

An Assessment of U.S. Export Strategies for Prefabricated Wooden Housing and Building Materials in Japan

by Dr. Ivan Eastin and Anne J. Rahikainen

Japan has a population of 125 million and is approximately the same land size as California. However, over the past several years the number of residential housing starts in Japan has exceeded starts in the U.S. In 1995, 1.47 million new homes were built in Japan, compared to 1.35 million in the U.S. Wooden housing comprised 45.3 percent of all housing starts in Japan in 1995 but has been steadily losing market share to substitute building materials such as concrete and steel. While traditional post and beam construction technology comprises about 80 percent of all wooden construction in Japan, the number of western-style 2x4 platform frame and prefabricated housing units built in Japan has been increasing despite the general decline in wood construction.

Housing costs in Japan are notoriously high. According to a recent study, an average 164 square meter house in suburban Seattle costs approximately \$139,000 compared with \$255,000 for its counterpart in Sendai, a comparable medium-sized city in Japan (Magnier 1994). Among the reasons for this cost difference are the high cost of construction labor, the lack of skilled carpenters, non-standardized construction methods, lack of competition in the construction market, cumbersome building regulations, high building material costs, and an inefficient material distribution system. The above-mentioned comparison does not include the cost of land because of the wide disparity of land prices in the U.S. and Japan.

Cost Reduction in Japanese Housing

In 1992 the Japanese Ministry of Construction (MOC) responded to complaints about the high cost of housing by establishing an action program to reduce home costs in Japan by one-third by the year 2000. Outlined in the action program is a plan to reduce costs by streamlining distribution channels, increasing the productivity of the domestic residential construction industry, and reducing residential building regulations. Similarly, the Japan External Trade Organization (JETRO) and the Ministry of International Trade and Industry (MITI) adopted a strategy to reduce the cost of residential housing in Japan by increasing the number of housing units imported. To achieve their objective, MITI and JETRO initiated a program in 1994 to promote imports of foreign-made housing systems, including prefabricated houses. The JETRO/MITI plan calls for Japan to import 55,000 units of prefabricated houses from North America and Europe over the next five years. This measure would result in an increase in current annual imports of approximately 1,500 units, to 11,000 units annually. This focus on increasing housing imports would not only provide a less expensive alternative to domestically produced housing, but would also reduce Japan's massive trade surplus with Europe and North America.

The JETRO/MITI plan calls for Japan to import 55,000 units of prefabricated houses from North America and Europe over the next five years.

continued on page 3

Extended/complex distribution channels
Language differences
Higher quality requirements
Design modifications
High transportation and distribution costs
Technology transfer
Cultural differences
Building codes/regulations

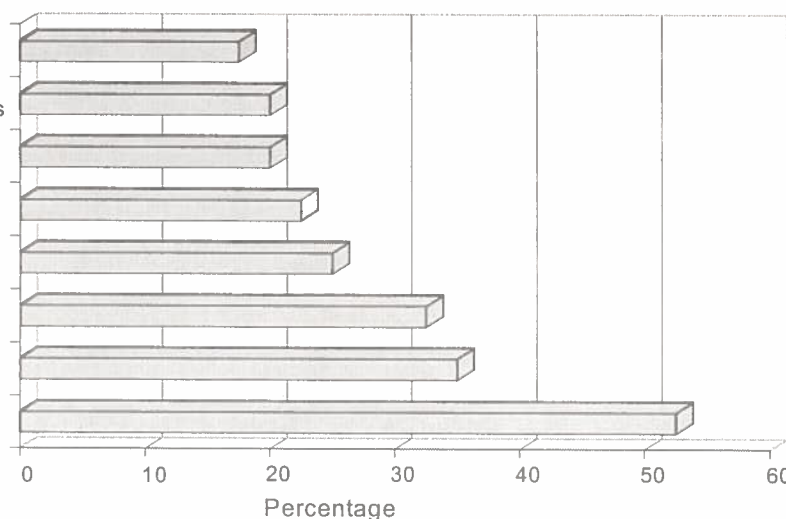


Figure 1. Percent of respondents indicating that each factor adversely impacts competitiveness in Japan.

