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THE CHANGING MARKET FOR HARDWOOD PLYWOOD STOCK PANELS

Gary R. Lindell

"Stock panel" is a trade name for a hardwood plywood panel commonly destined for remanufacture into such items as furniture and cabinets. Occasionally it is used for partitions but seldom for wall covering or paneling. It is characterized by its standard size and an unfinished hardwood veneer face and back and a veneer core. Most of these panels have a birch face and back and are ¾ inch by 4 feet by 8 feet in size. The bulk of this product is now produced by a small number of mills in the Pacific Northwest.

The market for hardwood plywood stock panels is declining. Production for 1969 and 1970 was more than 20 percent below that for 1968 according to the Western Hardwood Plywood Producers, an association representing stock panel producers in the Pacific Northwest. Meanwhile, the wholesale price index for birch plywood fell nearly 5 percent from August of 1969 through December 1970.[1] Although some of this drop was due to the general downturn in the economy, production of hardwood plywood stock panels declined to a far lower level than most end markets. For example, the 1970 indexes of millwork and furniture output were down 14 percent and 5 percent, respectively, from 1968. Housing starts in 1970 were about 5 percent below the 1968 figure whereas total construction expenditures were about 8 percent higher. Mobile home shipments in 1970 were 26 percent above the volume recorded for 1968.[2] Our study involved identifying and ranking the major end markets for stock panels and gathering supplemental information on recent and prospective trends in sales to these markets.

[1] *U. S. Department of Labor, Bureau of Labor Statistics. Wholesale prices and price indexes (monthly).*

[2] *U. S. Department of Commerce, Office of Business Economics, Survey of current business (monthly), and U. S. Department of Commerce, Bureau of Domestic Commerce, Construction review (monthly).*

PROCEDURE

In 1970 there were 11 major producers of stock panels, all located in the Pacific Northwest. Six of these firms supplied the names and addresses of their 1970 customers from which a composite list of 504 wholesalers and distributors of stock panels was compiled. These firms were mailed a questionnaire to obtain information on the types of markets to which they sold stock panels in 1970 and recent and expected trends in stock panel sales to these markets. From this canvass 296 usable questionnaires were returned, a response rate of nearly 60 percent. Replies were received from firms in 42 States and all 9 Census geographic regions (fig 1).

RESULTS

The 296 wholesalers and distributors who responded to the survey handled nearly 249 million square feet (surface measure) of hardwood plywood stock panels in 1970. On the basis of preliminary Census data we estimate this to be something less than half the total stock panel market.[3]

Producers and sellers of stock panels indicated that reshipment to markets out of the region was minimal so we will assume that stock panels shipped to wholesalers or distributors in a particular region were eventually resold to end markets within that region (fig.2).

Thirteen major end markets were identified by the responding wholesalers and distributors; four of those markets accounted for four-fifths of the stock panel sales (fig. 3). Let us examine them in order of importance.

[3] *U. S. Department of Commerce, Bureau of the Census. Hardwood plywood: 1970. Ser. MA-24F(70)-1, Nov. 1971: p. 3.*

