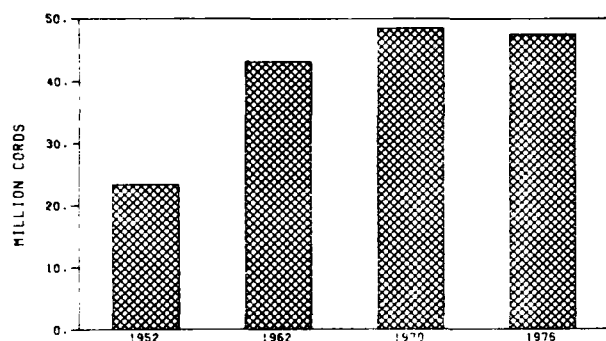


Figure 7. — Pulpwood production in the United States, 1952, 1962, 1970, and 1976. (ML84 5007)

Table 5.—Pulpwood production in the United States by section,¹ 1952, 1962, 1970, and 1976 (Million cords)

Section	1952	1962	1970	1976
North	5.8	7.9	9.7	9.6
South	14.5	25.6	33.5	33.7
Rocky Mountain	.2	1.1	.3	.3
Pacific Coast	2.9	8.6	5.0	3.9
Total, all sections	23.4	43.2	48.5	47.5

¹See map at end of this report for Forest Service sections.

Source: U.S. Department of Agriculture, Forest Service (27-30).

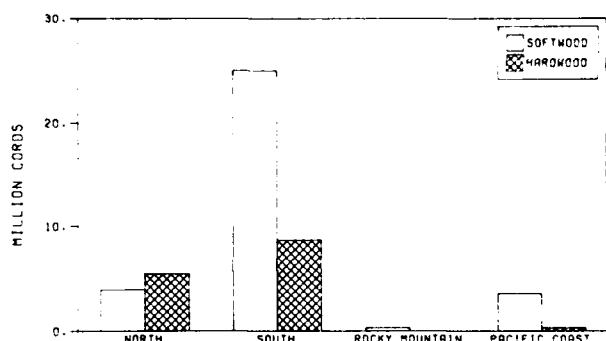


Figure 8. — Pulpwood production in the United States by section and species group, 1976. (ML84 5008)

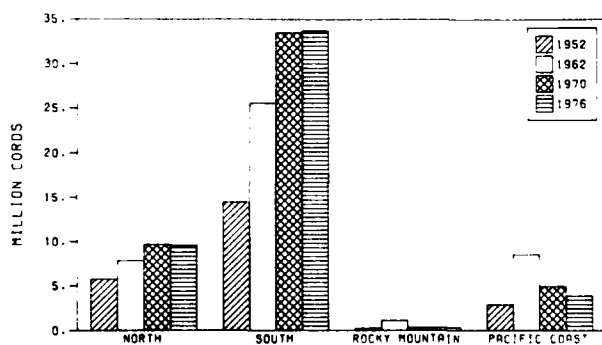


Figure 9. — Pulpwood production in the United States by section and year, 1952, 1962, 1970, and 1976. (ML84 5009)

Miscellaneous Industrial Products

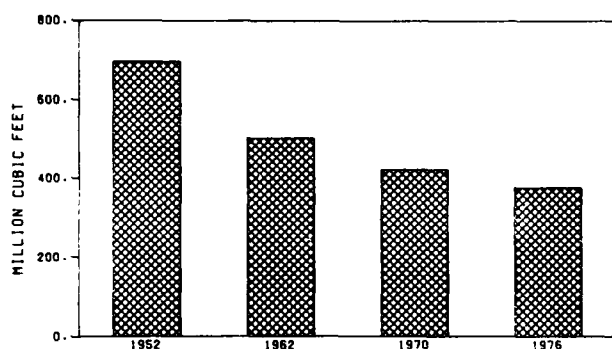


Figure 10. — Miscellaneous industrial products production in the United States, 1952, 1962, 1970, and 1976. (ML84 5010)

Table 6.—Miscellaneous industrial products¹ production in the United States by section,² 1952, 1962, 1970, and 1976. (Million cubic feet)

Section	1952	1962	1970	1976
North	218.4	193.6	150.2	126.8
South	371.5	223.7	175.0	159.6
Rocky Mountain	82.4	67.7	76.5	71.2
Pacific Coast	26.4	20.4	22.3	19.8
Total, all sections	698.7	505.4	424.0	377.4

¹Includes cooperage, pilings, poles, round mine timbers, round and split posts, and other miscellaneous products.

²See map at end of this report for Forest Service sections.

Source: U.S. Department of Agriculture, Forest Service (27-30).

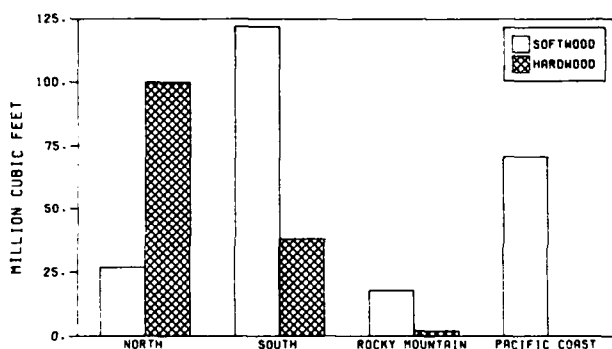


Figure 11. — Miscellaneous industrial products production in the United States by section and species group, 1976. (ML84 5011)

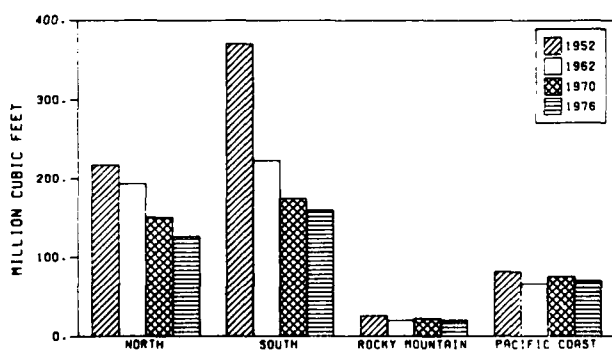


Figure 12. — Miscellaneous industrial products production in the United States by section and year, 1952, 1962, 1970, and 1976. (ML84 5012)

Miscellaneous Timber Products

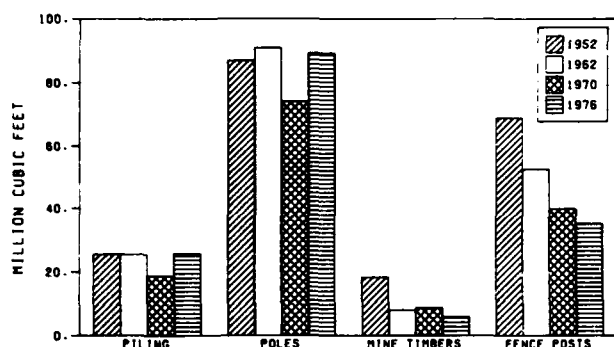


Figure 13. — Miscellaneous softwood timber products production in the United States by type of product, 1952, 1962, 1970, and 1976. (ML84 5013)

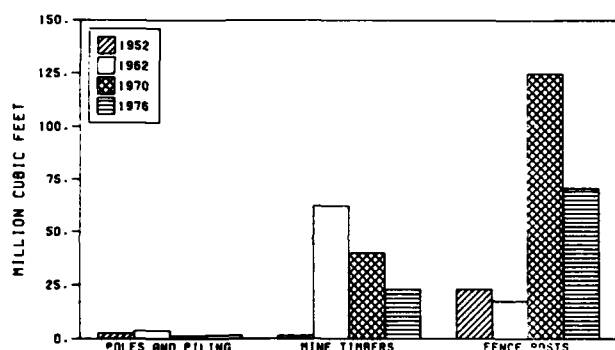


Figure 14. — Miscellaneous hardwood timber products production in the United States by type of product, 1952, 1962, 1970, and 1976. (ML84 5014)

Table 7.—Miscellaneous softwood timber products production in the United States by type of product, 1952, 1962, 1970, and 1976 (Million cubic feet)

	Pilings	Poles	Mine timbers	Posts
1952	25.7	87.0	18.5	69.0
1962	25.7	91.0	8.1	52.6
1970	18.9	74.2	8.8	39.9
1976	25.9	89.4	6.0	35.3

Source: U.S. Department of Agriculture, Forest Service (27-30).

Table 8.—Miscellaneous hardwood timber products production in the United States by type of product, 1952, 1962, 1970, and 1976 (Million cubic feet)

	Pilings	Poles	Mine timbers	Posts
1952	2.1	0.6	62.5	125.1
1962	3.3	.4	40.3	71.0
1970	.9	.2	23.3	28.1
1976	1.0	.4	17.7	10.3

Source: U.S. Department of Agriculture, Forest Service (27-30).

Fuelwood

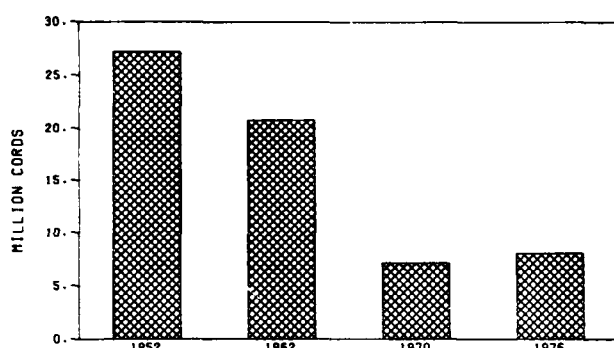


Figure 15. — Fuelwood production in the United States, 1952, 1962, 1970, and 1976. (ML84 5015)

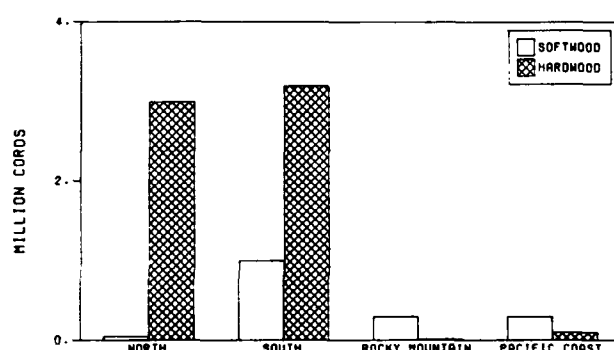


Figure 16. — Fuelwood production in the United States by section and species group, 1976. (ML84 5016)

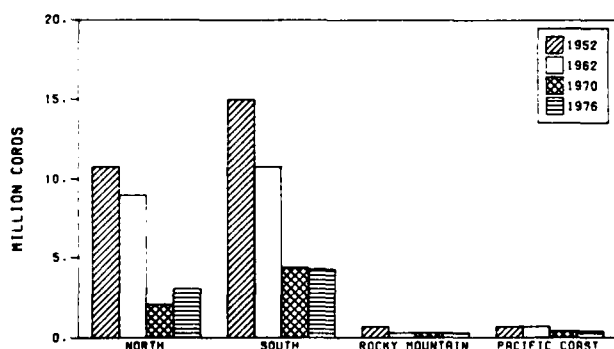


Figure 17. — Fuelwood production in the United States by section and year, 1952, 1962, 1970, and 1976. (ML84 5017)

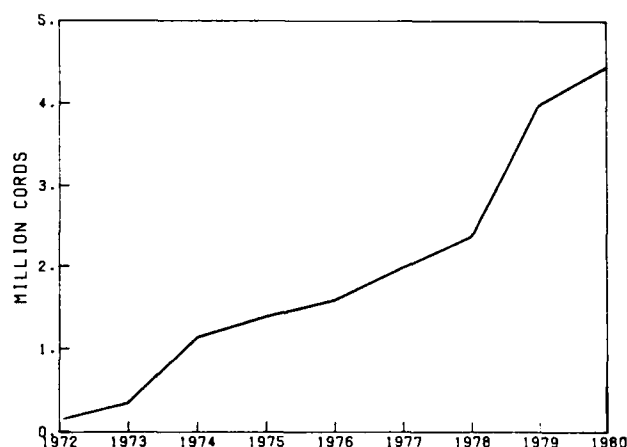


Figure 18. — Estimated fuelwood removals from National Forest System lands, 1972-1980. (ML84 5018)

Table 9.—Fuelwood production in the United States by section, 1952, 1962, 1970, and 1976 (Million cords)

Section	1952	1962	1970	1976
North	10.8	9.0	2.1	3.1
South	15.0	10.8	4.4	4.3
Rocky Mountain	.7	.3	.3	.3
Pacific Coast	.7	.7	.4	.4
Total, all sections	27.2	20.8	7.2	8.1

See map at end of this report for Forest Service sections.

Source: U.S. Department of Agriculture, Forest Service (27-30).

Table 10.—Estimated fuelwood removals from National Forest System lands, 1972-1980 (Million cords)

Year	Removals	Year	Removals
1972	0.2	1977	2.0
1973	.4	1978	2.4
1974	1.2	1979	4.0
1975	1.4	1980	4.5
1976	1.6		

Source: Johnson, Susan (13).

U.S. Timber Commodities

Lumber

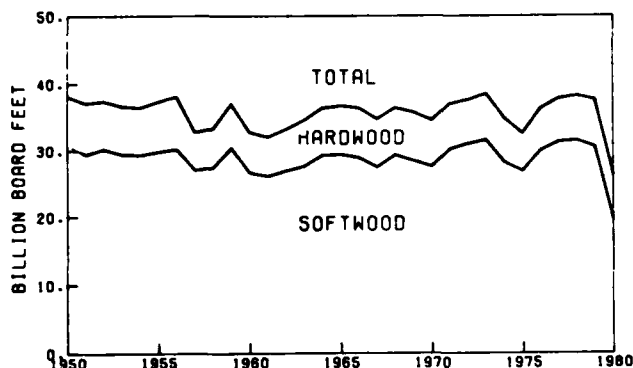


Figure 19. — Cumulative lumber production in the United States by species group, 1950-1980. (ML84 5019)

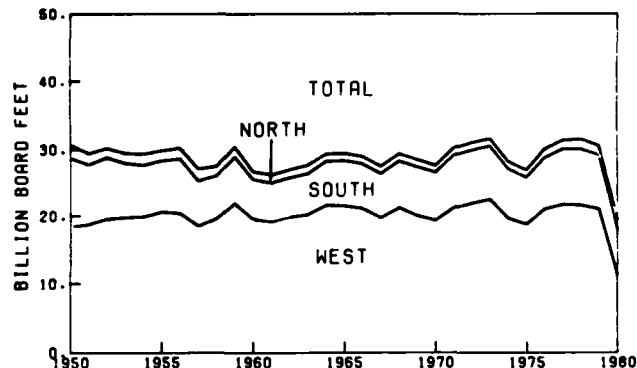


Figure 22. — Cumulative softwood lumber production in the United States by region, 1950-1980. (ML84 5022)

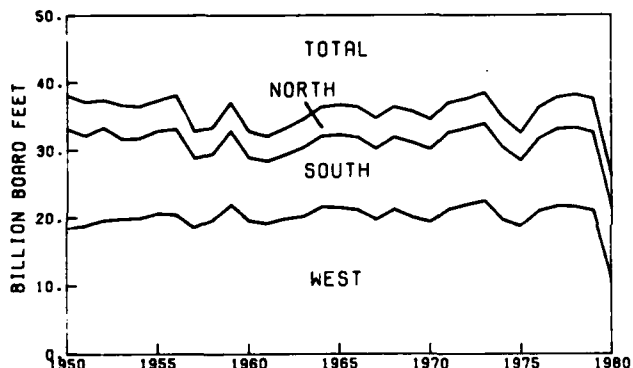


Figure 20. — Cumulative lumber production in the United States by region, 1950-1980. (ML84 5020)

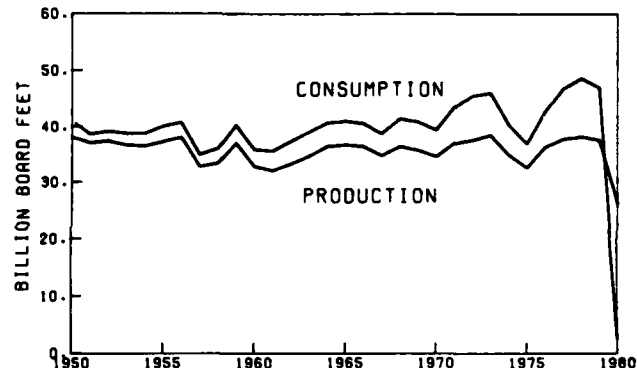


Figure 23. — Lumber consumption and production in the United States, 1950-1980. (ML84 5023)

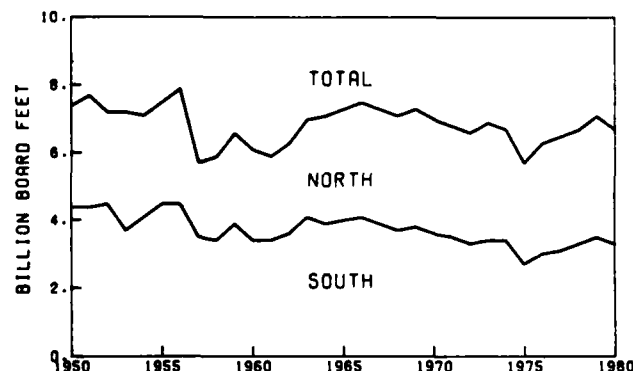


Figure 21. — Cumulative hardwood lumber production in the United States by region, 1950-1980. (ML84 5021)

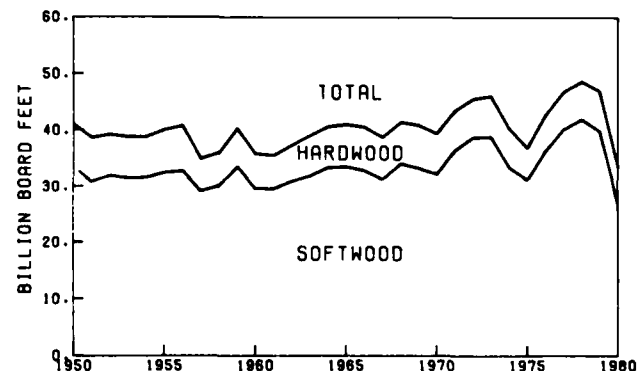


Figure 24. — Cumulative lumber consumption in the United States by species group, 1950-1980. (ML84 5024)

Lumber (con.)

Table 11.--Lumber production in the United States by species group and region, 1950-1980 (Billion board feet)

Year	Total, all regions			North			South			West total ¹
	Total	Soft-wood	Hard-wood	Total	Soft-wood	Hard-wood	Total	Soft-wood	Hard-wood	
1950	38.0	30.6	7.4	4.9	2.0	3.0	14.6	10.2	4.4	18.6
1951	37.2	29.5	7.7	5.0	1.7	3.3	13.3	8.9	4.4	18.9
1952	37.5	30.2	7.2	4.1	1.4	2.7	13.7	9.2	4.5	19.7
1953	36.7	29.6	7.2	5.0	1.5	3.5	11.8	8.1	3.7	19.9
1954	36.4	29.3	7.1	4.6	1.7	3.0	11.7	7.7	4.1	20.0
1955	37.4	29.8	7.6	4.5	1.5	3.0	12.2	7.7	4.5	20.7
1956	38.2	30.2	8.0	5.1	1.6	3.4	12.7	8.2	4.5	20.5
1957	32.9	27.1	5.8	4.1	1.8	2.2	10.3	6.7	3.5	18.6
1958	33.4	27.4	6.0	3.9	1.4	2.5	9.8	6.4	3.4	19.7
1959	37.2	30.5	6.7	4.2	1.5	2.7	11.0	7.0	3.9	22.0
1960	32.9	26.7	6.3	3.9	1.2	2.7	9.3	5.9	3.4	19.6
1961	32.0	26.1	6.0	3.7	1.2	2.5	9.1	5.8	3.4	19.2
1962	33.2	26.8	6.4	3.9	1.2	2.7	9.5	5.9	3.6	19.9
1963	34.7	27.6	7.2	4.2	1.3	2.9	10.2	6.1	4.1	20.3
1964	36.6	29.3	7.3	4.4	1.1	3.2	10.5	6.6	3.9	21.7
1965	36.8	29.3	7.5	4.4	1.1	3.3	10.8	6.8	4.0	21.6
1966	36.6	28.8	7.7	4.5	1.1	3.4	10.8	6.7	4.1	21.2
1967	34.7	27.3	7.4	4.4	1.1	3.4	10.5	6.6	3.9	19.8
1968	36.5	29.3	7.2	4.5	1.1	3.4	10.7	7.0	3.7	21.3
1969	35.8	28.3	7.5	4.6	1.1	3.5	11.1	7.3	3.8	20.1
1970	34.7	27.5	7.1	4.4	1.0	3.4	10.8	7.2	3.6	19.4
1971	37.0	30.0	6.9	4.4	1.1	3.3	11.3	7.9	3.5	21.3
1972	37.7	31.0	6.8	4.4	1.1	3.3	11.3	8.0	3.3	22.0
1973	38.6	31.6	7.0	4.6	1.1	3.5	11.4	8.0	3.4	22.6
1974	34.6	27.7	6.9	4.4	1.1	3.3	10.4	7.0	3.4	19.7
1975	32.6	26.7	5.9	4.1	1.1	3.0	9.7	7.0	2.7	18.8
1976	36.3	29.9	6.4	4.5	1.3	3.3	10.6	7.7	3.0	21.1
1977	37.9	31.2	6.7	4.7	1.3	3.4	11.4	8.3	3.1	21.8
1978	38.3	31.3	7.0	4.9	1.5	3.4	11.7	8.4	3.3	21.7
1979	37.7	30.4	7.3	5.0	1.4	3.6	11.6	8.1	3.5	21.1
¹ 1980	32.3	25.3	7.1	4.9	1.5	3.4	10.3	6.9	3.3	17.2

¹Includes small volumes of western hardwoods--about 0.2 billion board feet in recent years.

²Preliminary.

NOTE: Data may not add to totals because of rounding. The West includes: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, South Dakota, Utah, Washington, and Wyoming. The South includes: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia. The North includes the remaining 24 states.