Director's Notes:

by Bruce Lippke

CINTRAFOR

University of Washington
College of Forest Resources
Box 352100
Seattle, Washington
98195-2100
Phone: (206) 543-8684
Fax: (206) 685-0790

The Center for International Trade in Forest Products addresses opportunities and problems related to the international trade of wood and fiber products. Emphasizing forest economics and policy impacts, international marketing, technology developments, and value-added forest products, CINTRAFOR's work results in a variety of publications, professional gatherings, and consultations with public policymakers, industry representatives, and community members.

Located in the Pacific Northwest, CINTRAFOR is administered through the College of Forest Resources at the University of Washington under the guidance of an Executive Board representing both large and small companies, agencies, and academics. It is supported by state, federal, and private grants. The Center's interdisciplinary research is carried out by university faculty and graduate students, internal staff, and through cooperative arrangements with professional groups and individuals.

CINTRAFOR News Editor:
Rosemarie Braden

When timber harvest restrictions reduced the timber supply available to the forest products market after 1989, attention largely focused on restructuring the forest sector to adapt to these supply changes. More recently, the focus has shifted. Deregulation in Japan's housing market is providing new opportunities for U.S. wood building materials. Increases in value-added product exports are no longer projections: export statistics show substantial increases in nearly every category of manufactured building products.

The Japanese government is deregulating its housing and building materials markets in an effort to reduce the country's home construction costs. This was the theme of an international conference hosted in Seattle in September. The Housing Export Opportunities to Japan conference featured Ambassador to Japan Walter Mondale, and representatives from U.S. and Japanese government agencies and industry associations. The conference gave Japanese government officials and industry representatives a forum to educate U.S. wood products exporters about Japanese expectations, needs, and requirements for imported building products and services.

While export opportunities to Japan are promising, it is important for companies interested in entering this market to understand that success in the U.S. market is not necessarily a precursor to success in the Japanese market. As stated throughout the conference, new entrants to the Japanese market must understand the Japanese consumer's expectations beforehand, then be willing to invest both time and resources after they have committed to their endeavor. CINTRAFOR has produced a synopsis of the Housing Export Opportunities to Japan Conference with the hope that it will be informative to new market entrants and also serve as a milestone from which to monitor future progress (see SP-24, p. 6).

Prefabricated housing is important as at least a partial solution to Japan's high housing costs. A study of export strategies for prefabricated wooden housing has recently been released. *The Changing Japanese Housing Market - An Assessment of U.S. Export Strategies for Prefabricated Wooden Housing and Building Materials* (WP-60) provides a description of the changing Japanese housing market and exporter evaluations of market barriers. Another CINTRAFOR paper pertinent to those interested in exporting to Japan is *the Japanese Market Profile and Sourcebook for Pacific Northwest Value-Added Wood Products Exporters* (SP-23), which was published for the Japan housing conference. The Sourcebook includes export statistics on wood building products, a guide to resource agencies, and information on Japanese suppliers including a list of competing firms.

Success in both the domestic and international forest products market is dependent partly upon strong business relationships between suppliers and distributors. Based on interviews conducted with executives at five forest products firms, *Achieving Successful Business-to-Business Relationships Between Forest Products Suppliers and Distributors* (WP-61), investigates which services and features are important in developing successful business relationships.

While new market opportunities in Japan are a direct result of deregulation, there is still little understanding about the role that deregulation and market-based solutions play in solving environmental problems. CINTRAFOR has released several studies that address this issue. One study provides an analysis of the impacts of forest harvest restrictions on the types of wood building products produced. "Natural Resource Legislation in the U.S. Pacific Northwest and its Impact on the Changing Mix of Forest Products" (RE-35) includes an assessment of the success of wood-substitute building products and factors that affect new product adoption. A synopsis of another CINTRAFOR article which analyzes the impact of policy decisions on employment, entitled "The Market Incentive for Biodiversity" (RE-39) was published in the *Journal of Forestry* and is available as a reprint. The authors used results from the Washington Forest Landscape Management project to analyze how employment could be increased by implementing managed alternatives that improve biodiversity and other non-timber social values. Another paper, produced with federal support to manage forests in a way that would reduce future listing of endangered species, "The Washington Forest Landscape Management Project - A Pragmatic, Ecological Approach to Small Landscape Management" (RE-40), was published by the Department of Natural Resources. This study contains alternatives to manage forest lands for multiple threatened and endangered species as well as for timber markets and includes an evaluation of the cost effectiveness of these alternatives.