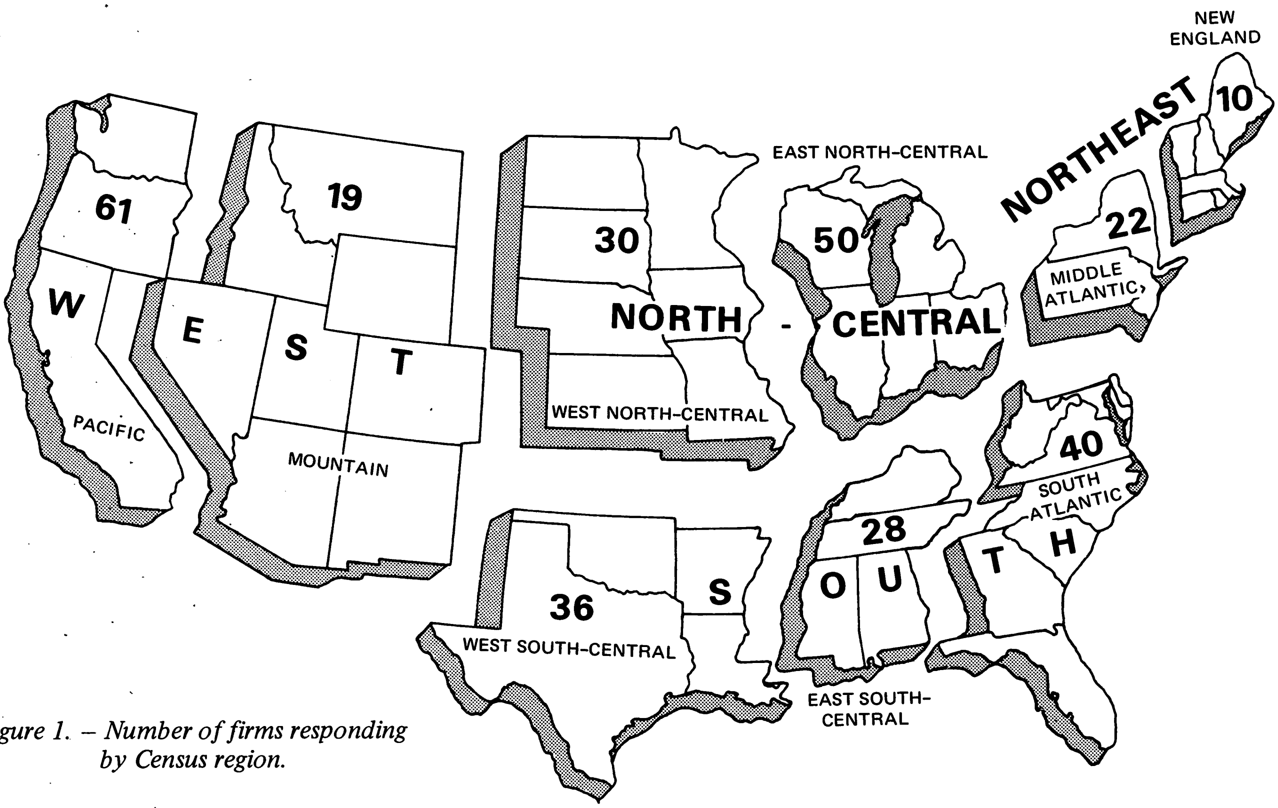

Figure 1. – Number of firms responding by Census region.

Millwork and Custom Cabinet Shops

Millwork and custom cabinet shops purchased about 60 million square feet or 24 percent of the 249 million square feet handled by wholesalers and distributors. Shops in the Pacific States received nearly half the total sales to this end market (table 1). The other half was fairly evenly distributed among the remaining regions.

Of the 200 wholesalers and distributors responding, about one-third indicated that sales to the millwork and custom cabinet markets had decreased since 1967 (table 2). However, these firms accounted for 69 percent of the volume of sales to this market. Another one-fourth (representing 20 percent of the sales) indicated that sales had increased while the remainder indicated that sales were unchanged.

Table 1. – Regional distribution of wholesaler and distributor sales of hardwood plywood stock panels by end market, 1970

(In percent by volume)

Market	Pacific	West south-central	South Atlantic	New England	West north-central	East north-central	Middle Atlantic	East south-central	Mountain	Total all regions
Millwork and custom cabinet shops	49	4	11	9	7	5	8	5	2	100
Other wholesalers & distributors	52	23	4	2	12	5	1	1	1/	.100
Retail building material dealers	21	17	15	6	12	11	7	8	3	100
Kitchen cabinet mfrs.	32	5	12	12	6	16	10	5	2	100
Building contractors	18	60	15	1/	3	1	2	1	1/	100
Furniture mfrs.	13	5	4	23	1	2	19	33	1/	100
Partitions or fixtures mfrs.	23	6	6	24	8	8	20	4	1	100
Radio, TV, or phono mfrs.	17	15	1/	49	1/	1	17	1	1/	100
Mobile home mfrs.	14	9	31	5	23	13	1	4	1/	100
Others	31	1	8	37	3	5	14	1/	1	100
Total for region	36	13	11	10	8	8	8	5	1	100