Source: Ulrich, Alice H. (24).

Plywood

Table 12.—Lumber consumption¹ in the United States by species group, 1950-1980 (Billion board feet)

Year	Total	Soft-wood	Hard-wood
1950	40.9	33.4	7.5
1951	38.7	30.9	7.8
1952	39.2	31.9	7.3
1953	38.9	31.6	7.3
1954	38.7	31.5	7.1
1955	40.1	32.5	7.6
1956	40.9	32.8	8.1
1957	35.0	29.2	5.8
1958	36.1	30.0	6.1
1959	40.5	33.7	6.8
1960	36.0	29.6	6.4
1961	35.5	29.5	6.0
1962	37.3	30.8	6.5
1963	39.2	31.8	7.3
1964	40.8	33.4	7.4
1965	41.1	33.4	7.7
1966	40.8	32.8	8.0
1967	38.8	31.1	7.6
1968	41.5	34.0	7.4
1969	41.0	33.2	7.8
1970	39.5	32.2	7.3
1971	43.5	36.3	7.1
1972	45.8	38.8	7.0
1973	46.2	38.9	7.3
1974	40.1	33.0	7.2
1975	37.0	31.1	5.9
1976	42.7	36.2	6.5
1977	46.9	40.1	6.8
1978	48.7	41.8	7.0
1979	47.1	39.8	7.3
² 1980	39.7	32.8	6.9

¹Production + imports - exports.

²Preliminary.

NOTE: Data may not add to totals because of rounding.

Source: Ulrich, Alice H. (24).

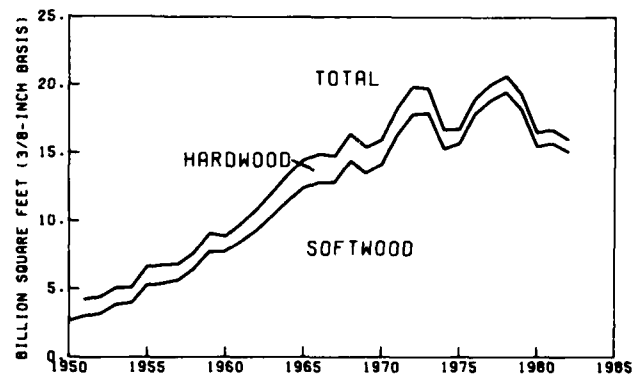


Figure 25. — Cumulative plywood production in the United States by species group, 1950-1982. (ML84 5025)

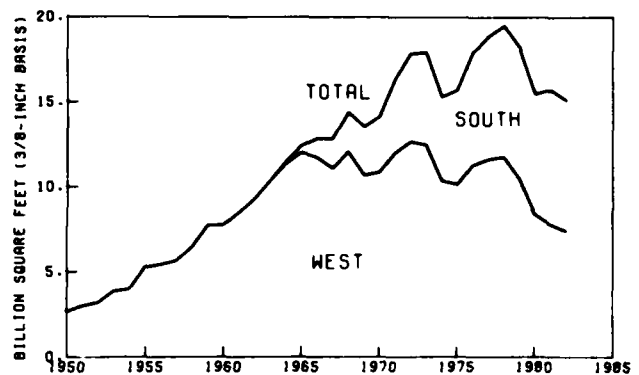


Figure 26. — Cumulative softwood plywood production in the United States by region, 1950-1982. (ML84 5026)

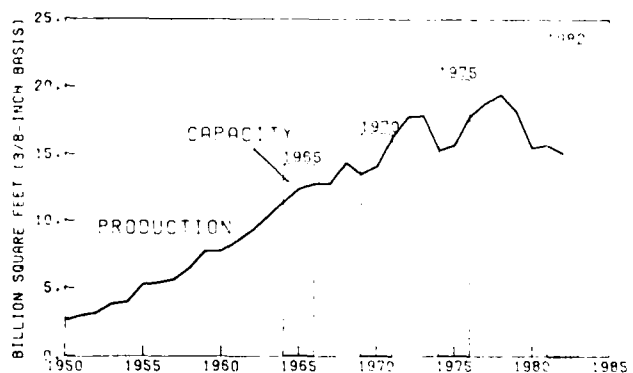


Figure 27. — Softwood plywood production and capacity in the United States, 1950-1982. (ML84 5027)

Plywood (con.)

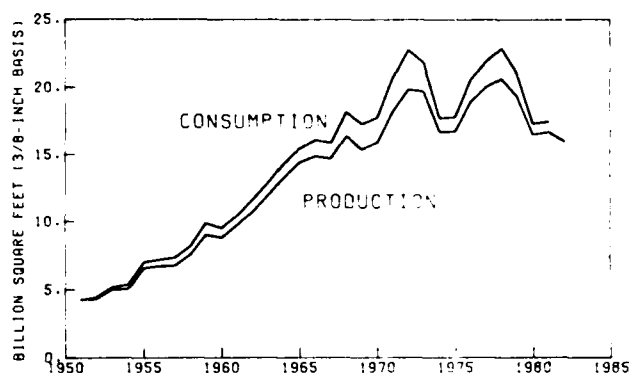


Figure 28. — Plywood consumption and production in the United States, 1950-1982. (ML84 5028)

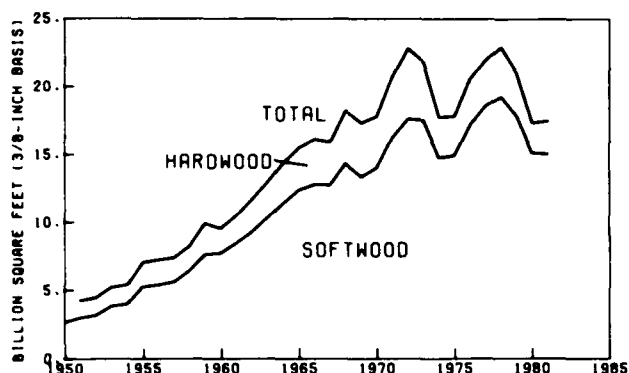


Figure 29. — Cumulative plywood consumption in the United States by species group, 1950-1981. (ML84 5029)

Table 13.—Plywood production in the United States by species group, 1950-1982 (Million square feet, 3/8-inch basis)

Year	Total	Soft-wood	Hard-wood
1950	NA ¹	2,676	NA
1951	4,192	2,995	1,197
1952	4,403	3,178	1,224
1953	5,076	3,848	1,228
1954	5,106	3,989	1,116
1955	6,639	5,284	1,355
1956	6,780	5,432	1,347
1957	6,830	5,653	1,177
1958	7,638	6,487	1,151
1959	9,082	7,736	1,346
1960	8,861	7,759	1,102
1961	9,801	8,496	1,305
1962	10,831	9,315	1,516
1963	12,058	10,375	1,683
1964	13,366	11,455	1,912
1965	14,477	12,428	2,049
1966	14,925	12,849	2,076
1967	14,756	12,840	1,916
1968	16,395	14,385	2,009
1969	15,407	13,538	1,869
1970	15,945	14,149	1,796
1971	18,277	16,353	1,924
1972	19,873	17,843	2,030
1973	19,736	17,929	1,807
1974	16,707	15,306	1,401
1975	16,758	15,706	1,052
1976	18,989	17,906	1,083
1977	20,065	18,877	1,187
1978	20,676	19,492	1,185
1979	19,340	18,204	1,136
1980	16,521	15,483	1,038
1981	16,720	15,714	1,006
² 1982	16,000	15,100	900

¹NA—not available.

²Preliminary.

NOTE: Data may not add to totals because of rounding.

Source: Ulrich, Alice H. (24); McKeever, David B. and Meyer, Gary, W. (17).

Table 14.—Softwood plywood production in the United States by region,¹ 1950-1982. (Million square feet, 3/8-inch basis)

Year	Production		
	Total, all regions	South ²	West
1950	2,676	0	2,676
1951	2,995	0	2,995
1952	3,178	0	3,178
1953	3,848	0	3,848
1954	3,989	0	3,989
1955	5,284	0	5,284
1956	5,432	0	5,432
1957	5,653	0	5,653
1958	6,487	0	6,487
1959	7,736	0	7,736
1960	7,759	0	7,759
1961	8,496	0	8,496
1962	9,315	0	9,315
1963	10,375	0	10,375
1964	11,455	80	11,375
1965	12,428	398	12,030
1966	12,849	1,118	11,731
1967	12,840	1,759	11,081
1968	14,385	2,316	12,069
1969	13,538	2,843	10,695
1970	14,149	3,283	10,867
1971	16,353	4,350	12,003
1972	17,843	5,174	12,669
1973	17,929	5,450	12,479
1974	15,306	4,944	10,362
1975	15,706	5,560	10,146
1976	17,906	6,625	11,281
1977	18,877	7,249	11,628
1978	19,492	7,719	11,773
1979	18,204	7,718	10,486
1980	15,483	7,091	8,392
1981	15,714	7,935	7,779
³ 1982	15,100	7,701	7,399

¹Regional production estimates based on American Plywood Association production by region.

²Includes Alabama, Arkansas, Florida, Georgia, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Texas, and Virginia, and occasionally small volumes produced in the northern states.

³Preliminary

NOTE: Data may not add to totals because of rounding.

Source: American Plywood Association (5); McKeever, David B. (17); Ulrich, Alice H. (24).

Table 15.—Annual softwood plywood capacity in the United States, 1965, 1970, 1975, and 1982. (Million square feet, 3/8-inch basis)

Year	Capacity
1965	14.3
1970	16.6
1975	20.6
1982	23.1

Source: McKeever, David B. and Meyer, Gary W. (17).

Table 16.—Plywood consumption¹ in the United States by species group, 1950-1981 (Million square feet, 3/8-inch basis)

Year	Total	Softwood	Hardwood
1950	NA ²	2,672	NA
1951	4,241	2,995	1,246
1952	4,450	3,166	1,284
1953	5,222	3,839	1,383
1954	5,405	3,983	1,422
1955	7,071	5,276	1,795
1956	7,262	5,418	1,844
1957	7,412	5,639	1,773
1958	8,267	6,475	1,792
1959	9,945	7,664	2,281
1960	9,571	7,757	1,814
1961	10,523	8,495	2,028
1962	11,716	9,311	2,404
1963	12,984	10,367	2,617
1964	14,380	11,431	2,949
1965	15,492	12,402	3,090
1966	16,126	12,804	3,321
1967	15,909	12,758	3,152
1968	18,213	14,332	3,882
1969	17,314	13,354	3,960
1970	17,822	14,038	3,784
1971	20,708	16,258	4,450
1972	22,788	17,629	5,159
1973	21,820	17,527	4,293
1974	17,746	14,769	2,977
1975	17,823	14,922	2,902
1976	20,561	17,202	3,360
1977	21,981	18,609	3,372
1978	22,903	19,257	3,646
1979	21,391	18,213	3,178
1980	17,344	15,147	2,197
³ 1981	17,500	15,060	2,441

¹Production + imports - exports.

²NA—not available.

³Preliminary.

NOTE: Data may not add to totals because of rounding.

Source: Ulrich, Alice H. (24).

Particleboard and Medium-Density Fiberboard

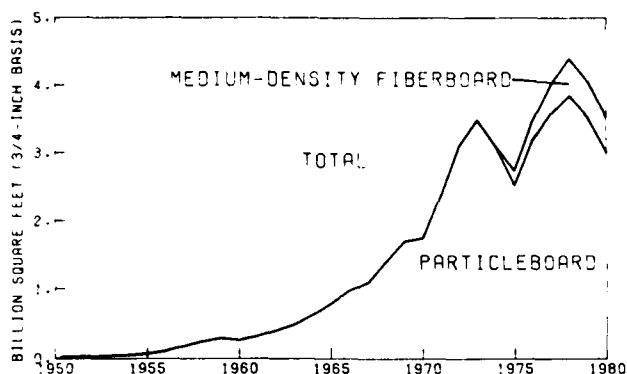


Figure 30. — Cumulative particleboard and medium-density fiberboard production in the United States, 1950-1980. (ML84 5030)

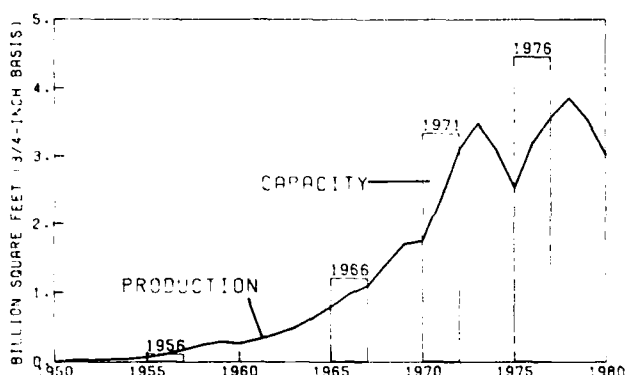


Figure 31. — Particleboard production and capacity in the United States, 1950-1980. (ML84 5031)

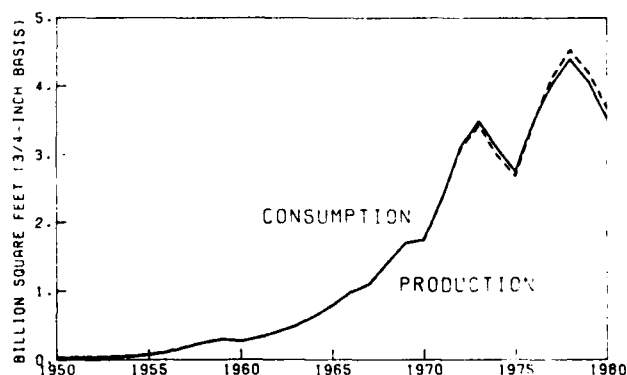


Figure 32. — Combined particleboard and medium-density fiberboard consumption and production in the United States, 1950-1980. (ML84 5032)

Table 17.—Particleboard and medium-density fiberboard production in the United States, 1950-1980 (Million square feet, 3/4-inch basis)

Year	Production		
	Total	Particle-board	Medium-density fiberboard
1950	21	21	-
1951	30	30	-
1952	33	33	-
1953	42	43	-
1954	48	48	-
1955	70	70	-
1956	111	111	-
1957	183	183	-
1958	250	250	-
1959	296	296	-
1960	268	268	-
1961	326	326	-
1962	408	408	-
1963	496	496	-
1964	638	638	-
1965	803	803	-
1966	997	997	-
1967	1,115	1,115	-
1968	1,425	1,425	-
1969	1,716	1,716	-
1970	1,764	1,764	-
1971	2,394	2,394	-
1972	3,117	3,117	-
1973	3,494	3,494	-
1974	3,104	3,104	-
1975	2,754	2,539	216
1976	3,482	3,202	280
1977	4,034	3,593	441
1978	4,405	3,866	539
1979	4,070	3,536	534
² 1980	3,542	3,029	513

¹Forest Service estimates.

²Preliminary.

NOTE: Data may not add to totals because of rounding.

Source: Ulrich, Alice H. (24).

Hardboard

Table 18.--Annual particleboard capacity in the United States, 1956, 1966, 1971, and 1976 (Million square feet, 3/4-inch basis)

Year	Capacity
1956	206
1966	1,217
1971	3,346
1976	4,459

Source: Dickerhoof, H. Edward and McKeever, David B. (10).

Table 19.--Particleboard and medium-density fiberboard consumption¹ in the United States, 1950-1980 (Million square feet, 3/4-inch basis)

Year	Consumption	Year	Consumption
1950	21	1965	807
1951	30	1966	998
1952	33	1967	1,114
1953	42	1968	1,420
1954	48	1969	1,714
1955	70	1970	1,757
1956	111	1971	2,382
1957	183	1972	3,086
1958	250	1973	3,434
1959	286	1974	2,998
1960	268	1975	2,686
1961	326	1976	3,463
1962	408	1977	4,130
1963	497	1978	4,527
1964	640	1979	4,207
		² 1980	3,700

¹Production + imports - exports.

²Preliminary.

Source: Ulrich, Alice H. (24).

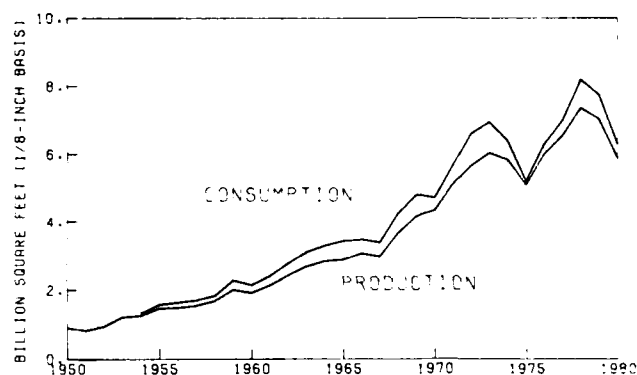


Figure 33. — Hardboard consumption and production in the United States, 1950-1980. (ML84 5033)

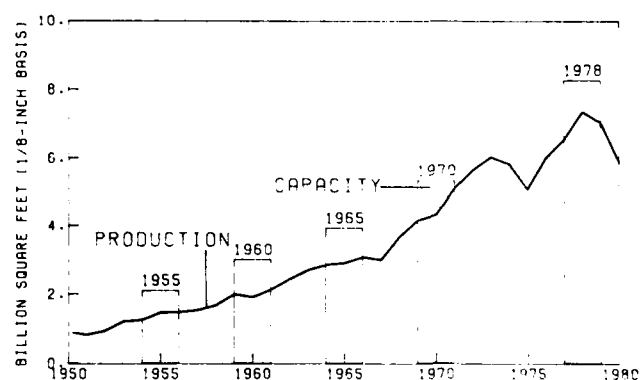


Figure 34. — Hardboard production and capacity in the United States, 1950-1980. (ML84 5034)

Hardboard (con.)

Insulation Board

Table 20.—Hardboard¹ production and consumption² in the United States, 1950-1980 (Million square feet, 1/8-inch basis)

Year	Production	Consumption
1950	916	NA ³
1951	835	NA
1952	953	NA
1953	1,226	NA
1954	1,267	1,321
1955	1,481	1,574
1956	1,497	1,634
1957	1,556	1,704
1958	1,693	1,836
1959	2,021	2,296
1960	1,930	2,162
1961	2,154	2,421
1962	2,445	2,790
1963	2,709	3,131
1964	2,867	3,321
1965	2,917	3,454
1966	3,089	3,502
1967	3,002	3,414
1968	3,693	4,262
1969	4,182	4,813
1970	4,340	4,715
1971	5,126	5,674
1972	5,671	6,629
1973	6,049	6,965
1974	5,845	6,409
1975	5,093	5,198
1976	6,016	6,310
1977	6,567	7,011
1978	7,376	8,200
1979	7,054	7,758
⁴ 1980	5,899	6,328

¹Density over 31 pounds per cubic foot.

²Productions + imports - exports.

³NA—not available.

⁴Preliminary.

NOTE: Data may not add to totals because of rounding.

Source: Ulrich, Alice H. (24).

Table 21.—Annual hardboard¹ capacity in the United States, 1955, 1960, 1965, 1970, and 1978 (Million square feet, 1/8-inch basis)

Year	Capacity
1955	2,112
1960	3,017
1965	3,949
1970	5,355
1978	8,284

¹Density over 31 pounds per cubic foot.

Source: McKeever, David B. (15).

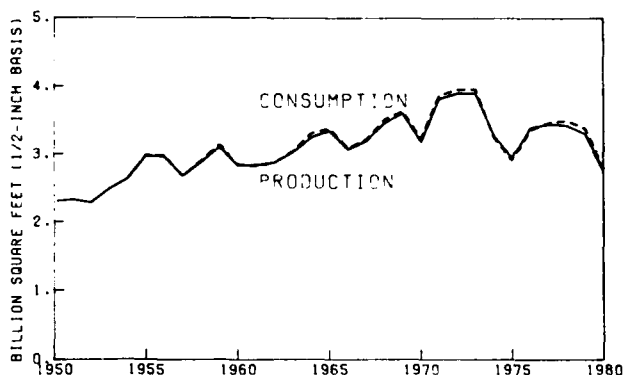


Figure 35. — Insulation board consumption and production in the United States, 1950-1980. (ML84 5035)

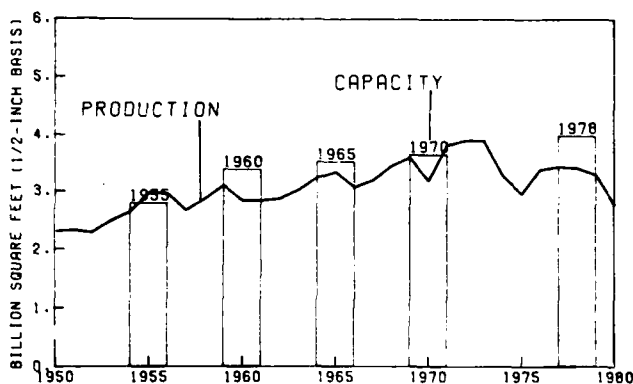


Figure 36. — Insulation board production and capacity in the United States, 1950-1980. (ML84 5036)

Table 22.--Insulation board¹ production and consumption² in the United States, 1950-1980 (Million square feet, 1/2-inch basis)

Year	Pro- duction	Con- sumption	Year	Pro- duction	Con- sumption
1950	2,321	NA ³	1970	3,194	3,246
1951	2,341	NA	1971	3,839	3,889
1952	2,297	NA	1972	3,918	3,973
1953	2,500	NA	1973	3,914	3,974
1954	2,650	2,650	1974	3,282	3,252
1955	2,990	2,999	1975	2,960	2,919
1956	2,973	2,984	1976	3,407	3,375
1957	2,679	2,674	1977	3,462	3,485
1958	2,884	2,904	1978	3,437	3,512
1959	3,114	3,149	1979	3,314	3,392
1960	2,848	2,856	⁴ 1980	2,780	2,811
1961	2,850	2,833			
1962	2,885	2,883			
1963	3,039	3,059			
1964	3,262	3,322			
1965	3,362	3,394			
1966	3,079	3,097			
1967	3,209	3,233			
1968	3,476	3,525			
1969	3,623	3,656			

¹Density 31 pounds or less per cubic foot.

²Production + imports - exports.

³NA--not available.

⁴Preliminary.