The role of market solutions in sustaining tropical forests was the topic of several papers presented at international conferences by CINTRAFOR. "A Conceptual Framework for Assessing Strategic Options to Boycotts: Ghana and the European Tropical Hardwood Boycott" (RE-38) addresses the impact of boycotts and includes results of a survey that investigated how forestry firms respond to these boycotts. A paper titled, "The Role of Marketing in Promoting Sustainable Trade in Forest Products in Tropical Regions" (RE-37) addresses how marketing strategies can be used to expand company knowledge, develop markets for lesser known species and non-traditional products, and promote forest sustainability. Another CINTRAFOR paper which expands upon the topic of sustaining tropical rain forests is "A Market-oriented Framework for Introducing Lesser-used Tropical Timber Species as New Industrial Products" (RE-36). Based on interviews of sawmill managers in Ghana, the author suggests various factors that may lead to market success of lesser-known timber species. †



"Japan" continued from page 1

The joint MITI/JETRO program, in conjunction with the strong yen, provides a unique opportunity for the U.S. to increase prefabricated home sales in Japan. The Japanese market for prefabricated homes and wooden building materials has tremendous potential for U.S. firms, particularly those located in the Pacific Northwest (PNW). For example, prefabricated housing exports to Japan increased by 51 percent between 1994 and 1995, with 81 percent of these exports originating in the PNW. Despite these promising figures, Japan is a relatively new market to most U.S. firms and more information is required before U.S. firms can fully take advantage of the opportunities that exist in Japan.

This research project was developed to provide a broader understanding of the Japanese market for prefabricated homes and wooden building materials and to identify the problems that exporters must confront in order to compete effectively in Japan. The objectives of this project were: (a) to perform a competitive assessment of the Japanese market for imported prefabricated housing and wooden building materials, (b) to identify marketing strategies used by U.S. manufacturers to compete successfully in Japan, and (c) to identify tariff and non-tariff barriers that are perceived to adversely impact the competitiveness of U.S. firms in Japan.

This participants in this research study were identified from a census of prefabricated housing manufacturers, export consolidators, and Japanese trading companies who export products to Japan. The final sample included 66 firms: 51 located in Washington, and 15 in Oregon. Sixteen of the companies manufactured prefabricated housing, 34 were export consolidators, and 16 were subsidiaries of Japanese trading companies. The final response rate for the survey was 70 percent, with responses from 75 percent of the prefabricated housing manufacturers, 79 percent of the export consolidators, and 47 percent of the Japanese trading companies.

Prefabricated housing exporters in Washington and Oregon can be characterized as small to medium-sized firms with annual sales of less than \$10 million and less than 25 employees. Most of the firms have exported to Japan for a relatively short time, usually less than five years. However, prefabricated housing manufacturers appear to be quite dependent on the Japanese market for their overall business success. Approximately half of the respondents generated more than 50 percent of their annual sales revenue by exporting to Japan.

Product Promotion in the Japanese Building Market

Promotional strategies used by the survey respondents were fairly limited, a fact which might be attributed to the small size of the respondents' firms and limited financial resources. A majority of the respondents indicated that they relied on product brochures, word-of-mouth referrals, and trade shows. More expensive promotional strategies, such as model homes or product showrooms located in Japan, were used less frequently than other strategies.

In general, distribution channels for wood product exports in Japan are complex and consist of several layers of intermediaries. However, the results of this research indicate that many of the prefabricated housing manufacturers and export consolidators have bypassed the traditional Japanese distribution channels. Approximately half of the respondents indicated that their primary channel of distribution involves selling their products directly to Japanese home builders. This strategy provides these firms with substantial cost savings and helps to increase the competitiveness of U.S. prefabricated homes and building materials in the Japanese market.

Most respondents considered developing a strong personal relationship with their Japanese customers as one of the most important factors for succeeding in the Japanese market. This factor was rated as being more important than any other single marketing factor by each of the three groups of respondents included in the study. Other marketing factors perceived to be important include providing after-sales service, short delivery times, and providing technical assistance to the customer.