1/ Negligible

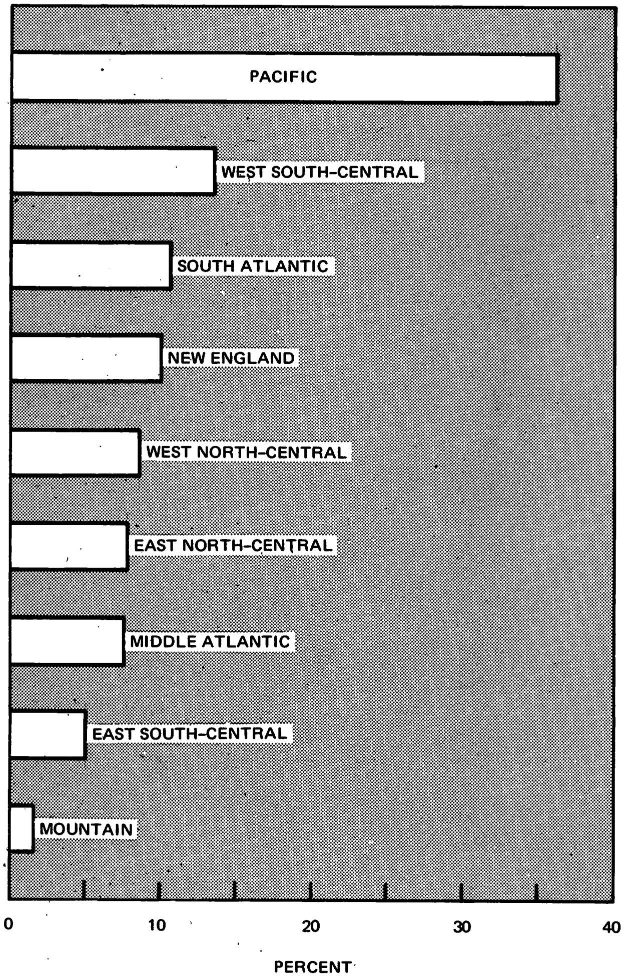

Figure 2. – Regional destination of hardwood plywood stock panel shipments, 1970 (in percent by volume).

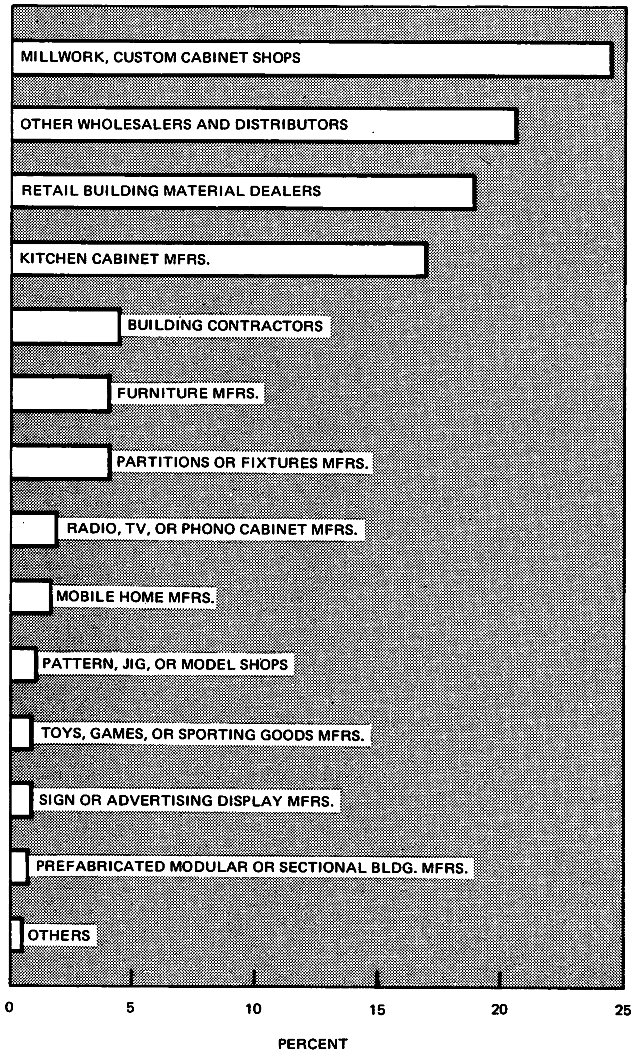

Figure 3. – Wholesaler and distributor sales of hardwood plywood stock panels by end market (in percent by volume).