Source: Ulrich, Alice H. (24)

Table 23.--Annual insulation¹ board capacity in the United States, 1955, 1960, 1965, 1970, and 1978 (Million square feet, 1/2-inch basis)

Year	Capacity
1955	2,803
1960	3,407
1965	3,547
1970	3,673
1978	3,999

¹Density 31 pounds or less per cubic foot.

Source: McKeever, David B. (15).

Pulpwood

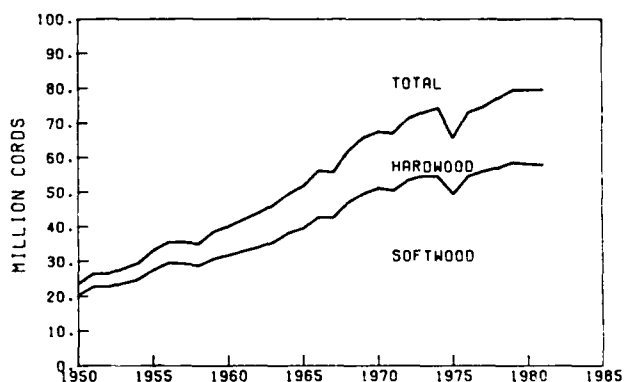


Figure 37. — Cumulative pulpwood consumption in the United States by species group, 1950-1981. (ML84 5037)

Table 24.—Pulpwood consumption in the United States by species group, 1950-1981 (Million cords)

Year	Total	Soft-wood	Hard-wood
1950	23.6	20.4	3.2
1951	26.5	22.8	3.8
1952	26.5	22.7	3.8
1953	28.1	23.8	4.4
1954	29.7	24.9	4.8
1955	33.4	27.7	5.6
1956	35.7	29.7	6.1
1957	35.7	29.4	6.3
1958	35.2	28.9	6.4
1959	38.7	30.9	7.8
1960	40.5	32.1	8.4
1961	42.2	33.1	9.1
1962	44.1	34.2	9.9
1963	46.4	35.7	10.8
1964	49.7	38.3	11.4
1965	52.0	39.7	12.3
1966	56.3	42.8	13.4
1967	55.9	42.7	13.2
1968	62.1	47.2	14.9
1969	65.9	49.7	16.2
1970	67.6	51.3	16.3
1971	67.2	50.6	16.6
1972	71.5	53.6	17.9
1973	73.3	54.8	18.5
1974	74.5	54.6	19.8
1975	65.7	49.4	16.4
1976	72.0	53.8	18.2
1977	74.0	55.5	18.5
1978	77.3	57.1	20.2
1979	79.6	58.7	20.9
1980	79.6	58.2	21.4
1981	79.7	58.0	21.8

Source: American Paper Institute, Inc. (1,2,3).

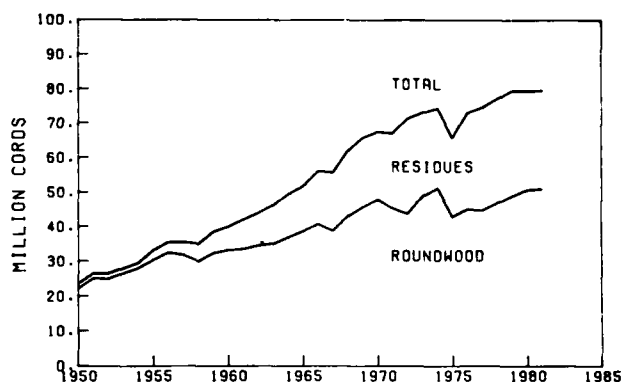


Figure 38. — Cumulative pulpwood consumption in the United States by roundwood and residues, 1950-1981. (ML84 5038)

Table 25.—Pulpwood consumption in the United States, 1950-1981 (roundwood and residues) (Million cords)

Year	Total	Round-wood ¹	Resi- dues ¹
1950	23.6	22.2	1.4
1951	26.5	25.1	1.4
1952	26.5	24.9	1.6
1953	28.1	26.6	1.5
1954	29.7	28.2	1.5
1955	33.4	30.6	2.8
1956	35.7	32.7	3.0
1957	35.7	32.0	3.7
1958	35.2	30.1	5.1
1959	38.7	32.6	6.1
1960	40.5	33.7	6.8
1961	42.2	33.7	8.5
1962	44.1	34.7	9.4
1963	46.4	35.2	11.2
1964	49.7	37.1	12.6
1965	52.0	38.8	13.2
1966	56.3	40.9	15.4
1967	55.9	38.9	17.0
1968	62.1	43.2	18.9
1969	65.9	45.9	20.0
1970	67.6	48.1	19.5
1971	67.2	45.5	21.7
1972	71.5	43.8	27.7
1973	73.3	49.0	24.3
1974	74.5	51.4	23.1
1975	65.7	42.8	22.9
1976	72.0	44.4	27.6
1977	74.0	44.3	29.7
1978	77.3	46.9	30.4
1979	79.6	49.0	30.6
1980	79.6	50.9	28.7
1981	79.7	51.2	28.5

¹Forest Service estimates based on API data.

Source: American Paper Institute, Inc. (1,2,3).

Woodpulp

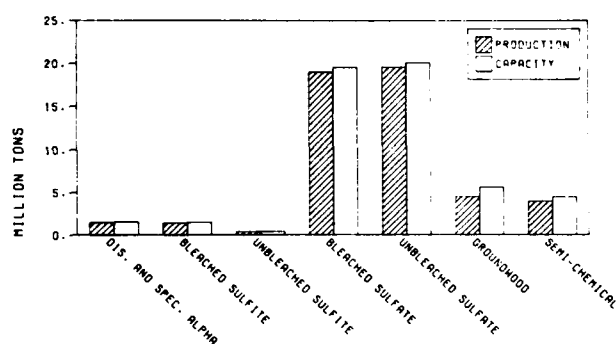


Figure 39. — Woodpulp production and capacity in the United States by grade, 1980. (ML84 5039)

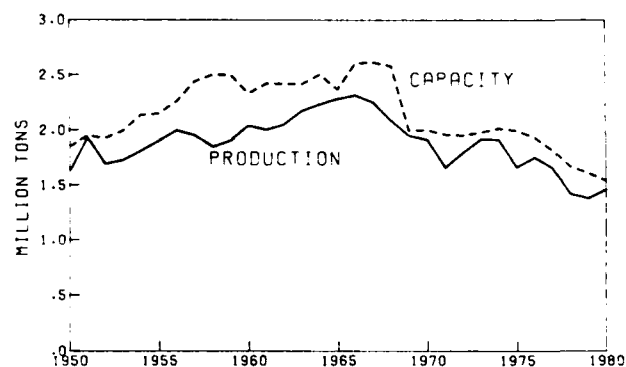


Figure 42. — Bleached sulfite (paper grades) woodpulp production and capacity in the United States, 1950-1980. (ML84 5042)

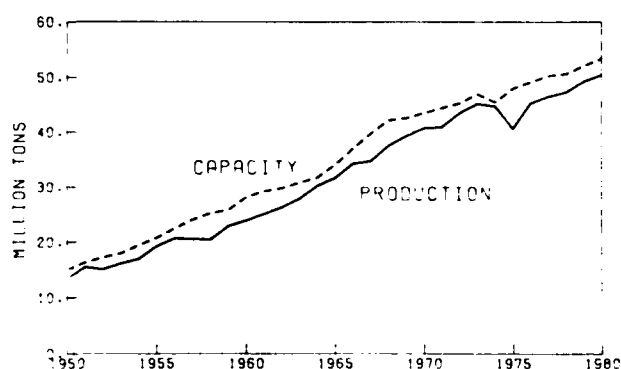


Figure 40. — Total woodpulp production and capacity in the United States, 1950-1980. (ML84 5040)

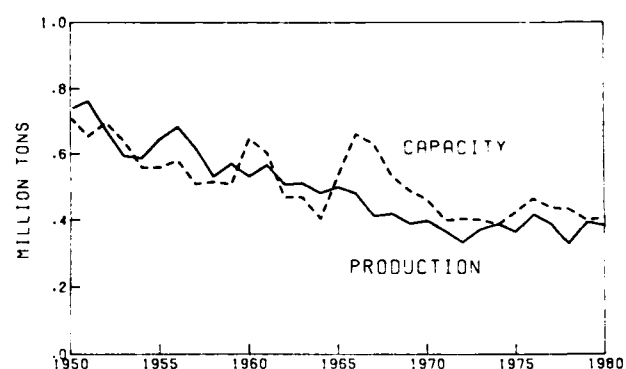


Figure 43. — Unbleached sulfite (paper grades) woodpulp production and capacity in the United States, 1950-1980. (ML84 5043)

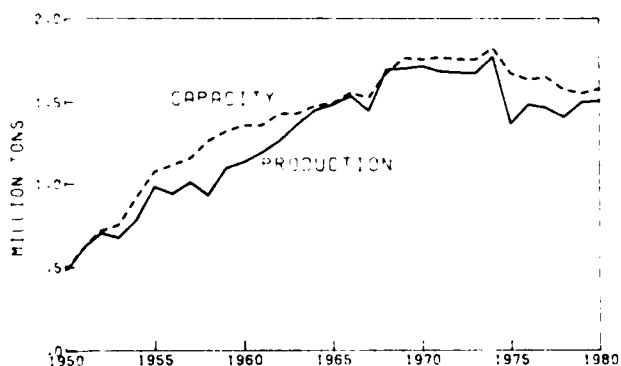


Figure 41. — Dissolving and special alpha woodpulp production and capacity in the United States, 1950-1980. (ML84 5041)

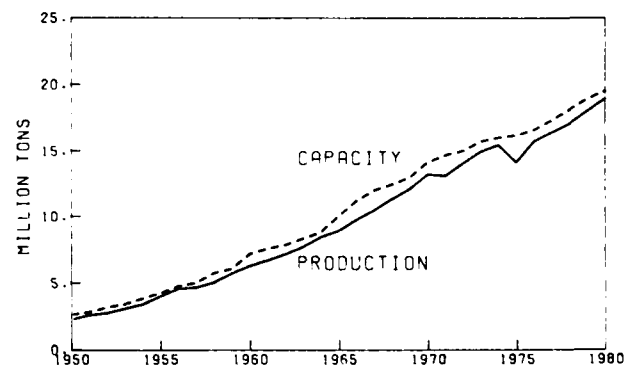


Figure 44. — Bleached and semibleached sulfate (paper grades) woodpulp production and capacity in the United States, 1950-1980. (ML84 5044)

Woodpulp (con.)

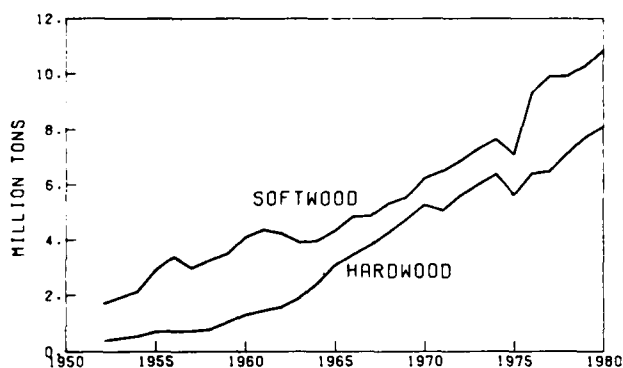


Figure 45. — Bleached sulfate and soda (paper grades) woodpulp production in the United States by species group, 1952-1980. (ML84 5045)

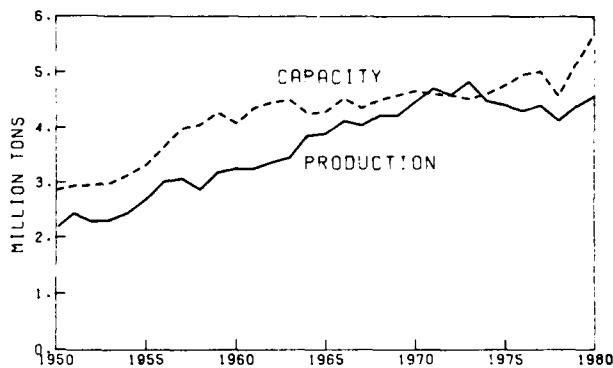


Figure 47. — Groundwood (including thermomechanical) woodpulp production and capacity in the United States, 1950-1980. (ML84 5047)

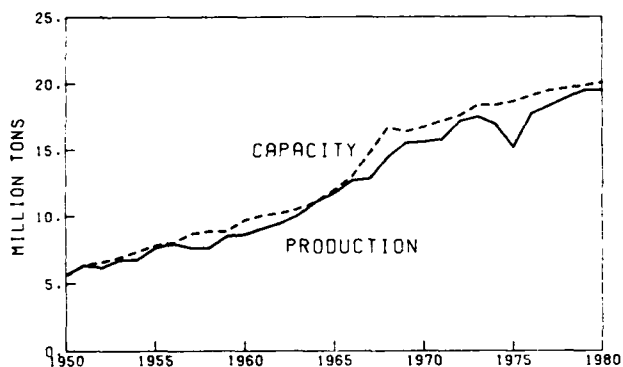


Figure 46. — Unbleached sulfate (paper grades) woodpulp production and capacity in the United States, 1950-1980. (ML84 5046)

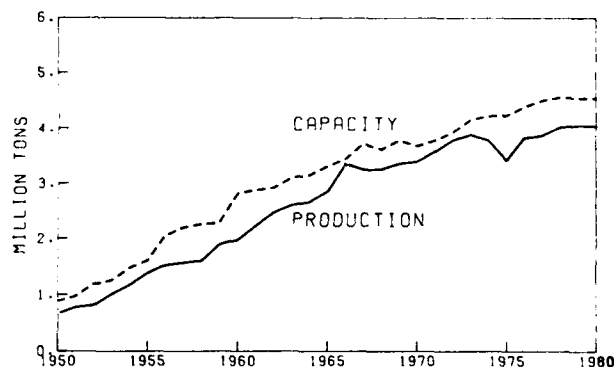


Figure 48. — Semichemical (paper grades) woodpulp production and capacity in the United States, 1950-1980. (ML84 5048)

Table 26.-Woodpulp production in the United States (by grade), 1950-1980 (Million short tons)

Year	Total, all grades	Dissolving and special	Bleached sulfite	Unbleached sulfite	Bleached and semibleached sulfate	Unbleached sulfate	Groundwood (including thermo- mechanical)	Semichemical
1950	13.7	0.5	1.6	0.7	2.3	5.7	2.2	0.7
1951	15.6	0.6	1.9	.8	2.6	6.4	2.4	.8
1952	15.2	.7	1.7	.7	2.8	6.2	2.3	.8
1953	16.2	.7	1.7	.6	3.1	6.8	2.3	1.0
1954	17.1	.8	1.8	.6	3.4	6.8	2.4	1.2
1955	19.4	1.0	1.9	.6	4.1	7.7	2.7	1.4
1956	20.8	.9	2.0	.7	4.6	8.0	3.0	1.5
1957	20.6	1.0	2.0	.6	4.7	7.7	3.1	1.6
1958	20.6	.9	1.8	.5	5.1	7.7	2.9	1.6
1959	23.0	1.1	1.9	.6	5.8	8.6	3.2	1.9
1960	24.0	1.1	2.0	.5	6.3	8.7	3.3	2.0
1961	25.1	1.2	2.0	.6	6.7	9.1	3.3	2.2
1962	26.4	1.3	2.1	.5	7.2	9.5	3.4	2.5
1963	28.0	1.4	2.2	.5	7.8	10.1	3.5	2.6
1964	30.4	1.5	2.2	.5	8.5	11.2	3.9	2.7
1965	31.8	1.5	2.3	.5	9.0	11.8	3.9	2.9
1966	34.4	1.5	2.3	.5	9.8	12.7	4.1	3.4
1967	34.8	1.4	2.3	.4	10.5	12.9	4.1	3.3
1968	37.6	1.7	2.1	.4	11.4	14.5	4.2	3.3
1969	39.4	1.7	1.9	.4	12.2	15.6	4.2	3.4
1970	40.8	1.7	1.9	.4	13.3	15.7	4.5	3.4
1971	41.0	1.7	1.7	.4	13.2	15.8	4.7	3.6
1972	43.6	1.7	1.8	.3	14.1	17.3	4.6	3.8
1973	45.3	1.7	1.9	.4	15.0	17.6	4.8	3.9
1974	44.8	1.8	1.9	.4	15.5	17.0	4.5	3.8
1975	40.6	1.4	1.7	.4	14.2	15.2	4.4	3.4
1976	45.4	1.5	1.7	.4	15.8	17.8	4.3	3.8
1977	46.6	1.5	1.7	.4	16.5	18.4	4.4	3.9
1978	47.4	1.4	1.4	.3	17.1	19.0	4.1	4.0
1979	49.4	1.5	1.4	.4	18.1	19.6	4.4	4.1
1980	50.6	1.5	1.5	.4	19.0	19.6	4.6	4.0

Source: American Paper Institute, Inc. (1,2,3).

Woodpulp (con.)

Table 27.--Woodpulp capacity in the United States (by grade), 1950-1980 (Million short tons)

Year	Total, all grades	Dissolving and special	Bleached sulfite	Unbleached sulfite	Bleached and semibleached sulfate	Unbleached sulfate	Groundwood (including thermo- mechanical)	Semichemical
1950	15.0	.5	1.9	.7	2.6	5.6	2.9	.9
1951	16.3	.6	2.0	.7	2.8	6.3	2.9	1.0
1952	17.3	.7	1.9	.7	3.2	6.6	3.0	1.2
1953	18.0	.8	2.0	.6	3.4	6.9	3.0	1.3
1954	19.5	.9	2.1	.6	3.9	7.4	3.1	1.5
1955	20.9	1.1	2.2	.6	4.3	7.8	3.3	1.6
1956	22.6	1.1	2.3	.6	4.8	8.1	3.7	2.1
1957	24.1	1.2	2.4	.5	5.1	8.7	4.0	2.2
1958	25.3	1.3	2.5	.5	5.8	8.9	4.1	2.3
1959	25.9	1.3	2.5	.5	6.1	8.9	4.3	2.3
1960	28.3	1.4	2.3	.6	7.2	9.8	4.1	2.8
1961	29.4	1.4	2.4	.6	7.6	10.1	4.4	2.9
1962	29.9	1.4	2.4	.5	7.9	10.3	4.5	2.9
1963	31.0	1.4	2.4	.5	8.4	10.6	4.5	3.1
1964	31.9	1.5	2.5	.4	8.9	11.2	4.3	3.2
1965	34.2	1.5	2.4	.5	10.1	12.0	4.3	3.3
1966	37.1	1.6	2.6	.7	11.2	13.0	4.5	3.5
1967	39.8	1.5	2.6	.6	12.1	14.9	4.4	3.7
1968	42.3	1.7	2.6	.5	12.5	16.8	4.5	3.6
1969	42.7	1.8	2.0	.5	13.1	16.5	4.6	3.8
1970	43.6	1.8	2.0	.5	14.2	16.8	4.7	3.7
1971	44.5	1.8	2.0	.4	14.7	17.3	4.6	3.8
1972	45.4	1.8	1.9	.4	15.1	17.7	4.6	3.9
1973	47.1	1.8	2.0	.4	15.8	18.5	4.5	4.2
1974	45.6	1.8	2.0	.4	16.1	18.5	4.6	4.2
1975	48.1	1.7	2.0	.4	16.2	18.8	4.8	4.2
1976	49.2	1.6	1.9	.5	16.6	19.2	5.0	4.4
1977	50.4	1.6	1.8	.4	17.4	19.6	5.0	4.5
1978	50.7	1.6	1.7	.4	18.2	19.7	4.6	4.6
1979	52.2	1.6	1.6	.4	19.0	19.9	5.2	4.6
1980	53.5	1.6	1.5	.4	19.6	20.1	5.7	4.6

Source: American Paper Institute, Inc. (1,2,3).

Foreign Trade Lumber

**Table 28.--Bleached sulfate and soda (paper grades)
production in the United States by species group, 1952-1980
(Million short tons)**

Year	Hardwood	Softwood
1952	.4	1.7
1953	.5	1.9
1954	.5	2.1
1955	.7	2.9
1956	.7	3.4
1957	.7	3.0
1958	.8	3.3
1959	1.0	3.5
1960	1.3	4.1
1961	1.4	4.4
1962	1.6	4.3
1963	1.9	3.9
1964	2.4	4.0
1965	3.1	4.4
1966	3.5	4.9
1967	3.8	4.9
1968	4.3	5.3
1969	4.8	5.6
1970	5.3	6.3
1971	5.1	6.5
1972	5.6	6.9
1973	6.0	7.3
1974	6.4	7.7
1975	5.6	7.1
1976	6.4	9.3
1977	6.5	9.9
1978	7.2	9.9
1979	7.7	10.3
1980	8.1	10.9

Source: American Paper Institute, Inc. (1,2,3).

