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OUTLOOK FOR TIMBER PRODUCTS

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The demands for most timber products are largely determined by the levels of activity in several important end-use markets. So before discussing demands for the various products, I would like to review trends in these markets and take a look at current estimates of their strength this year and early in 1987.

General Economic and Major Domestic Market Trends

The gross national product, a measure of the Nation's total output of goods and services, and the most comprehensive indicator of total economic activity, rose at an annual rate of 2.4 percent through the first 9 months of 1986, reaching \$3,687 billion (1982 dollars). Although this increase was somewhat below the 3.2 percent rise registered in the first three quarters of 1985, most of the difference was due to the very slow rate of growth in the second quarter. Estimates by the U.S. Department of Commerce late last month put third-quarter growth at an annual rate of 2.9 percent, far above the 0.6 percent second-quarter rise. Economists' views regarding the extent and length of the current upturn vary, however, most expect economic activity to continue at only slightly higher levels in the last months of 1986 and in the first half of 1987. A continuation of growth in the last quarter at near the current pace would mean that the GNP for 1986 would be about \$3,680 billion (1982 dollars), 2.6 percent above the average for 1985. For 1987, a slightly higher rate of about 3 percent would push the average for the year to near \$3,790 billion.

Trends in new construction, the most important domestic wood products market, vary with the type of construction. New housing units, which typically account for more than a third of total United States annual consumption of softwood lumber and plywood and for substantial volumes of other softwood and hardwood products, were started at an annual rate of more than 2.0 million units through the first four months of 1986. However, activity peaked in the first quarter, and since April the rate of starts has been slowly declining. According to preliminary data, new private housing units were started at a 1,648,000 unit annual rate in October, only slightly below the rate in September, but down 18 percent from the first-quarter average.

Although the number of housing units started has been declining over the past 6 months, the total through October remains strongly above the number started in 1985. Data from the Bureau of the Census show that new private housing starts during the first 10 months of 1986 totaled nearly 1,578,000 units, almost 5.4 percent more than in the similar period in 1985. All of the increase was the result of improved single-family activity. Through October, more than 1,031,000 single-family units were started, up 11 percent from a year earlier. During the same period multifamily starts were down about 3 percent.

There remains some diversity of opinion, however, many economists feel that even if mortgage interest rates drop somewhat over the next few weeks, the declines in sales and permits in recent months mean that weaker housing start activity will continue late in 1986 and in 1987. Recent estimates of housing starts for 1986 fall between 1,800,000 and 1,850,000 units, with the current consensus at about 1,830,000. This would be about 5.5 percent above the total number of units started in 1985 and the largest volume since 1978. Analysts' forecasts for 1987 have a somewhat wider range; however, most estimates available in late November show a substantial decline to about the 1,650,000 to 1,700,00 level. Shipments of mobile homes, down 14 percent through September, are likely to follow the same general trends shown by housing starts in the remainder of 1986 and in 1987.

Single-family units are expected to account for more than 65 percent of total starts in 1986, up from about 61.5 percent in 1985. A further increase in 1987, perhaps to more than 70 percent according to some analysts, is likely primarily because of the adverse effects of the new tax laws and weak rental markets on multifamily activity. Such changes in the proportion of single-family units have a special significance for the timber products industries because average use per unit of most wood products is much larger in single-family houses than in multifamily units and mobile homes.

In contrast to new housing construction, improvements (additions, alterations, and major replacements) to existing residential structures, another important wood products market, has been relatively weak in 1986. Through the first 10 months of the year, expenditures for this type of construction averaged \$35.0 billion (seasonally adjusted annual rate, 1982 dollars), about 12 percent below expenditures during the same period in 1985. Many observers feel that a return to higher levels of spending for improvement of existing units is likely as new housing construction slows in 1987.

The value of new nonresidential construction activity dropped fairly rapidly through the first 6 months of 1986. However, since June, total expenditures generally have been increasing, though at a relatively slow rate. The seasonally adjusted annual rate of expenditures for all nonresidential construction in October was \$182.0 billion (1982 dollars), up about 2 percent from September, but still below the rate in January and February. Much of the decline in total nonresidential expenditures during the first half of 1986 was due to weakening building construction, the most important wood-using segment of the nonresidential market. Although late in the year expenditures for many types, among them hotels, motels, and industrial, office, and other commercial buildings, were increasing, many analysts see this activity as builders' attempts to finish projects before the new tax laws take effect in January.