Another important factor in succeeding in the Japanese market is the importance of modifying the American made product to fit Japanese tastes and uses. In fact, all of the prefabricated housing manufacturers and 88 percent of the export consolidators reported that they modify their product to some extent for their Japanese customers. The most common types of product adaptation include: changing the design of the home to include a tatami room and/or a genkan (Japanese-style entryway); utilizing higher quality materials in products exported to Japan; and translating product brochures, installation instructions, and technical information into Japanese.

continued on page 4

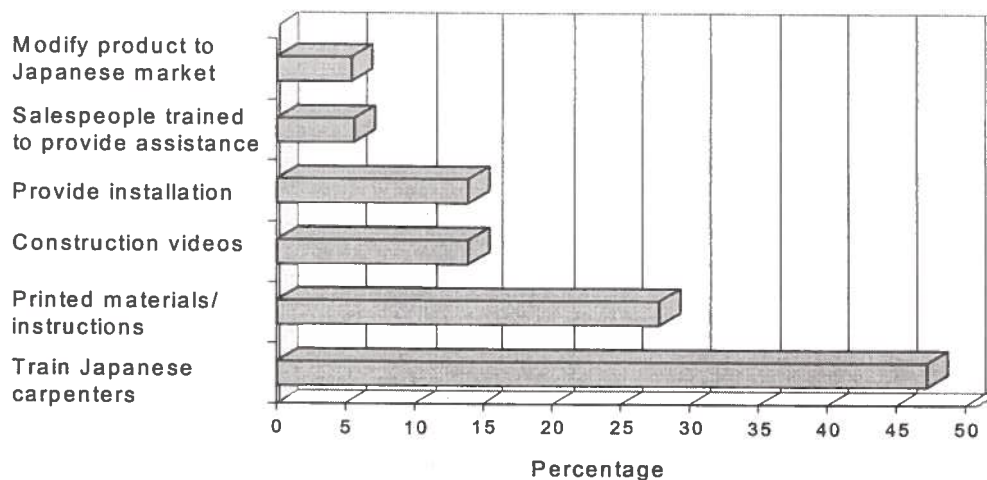


Figure 2. Types of technical assistance ranked by respondents as effective in transferring U.S. 2 x 4 construction technology to Japan.

Prefabricated housing exports to Japan increased by 51 percent between 1994 and 1995, with 81 percent of these exports originating in the PNW.

Trade Barriers

JAS and JIS product certification of building materials and the Japanese building code were perceived to be non-tariff trade barriers that have a substantial negative impact on the competitiveness of U.S. prefabricated houses and building materials in Japan (Figure 1). Two other factors, the difference between U.S./Japan construction technology and inefficient transfer of U.S. construction technology, were also perceived to be non-tariff barriers that restricted the competitiveness of U.S. firms in Japan. It is interesting to note that in many cases U.S. subsidiaries of Japanese trading companies perceived that trade barriers have a greater impact on competitiveness than U.S. firms reported, particularly with respect to the complexity of the distribution channels in Japan and the import tariffs for building materials.

Most prefabricated housing units exported from the U.S. to Japan are manufactured using 2x4 construction technology. This poses a problem given that most of the survey respondents reported that Japanese architects, contractors, and carpenters do not have a strong understanding of 2x4 building technology. In addition, many respondents stressed that Japanese residential contractors seldom use the construction management techniques that are widely used within the U.S. residential construction industry. As a result, construction costs are more than twice as high in Japan as they are in the U.S. Perhaps more important from a long-term, strategic market development perspective is that this lack of understanding regarding the U.S. 2x4 construction technology can adversely impact the quality of 2x4 homes built in Japan and reduce long-term performance. Japanese consumers' perceptions of U.S. products or their performance as substandard could erode the competitiveness of U.S. prefabricated housing and wooden building materials.

Not surprisingly, survey respondents indicated that efficient transfer of 2x4 construction technology is an important component of their marketing approach. Approximately 85 percent of the U.S. firms polled reported that they include technology transfer in their business strategy. The three most widely used types of technical assistance are: providing customers with installation instructions or product brochures, providing customers with seminars or on-site technical training, and sending carpenters and/or construction site supervisors to Japan to ensure the quality of the construction work. Unfortunately, current Japanese immigration law makes it very difficult for U.S. contractors and carpenters to obtain the work visas that are required to work in Japan. When asked to indicate what strategy would be most effective in transferring U.S. 2x4 construction technology to Japan, almost half of the respondents indicated that they favored providing training for Japanese construction professionals (Figure 2).