Other Wholesalers-Distributors

Another 51 million square feet or 20 percent of the total volume was sold to other wholesalers or distributors; again chiefly to wholesalers-distributors in the Pacific region. No effort was made to trace the product through subsequent market transactions to final markets. We are assuming that the patterns of usage and reasons for increase or decrease in sales were similar to those for other markets.

Retail Building Material Dealers

Retail yards were the next most important market for stock panels in 1970, accounting for more than 46 million square feet or approximately 19 percent of total sales. Undoubtedly some of this is used for do-it-yourself projects. Also in many areas, building contractors obtain the bulk of their materials from retail yards instead of from wholesalers or distribution centers. Sales were fairly evenly distributed across the country, but the Pacific region again received the largest share.

Of the 221 respondents in this field, two-fifths (representing 48 percent of the volume of sales to this market) noted a decrease in sales. Only one-fifth (representing 27 percent of the volume) noted an increase.

Kitchen Cabinet Manufacturers

Kitchen cabinet manufacturers (who also produce bathroom vanities) purchased 42 million square feet of stock panels in 1970 or 17 percent of the total. Nearly one-third of the amount destined for this market was

Table 2. – Number of respondents noting an increase, decrease, or no change in hardwood plywood stock panel sales to various markets since 1967

Market	Number of respondents noting an: Increase	Decrease	No change	Total number of respondents
Millwork and custom cabinet shops	55	75	70	200
Other wholesalers and distributors	15	31	66	112
Retail building material dealers	49	89	83	221
Kitchen cabinet mfrs.	39	61	27	127
Building contractors	22	24	46	92
Furniture mfrs.	10	32	28	70
Partitions and fixtures mfrs.	22	47	21	90
Radio, TV, or phonograph cabinet mfrs.	8	17	20	45
Mobile home mfrs.	18	18	16	52
Others	22	54	97	173
Total responses	260	448	474	1,182

sold to cabinet manufacturers in the Pacific States.

Half of the 127 respondents on this market indicated that sales had decreased. They accounted for 49 percent of the sales to this market. One-third of the respondents (representing 36 percent of the sales) noted an increase in sales.

Building Contractors

Sales to building contractors accounted for nearly 11 million square feet or 4 percent of the total volume in 1970. The bulk of the sales to this market were to builders in the west south-central region.

This does not present a true picture of the relative importance of building contractors as a market for stock panels in various regions because of the different market channels used. For example, in some sections, such as the west north-central region, builders commonly purchase the bulk of their materials from retail yards, seldom from a wholesaler or distribution center. In other sections, such as the west south-central region, direct sales from wholesaler to builder are common.

Respondents noting a change in sales to this market were nearly evenly split. However, those noting an increase accounted for 69 percent of the sales to building contractors while those noting a decrease accounted for only 11 percent of the sales.

Furniture

Sales to furniture manufacturers totaled approximately 10 million square feet or about 4 percent of the total. About three-fourths of the volume was destined for the east south-central and northeast regions.

Nearly half the respondents (accounting for 46 percent of the sales to this market) noted a decrease in sales. Only 10 of the 70 respondents noted an increase and the remaining 28 indicated that sales were unchanged.

Partitions and Fixtures

Manufacturers of partitions and/or office and store fixtures absorbed about 10 million square feet or 4 percent of the total stock panel volume. Sales were primarily to the northeast region.

Over half the respondents (representing 58 percent of the sales) noted that sales to this market had decreased since 1967 while one-fourth (accounting for 38 percent of the sales) noted an increase. The remaining one-fourth indicated that sales were unchanged but they accounted for less than 5 percent of the sales to this market.