A number of things including slow overall economic growth, flat capacity utilization in many industries, and overbuilding of motel, hotel and office space in most major markets, apparently contributed to the first-half declines. Many of these factors persist. Consequently, though economists see nonresidential building remaining fairly strong through the end of the year, they expect expenditures to be weaker in 1987.

The index of manufacturing production--an important indicator of the demand for pallet lumber, container board, and some grades of paper--has shown some fluctuation in 1986, but little overall growth. The October index, 129.5 (1977=100), was less than 1 percent above the January value, virtually unchanged since August, and only 2.5 percent above the average for all of 1985. The indexes for the major wood using industries--furniture and fixtures and paper and products--have shown somewhat different trends. The index for furniture and fixtures in September was 147.0, down somewhat from a peak in July, but 5 percent above the average for 1985. The index for paper and products also slipped slightly at the end of the third quarter, however the September index--137.5--represented an increase of nearly 8 percent from the 1985 average. Despite the relatively flat recent trends, most economists feel that production in many industries should slowly continue up in the last quarter if economic activity continues to track as discussed earlier and that overall production for 1986 and 1987 should show some improvement.

In summation, most of the major domestic markets for timber products, though showing rather mixed tendencies through much of the year, have been relatively stronger this year than in 1985. However, prospective trends, particularly those for new housing and new nonresidential building construction, point to probable lower levels of demand for many products in 1987.

International Markets

The United States is the world's leading importer of timber products--chiefly softwood lumber, wood pulp, and paper and board from Canada, and veneer and plywood from southeast Asia. The total value of these imports in 1985 was \$12.5 billion, about 3.6 percent of the value of all U.S. imports. In terms of roundwood equivalent (i.e., the estimated amount of wood required to produce the individual products), more than a fifth of our apparent consumption of timber products in recent years has been imported.

The United States is also a major timber products exporter. In 1985, the value of timber products exports was \$6.7 billion--about 3.2 percent of our export total. Although we ship a wide variety of timber products to many different countries, our principal export markets are Japan for softwood logs and lumber, pulp chips, wood pulp, and paper and board products, and western Europe for lumber, plywood, wood pulp, and paper and board. Recently China has also become an important and growing market for softwood logs.

According to data presented at the October meeting of the Timber Committee of the Economic Commission for Europe, economic growth in most of our major European markets has been rising in 1986 with continued increases expected in 1987. Although some countries reported new residential construction at

relatively low levels, increased renovation and maintenance of dwelling units was moving briskly. As a result of these trends, and more importantly continued declines in the monetary exchange rates, exports of most products to these markets through September of 1986 were sharply up from the first three quarters of last year. Exports to Japan are also ahead of year-earlier levels; however, shipments of both softwood logs and lumber to China have declined. Overall, the outlook for U.S. international trade in timber products is for a relatively large rise for most products in 1986 with continued but smaller increases in 1987.

Timber Products Consumption, Trade, and Production

Softwood Lumber

In response to the increased year-to-year activity in some of its principal markets, and especially new housing construction, softwood lumber consumption through the first three quarters of 1986 was almost 9 percent above that of the same period in 1985. Current expectations about trends in housing and other softwood lumber markets indicate the likelihood of some slowing in the final weeks of the year. Thus, consumption for all of 1986 is estimated at about 46.5 billion board feet (table 1). This would be 7 percent above the 43.4 billion board feet used in 1985, and a record volume, exceeding the 44.0 billion board feet consumed in 1978 by almost 6 percent.

Imports of softwood lumber, chiefly from Canada, have increased rapidly over the past 10 years, rising from 5.7 billion board feet and 18 percent of our apparent consumption in 1975 to 14.6 billion and 33 percent in 1985. This trend continued during the first three quarters of 1986. Through September, total imports of softwood lumber were roughly 5 percent above year earlier volumes. About 99 percent of the increased volume was imported from Canada.

In October, a preliminary 15 percent countervailing duty was placed on softwood lumber imports from Canada. Trade data for November, the first full month under the duty, will not be available for several weeks. Consequently, the effect of this tariff on imports from Canada is largely unknown at this time. Moreover, part of the Canadian industry remains idle because of strikes that have been going on since last August. These factors, combined with the declines in U.S. housing starts would seem to indicate a probable slowing in imports in the last months of the year. However, total imports for 1986 are likely to reach 15 billion board feet, up nearly 3 percent from the record volume in 1985. As for 1987, the combined impacts of the final countervailing duty determination, due early next year, and the lower number of housing starts in prospect would seem to indicate some decline in softwood lumber imports.