The results of this study indicate that prefabricated housing manufacturers and export consolidators in the PNW are strategically poised to take advantage of current housing policies in Japan that promote imported housing and building materials. Despite the fact that many of the participants in these industries are relatively new to the Japanese market, a large number are already experiencing success in Japan. In particular, these firms have demonstrated that they can thrive in the new competitive environment in Japan by developing strong business relationships with their customers and partners and developing distribution channels that bypass the traditional complex distribution system. Given the growing Japanese economy, the opportunities for imported housing and building materials in Japan appear to be bright. †

Experimental Choice Analysis: Balancing Urban and Rural Opinions in Forest Management Decisions

Biodiversity and aesthetics have become increasingly prominent in public discussion about forest management decisions and land uses. These values often directly compete with commodity based forest management and divide the various stakeholders. The issue of forest management has become a dividing line between urban and rural, or timber dependent and non-timber dependent communities. The question remains: How can forest managers make equitable forest management decisions that weigh social values with the economic needs of several groups? To address this challenge, CINTRAFOR Ph.D. student Weihuan Xu has designed an approach called experimental choice analysis (ECA) which weighs and analyzes environmental and financial considerations based on public response. Mr. Xu is now looking for sponsors so that he can complete this research project.

Recently developed forest landscape management system models can simulate timber and non-timber forest outputs for a large number of management alternatives, including measures of forest structure, riparian restoration, and habitat, as well as the cost, employment and tax receipts generated by the management activities. However, these approaches do not include a method that enables policy makers to identify and incorporate equitably the differing values that various groups place on environmental attributes such as biodiversity versus costs to the public and impacts on local economies.

By quantifying the relative importance of the values of different groups of stakeholders using ECA, the landscape management system models can be used to search for alternatives that serve the broadest group of stakeholders. Experimental choice analysis shows how these alternatives rate according to group, and therefore how policy decisions may be directed to distribute resources more fairly.

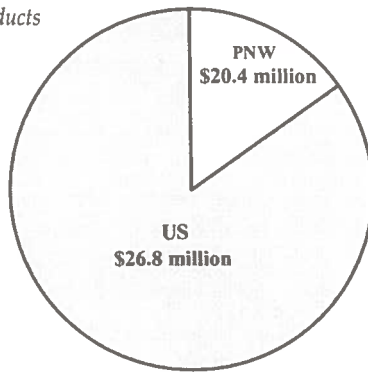
The respondent sample will be drawn from all counties of Washington state. Counties will be classified as urban (100 individuals per square mile or greater) or rural (less than



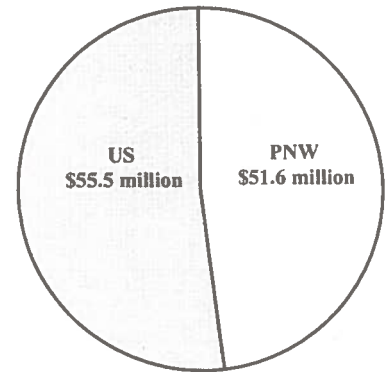
Trade Statistics

Wood Door and Frame

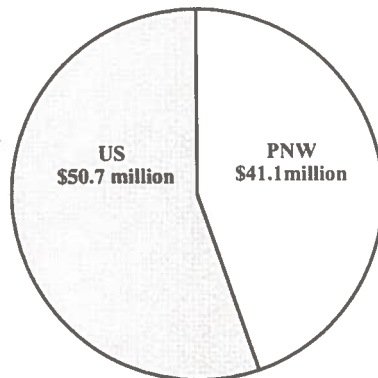
PNW and U.S. Wood Building Products
Exports to Japan 1994-1995



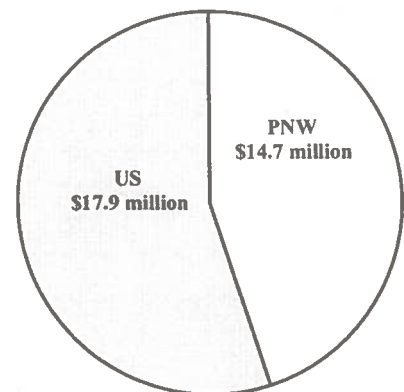
Builders' Joinery



Prefabricated Homes



Wood Windows and Frames



100 individuals per square mile). A stratified random sampling design will be used to compare the responses of urban and rural populations. The two primary strata are the rural and urban populations, with the rural population subdivided into two sub-strata defined by county dependence on wood products employment. Two sets of samples from each stratum will be constructed to test the effect of information asymmetry on respondent evaluation of forest management alternatives. One set of respondents will receive questionnaires containing minimal, generally quantitative information describing the attributes of forest management alternatives. The other set of respondents will be given questionnaires containing the same attributes, plus additional descriptive and background information about the attributes and the forest management approach that produced these alternatives.