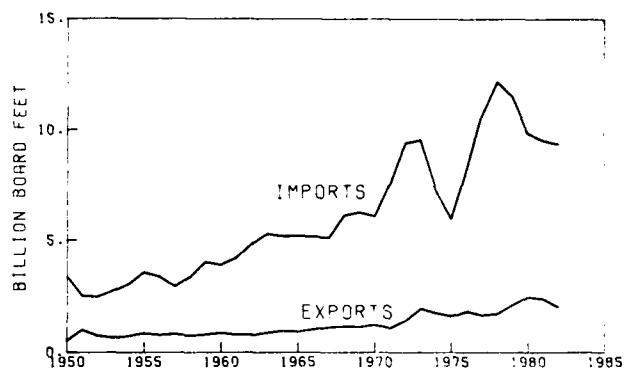


**Figure 49. — Lumber imports and exports in the
United States, 1950-1982. (ML84 5049)**

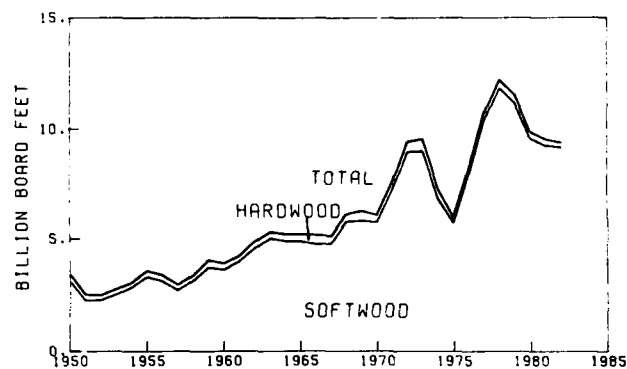


**Figure 50. — Cumulative lumber imports to the
United States by species group, 1950-1982.
(ML84 5050)**

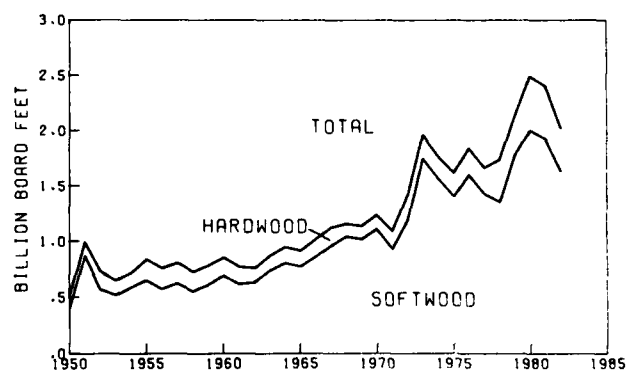


**Figure 51. — Cumulative lumber exports from
the United States by species group, 1950-1982.
(ML84 5051)**

Lumber (con.)

Table 29.—Lumber imports and exports in the United States, by species group, 1950-1982 (Billion board feet)

Year	Imports			Exports		
	Total	Soft-wood ¹	Hard-wood	Total	Soft-wood ¹	Hard-wood
1950	3.4	3.1	0.3	0.5	0.4	0.1
1951	2.5	2.3	.3	1.0	.9	.1
1952	2.5	2.3	.2	.7	.6	.2
1953	2.8	2.5	.2	.6	.5	.1
1954	3.1	2.9	.2	.7	.6	.1
1955	3.6	3.3	.3	.8	.7	.2
1956	3.4	3.2	.3	.8	.6	.2
1957	3.0	2.7	.2	.8	.6	.2
1958	3.4	3.2	.2	.7	.6	.2
1959	4.1	3.8	.3	.8	.6	.2
1960	3.9	3.6	.3	.9	.7	.2
1961	4.3	4.0	.2	.8	.6	.2
1962	4.9	4.6	.3	.8	.6	.1
1963	5.3	5.0	.3	.9	.7	.1
1964	5.2	4.9	.3	1.0	.8	.1
1965	5.2	4.9	.3	.9	.8	.1
1966	5.2	4.8	.4	1.0	.9	.2
1967	5.1	4.8	.3	1.1	1.0	.2
1968	6.2	5.8	.3	1.2	1.0	.1
1969	6.3	5.9	.4	1.1	1.0	.1
1970	6.1	5.8	.3	1.2	1.1	.1
1971	7.6	7.2	.4	1.1	.9	.2
1972	9.4	9.0	.4	1.4	1.2	.2
1973	9.6	9.0	.5	2.0	1.8	.2
1974	7.3	6.8	.4	1.8	1.6	.2
1975	6.0	5.7	.3	1.6	1.4	.2
1976	8.2	8.0	.3	1.8	1.6	.2
1977	10.7	10.4	.3	1.7	1.4	.2
1978	12.2	11.9	.4	1.7	1.4	.4
1979	11.5	11.2	.4	2.1	1.8	.4
1980	9.9	9.6	.3	2.5	2.0	.5
1981	9.5	9.3	.3	2.4	1.9	.5
² 1982	9.4	9.2	.2	2.0	1.6	.4

¹Includes small volumes of mixed species (not classified as softwoods or hardwoods).

²Preliminary.

NOTE: Data may not add to totals because of rounding.

Source: Ulrich, Alice H. (24).

Plywood

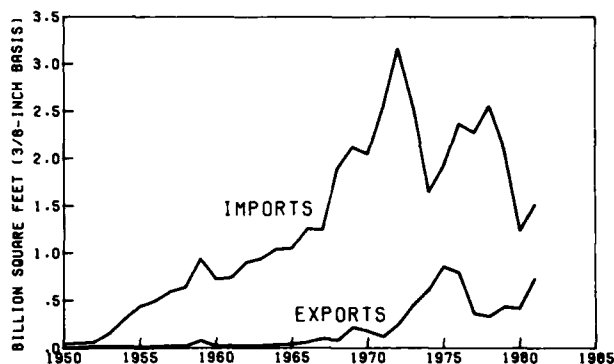


Figure 52. — Plywood imports and exports in the United States, 1950-1981. (ML84 5052)

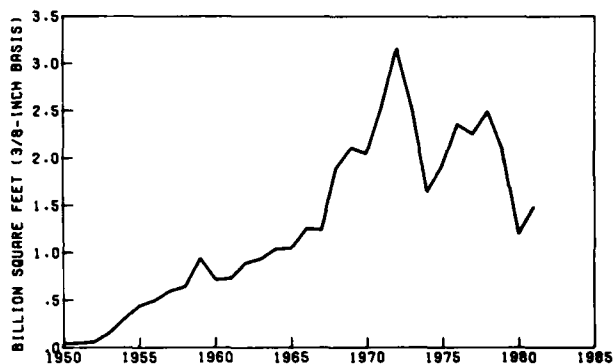


Figure 53. — Hardwood plywood imports to the United States, 1950-1981. (ML84 5053)

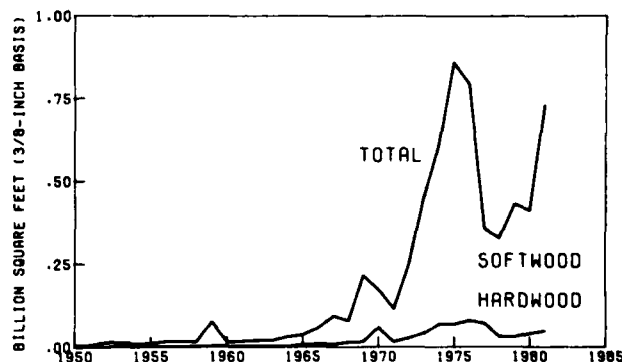


Figure 54. — Cumulative plywood exports from the United States by species group, 1950-1981. (ML84 5054)

Particleboard and Medium-Density Fiberboard

Table 30.--Plywood imports and exports in the United States by species group, 1950-1981 (Million square feet, 3/8-inch basis)

Year	Imports			Exports		
	Total	Soft-wood	Hard-wood	Total	Soft-wood	Hard-wood ¹
1950	45	(²)	45	4	3	(²)
1951	53	4	49	4	4	1
1952	60	1	60	13	13	(²)
1953	156	(²)	155	10	10	1
1954	306	(²)	306	7	7	1
1955	443	(²)	442	10	8	2
1956	498	-	498	16	15	1
1957	597	(²)	597	15	15	1
1958	643	(²)	643	14	12	2
1959	938	-	938	75	72	3
1960	725	11	715	15	13	2
1961	739	13	727	17	14	3
1962	903	13	891	19	17	2
1963	945	10	935	19	18	1
1964	1,045	5	1,040	31	28	2
1965	1,052	5	1,047	37	30	6
1966	1,257	3	1,254	56	48	8
1967	1,247	3	1,244	93	85	8
1968	1,896	10	1,886	78	64	14
1969	2,121	15	2,107	215	199	16
1970	2,049	2	2,047	172	114	58
1971	2,545	3	2,542	114	99	15
1972	3,182	6	3,156	247	221	26
1973	2,536	9	2,527	452	411	40
1974	1,649	4	1,644	610	542	68
1975	1,925	7	1,918	859	791	68
1976	2,368	12	2,356	795	716	79
1977	2,273	18	2,254	357	287	70
1978	2,555	63	2,492	328	298	30
1979	2,097	27	2,070	430	402	29
1980	1,235	37	1,198	413	373	39
³ 1981	1,511	30	1,482	737	683	47

¹Includes mixed species (not classified as hardwoods or softwoods).

²Less than 500,000 square feet.

³Preliminary.

NOTE: Data may not add to totals because of rounding.

Source: Ulrich, Alice H. (24).

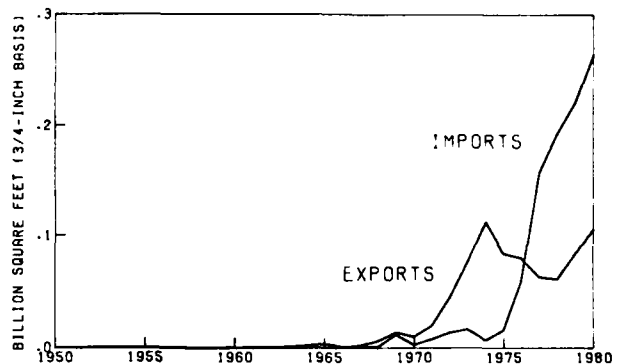


Figure 55. — Particleboard and medium-density fiberboard imports and exports in the United States, 1950-1980. (ML84 5055)

Table 31.--Particleboard and medium-density fiberboard imports and exports in the United States, 1950-1980 (Million square feet, 3/4-inch basis)

Year	Imports	Exports	Year	Imports	Exports
1950	-	-	1970	3	10
1951	-	-	1971	8	20
1952	-	-	1972	14	45
1953	-	-	1973	17	77
1954	-	-	1974	7	113
1955	-	-	1975	16	84
1956	-	-	1976	60	80
1957	-	-	1977	158	63
1958	-	-	1978	193	61
1959	-	-	1979	221	84
1960	-	-	² 1980	264	106
1961	-	-			
1962	-	-			
1963	1	-			
1964	2	-			
1965	4	(¹)			
1966	1	(¹)			
1967	1	2			
1968	1	6			
1969	12	14			

¹Less than 500,000 square feet.

²Preliminary.

Source: Ulrich, Alice H. (24).

Hardboard

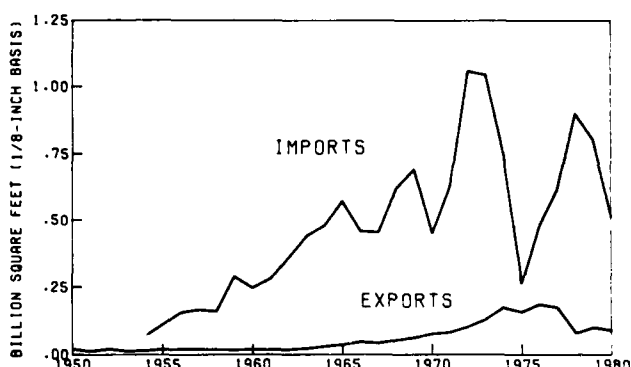


Figure 56. — Hardboard imports and exports in the United States, 1950-1980. (ML84 5056)

Table 32.—Hardboard¹ imports and exports in the United States, 1950-1980 (Million square feet, 1/8-inch basis)

Year	Imports	Exports	Year	Imports	Exports
1950	NA ²	19	1970	452	77
1951	NA	11	1971	631	83
1952	NA	19	1972	1,060	103
1953	NA	12	1973	1,047	131
1954	68	14	1974	739	175
1955	111	18	1975	264	158
1956	156	19	1976	482	187
1957	166	18	1977	618	174
1958	160	17	1978	903	78
1959	291	16	1979	803	99
1960	248	17	³ 1980	515	87
1961	283	16			
1962	363	18			
1963	444	22			
1964	483	30			
1965	574	36			
1966	459	47			
1967	455	42			
1968	623	53			
1969	694	63			

¹Density over 31 pounds per cubic foot.

²NA—not available.

³Preliminary.

Source: Ulrich, Alice H. (24).

Insulation Board

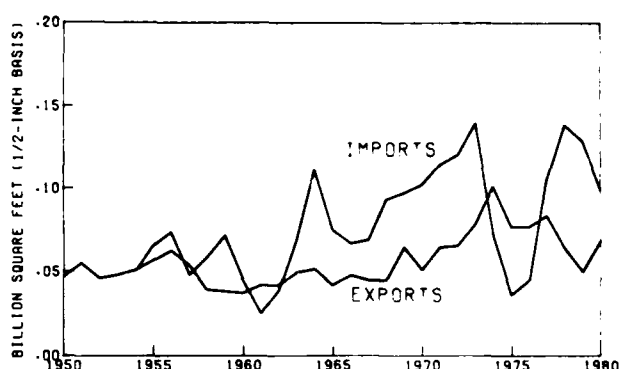


Figure 57. — Insulation board imports and exports in the United States, 1950-1980. (ML84 5057)

Table 33.—Insulation board¹ imports and exports in the United States, 1950-1980 (Million square feet, 1/2-inch basis)

Year	Imports	Exports	Year	Imports	Exports
1950	NA ²	47	1970	103	51
1951	NA	55	1971	115	65
1952	NA	46	1972	121	66
1953	NA	48	1973	140	79
1954	51	51	1974	72	102
1955	66	57	1975	36	77
1956	74	63	1976	45	77
1957	48	54	1977	106	84
1958	59	39	1978	139	64
1959	72	38	1979	129	50
1960	45	37	³ 1980	100	69
1961	25	42			
1962	39	42			
1963	70	50			
1964	112	52			
1965	75	42			
1966	67	48			
1967	69	45			
1968	94	45			
1969	98	65			

¹Density 31 pounds or less per cubic foot.

²NA—not available.

³Preliminary.

Source: Ulrich, Alice H. (24).

U.S. End-Use Demand for Timber Wood Products Used in Manufactured Goods

Lumber

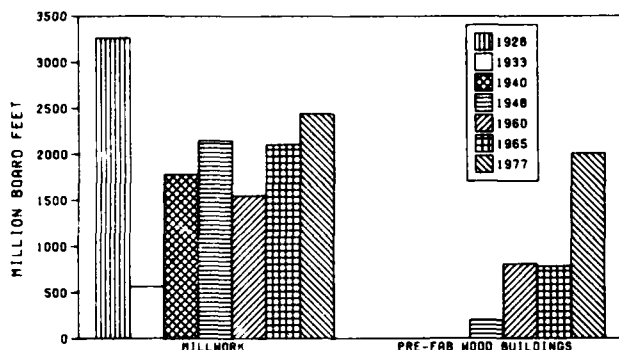


Figure 58. — Lumber used in manufacturing for millwork and for prefabricated housing, selected years, 1928-1977. (ML84 5058)

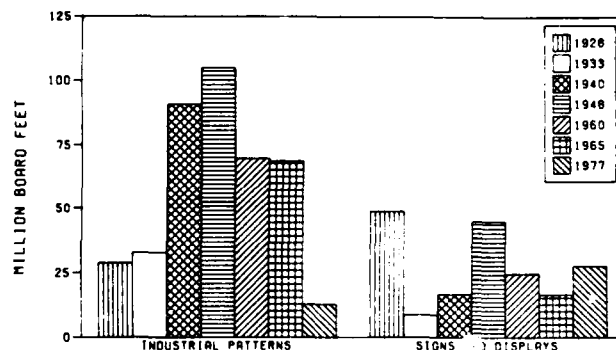


Figure 61. — Lumber used in manufacturing for industrial patterns and for signs and displays, selected years, 1928-1977. (ML84 5061)

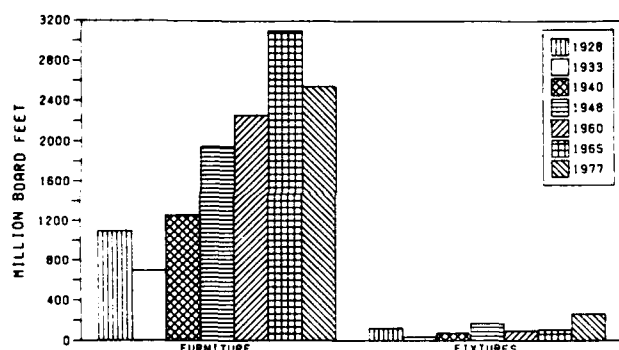


Figure 59. — Lumber used in manufacturing for furniture and for fixtures, selected years, 1928-1977. (ML84 5059)

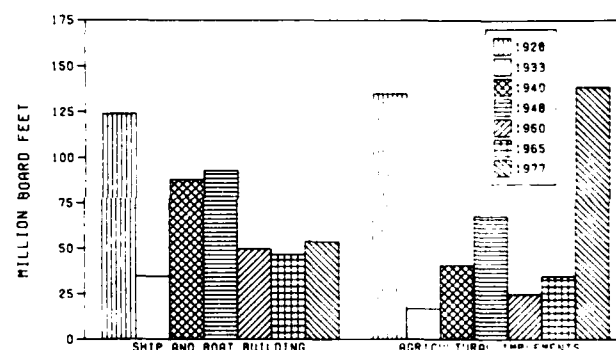


Figure 62. — Lumber used in manufacturing for ship and boat building and repair and for agricultural implements, selected years, 1928-1977. (ML84 5062)

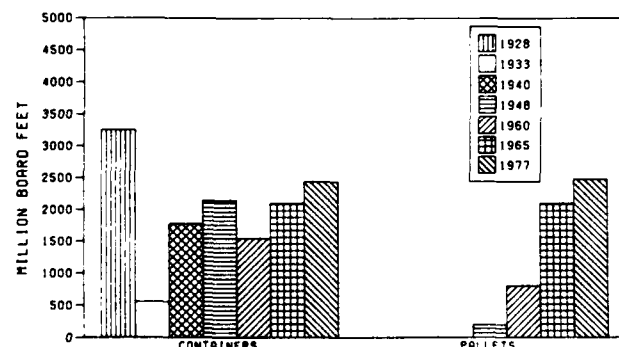


Figure 60. — Lumber used in manufacturing for containers and for pallets, selected years, 1928-1977. (ML84 5060)

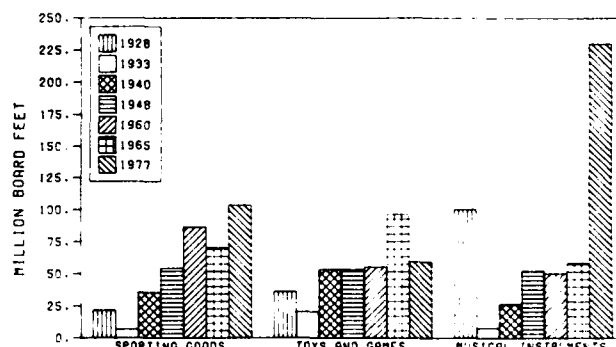


Figure 63. — Lumber used in manufacturing for sporting goods, for toys and games, and for musical instruments, selected years, 1928-1977. (ML84 5063)

Wood Products Used in Manufactured Goods (con.)

Lumber (con.)

Table 34.—Lumber used in manufactured products, selected years, 1928-1977 (Million board feet)

Product	1928	1933	1940	1948	1960	1965	1977
Agricultural implements	135	17	41	68	25	35	139
Caskets and other mortician's goods	155	125	154	155	93	126	80
Containers (except cooperage)	4,574	2,570	4,295	3,993	1,864	1,829	476
Fixtures and partitions	124	34	74	172	99	110	267
Furniture (including kitchen cabinets)	1,099	700	1,260	1,948	2,261	3,103	2,544
Industrial patterns	29	33	91	105	70	69	13
Millwork	3,264	563	1,782	2,150	1,550	2,106	2,440
Prefabricated wood buildings and structural members	NA ²	NA	(³)	200	810	784	2,008
Musical instruments	101	8	27	53	51	59	230
Ship and boat building and repair	124	35	88	93	50	47	54
Signs and advertising displays	49	9	17	45	25	17	28
Sporting and athletic goods	22	7	36	55	87	71	104
Toys and games	37	21	54	54	56	97	60
Wood pallets	NA	NA	(⁴)	221	1,550	2,106	2,483
All other products	8,077	1,346	3,095	2,900	2,510	2,296	5,482
Total, all products	17,790	5,468	11,014	12,212	11,101	12,855	16,408

¹Forest Service estimates based on use by major producing industries.

²NA—not available.

³Included in millwork.

⁴Included in all other products.

Source: U.S. Department of Agriculture, Forest Service (25,26), Marquis, Ralph W. (14), Merrick, Gordon D. (18), Gill, Thomas G. (11), Gill, Thomas G. and Phelps, Robert B. (12), McKeever, David B. and Martens, David G. (16), U.S. Department of Commerce, Bureau of the Census (35).

Hardwood Lumber

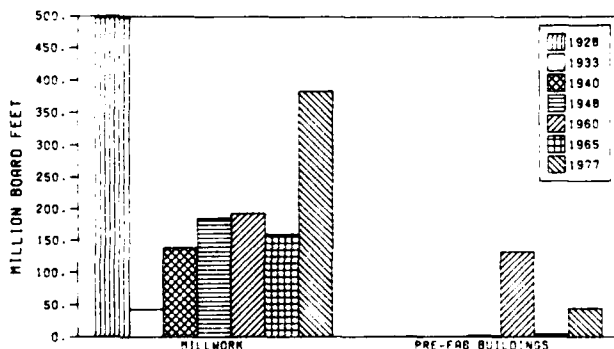


Figure 64. — Hardwood lumber used in manufacturing for millwork and for prefabricated wooden buildings, selected years, 1928-1977. (ML84 5064)

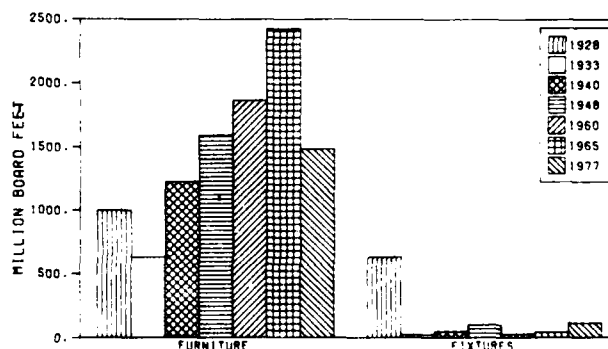


Figure 65. — Hardwood lumber used in manufacturing for furniture and for fixtures, selected years, 1928-1977. (ML84 5065)

Hardwood Lumber (con.)