Exports through the first 9 months of 1986 were up 26 percent from January-September 1985. Most observers feel that this trend, the result of improved markets and the U.S. dollar's decline relative to other currencies, will continue. As a consequence, exports for the year are likely to total about 1.8 billion board feet for the year.

Table 1.--Wood products production, consumption and trade
(1983-85 actual, 1986 projections)

Product	Year	Domestic production	Imports	Exports	Apparent consumption
Softwood lumber (billion bd. ft.)	1983	28.9	12.0	1.8	39.2
	1984	30.8	13.3	1.6	42.5
	1985	30.3	14.6	1.5	43.4
	1986	33.3	15.0	1.8	46.5
Hardwood lumber (billion bd. ft.)	1983	5.6	.3	.5	5.4
	1984	6.3	.3	.5	6.1
	1985	6.0	.4	.4	6.0
	1986	6.0	.3	.5	5.8
Softwood plywood (billion sq. ft., 3/8-inch basis)	1983	18.3	1/	.6	17.8
	1984	18.9	.1	.4	18.6
	1985	19.2	.1	.3	19.0
	1986	20.8	.1	.6	20.3
Hardwood plywood (billion sq. ft., 3/8-inch basis)	1983	1.0	1.6	1/	2.6
	1984	.9	1.5	T/	2.4
	1985	.8	1.7	T/	2.5
	1986	.9	1.9	T/	2.8
Particleboard ^{2/} (billion sq. ft., 3/4-inch basis)	1983	3.7	3/ .4	.1	4.0
	1984	4.0	3/ .6	.1	4.5
	1985	4.1	3/ .6	.1	4.6
	1986	4.2	3/ .6	.1	4.7
Hardboard ^{4/} (million tons)	1983	2.1	.2	.1	2.3
	1984	2.0	.3	.1	2.2
	1985	1.8	.3	.1	2.0
	1986	1.7	.3	.1	1.9
Insulation board (million tons)	1983	.9	.1	5/	.9
	1984	1.0	.1	5/	1.0
	1985	1.0	.1	5/	1.1
	1986	1.0	.1	5/	1.1
Pulpwood (million cords)	1983	87.5	1.7	2.0	87.2
	1984	91.5	1.8	1.9	91.4
	1985	87.3	.7	1.9	86.1
	1986	92.4	.6	1.8	91.2

1/ Less than 50 million square feet.

2/ Includes medium density fiberboard.

3/ Includes unknown quantities of structural waferboard.

4/ Shipments.

5/ Less than 50,000 tons.

Note: The projections shown for 1986 are based on the trends in the major markets discussed in this paper and should not be viewed as forecasts of actual volumes. Data shown are subject to rounding.

Sources: U. S. Department of Agriculture, Forest Service estimates based on data from the U.S. Department of Commerce, American Hardboard Association, American Paper Institute, American Plywood Association, American Pulpwood Association, National Forest Products Association, National Particleboard Association, and Western Wood Products Association.

Through September, U.S. production of softwood lumber was about 9 percent above the similar months in 1985 according to information from the Western Wood Products Association. In addition, shipments and new orders were running strongly ahead of the first three quarters of 1985. For all of 1986, production is estimated at 33.3 billion board feet, up about 10 percent from total output in 1985.

Present expectations about housing and the other important markets indicate that a decline in consumption is likely in 1987. It is not clear what effect a final duty, if enacted, will have on imports. However, if consumption drops, demand for imports is likely to be somewhat less than in 1986. Exports are expected to be slightly above those in 1986. The extent to which production is influenced by any decline in consumption will depend on imports.

Although consumption has reached record levels in 1986, the price of domestically produced softwood lumber has remained relatively low. The October producer price index was 349.5 (1967=100), up 6 percent from October 1985, but only marginally above the average for all of 1985, and still below the averages for 1983 and 1984 (table 2). Data are not available as yet to estimate the effects of the preliminary 15 percent duty on the prices for softwood lumber; however, in the long run overall market conditions will continue to be the primary determinant of final prices.