Radio, TV, or Phonograph Cabinets

Manufacturers of cabinets for radios, television sets, or phonographs absorbed about 5 million square feet or nearly 2 percent of the total volume in 1970. Nearly half the sales were to manufacturers in the New England region.

Slightly over one-third of the respondents noted a decrease in sales to this market while 18 percent noted an increase. However, these respondents respectively accounted for only 20 percent and 16 percent of the sales to this end market.

Mobile Homes

Manufacturers of mobile homes absorbed approximately 5 million square feet or 2 percent of total stock panel sales in 1970. About four-fifths of the volume was destined for mobile home manufacturers in the South Atlantic, north-central, and Pacific regions. This pattern corroborated the 1967 *Census of Manufacturers* which showed three-fourths of the value of industry shipments originating in these three regions.[4]

[4] *U. S. Department of Commerce, Bureau of the Census. 1967 Census of manufacturers. 1971.*

Respondents noting a change in sales to mobile home manufacturers were evenly split: one-third indicated that sales had decreased and one-third noted an increase; these respondents respectively accounted for 36 percent and 18 percent of the volume to this market.

Others

Sales were recorded to several other markets including pattern shops and manufacturers of prefabricated or modular buildings, toys and sporting goods, and signs and advertising displays.

Sales to this composite group totaled approximately 9 million square feet or 4 percent of the total. Most signs were to firms in the New England region with the Pacific region next.

One-third of the respondents (accounting for 50 percent of the sales to these markets) indicated that sales had decreased since 1967. Over half the respondents noted steady sales but they accounted for only 40 percent of the sales to these markets.

Summary and Reasons for Sales Trend

Of the 1,182 responses to the question of trends in stock panel sales since 1967, 448 (38 percent) indicated that sales had decreased while only 260 (22 percent) indicated an increase in sales. On the average, the firms that indicated a decrease in sales accounted for 47 percent of the volume sold to the various end markets while those firms that noted an increase accounted for an average of 33 percent of the sales. The remaining 474 – 40 percent of the responses – indicated that sales had remained steady.

Many reasons were given for the decrease in sales since 1967 but by far the most common was the increased use of plastic overlaid particleboard panels (table 3).

The increased use of other substitute panel products such as hardboard was the next most important reason contributing to declining sales. This also included plastic overlaid hardboard or plywood.

About 10 percent of the reasons given for declining sales involved the trend towards factory-built cabinets and a decrease in the construction of custom or site-built cabinets. This change does not necessarily imply a loss in markets to substitute materials, but a shift in the relative importance of the various end markets. In this case, construction of kitchen cabinets is shifting from the local cabinet shop to the large factory that markets regionally or nationally.

Table 3. – Reasons for decrease in hardwood plywood stock panel sales since 1967

Reason	Number of responses	Percent of total
Increased use of particleboard core panels with plastic overlays	216	54
Increased use of substitute panel products including printed or overlaid hardboard and plywood	69	17
Increased use of factory built cabinets and decreased use of custom or site-built cabinets	40	10
General slowdown in business and construction	29	7
Increased use of imported stock panels	26	7
More customers buying directly from manufacturers	7	2
Others	13	3
Total	400	100

A general slowdown in business and construction was the next most often mentioned factor contributing to declining sales. Several other factors were mentioned as contributing to declining sales including the increased use of imported plywood, more direct sales from panel manufacturer to user and an increase in the use of cut-to-size and opposed to stock-size panels.

Most of the reasons given for an increase in stock panel sales since 1967 involved a general increase in the level of the economy and construction (table 4). Also, several firms noted expanded sales to fast-growing industries such as the mobile home industry.