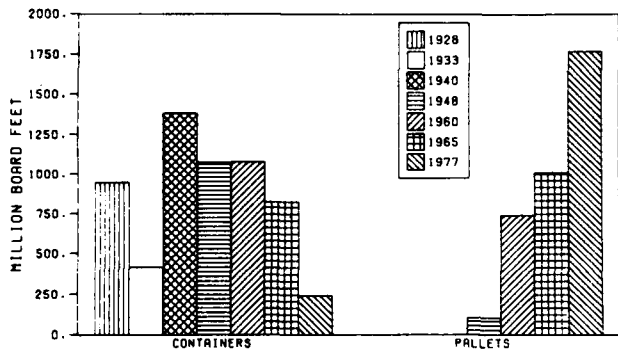


Figure 66. — Hardwood lumber used in manufacturing for containers and for pallets, selected years, 1928-1977. (ML84 5066)

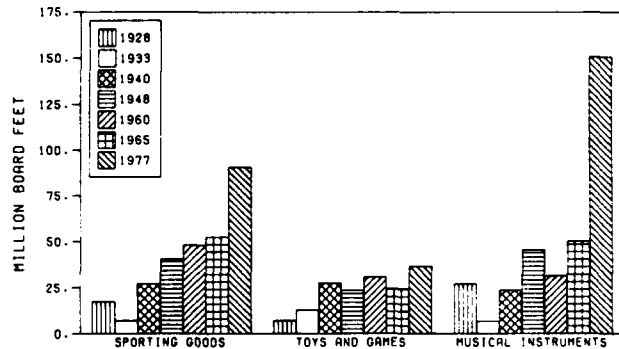


Figure 69. — Hardwood lumber used in manufacturing for sporting goods, for toys and games, and for musical instruments, selected years, 1928-1977. (ML84 5069)

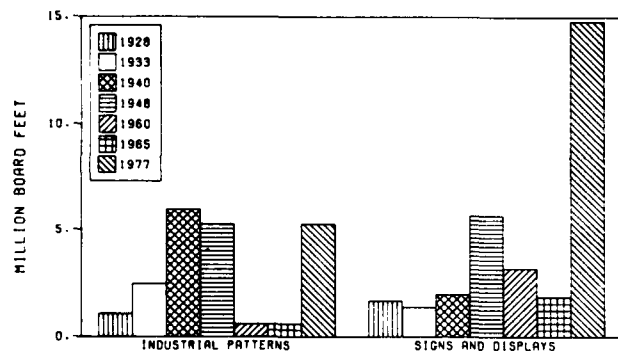


Figure 67. — Hardwood lumber used in manufacturing for industrial patterns and for signs and displays, selected years, 1928-1977. (ML84 5067)

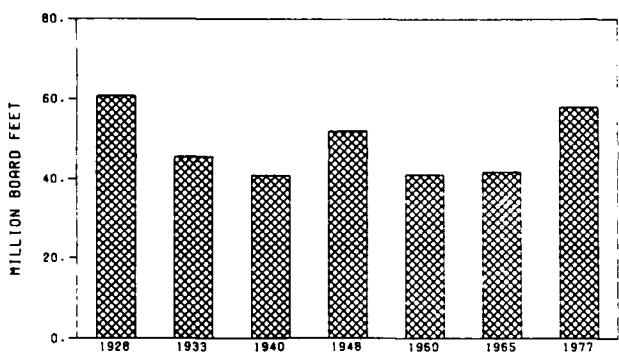


Figure 70. — Hardwood lumber used in manufacturing for caskets, selected years, 1928-1977. (ML84 5070)

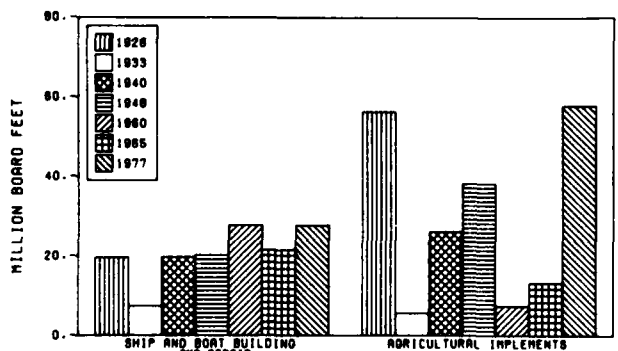


Figure 68. — Hardwood lumber used in manufacturing for ship and boat building and repair and for agricultural implements, selected years, 1928-1977. (ML84 5068)

Wood Products Used in Manufactured Goods (con.)

Hardwood Lumber (con.)

Table 35.-Estimated hardwood lumber used in manufactured products, selected years, 1928-1977 (Million board feet)

Product	'1928	'1933	'1940	'1948	'1960	'1965	'1977
Agricultural implements	56.3	5.6	26.1	38.2	7.4	13.2	57.8
Caskets and other mortician's goods	60.8	45.6	40.9	52.0	41.1	41.8	58.0
Containers (except cooperage)	951.7	422.0	1,386.3	1,080.3	1,083.0	830.4	246.8
Fixtures and partitions	84.8	22.8	46.2	100.0	25.7	41.5	112.1
Furniture (including kitchen cabinets)	1,002.6	634.9	1,224.8	1,591.5	1,863.1	2,423.4	1,486.3
Industrial patterns	1.1	2.5	6.0	5.3	.6	.6	5.3
Millwork	498.1	43.8	139.3	186.3	193.8	160.1	384.2
Prefabricated wood buildings and structural members	NA ³	NA	NA	1.2	13.0	3.9	44.5
Musical instruments	81.2	6.8	23.9	45.9	31.8	50.5	150.9
Ship and boat building	19.6	7.4	19.7	20.2	27.7	21.5	27.7
Signs and advertising displays	1.7	1.4	2.0	5.7	3.2	1.9	14.8
Sporting and athletic goods, playground equipment	17.6	7.2	27.4	40.8	48.3	52.8	91.0
Toys and games	25.1	13.0	27.9	23.9	31.1	24.8	36.9
Wood pallets	NA	NA	NA	106.5	746.3	1,014.0	1,769.7

¹Native hardwoods.

²Estimates based on hardwood lumber use by major manufacturing industry.

³NA-not available.

⁴Based on 1948 ratio of hardwood to total lumber.

Source: U.S. Department of Agriculture, Forest Service (25,26), Marquis, Ralph W. (14), Merrick, Gordon D. (18), Gill, Thomas G. (11), Gill, Thomas G. and Phelps, Robert B. (12), McKeever, David B. and Martens, David G. (16), U.S. Department of Commerce, Bureau of the Census (35).

Wood Products Used by Manufacturing Industries

Lumber

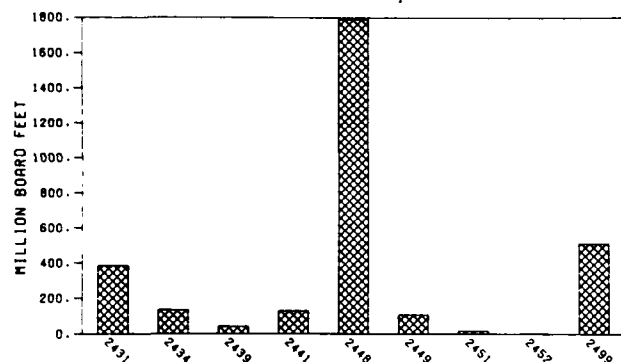


Figure 71. — Hardwood lumber used by the lumber and wood products industries in the United States by industry, 1977. See table A-1 for Standard Industrial Classification (SIC) code numbers. (ML84 5071)

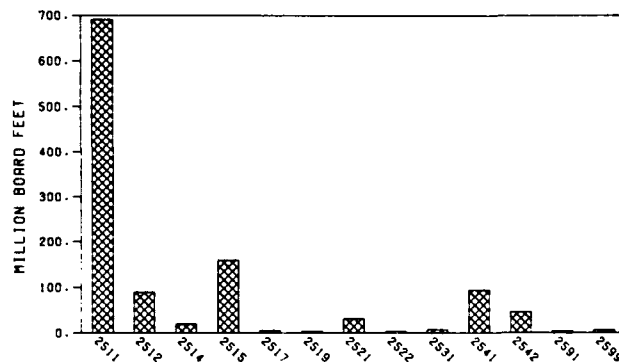


Figure 74. — Softwood lumber used by the furniture and fixtures industries in the United States by industry, 1977. See table A-1 for SIC code numbers. (ML84 5074)

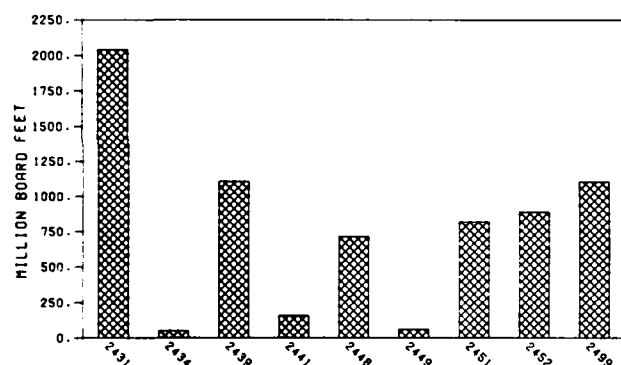


Figure 72. — Softwood lumber used by the lumber and wood products industries in the United States by industry, 1977. See table A-1 for SIC code numbers. (ML84 5072)

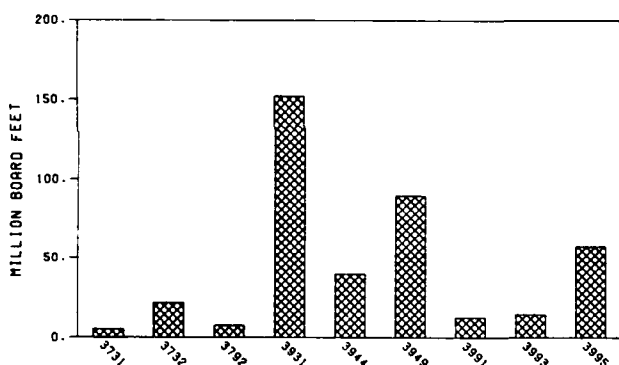


Figure 75. — Hardwood lumber used by other selected wood-using industries in the United States by industry, 1977. See table A-1 for SIC code numbers. (ML84 5075)

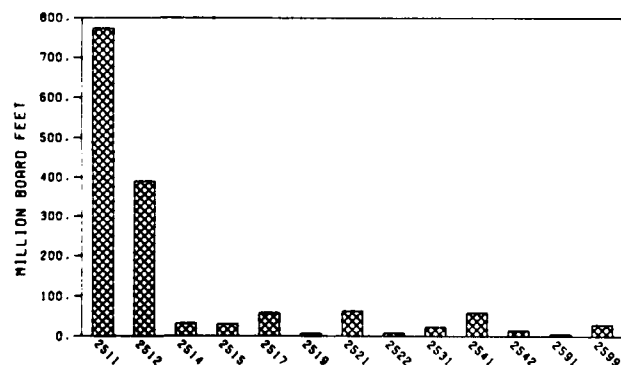


Figure 73. — Hardwood lumber used by the furniture and fixtures industries in the United States by industry, 1977. See table A-1 for SIC code numbers. (ML84 5073)

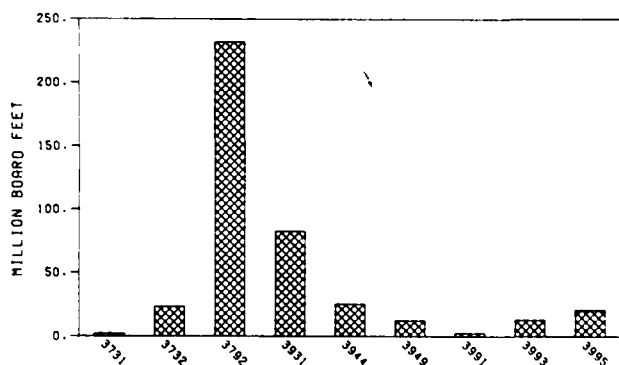


Figure 76. — Softwood lumber used by other selected wood-using industries in the United States by industry, 1977. See table A-1 for SIC code numbers. (ML84 5076)

Wood Products Used by Manufacturing Industries (con.)

Lumber (con.)

Table 36.—Lumber used by selected manufacturing industries in the United States by species group, 1977 (Million board feet)

Standard industrial classification code ¹	Consumption	
	Hardwood	Softwood
Lumber and Wood Products Industries		
2431	388.2	2,041.2
2434	136.6	49.6
2439	42.7	1,110.4
2441	131.9	159.4
2448	1,789.5	720.8
2449	110.0	60.4
2451	16.8	825.2
2452	1.3	894.7
2499	514.0	1,111.3
Furniture and Fixtures Industries		
2511	773.9	690.9
2512	391.3	90.6
2514	32.0	20.4
2515	30.3	160.2
2517	58.7	5.1
2519	6.1	3.2
2521	63.3	31.6
2522	7.6	3.2
2531	22.6	7.4
2541	59.3	94.8
2542	14.2	46.7
2591	4.7	3.7
2599	29.3	6.4
Other Wood-Using Industries		
3731	5.4	2.3
3732	22.0	23.7
3792	7.6	231.9
3931	152.4	83.0
3944	39.9	25.6
3949	90.0	12.6
3991	12.7	2.6
3993	14.6	13.0
3995	57.5	21.1

¹For industry definitions see Office of Management and Budget (20) or table A-1.

Source: McKeever, David B. and Martens, David G. (16).

Plywood and Veneer

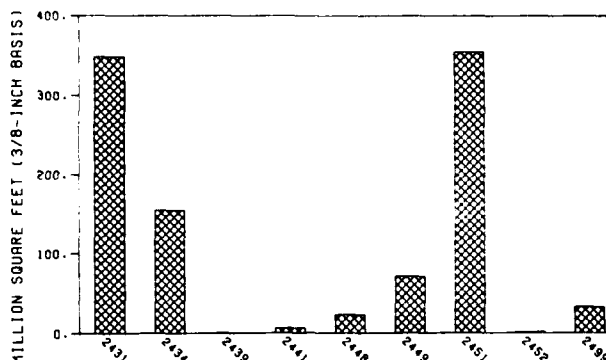


Figure 77. — Hardwood plywood and veneer used by the lumber and wood products industries in the United States by industry, 1977. See table A-1 for SIC code numbers. (ML84 5077)

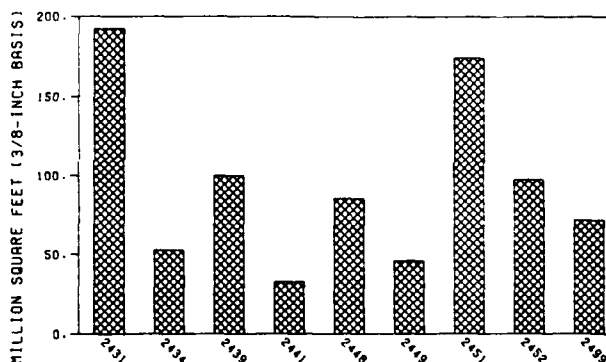


Figure 78. — Softwood plywood and veneer used by the lumber and wood products industries in the United States by industry, 1977. See table A-1 for SIC code numbers. (ML84 5078)

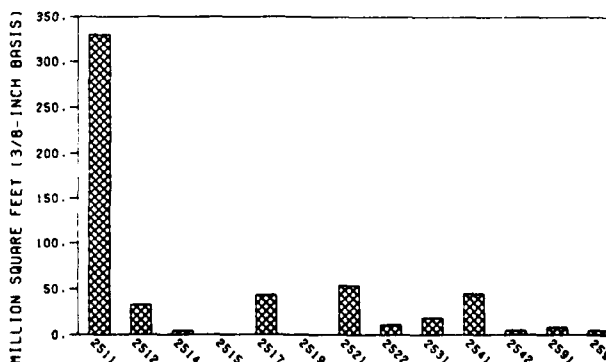


Figure 79. — Hardwood plywood and veneer used by the furniture and fixtures industries in the United States by industry, 1977. See table A-1 for SIC code numbers. (ML84 5079)

Plywood and Veneer (con.)

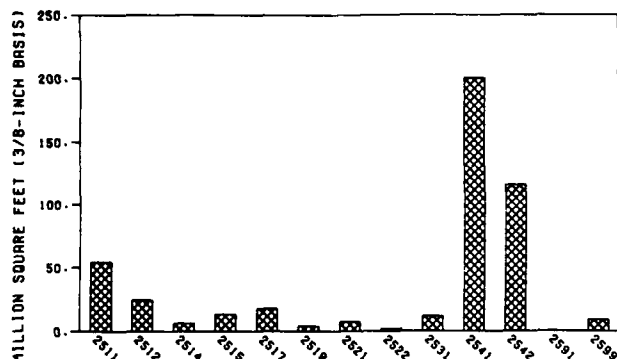


Figure 80. — Softwood plywood and veneer used by the furniture and fixtures industries in the United States by industry, 1977. See table A-1 for SIC code numbers. (ML84 5080)

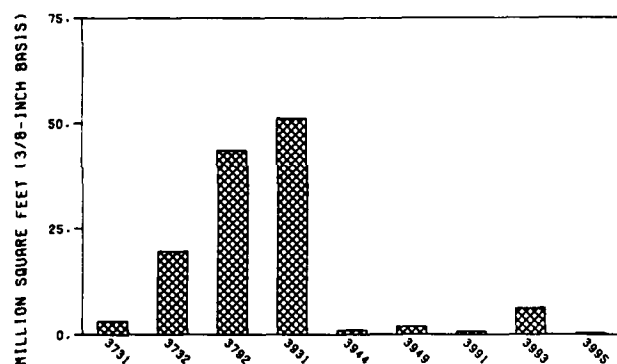


Figure 81. — Hardwood plywood and veneer used by other selected wood-using industries in the United States by industry, 1977. See table A-1 for SIC code numbers. (ML84 5081)

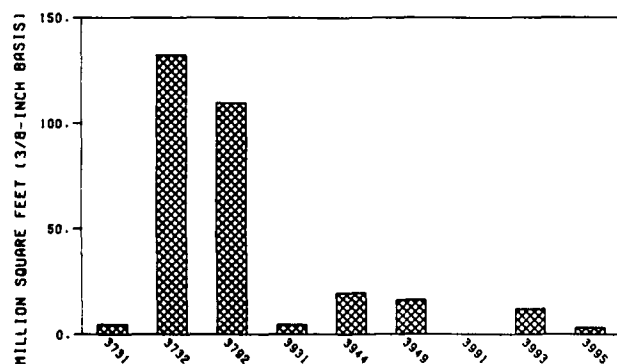


Figure 82. Softwood plywood and veneer used by other selected wood-using industries in the United States by industry, 1977. See table A-1 for SIC code numbers. (ML84 5082)

Table 37.—Plywood and veneer used by selected manufacturing industries in the United States by species group, 1977 (Million square feet, 3/8-inch basis)

Standard Industrial classification code ¹	Consumption	
	Hardwood	Softwood
Lumber and Wood Products Industries		
2431	348.6	192.4
2434	155.2	53.0
2439	.4	100.1
2441	6.1	33.2
2448	23.3	85.6
2449	71.8	46.4
2451	354.6	174.5
2452	1.0	97.5
2499	33.1	71.9
Furniture and Fixtures Industries		
2511	330.0	54.5
2512	32.8	24.8
2514	4.1	6.2
2515	.2	13.4
2517	43.7	17.9
2519	.1	3.8
2521	54.4	7.4
2522	11.0	1.6
2531	18.7	12.0
2541	45.3	200.1
2542	4.9	115.8
2591	8.1	.1
2599	5.0	9.0
Other Wood-Using Industries		
3731	3.2	4.7
3732	19.7	132.5
3792	43.7	109.9
3931	51.3	4.6
3944	1.0	19.8
3949	1.9	16.4
3991	.7	.0
3993	6.3	12.1
3995	.3	3.1

¹For industry definitions see table A-1.

Source: McKeever, David B. and Martens, David G. (16).

Wood Products Used by Manufacturing Industries (con.)

Hardboard

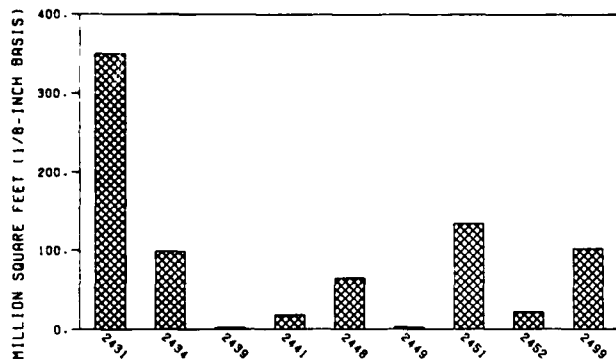


Figure 83. — Hardboard used by the lumber and wood products industries in the United States by industry, 1977. See table A-1 for SIC code numbers. (ML84 5083)

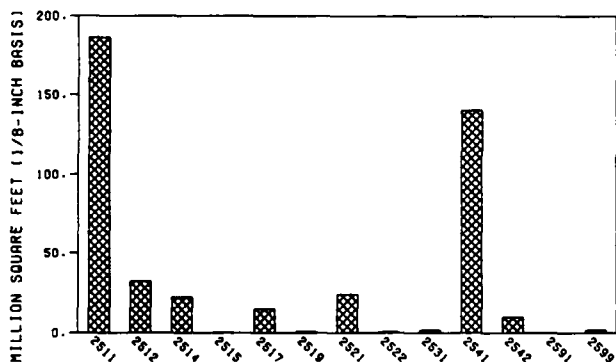


Figure 84. — Hardboard used by the furniture and fixtures industries in the United States by industry, 1977. See table A-1 for SIC code numbers. (ML84 5084)

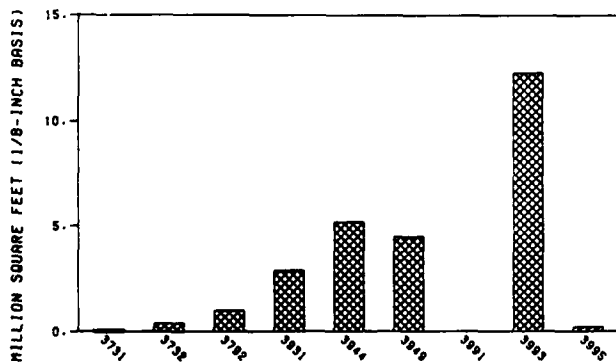


Figure 85. — Hardboard used by other selected wood-using industries in the United States by industry, 1977. See table A-1 for SIC code numbers. (ML84 5085)

Table 38.—Hardboard used by selected manufacturing industries in the United States, 1977 (Million square feet, 1/8-inch basis)

Standard industrial classification code ¹	Consumption
Lumber and Wood Products Industries	
2429	0
2431	350.3
2434	99.3
2439	1.9
2441	18.3
2448	65.8
2449	2.6
2451	134.3
2452	22.0
2499	102.3
Furniture and Fixtures Industries	
2511	186.5
2512	32.4
2514	22.5
2515	.2
2517	15.0
2519	.6
2521	24.3
2522	.5
2531	1.6
2541	140.5
2542	10.0
2591	0
2599	1.8
Other Wood-Using Industries	
3731	.1
3732	.4
3792	1.0
3931	2.9
3944	5.2
3949	4.5
3991	0
3993	12.3
3995	.2

¹For industry definitions see table A-1.