Table 2.--Producer price indexes for selected wood products

(1967=100)

Product	Annual			October	
	1983	1984	1985	1985	1986 ^{1/}
Softwood lumber	369.8	353.9	345.3	330.0	349.5
Hardwood lumber	283.7	319.7	307.2	301.1	313.8
Softwood plywood	310.4	303.6	302.9	308.9	311.9
Hardwood plywood ^{2/}	179.8	180.3	162.7	162.1	167.7
Particleboard ^{3/}	106.3	116.6	110.3	105.1	116.1
Hardboard	234.4	233.6	235.3	237.1	239.6

^{1/} Preliminary.

^{2/} Hardwood plywood and related products.

^{3/} Platen-type (mat-formed). December 1982=100.

Source: U.S. Department of Labor, Bureau of Labor Statistics.

Hardwood Lumber

Available data show hardwood lumber consumption through the late summer of 1986 slightly below the volume consumed over the same period in 1985. With a slight increase in use in the last months of the year if the major industrial markets keep pace with the overall economy, consumption is likely to reach 5.8 billion board feet, about 3 percent below the 1985 total.

Hardwood lumber imports through September were about 9 percent below those in the first three quarters of 1985, and very little strengthening is expected in the last quarter. The total for the year is thus likely to drop to about 0.3 billion board feet, down about 0.1 billion. Data through September show exports of hardwood lumber up by more than 26 percent, and the total for the year is expected to be 0.5 billion board feet, an increase of about 0.1 billion from the volume exported in 1985.

Production of hardwood lumber in 1986, based on these estimates of consumption and trade, would be 6.0 billion board feet, about the same output volume as in 1985. Anticipated growth in the major domestic hardwood markets and increased demands for exports, though possibly small, suggest some additional increase in consumption, imports, exports, and production in 1987.

Hardwood lumber prices have slowly been rising in 1986. The October 1986 producer price index was 313.8 (1967=100), about 4 percent above October 1985 and 2 percent larger than the average for all of 1985. Prices for hardwood lumber are generally more stable than those for softwood lumber, but in many instances tend to follow the same general trends.

Softwood Plywood

Some of the major softwood plywood markets, particularly new housing, remained relatively strong through the first 3 quarters of the year. As a consequence, consumption in 1986 is likely to rise to 20.3 billion square feet (3/8-inch basis), up about 7 percent from total use in 1985.

Data for the first nine months of 1986 show softwood plywood exports nearly double year-earlier volumes, with significantly larger shipments to nearly all offshore markets. Thus total exports for 1986 are expected to rise to about 0.6 billion square feet. Imports have also increased over the first 3 quarters of 1986, however they remain relatively smaller than exports and will likely total about 0.1 billion square feet for the year.

With these levels of consumption and trade, production for the year will increase to 20.8 billion square feet, up about 8 percent from total output in 1985.

For 1987, the prospective drop in new housing starts is likely to be partially offset by increases in other markets and production and consumption are expected to show small declines.

Softwood plywood prices have fluctuated in 1986, rising to an index value of 324.5 (1967=100) in April, followed by a sharp decline in the summer. Since August, prices have slowly increased. However, in October, the index was 311.9, still 4 percent below the April value, but slightly above the averages for 1983-85.

Hardwood Plywood

Consumption of hardwood plywood in 1986 is expected to be near 2.8 billion square feet (3/8-inch basis), about 10 percent above the volume used in 1985. Trade data through the third quarter of the year indicate that imports are likely to total 1.9 billion square feet, about 8 percent more than in 1985. Exports are expected to remain relatively small.

Given the trends in consumption and trade, production of hardwood plywood in 1986 is estimated at 0.9 billion square feet, slightly above the volume produced in 1985. Much of the hardwood plywood consumed each year is used in residential construction. As a consequence, some decline in consumption, imports, and production is probable in 1987 if this market drops below the levels attained in 1986.

Hardwood plywood prices as indicated by the producer price index have increased about 3 percent over the past year. Despite this rise, the October 1986 index, 167.7 (1967=100) was still below that for all years between 1978 and 1985.

Particleboard and Medium Density Fiberboard

Activity in the major markets and shipments data from the National Particleboard Association indicate that combined consumption of particleboard and medium density fiberboard through mid-summer was up from year-earlier levels. For the year, combined consumption of these two products is likely to total close to 4.7 billion square feet (3/4-inch basis), about 2 percent above total use in 1985. Data for the first nine months of 1986 suggest that imports are likely to be 0.6 billion square feet, very near the volume imported in 1985. Exports will be about 0.1 billion square feet.