A minimum of 2,400 questionnaires will be mailed. Assuming a response rate of 50 percent, approximately 200 questionnaires will be collected from each set of respondents in each stratum in order to weigh the opinions of urban vs. rural populations equally.

To apply ECA, groups will be given lists of management alternatives with their resulting impacts on attributes such as biodiversity and employment. The forest attributes used in this study will be derived from results of forest management simulations west of the Cascades. From this list respondents will be asked to make choices among competing alternatives. These choices will be analyzed to determine the probability that respondents will choose varying forest management alternatives. The responses will also be analyzed to determine what incremental change between alternatives will prompt respondents to choose one alternative over another. The differing preferences among stakeholder groups will be identified. From these choices, resource managers can develop a quantitative preference structure and estimate total environmental values of the various groups, each group's priorities within the forest management alternatives, probabilities of choosing each alternative, and the marginal contribution of each alternative. †

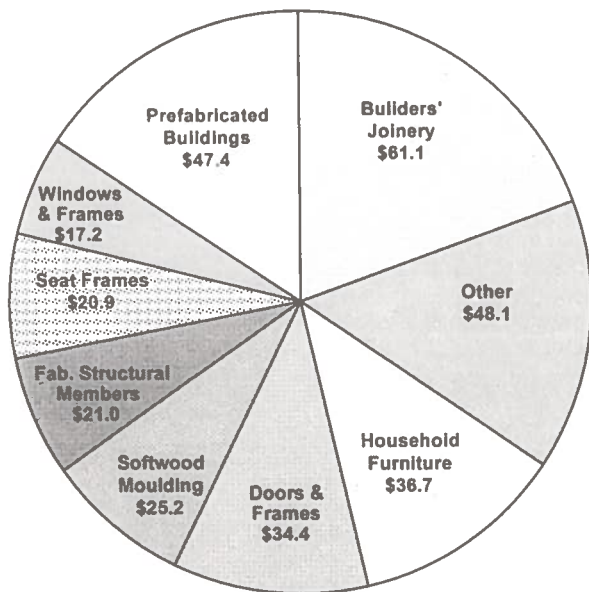
(Interested sponsors please contact CINTRAFOR for further information).

Overview of 1994-1995 Annual Export Statistics

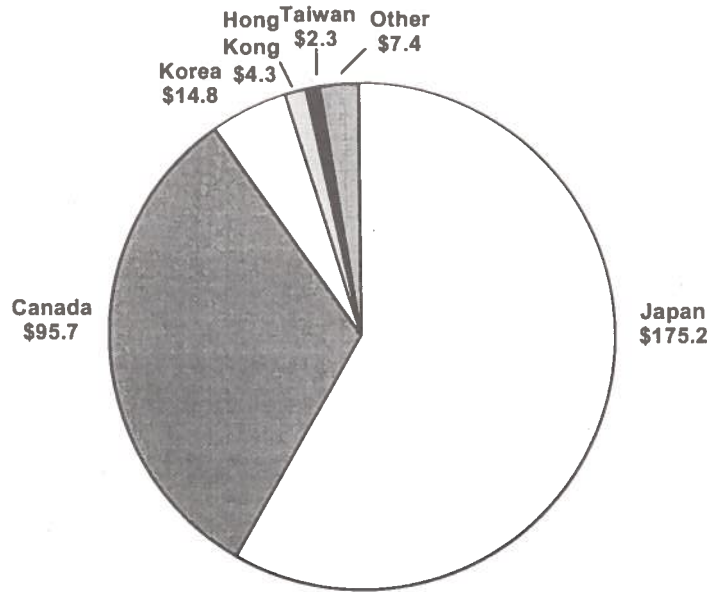
1989-1995 PNW Exports with Comparisons to U.S. Totals				
Product Group		1989 Value (millions)	1995 Value (millions)	% Change
Primary Wood Products	PNW Exports	\$3,165	\$2,922	-8%
	U.S. Exports	\$5,561	\$6,504	17%
	PNW Share of U.S.	57%	45%	-21%
Secondary Wood Products	PNW Exports	\$109	\$311	185%
	U.S. Exports	\$768	\$1,644	114%
	PNW Share of U.S.	14%	19%	34%
Pulp Exports	PNW Exports	\$476	\$409	-14%
	U.S. Exports	\$3,613	\$4,647	29%
	PNW Share of U.S.	13%	8%	-39%
Paper Exports	PNW Exports	\$738	\$1,375	86%
	U.S. Exports	\$4,285	\$9,786	128%
	PNW Share of U.S.	17%	14%	-19%
All Forest Products Exports	PNW Exports	\$4,377	\$5,017	15%
	U.S. Exports	\$14,226	\$22,581	58%
	PNW Share of U.S.	31%	22%	-28%