Source: McKeever, David B. and Martens, David G. (16).

Insulation Board

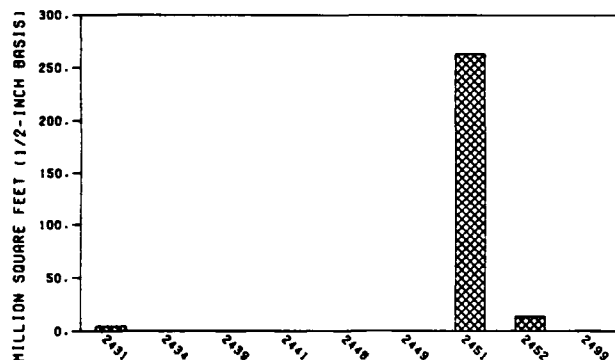


Figure 86. — Insulation board used by the lumber and wood products industries in the United States by industry, 1977. See table A-1 for SIC code numbers. (ML84 5086)

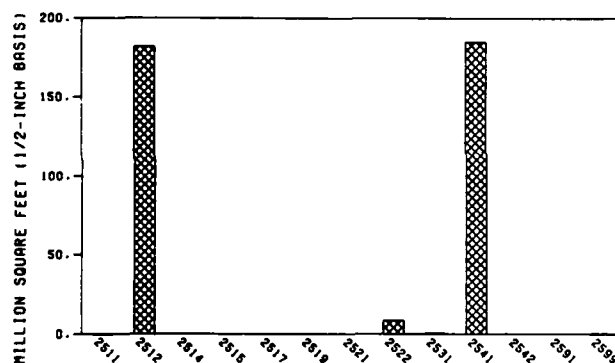


Figure 87. — Insulation board used by the furniture and fixtures industries in the United States by industry, 1977. See table A-1 for SIC code numbers. (ML84 5087)

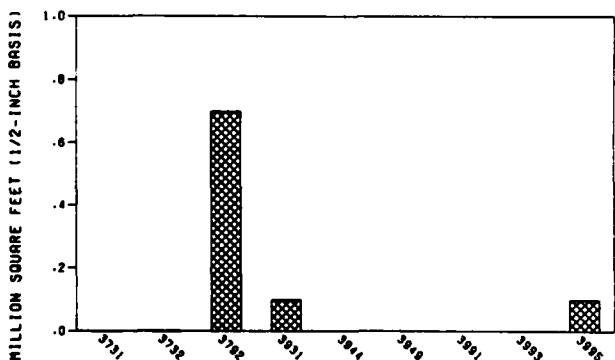


Figure 88. — Insulation board used by other selected wood-using industries in the United States by industry, 1977. See table A-1 for SIC code numbers. (ML84 5088)

Table 39.—Insulation board used by selected manufacturing industries in the United States, 1977 (Million square feet, 1/2-inch basis)

Standard industrial classification code ¹	Consumption
Lumber and Wood Products Industries	
2431	4.8
2434	.1
2439	.6
2441	.03
2448	0
2449	0
2451	263.2
2452	13.9
2499	.3
Furniture and Fixtures Industries	
2511	0
2512	182.0
2514	0
2515	0
2517	0
2519	0
2521	0
2522	8.7
2531	.5
2541	185.0
2542	0
2591	0
2599	.2
Other Wood-Using Industries	
3731	0
3732	.06
3792	.7
3931	.1
3944	0
3949	0
3991	0
3993	.01
3995	.1

¹For industry definitions see table A-1.

Source: McKeever, David, B. and Martens, David G. (16).

Wood Products Used by Manufacturing Industries (con.)

Particleboard and Medium-Density Fiberboard

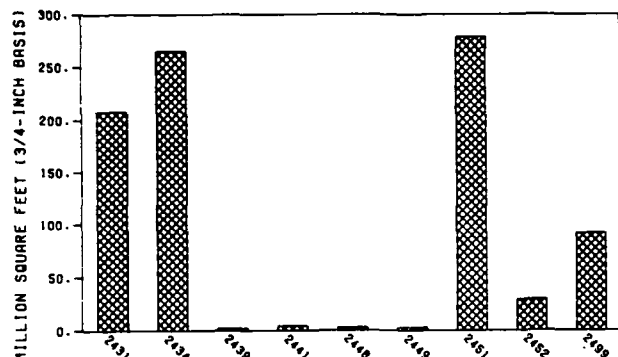


Figure 89. — Particleboard and medium-density fiberboard used by the lumber and wood products industries in the United States by industry, 1977. See table A-1 for SIC code numbers. (ML84 5089)

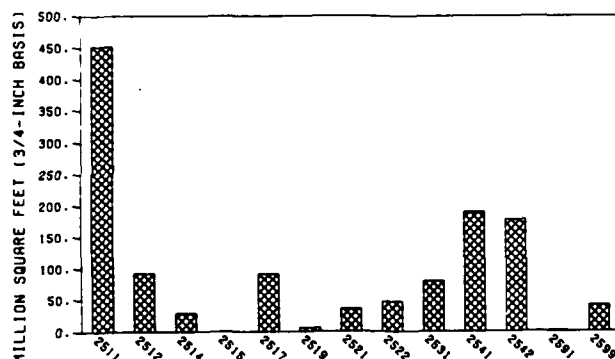


Figure 90. — Particleboard and medium-density fiberboard used by the furniture and fixtures industries in the United States by industry, 1977. See table A-1 for SIC code numbers. (ML84 5090)

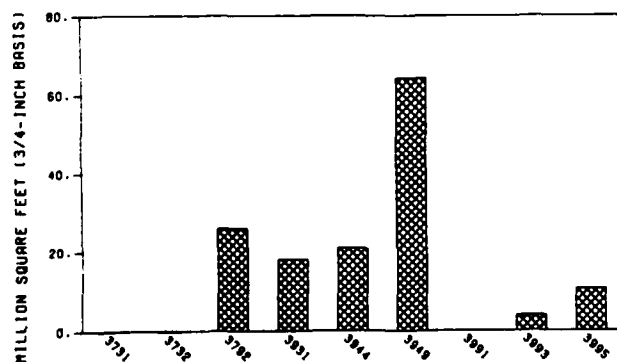


Figure 91. — Particleboard and medium-density fiberboard used by other selected wood-using industries in the United States by industry, 1977. See table A-1 for SIC code numbers. (ML84 5091)

Table 40.—Particleboard and medium-density fiberboard used by selected manufacturing industries in the United States, 1977 (Million square feet, 3/4-inch basis)

Standard industrial classification code ¹	Consumption
Lumber and Wood Products Industries	
2431	208.1
2434	264.8
2439	2.2
2441	4.3
2448	2.7
2449	2.7
2451	278.4
2452	29.7
2499	92.2
Furniture and Fixtures Industries	
2511	452.0
2512	93.1
2514	29.0
2515	.2
2517	92.0
2519	6.0
2521	35.9
2522	47.4
2531	80.3
2541	190.7
2542	178.3
2591	1.0
2599	41.7
Other Wood-Using Industries	
3731	.1
3732	.13
3792	26.1
3931	18.2
3944	21.0
3949	64.2
3991	.01
3993	3.9
3995	10.7

¹For industry definitions see table A-1.

Source: McKeever, David B. and Martens, David G. (16).

Paper, Paperboard, and Newsprint

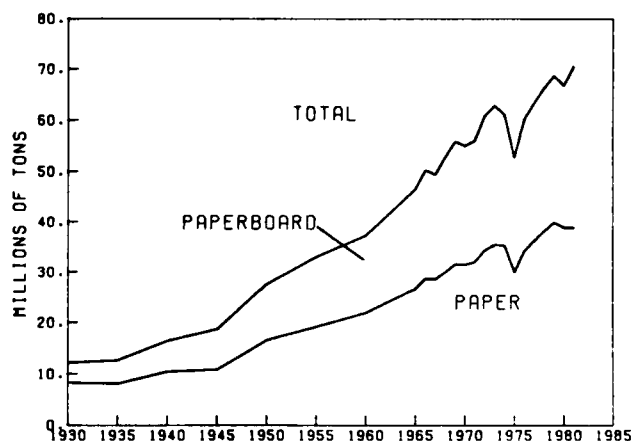


Figure 92. — Paper and paperboard consumption in the United States, 1930-1981. (ML84 5092)

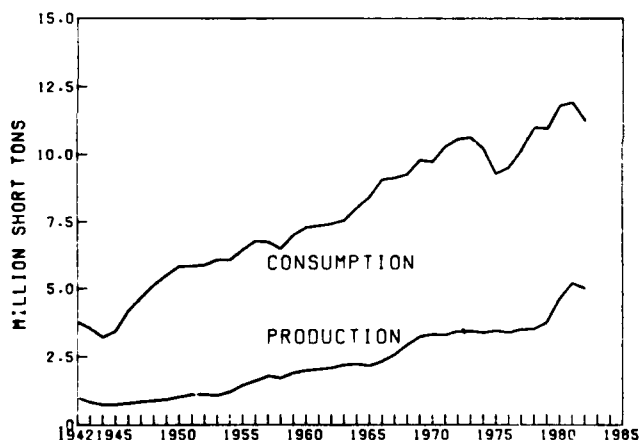


Figure 93. — Newsprint production and consumption in the United States, 1942-1982. (ML84 5093)

Table 41.—Paper and paperboard consumption in the United States, selected years, 1930-1981 (Million tons)

Year	Total	Paper	Paper-board
1930	12.2	8.4	3.8
1935	12.7	8.2	4.5
1940	16.0	10.6	6.0
1945	18.9	11.0	7.9
1950	27.8	16.8	11.0
1955	33.3	19.4	13.9
1960	37.5	22.1	15.4
1965	46.7	26.8	19.9
1966	50.4	28.9	21.5
1967	49.6	28.8	20.8
1968	53.0	30.2	22.8
1969	56.0	31.8	24.2
1970	55.2	31.7	23.5
1971	56.2	32.3	23.9
1972	61.0	34.6	26.4
1973	63.0	35.7	27.3
1974	61.2	35.5	25.7
1975	52.9	30.1	22.8
1976	60.4	34.5	25.9
1977	63.5	36.5	27.0
1978	66.4	38.4	28.0
1979	68.8	40.1	28.7
1980	66.9	39.1	27.8
1981	70.6	39.0	31.6

Source: U.S. Department of Agriculture, Forest Service (24,30).

Paper, Paperboard, and Newsprint (con.)

Table 42.—Production and consumption of newsprint in the United States, 1942-1982 (Million short tons)

Year	Production	Consumption
1942	1.0	3.7
1943	.8	3.5
1944	.7	3.2
1945	.7	3.4
1946	.8	4.2
1947	.8	4.7
1948	.9	5.2
1949	.9	5.5
1950	1.0	5.9
1951	1.1	5.9
1952	1.1	5.9
1953	1.1	6.1
1954	1.2	6.1
1955	1.5	6.5
1956	1.6	6.8
1957	1.8	6.8
1958	1.7	6.5
1959	1.9	7.0
1960	2.0	7.3
1961	2.1	7.4
1962	2.1	7.5
1963	2.2	7.6
1964	2.2	8.0
1965	2.2	8.4
1966	2.3	9.1
1967	2.6	9.2
1968	3.0	9.3
1969	3.3	9.8
1970	3.3	9.8
1971	3.3	10.3
1972	3.5	10.6
1973	3.5	10.7
1974	3.4	10.3
1975	3.5	9.3
1976	3.4	9.5
1977	3.5	10.2
1978	3.5	11.0
1979	3.8	11.0
1980	4.7	11.8
1981	5.2	11.9
1982	5.0	11.3

Source: U.S. Department of Commerce, Bureau of Industrial Economics (36).

Miscellaneous Wood Products Consumption

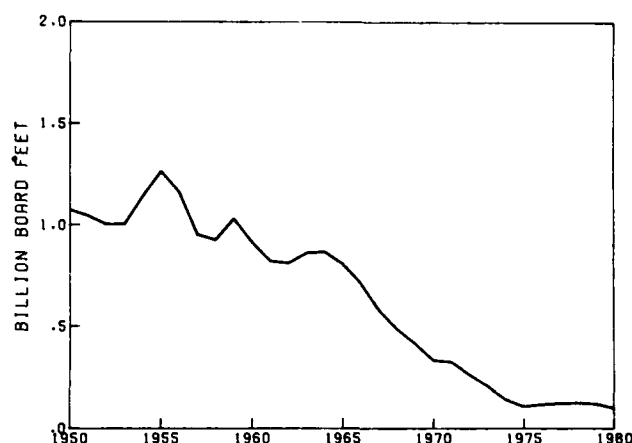


Figure 94. — Hardwood flooring production in the United States, 1950-1980. (ML84 5094)

Table 43.—Hardwood flooring production in the United States, 1950-1980 (Billion board feet)

Year	Production	Year	Production
1950	1.077	1970	.333
1951	1.048	1971	.325
1952	1.005	1972	.261
1953	1.005	1973	.206
1954	1.145	1974	.142
1955	1.268	1975	.107
1956	1.166	1976	.117
1957	.953	1977	.123
1958	.927	1978	.125
1959	1.034	1979	.120
1960	.915	1980	.099
1961	.823		
1962	.813		
1963	.865		
1964	.871		
1965	.808		
1966	.711		
1967	.580		
1968	.487		
1969	.416		

Source: National Forest Products Association (19).

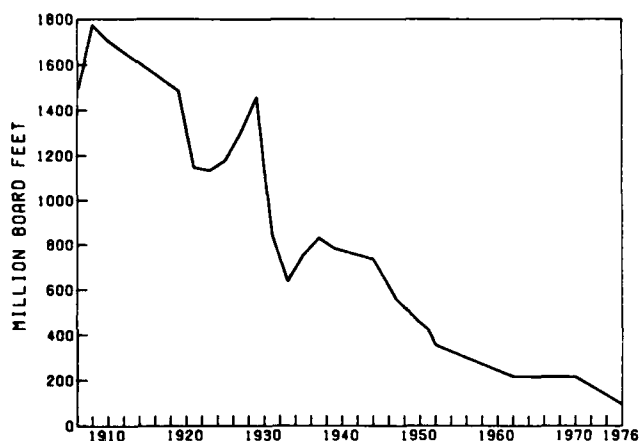


Figure 95. — Cooperage consumption in the United States, 1906-1976. (ML84 5095)

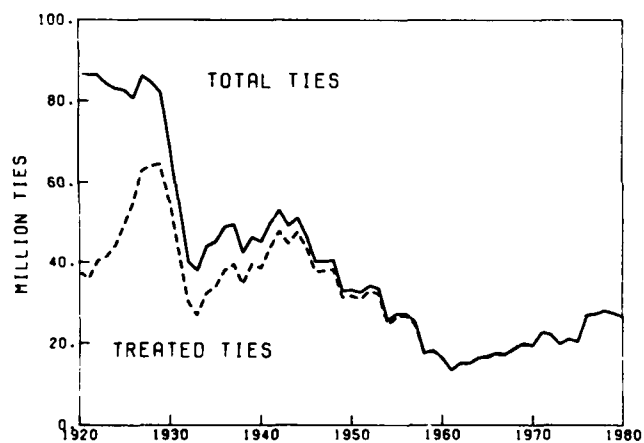


Figure 96. — Cumulative crosstie consumption in the United States, 1920-1980. (ML84 5096)

Table 44.—Cooperage consumption in the United States, selected years, 1906-1976 (Million board feet)

Year	Consumption	Year	Consumption
1906	1,478	1935	758
1908	1,775	1937	833
1910	1,706	1939	786
1919	1,486	1944	737
1921	1,149	1947	558
1923	1,136	1950	455
1925	1,182	1951	427
1927	1,307	1952	355
1929	1,461	1962	216
1931	843	1970	214
1933	639	1976	94

Source: U.S. Department of Agriculture, Forest Service (30), U.S. Department of Commerce, Bureau of the Census (32).

Table 45.—Crosstie consumption in the United States, 1920-1980 (Million ties)

Year	Total	Treated	Year	Total	Treated
1920	86.8	37.8	1950	33.1	31.6
1921	86.5	36.1	1951	32.5	30.8
1922	86.6	40.6	1952	34.2	32.9
1923	84.4	41.7	1953	33.5	32.1
1924	83.1	44.5	1954	25.7	24.5
1925	82.7	50.1	1955	27.2	26.5
1926	80.7	55.6	1956	27.3	26.8
1927	86.2	63.0	1957	25.1	24.5
1928	84.6	64.3	1958	17.7	17.4
1929	82.0	64.7	1959	18.3	18.1
1930	69.3	54.5	1960	16.4	16.3
1931	54.4	41.9	1961	13.4	13.4
1932	40.1	30.1	1962	15.2	15.1
1933	38.0	26.8	1963	15.1	15.0
1934	44.1	32.4	1964	16.5	16.5
1935	45.3	34.0	1965	17.0	16.7
1936	49.1	38.2	1966	17.7	17.4
1937	49.7	39.7	1967	17.5	17.3
1938	42.5	34.6	1968	19.0	18.8
1939	46.4	39.7	1969	20.1	19.9
1940	45.3	38.7	1970	19.6	19.5
1941	50.1	43.9	1971	22.8	NA ¹
1942	53.2	47.9	1972	22.3	NA
1943	49.3	44.8	1973	19.9	NA
1944	51.3	47.7	1974	21.2	NA
1945	46.6	43.7	1975	20.5	NA
1946	40.2	37.7	1976	27.0	NA
1947	40.2	37.9	1977	27.3	NA
1948	40.5	38.3	1978	28.1	NA
1949	32.9	31.2	1979	27.5	NA
			1980	26.5	NA

¹Figures for this and earlier years less inclusive than for later years.

²NA—not available.

Source: Association of American Railroads (7), U.S. Department of Commerce, Bureau of the Census (32).

Miscellaneous Wood Products Consumption (con.)

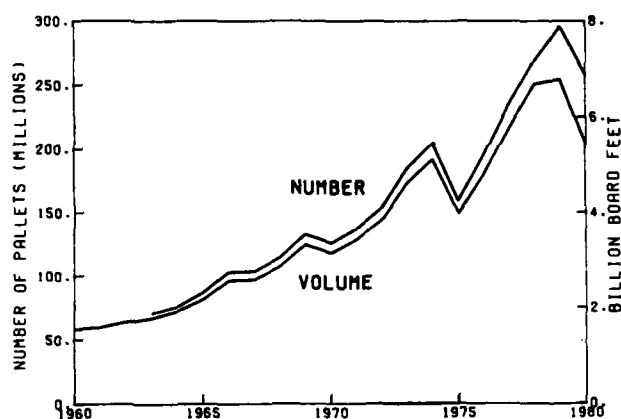


Figure 97. — Pallet production and lumber used for pallets in the United States, 1960-1980. (ML84 5097)

Table 46.—Pallet production in the United States, 1960-1980

Year	Number	Lumber used
	Million	Billion board feet
1960	NA ¹	1.6
1961	NA	1.6
1962	NA	1.7
1963	71.5	1.8
1964	76.6	1.9
1965	87.7	2.2
1966	103.7	2.6
1967	104.2	2.6
1968	115.0	2.9
1969	133.6	3.3
1970	126.3	3.1
1971	138.0	3.5
1972	154.6	3.9
1973	185.4	4.6
1974	205.1	5.1
1975	159.3	4.0
1976	195.6	4.8
1977	235.9	5.8
1978	270.0	6.7
1979	296.0	6.8
1980	258.0	5.4

¹NA—not available.

Source: National Wooden Pallet and Container Association (23).

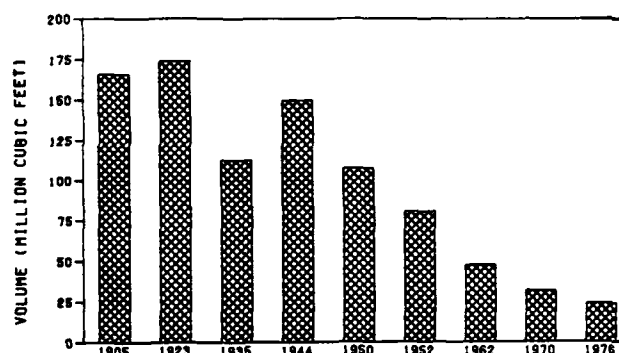


Figure 98. — Mine timbers consumed in the United States, selected years, 1905-1976. (ML84 5098)

Table 47.—Mine timbers consumed in the United States, selected years, 1905-1976

Year	Million cubic feet	Year	Million cubic feet
1905	166	1952	81
1923	174	1962	48
1935	113	1970	32
1944	150	1976	24
1950	108		

Source: U.S. Department of Agriculture, Forest Service (28-30).