With the estimates of consumption and trade discussed above, production in 1986 should be close to 4.2 billion square feet. A small increase in consumption is possible in 1987 if markets follow the trends described earlier. In general, prices of particleboard, as indicated by the producer price index, have followed the same declining trends in 1986 as have the other major timber products, that is some increase above 1985, but still below those in 1984.

Hardboard and Insulation Board

Based on shipments through the first 8 months of the year, hardboard consumption in 1986 is estimated at 1.9 million tons, about 5 percent below total use in 1985. Imports are expected to rise by about 15 percent but

remain close to 0.1 million tons, and exports are likely to be unchanged at 0.1 million tons. With these levels of consumption and trade, production would amount to 1.9 million tons, about 6 percent under output in 1985.

Markets during the first three quarters of 1986 indicate that consumption of insulation board for the year will be near 1.1 million tons--slightly above total use in 1985. Imports are expected to be about 0.1 million tons and exports to be less than half as large. Consequently, production is likely to drop by about 1.1 million tons, also marginally up from the volume produced in 1985.

Pulpwood

Through September, paper and paperboard production, and as a result, wood pulp consumption and production were about 5 percent above year-earlier levels. If overall economic activity in the last quarter continues at the levels discussed earlier, some improvement in demand is possible. However, with these trends, pulpwood consumption (roundwood and chips) in 1986 is expected to total about 91.2 million cords, up about 6 percent from the consumption in 1985 and only slightly below the record 91.4 million tons consumed in 1984.

Imports of pulpwood, mostly pulpwood chips from Canada, have declined slightly from year-earlier levels during the first months of 1986 according to available Bureau of the Census data. As a result of this trend, imports for the year are expected to total 0.6 million cords. Exports are estimated at 1.8 million cords, about 4 percent below shipments in 1985.

Given the above estimates, production of pulpwood in 1986 is expected to increase to about 92.4 million cords, 6 percent more than was produced in 1985. Prospective continued economic growth suggests that the upward trend will likely continue in 1987, though at a somewhat slower pace than in 1986.

Softwood Log Trade

Exports of softwood logs during the first three quarters of 1986 were down about 10 percent from the similar period in 1985. This overall decline was the result of a 6 percent increase in shipments to Japan, the leading U.S. softwood log export market, which was more than offset by a 41-percent drop in exports to China, a market that had been growing rapidly over the last five years. Exports for the year to all destinations have been estimated at 3.5 billion board feet, 6 percent below shipments in 1985. Industry sources indicate that the outlook for 1987 is also for a small additional decline.

Imports of softwood logs, nearly all from Canada, have declined somewhat in 1986, and are expected to total about 0.1 billion board feet in both 1986 and 1987.

Hardwood Log Trade

Hardwood log exports for 1986 are estimated at 0.1 billion board feet. Although the volume is relatively small, most of the hardwood log shipments in 1986 and in recent years have been composed of high quality oak, walnut, and other preferred species that are in relatively short supply and command premium prices in U.S. domestic markets. Hardwood log imports in 1986 are expected to be close to 30 million board feet, about the same volume as was imported in 1985.

Industrial Roundwood Summary

Given the trends in consumption, trade, and production for the various products in 1986, total U.S. consumption of all industrial roundwood products (i.e., all roundwood products except fuelwood) is expected to be about 6 percent above the volume consumed in 1985 and to top 15 billion cubic feet for the first time. Production, imports, and exports also will be above year-earlier levels. Consumption, imports, and production should all decline slightly in 1987 if the major markets follow the trends discussed earlier. However, exports are likely to continue up.

Fuelwood

Current estimates indicate that the fuelwood consumed for domestic heating and cooking has risen to more than 46 million cords. Various surveys of the forest products industries indicate that there also have been large increases in the consumption of fuelwood for industrial heat and power generation over the past few years. Apparently much of the wood being used for domestic purposes is produced by the consumers from trees in urban areas, fence rows, dead forest trees, and other similar sources not normally drawn upon for industrial timber. Most of the growth in use by the forest industries has come from increased utilization of logging and mill residues.

Because most of the increase in fuelwood consumption has come from such sources, presumably there has been little significant impact on the prices and availability of industrial products such as pulpwood. Moreover, the rapid growth seen in the late 1970's and early 1980's apparently has slowed somewhat, as the prices of fossil fuels have declined. In the longer term, however, if fuelwood use continues to grow, it will undoubtedly begin to affect the supplies and prices of other products and especially so in the future when demands for many products are expected to increase in response to rising population and economic growth.