Table 4. – Reasons for increase in hardwood plywood stock panel sales since 1967

Reason	Number of responses	Percent of total
General increase in business and construction	61	56
Increased promotion and selling of stock panels	11	10
Change from softwood plywood to hardwood plywood for cabinets	8	7
Hardwood plywood stock panels help speed up production	6	6
Increased recognition of quality of hardwood plywood relative to plastic covered particleboard panels	5	5
Others	17	16
Total	108	100

Regional fluctuations reflected locally prevailing trends. For example, all of the firms that noted an increase in sales because of an increase in construction were located in the south and west. Conversely, nearly all the firms that noted a decrease because of construction slowdown were located in the northeast and north-central regions. This says nothing about changes in the competitive position of hardwood plywood stock panels relative to substitute panels; presumably a general increase in the economy and construction also would result in expanded sales for other types of panels. Most of the other responses, however, indicated that hardwood plywood had improved its market position relative to other types of panels.

The Outlook

Three-fourths of the respondents who expect stock panel markets to change feel that stock panel sales will decrease over the next 3 years; only one-fourth expect an increase. Most of those expecting a decrease cited further inroads of plastic overlaid panels in the market (table 5).

Table 5. – Expected changes in hardwood plywood stock panel sales by 1974 and reasons for these changes

Change and reason	Number of responses	Percent of total
Decrease:		
Increased use of plastic-overlaid particleboard	70	40
Increased use of prefinished, manufactured cabinets and decreased use of custom or site-built cabinets	18	11
Increased use of other substitute materials	12	7
Increased use of imported hardwood plywood	6	3
Other reasons	26	14
Total decrease	132	75
Increase:		
Increase in housing construction	10	6
Expected increase in manufacture of mobile homes and kitchen cabinets	6	3
Other reasons	29	16
Total increase	45	25
Total all responses	177	100

SUMMARY AND CONCLUSIONS

The top three end markets for stock panels in 1970 in order of declining sales were millwork and custom cabinet shops, retail building material dealers, and kitchen cabinet manufacturers. Apparently the major end product for stock panels is kitchen cabinets (fig. 4). Both millwork-cabinet shops and kitchen cabinet manufacturers – which were major markets for stock panels in 1970 – produce kitchen cabinets. In addition, many stock panels are sold to builders, either directly from the wholesaler or through retail building material dealers for the construction of cabinets onsite.

Important changes are occurring in the production and marketing of kitchen cabinets. More and more kitchen cabinets are being produced in large kitchen cabinet plants, primarily at the expense of the local custom cabinet shop and the producer of semicustom, unfinished cabinets for local builders. With the growing importance of the large kitchen cabinet plant, stock panel producers can expect changes in the type and form of raw material sold to this market. Because of the large initial investment in equipment required to apply plastic overlays or fabricate plastic components, large kitchen cabinet manufacturers are more likely than smaller firms to produce plastic or plastic overlaid cabinets. Consequently, the trend toward large plants favors the use of plastics. The respondents felt increased use of plastic overlaid particleboard was the major cause of declining sales to the kitchen cabinet industry over the 3 years preceding the survey and poses a major obstacle to stock panel sales in the near future.

Moreover, kitchen cabinet manufacturers are progressing towards assembly-type operations. As a result, there has been a marked shift away from the purchase of stock hardwood plywood panels to panels that have been sized to fit specific needs.[5] Apparently stock panel producers should be prepared to offer more cut-to-size items to maintain their share of this important market.

The major change in stock panel markets is the substantial inroads being made by substitute panels with a particleboard core and a flexible or rigid plastic overlay. Apparently plastic covered panels are also eroding several traditional stock panel markets such as furniture, television cabinets, and partitions. Lower cost was the reason most often given for using these other types of panels, although voids in the core were often mentioned as a problem with stock panels.

Several firms foresaw a disenchantment with plastic covered panels by industrial users and consumers and a return to hardwood plywood for such items as kitchen cabinets. However, most respondents felt that present trends would continue over the next 2 to 3 years, at least. In the absence of a more effective effort on the part of stock panel producers to offer a more competitive product, this means that stock panels will be increasingly relegated to a high value but low volume item.

[5] *Lindell, Gary R., and Gustav C. Klippel. The kitchen cabinet market: big business for panel industries. Plywood & Panel 12(8): 14-15. 1972.*

Figure 4. – Several types of firms produce kitchen cabinets, the major end product for stock panels in 1970.

☆U.S. Government Printing Office: 1972 – 760-929

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