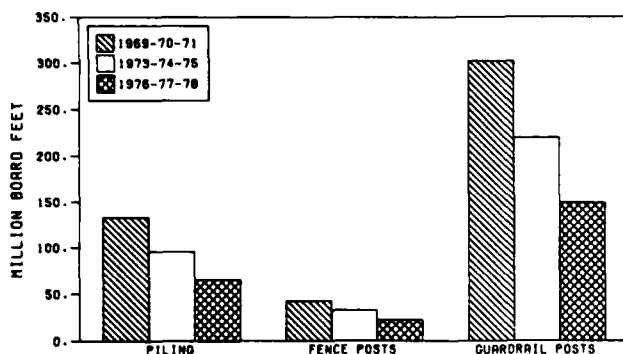


Figure 99. — Post and piling use in highway construction in the United States (3-year averages), 1969-1978. (ML84 5099)

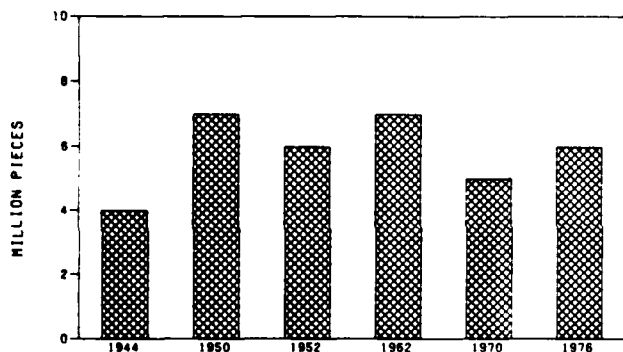


Figure 100. — Pole consumption in the United States, selected years, 1944-1976. (ML84 5100)

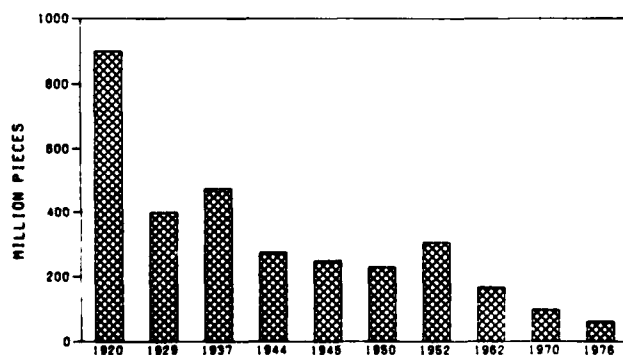


Figure 101. — Fencepost consumption in the United States, selected years, 1920-1976. (ML84 5101)

Table 48.—Average post and piling use in highway construction in the United States, 1969-1978 (Million board feet)

	Piling	Fence posts	Guardrail posts
1969-1971	134.1	43.2	302.3
1973-1975	96.5	33.3	220.2
1976-1978	65.6	22.7	149.8

'3-year averages.

Source: Reid, William H. and McKeever, David B. (22).

Table 49.—Pole consumption in the United States, selected years, 1944-1976

Year	Million pieces	Year	Million pieces
1944	4.0	1962	6.7
1950	7.0	1970	5.4
1952	6.5	1976	6.2

Source: U.S. Department of Agriculture, Forest Service (27-30).

Table 50.—Fencepost consumption in the United States, selected years, 1920-1976

Year	Million pieces	Year	Million pieces
1920	900	1950	230
1929	400	1952	306
1937	475	1962	169
1944	275	1970	98
1945	250	1976	62

Source: U.S. Department of Agriculture, Forest Service (27,29,30).

Miscellaneous Wood Products Consumption (con.)

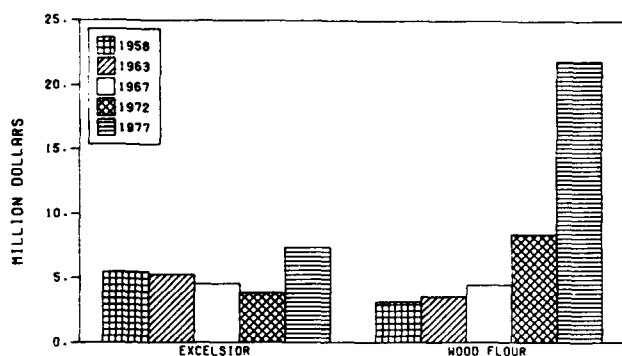


Figure 102. — Value of shipments of excelsior and wood flour, selected years, 1958-1977. (ML84 5102)

Table 51.—Value of shipments of excelsior and wood flour, selected years, 1958-1977 (Million dollars)

Year	Excelsior	Wood flour
1958	5.5	3.2
1963	5.3	3.6
1967	4.6	4.5
1972	3.9	8.4
1977	7.4	21.9

Source: U.S. Department of Commerce, Bureau of the Census (31,33,35).

Wood Products Used in Mobile Homes

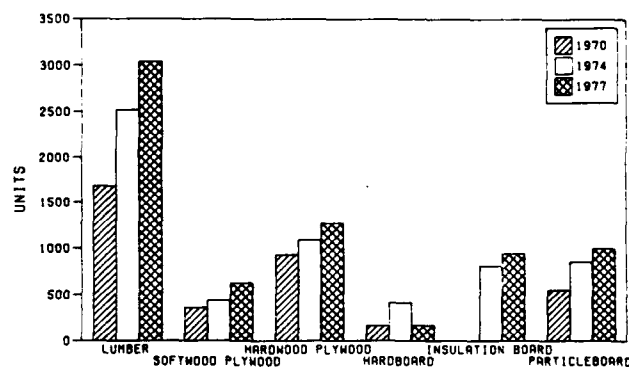


Figure 103. — Average amounts of wood products used per mobile home unit in the United States, 1970, 1974, and 1977. (ML84 5103)

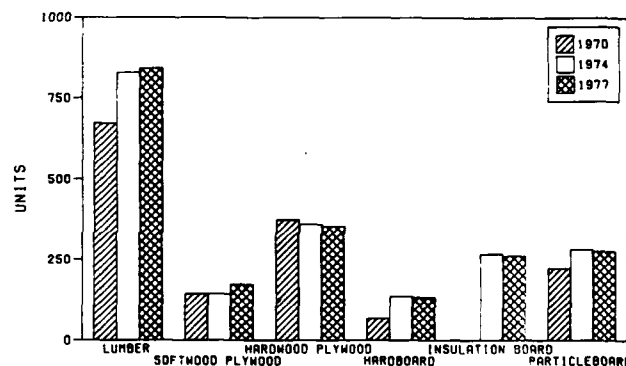


Figure 104. — Wood products used in mobile home construction in the United States, 1970, 1974, and 1977. (ML84 5104)

Wood Products Used in Housing

Table 52.--Average amounts of wood products consumed per mobile home unit, 1970, 1974, and 1977

Wood product	Year		
	1970	1974	1977
Lumber (board feet)	1,680	2,520	3,040
Softwood plywood (square feet, 3/8-inch basis)	364	444	630
Hardwood plywood (square feet, 3/8-inch basis)	936	1,097	1,280
Hardboard (square feet, 1/8-inch basis)	168	418	170
Insulation board and acoustical fiberboard (square feet, 1/2-inch basis)	NA ¹	818	950
Particleboard (square feet, 3/4-inch basis)	557	862	1,005

¹NA--not available.

Source: Dickerhoof, H. Edward (8), and Dickerhoof, H. Edward and Marcin, Thomas C. (9).

Table 53.--Wood products consumed in mobile home construction in the United States, 1970, 1974, and 1977

Material used	1970	1974	1977
Lumber (million board feet)	674.1	829.1	842.1
Softwood plywood (million square feet, 3/8-inch basis)	146.4	146.1	174.5
Hardwood plywood (million square feet, 3/8-inch basis)	375.1	360.9	354.6
Hardboard (million square feet, 1/8-inch basis)	68.2	137.5	134.3
Insulation board and acoustical fiberboard (million square feet, 1/2-inch basis)	NA ¹	269.1	263.2
Particleboard (million square feet, 3/4-inch basis)	224.7	283.6	278.4

¹NA--not available.

Source: Dickerhoof, H. Edward (8), and Dickerhoof, H. Edward and Marcin, Thomas C. (9).

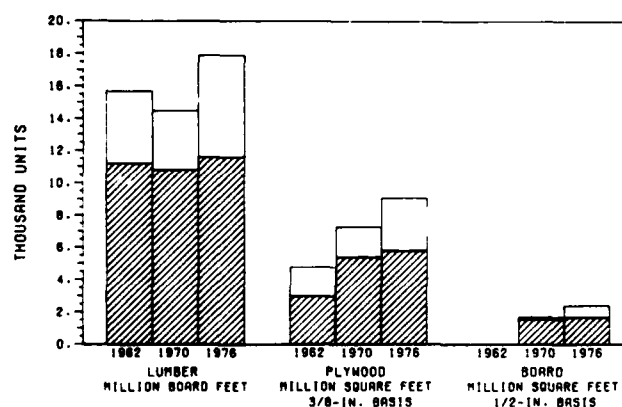


Figure 105. — Average amounts of wood products used per new housing unit in the United States by type of unit, 1962, 1970, and 1976. (ML84 5105)

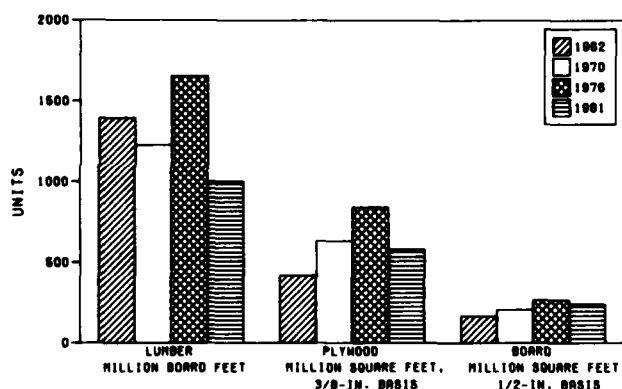


Figure 106. — Wood products used in new housing in the United States, 1962, 1970, 1976, and 1981. (ML85 5106)

Wood Products Used in Housing (con.)

Table 54.—Average amounts of wood products consumed per new housing unit in the United States, by type of unit, 1962, 1970, and 1976

Wood product	1962		1970		1976	
	Single-family	Multi-family	Single-family	Multi-family	Single-family	Multi-family
Lumber (board feet)	11,190	4,500	10,840	3,700	11,595	6,325
Plywood (square feet, 3/8-inch basis)	3,010	1,800	5,385	1,910	5,815	3,255
Board ¹ (square feet, 1/2-inch basis)	NA ²	NA	1,570	125	1,695	730

¹Hardboard, insulation board, and particleboard.

²NA—not available.

Source: U.S. Department of Agriculture, Forest Service (30).

Table 55.—Wood products used in new housing in the United States, 1962, 1970, 1976, and 1981

Wood product	1962	1970	1976	1981
Lumber (million board feet)	13,940	12,270	16,555	10,000
Plywood (million square feet, 3/8-inch basis)	4,180	6,330	8,410	5,800
Board ¹ (million square feet, 1/2-inch basis)	1,660	2,070	2,655	2,400

¹Hardboard, insulation board, and particleboard.

Source: U.S. Department of Agriculture, Forest Service (30).

Wood Products Used in Nonresidential and Nonhousekeeping Construction

All Wood Products

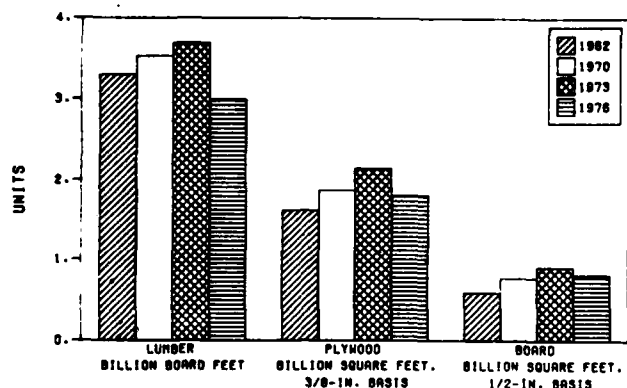


Figure 107. — Wood products used in new nonresidential and nonhousekeeping construction in the United States by product, 1962, 1970, 1973, and 1976. (ML84 5107)

Table 58.—Wood products used in new nonresidential construction¹ in the United States by product, 1962, 1970, 1973, and 1976

Year	Lumber	Plywood	Board ²
	Million board feet	Million square feet, 3/8-inch basis	
1962	3,303.4	1,639.4	605.0
1970	3,528.4	1,889.3	785.0
1973	3,695.3	2,158.5	915.3
1976	3,000.6	1,824.5	821.5

¹Includes private commercial buildings such as offices, stores, warehouses, restaurants, public and private nonhousekeeping, industrial educational, religious, hospital and institutional, farm service, and miscellaneous buildings, telephone and telegraph, other public utilities, sewer systems, water supply facilities, military facilities, conservation and development, railroad construction except track construction, and all other public and private construction not included in other categories.

²Hardboard, insulation board, and particleboard (including waferboard, flakeboard, composite board, and medium-density fiberboard).

Source: U.S. Department of Agriculture, Forest Service (30).

Lumber and Plywood

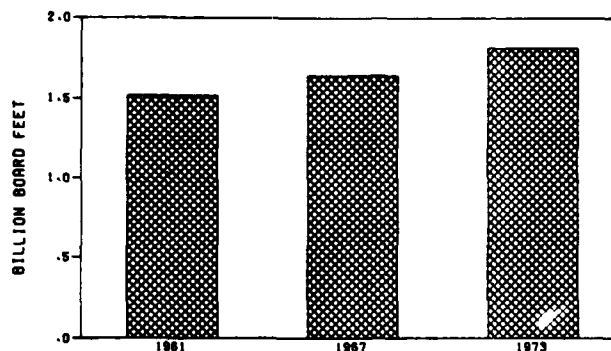


Figure 108. — Lumber used in new nonresidential and nonhousekeeping buildings in the United States, 1961, 1967, and 1973. (ML84 5108)

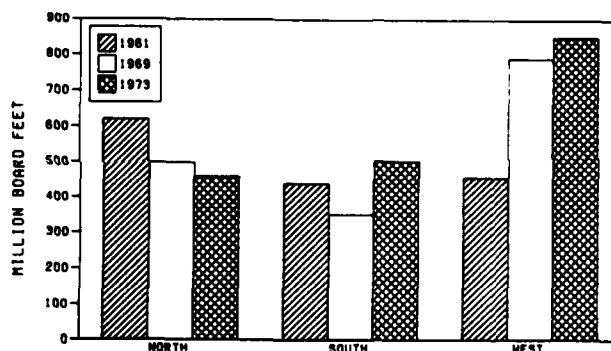


Figure 109. — Lumber used in new nonresidential and nonhousekeeping buildings in the United States by region, 1961, 1969, and 1973. (ML84 5109)

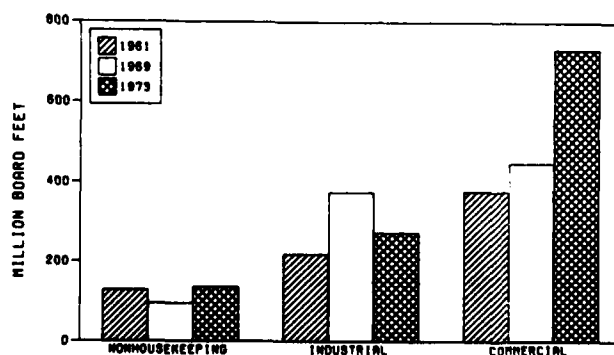


Figure 110. — Lumber used in new nonhousekeeping, industrial, and commercial buildings in the United States, 1961, 1969, and 1973. (ML84 5110)

Wood Products Used in Nonresidential and Nonhousekeeping Construction (con.)

Lumber and Plywood (con.)

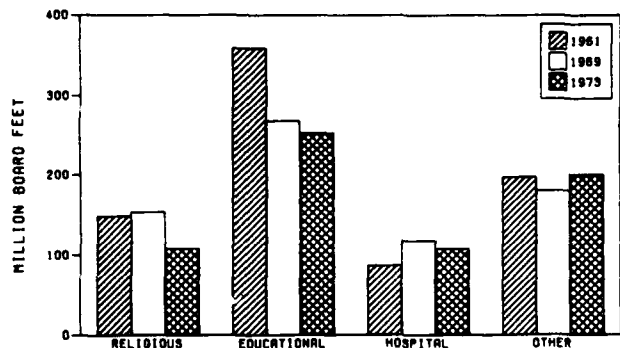


Figure 111. — Lumber used in new religious, educational, hospital, and other buildings in the United States, 1961, 1969, and 1973. (ML84 5111)

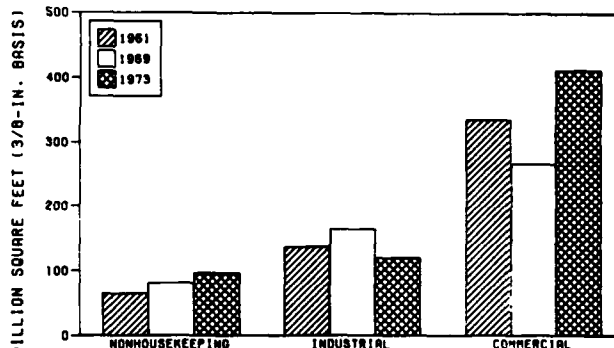


Figure 114. — Plywood used in new nonhousekeeping, industrial, and commercial buildings in the United States, 1961, 1969, and 1973. (ML84 5114)



Figure 112. — Plywood used in new nonresidential and nonhousekeeping buildings in the United States, 1961, 1967, and 1973. (ML84 5112)

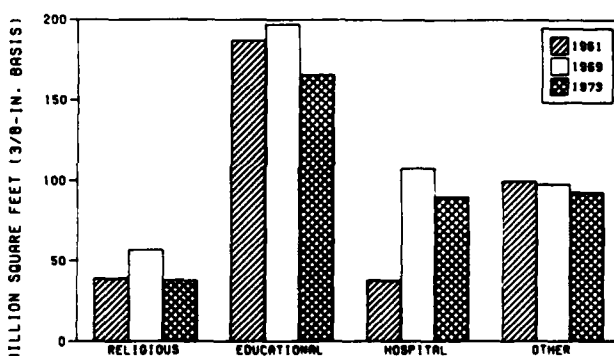


Figure 115. — Plywood used in new religious, educational, hospital, and other buildings in the United States, 1961, 1969, and 1973. (ML84 5115)

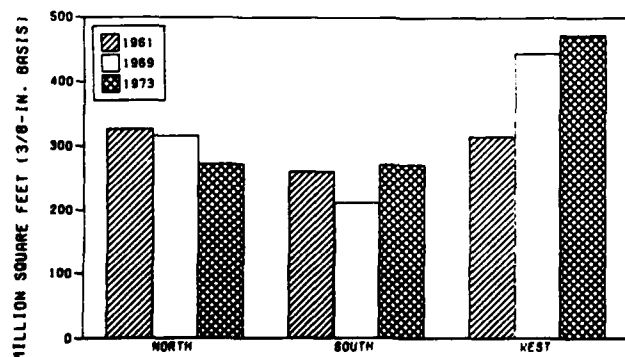


Figure 113. — Plywood used in new nonresidential and nonhousekeeping buildings in the United States by region, 1961, 1969, and 1973. (ML84 5113)

Table 57.—Lumber and plywood used in the construction of nonresidential and nonhousekeeping buildings in the United States by building type and region, 1961, 1969 and 1973

Building type and region	Lumber			Plywood		
	1961	1969	1973	1961	1969	1973
	Thousand board feet			Thousand square feet, 3/8-inch basis		
Nonhousekeeping						
North	62,899	27,446	30,804	31,450	40,472	38,349
South	37,868	23,156	68,089	10,742	15,525	36,123
West	28,016	45,898	38,135	23,258	25,877	22,210
Total	128,783	96,500	137,028	65,450	81,875	96,682
Industrial						
North	78,674	68,138	47,580	33,718	37,620	27,347
South	77,423	71,178	48,179	65,347	30,904	22,680
West	63,297	236,109	178,254	38,465	96,464	70,737
Total	219,394	376,109	274,013	137,530	164,989	120,764
Commercial						
North	142,993	104,794	124,929	96,972	50,356	67,451
South	124,513	88,256	206,626	101,230	38,670	90,108
West	109,988	256,211	400,327	139,194	178,811	254,983
Total	377,494	449,260	731,882	337,396	267,837	412,542
Religious						
North	61,633	74,256	36,683	16,536	27,039	12,796
South	46,612	42,511	40,340	14,311	17,562	15,416
West	40,697	37,678	31,916	8,370	12,334	10,069
Total	148,942	154,445	108,939	39,217	56,935	38,281
Educational						
North	167,490	111,905	84,043	87,788	80,332	50,795
South	65,230	59,697	66,642	38,696	49,288	48,969
West	126,723	97,078	102,992	60,550	67,487	66,211
Total	359,443	268,679	253,677	187,034	197,108	165,975
Hospital						
North	29,162	34,971	47,877	20,413	39,175	39,997
South	34,829	27,969	31,027	7,485	34,129	31,281
West	23,423	54,145	29,161	10,184	34,530	18,803
Total	87,414	118,084	108,065	38,082	107,835	90,081
Other						
North	77,656	77,892	87,730	40,402	42,355	36,306
South	54,426	39,642	44,260	23,039	26,385	27,134
West	65,778	63,561	68,933	36,395	29,078	29,739
Total	197,860	181,096	200,923	99,836	97,818	93,179
All buildings						
North	620,507	500,402	459,646	327,279	317,348	273,041
South	440,901	352,409	505,163	260,850	212,466	271,711
West	457,922	791,362	849,718	316,416	444,583	472,752
Total	1,519,330	1,644,173	1,814,527	904,545	974,397	1,017,504

Source: Reid, William H. (21).

Wood Products Used in Nonresidential and Nonhousekeeping Construction (con.)

Lumber and Plywood, Area Basis

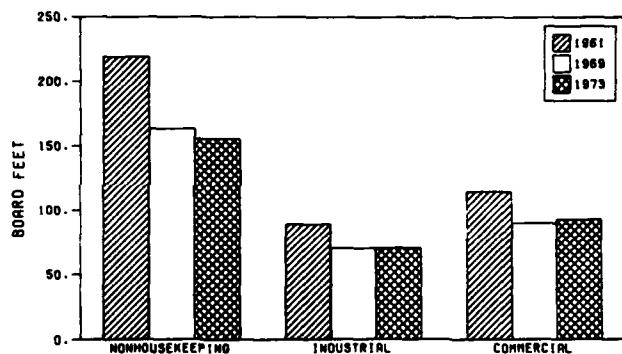


Figure 116. — Lumber used per 100 square feet of floor area in new nonhousekeeping, industrial, and commercial buildings in the United States, 1961, 1969, and 1973. (ML84 5116)

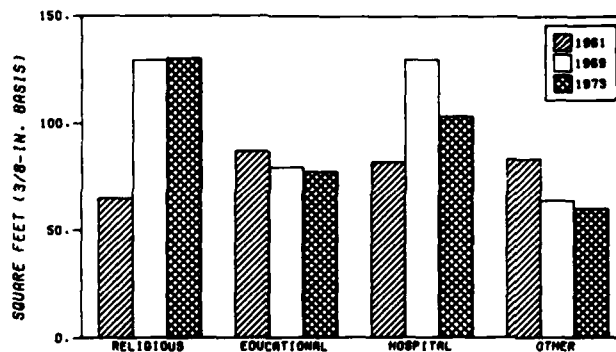


Figure 119. — Plywood used per 100 square feet of floor area in religious, educational, hospital, and other buildings in the United States, 1961, 1969, and 1973. (ML84 5119)

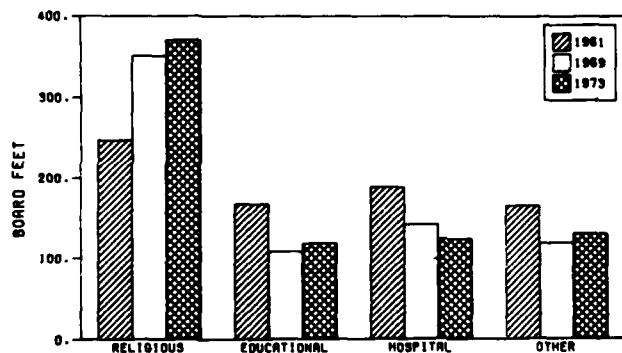


Figure 117. — Lumber used per 100 square feet of floor area in new religious, educational, hospital, and other buildings in the United States, 1961, 1969, and 1973. (ML84 5117)

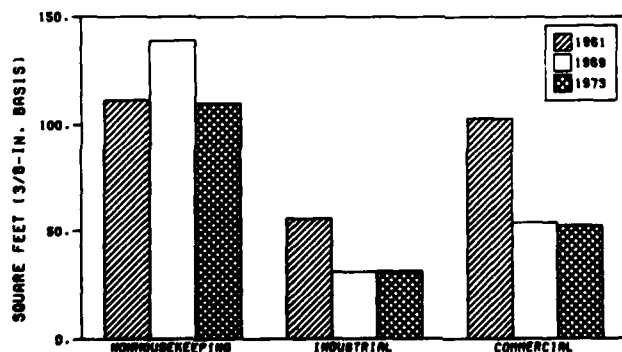


Figure 118. — Plywood used per 100 square feet of floor area in nonhousekeeping, industrial, and commercial buildings in the United States, 1961, 1969, and 1973. (ML84 5118)

Table 58.—Lumber and plywood used per 100 square feet of floor area in nonresidential and nonhousekeeping buildings in the United States by building type and region, 1961, 1969, and 1973

Building type and region	Lumber			Plywood		
	1961	1969	1973	1961	1969	1973
	Board feet			Square feet, 3/8-inch basis		
Nonhousekeeping						
North	210.0	95.3	97.7	105.0	140.6	121.6
South	208.0	149.8	173.8	59.0	100.4	92.2
West	265.0	311.2	220.9	220.0	175.4	128.7
Average	219.3	163.6	155.8	111.4	138.8	109.9
Industrial						
North	63.0	22.3	24.0	27.0	12.3	13.8
South	109.0	53.3	44.0	92.0	23.1	20.7
West	130.0	261.3	230.3	79.0	106.4	91.4
Average	89.7	71.0	71.2	56.2	31.1	31.4
Commercial						
North	87.0	38.7	36.0	59.0	18.6	19.4
South	123.0	73.1	77.0	100.0	32.0	33.6
West	177.0	247.6	237.8	224.0	172.8	151.5
Average	115.2	90.8	93.4	102.9	54.1	52.6
Religious						
North	205.0	288.0	279.8	55.0	104.9	97.6
South	228.0	360.5	387.9	70.0	148.9	148.2
West	423.0	586.5	541.9	87.0	192.0	171.0
Average	247.7	351.0	370.5	65.2	129.4	130.2
Educational						
North	145.0	70.2	72.5	76.0	50.4	43.8
South	118.0	120.2	119.2	70.0	99.3	87.6
West	293.0	255.2	248.5	140.0	177.4	159.7
Average	167.9	108.8	119.0	87.4	79.8	77.8
Hospital						
North	140.0	89.5	96.7	98.0	97.5	80.8
South	228.0	120.8	129.4	49.0	147.4	130.4
West	230.0	275.2	217.0	100.0	175.5	139.9
Average	188.8	142.3	124.3	82.3	129.9	103.6
Other						
North	148.0	96.9	118.9	77.0	52.7	49.2
South	163.0	105.6	108.1	69.0	70.3	66.3
West	197.0	186.7	177.2	109.0	85.4	76.5
Average	165.9	119.1	130.8	83.7	64.4	60.6
All buildings						
North	115.3	54.9	55.5	60.8	34.8	33.0
South	140.0	89.9	92.2	82.8	54.2	49.6
West	210.2	257.8	234.3	145.2	144.8	130.3
Average	141.9	102.1	104.3	84.5	60.5	58.5

Source: Reid, William H. (21).

Wood Products Used in Nonresidential and Nonhousekeeping Construction (con.)

Other Wood Products

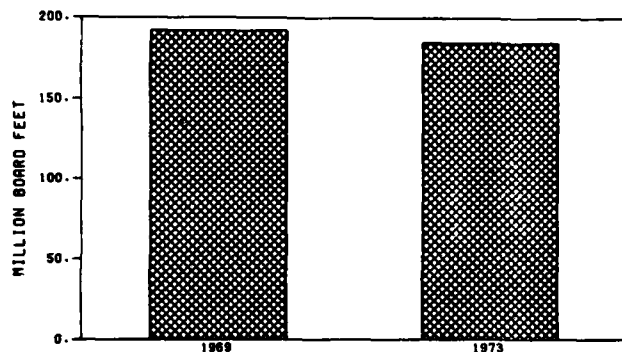


Figure 120. — Glue-laminated lumber used in new nonresidential and nonhousekeeping buildings in the United States, 1969 and 1973. (ML84 5120)

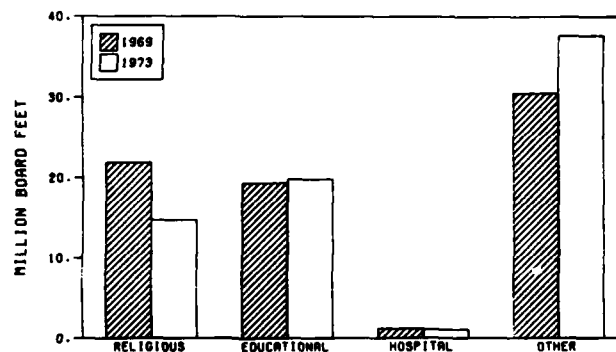


Figure 122. — Glue-laminated lumber used in religious, educational, hospital, and other buildings in the United States, 1969 and 1973. (ML84 5122)



Figure 121. — Glue-laminated lumber used in nonhousekeeping, industrial, and commercial buildings in the United States, 1969 and 1973. (ML84 5121)

Table 58.—Wood products used in the construction of nonresidential and nonhousekeeping buildings in the United States by building type, 1969, 1973

Building type	Glued-laminated lumber		Hardboard		Particleboard		Insulation board		Structural wood fiberboard	
	1969	1973	1969	1973	1969	1973	1969	1973	1969	1973
	Thousand board feet		Thousand square feet, 1/8-inch basis		Thousand square feet, 3/4-inch basis		Thousand square feet, 1/2-inch basis		Thousand square feet, 1-inch basis	
Nonhousekeeping	2,144	3,166	5,033	7,234	3,608	13,881	6,276	10,331	3,732	6,411
Industrial	77,211	54,508	3,604	2,569	806	1,287	40,695	29,093	102,912	73,558
Commercial	39,642	53,881	8,884	13,558	1,062	3,493	12,285	18,870	4,184	6,686
Religious	21,871	14,810	1,681	1,118	883	953	3,578	2,486	2,339	1,633
Educational	19,390	19,860	16,490	14,159	4,343	7,820	8,844	7,597	52,608	45,511
Hospital	1,181	1,092	3,616	3,633	2,104	4,687	5,784	5,866	48	61
Other	30,631	37,719	2,527	2,744	1,011	2,416	2,844	3,069	19,264	19,508
Total	192,070	185,036	41,835	45,015	13,817	34,537	80,306	77,332	185,087	153,368

Source: Reid, William H. (21).

Other Wood Products, Area Basis

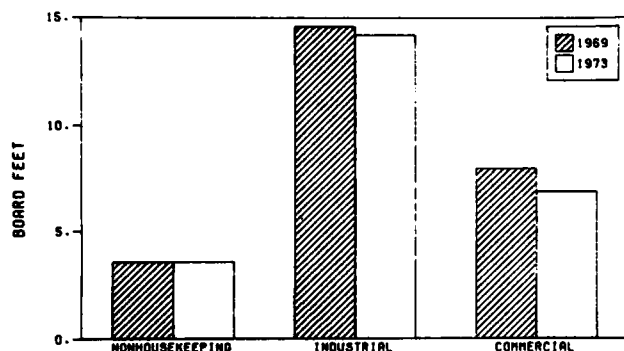


Figure 123. — Glue-laminated lumber used per 100 square feet of floor area in nonhousekeeping, industrial, and commercial buildings in the United States, 1969 and 1973. (ML84 5123)

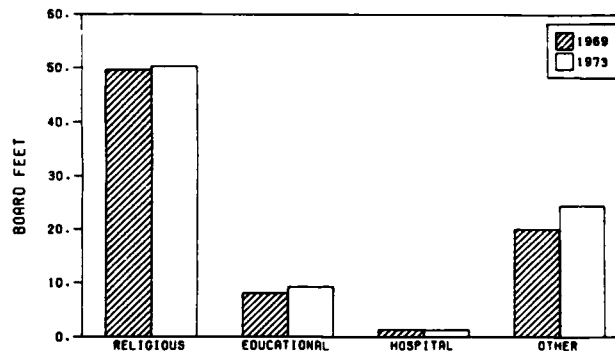


Figure 124. — Glue-laminated lumber used per 100 square feet of floor area in religious, educational, hospital, and other buildings in the United States, 1969 and 1973. (ML84 5124)

Table 60.—Wood products used per 100 square feet of floor area in nonresidential and nonhousekeeping buildings in the United States by building type, 1969, 1973

Building type	Glued-laminated lumber		Hardboard		Particleboard		Insulation board		Structural wood fiberboard	
	1969	1973	1969	1973	1969	1973	1969	1973	1969	1973
	— Board feet —		Square feet 1/8-inch basis		Square feet 3/4-inch basis		Square feet 1/2-inch basis		Square feet 1-inch basis	
Nonhousekeeping	3.63	3.59	8.53	8.22	6.12	15.78	10.64	11.75	6.33	7.29
Industrial	14.58	14.16	.68	.67	.15	.33	7.68	7.56	19.42	19.12
Commercial	8.00	6.87	1.79	1.73	.22	.45	2.48	2.41	.85	.85
Religious	49.71	50.37	3.82	3.80	2.01	3.24	8.13	8.46	5.32	5.55
Educational	8.17	9.31	6.68	6.64	1.76	3.67	3.58	3.56	21.30	21.34
Hospital	1.42	1.25	4.36	4.18	2.53	5.39	6.97	6.75	.06	.07
Other	20.15	24.55	1.66	1.79	.67	1.57	1.87	2.01	12.67	12.70
Average, all buildings	11.93	10.63	2.60	2.59	.86	1.99	4.99	4.45	11.05	8.82

Source: Reid, William H. (21).

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Appendix

Table A-1.—Standard industrial classification (SIC) system definitions of industries included in figures 71-91 and tables 36-40

SIC No.	Industry	Definition
2431	Millwork	Establishments primarily engaged in manufacturing fabricated millwork. Planing mills primarily engaged in producing millwork are included in this industry, but planing mills primarily producing standard workings or patterns of lumber are classified in 2421. Establishments primarily manufacturing wood kitchen cabinets and bathroom vanities are classified in 2434.
2434	Wood kitchen cabinets	Establishments primarily engaged in manufacturing wood kitchen cabinets and wood bathroom vanities.
2439	Structural wood members, NEC	Establishments primarily engaged in producing laminated or fabricated trusses, arches, and other structural members of lumber. Establishments primarily engaged in fabrication on the site of construction are classified in Division C, Construction. Establishments primarily engaged in producing prefabricated wooden buildings, sections, and panels are classified in 2452.
2441	Nailed and lock corner wood boxes and shook	Establishments primarily engaged in manufacturing nailed and lock corner wood boxes (lumber or plywood), and which also may produce shook for nailed and lock corner boxes.
2448	Wood pallets and skids	Establishments primarily engaged in manufacturing wood and wood-metal combination pallets and skids.
2449	Wood containers, NEC	Establishments primarily engaged in manufacturing wood containers, NEC, classified, such as cooperage, wirebound boxes and crates, and other veneer and plywood containers. Establishments primarily engaged in manufacturing tobacco hogshead stock are classified in 2421, and those manufacturing cooperage stock in 2429.
2451	Mobile homes	Establishments primarily engaged in manufacturing mobile homes. These mobile homes are generally over 35 feet long, at least 8 feet wide, do not have facilities for storage of water or waste, and are equipped with wheels. The products may also have nonresidential uses, such as classrooms or offices. Trailers that are generally 35 feet long or less, 8 feet wide or less and with self-contained facilities are classified in 3792. Portable buildings not equipped with wheels are classified in 2452.
2452	Prefabricated wood buildings and components	Establishments primarily engaged in manufacturing prefabricated wood buildings, sections, and panels. Establishments primarily engaged in fabricating buildings on the site of construction are classified in Division C, Construction.
2499	Wood products, NEC	Establishments primarily engaged in turning and shaping wood, and manufacturing miscellaneous wood products, NEC, from rattan, reed, splint, straw, veneer, veneer strips, wicker, and willow. This industry also includes establishments manufacturing lasts and related products, cork products, hardboard, and wood or metal mirror and picture frames. Establishments primarily engaged in manufacturing pallets and skids in 2448.
2511	Wood household furniture, except upholstered	Establishments primarily engaged in manufacturing wood household furniture commonly used in dwellings. This industry also includes establishments manufacturing camp furniture. Establishments primarily engaged in manufacturing upholstered furniture are classified in 2512, and reed and rattan furniture in 2519; television, radio, phonograph, and sewing machine cabinets in 2517; and kitchen cabinets and bathroom vanities in 2434.

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Table A-1.--Standard industrial classification (SIC) system definitions of industries included in figures 71-91 and tables 36-40--con.

SIC No.	Industry	Definition
2512	Wood household furniture, upholstered	Establishments primarily engaged in manufacturing upholstered furniture on wood frames. Shops primarily engaged in reupholstering furniture, or upholstering frames to individual order, are classified in nonmanufacturing industries. Establishments primarily engaged in manufacturing dual purpose sleep furniture such as studio couches, sofa beds, and chair beds, are classified in 2515, regardless of the material used in the frame. Establishments primarily engaged in manufacturing wood frames for upholstered furniture are classified in 2426.
2514	Metal household furniture	Establishments primarily engaged in manufacturing padded or plain metal household furniture of a type commonly used in dwellings. Establishments primarily engaged in manufacturing dual purpose sleep furniture, such as studio couches, sofa beds, and chair beds, are classified in 2515, regardless of the material used in the frame.
2515	Mattresses and bedsprings	Establishments primarily engaged in manufacturing innerspring mattresses, box spring mattresses and noninnerspring mattresses containing felt, foam rubber, urethane, hair, or any other filling material; and assembled wire springs (fabric, coil, or box) for use on beds, couches, and cots. This industry also includes establishments primarily engaged in manufacturing dual purpose sleep furniture, such as studio couches, sofa beds, and chair beds, regardless of the material used in the frame. Establishments primarily engaged in manufacturing automobile seats and backs are classified in 2531; individual wire springs in 3495; and paddings and upholstery filling in 2293.
2517	Wood television, radio, phonograph, and sewing machine cabinets	Establishments primarily engaged in manufacturing wood cabinets for radios, television sets, phonographs, and sewing machines.
2519	Household furniture, NEC	Establishments primarily engaged in manufacturing reed, rattan, and other wicker furniture, plastics and fiberglass household furniture and cabinets, and household furniture, NEC.
2521	Wood office furniture	Establishments primarily engaged in manufacturing wood office furniture, whether padded, upholstered, or plain.
2522	Metal office furniture	Establishments primarily engaged in manufacturing metal office furniture, whether padded or plain. Establishments primarily engaged in manufacturing safes and vaults are classified in 3499.
2531	Public building and related furniture	Establishments primarily engaged in manufacturing furniture for schools, theaters, assembly halls, churches, and libraries. Establishments primarily engaged in manufacturing seats for public conveyances, as well as seats for automobiles and aircraft, are included in this industry. Establishments primarily engaged in manufacturing stone furniture are classified in 3281, and concrete furniture in 3272.
2541	Wood partitions, shelving, lockers, and office and store fixtures	Establishments primarily engaged in manufacturing wood shelving, lockers, office and store fixtures, prefabricated partitions, plastic laminated fixture tops, and related fabricated products. Establishments primarily engaged in manufacturing refrigerated cabinets, show cases, and display cases are classified in 3585, and safes and vaults in 3499.

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Table A-1.--Standard industrial classification (SIC) system definitions of industries included in figures 71-91 and tables 36-40--con.

SIC No.	Industry	Definition
2542	Metal partitions, shelving, lockers, and office and store fixtures	Establishments primarily engaged in manufacturing metal shelving, storage racks, lockers, office and store fixtures, prefabricated partitions, and related fabricated products. Establishments primarily engaged in manufacturing refrigerated cabinets, show cases, and display cases are classified in 3585, and safes and vaults in 3499.
2591	Drapery hardware and window blinds and shades	Establishments primarily engaged in manufacturing curtain and drapery rods, poles, and fixtures; and venetian blinds and other window blinds and shades, regardless of the materials used, except canvas shades and awnings (2394).
2599	Furniture and fixtures, NEC	Establishments primarily engaged in manufacturing furniture and fixtures, NEC, including furniture specially designed for use in restaurants, bars, cafeterias, bowling establishments, and ships.
3731	Ship building and repairing	Establishments primarily engaged in building and repairing all types of ships, barges, and lighters, whether propelled by sail or motor power or towed by other craft. This industry also includes the conversion and alteration of ships. Establishments primarily engaged in fabricating structural assemblies or components for ships, or subcontractors engaged in ship painting, joinery, carpentry work, electrical wiring installation, etc., are classified in other industries.
3732	Boat building and repairing	Establishments primarily engaged in building and repairing all types of boats. Establishments primarily engaged in cleaning and storing boats and in the rental of dock space, and yacht clubs are classified in nonmanufacturing industries. Establishments primarily engaged in manufacturing rubber and nonrigid plastic boats are classified in Major Group 30 (rubber and miscellaneous plastic products).
3792	Travel trailers and campers	Establishments primarily engaged in manufacturing travel trailers for attachment to passenger cars or other vehicles, pickup coaches (campers) or caps (covers) for mounting on pickup trucks and self-contained motor homes. Travel trailers are generally 35 feet long or less, 8 feet wide or less, and have storage facilities for water and waste. Establishments primarily engaged in manufacturing mobile homes are classified in 2451.
3931	Musical instruments	Establishments primarily engaged in manufacturing pianos, with or without player attachments; organs; other musical instruments; and parts and accessories for musical instruments.
3944	Games, toys, and children's vehicles; except dolls and bicycles	Establishments primarily engaged in manufacturing games and game sets for adults and children, and mechanical and nonmechanical toys. Important products of this industry include games such as chess, checkers, dominoes, puzzles, and other indoor games; and toys, such as toy furniture, doll carriages and carts, construction sets, mechanical trains, toy guns and air rifles, and other mechanical games and toys; baby carriages and strollers; children's velocipedes and tricycles, coaster wagons, play cars, sleds, and other children's outdoor wheel goods and vehicles, except bicycles (3751). Establishments primarily engaged in manufacturing dolls are classified in 3942; and sporting and athletic goods for children and adults in 3949.

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Table A-1.—Standard industrial classification (SIC) system definitions of industries included in figures 71-91 and tables 36-40—con.

SIC No.	Industry	Definition
3949	Sporting and athletic goods, not elsewhere classified	Establishments primarily engaged in manufacturing sporting and athletic goods, not elsewhere classified, such as fishing tackle; golf and tennis goods, baseball, football, basketball, and boxing equipment; roller skates and ice skates, gymnasium and playground equipment; billiard and pool tables; and bowling alleys and equipment. Establishments primarily engaged in manufacturing athletic apparel are classified in Major Group 23 (apparel and other finished products made from fabrics and similar materials), small arms ammunition in 3482 and firearms in 3484.
3991	Brooms and brushes	Establishments primarily engaged in manufacturing household, industrial, and street sweeping brooms; and brushes, such as paintbrushes, toothbrushes, toilet brushes, and household and industrial brushes.
3993	Signs and advertising displays	Establishments primarily engaged in manufacturing electrical, mechanical, cutout, or plate signs and advertising displays, including neon signs and advertising novelties. Sign painting shops doing business on a custom basis are classified in 7399. Establishments primarily engaged in manufacturing electric signal equipment are classified in 3662, and commercial lighting fixtures in 3646.
3995	Burial Caskets	Establishments primarily engaged in manufacturing burial caskets and cases including shipping cases of wood or other material except concrete. Establishments primarily engaged in producing other goods for use by morticians are classified on the basis of the product, such as burial garments in Major Group 23 (apparel and other finished products made from fabrics and similar materials).

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