"Pacific Northwest" is the sum of goods passing through the Seattle and Columbia-Snake River Customs Districts, which include all ports in Washington and Oregon.

Leading PNW Secondary Wood Product Exports (in \$ millions)



Leading PNW Secondary Wood Product Export Destinations (in \$ millions)



Source: US Department of Commerce



Recent Publications

Spring 1997

WP = Working Papers SP = Special Papers RE = Reprints

Please call for a complete list of publications. Phone and fax orders welcome. Phone: (206) 543-8684

Fax (206) 685-0790

WP61	<i>Achieving Successful Business-to-Business Relationships Between Forest Products Suppliers and Distributors</i> Dorothy Paun, Wendy Sammarco. 1996. (21 pp)	\$ 7.50
WP60	<i>The Changing Japanese Housing Market: An Assessment of US Export Strategies for Prefabricated Wooden Housing and Building Materials</i> Ivan Eastin, Anne Rahikainen. 1997. (60 pp)	10.00
WP59	<i>An Assessment of the Market for Softwood Clearwood Lumber Products</i> Ivan Eastin, Chris Lane, Tom Waggener, Roger Fight, Jamie Barbour. 1996. (100 pp)	15.00
WP58	<i>Outlook for Russian Forest Product Trade with the People's Republic of China</i> Thomas Waggener, Charles Backman, Ekaterina Gataulina. 1996. (102 pp)	20.00
WP57	<i>Softwood Lumber Substitution in the US Residential Construction Industry</i> Ivan Eastin, Douglas Simon, Steven Shook. 1996. (63 pp)	15.00
WP56	<i>North American Residential Decking and Siding Markets</i> Steve Shook, Ivan Eastin. 1996. (142 pp)	20.00
WP55	<i>Washington's Forest Sector: Growth Trends and Their Sources</i> Guy Robertson, Bruce Lippke. 1996. (42 pp)	7.50
WP54	<i>An Examination of the US Pulp and Paper Industry</i> Anne Rahikainen, Dorothy Paun, Lynn Catlett. 1995. (14 pp)	5.00
WP53	<i>A Comparative Assessment of the North American and Japanese 2 x 4 Residential Construction Systems</i> Ivan Eastin, Kweku Bentil, Gerald Beltran. 1995. (20 pp)	5.00
SP24	<i>Housing Export Opportunities to Japan: A Synopsis</i> Synopsis of National Conference, Seattle WA, September 1996. (64 pp)	10.00
SP23	<i>A Japanese Market Profile and Sourcebook for Pacific Northwest Value-Added Wood Products Exporters</i> Anne Theisen, John Dirks. 1996. (101 pp)	20.00
RE40	<i>Washington Forest Landscape Management Project - A Pragmatic, Ecological Approach to Small Landscape Management</i> Andrew Carey, Catherine Elliott, Bruce Lippke, John Sessions, Charles Chambers, Chadwick Oliver, Jerry Franklin, Martin Raphael. 1996. (117 pp)	10.00
RE39	<i>The Market Incentive for Biodiversity</i> Bruce Lippke and Holly Fretwell. 1997. <i>Journal of Forestry</i> 95(1):4-7	5.00
RE38	<i>A Conceptual Framework for Assessing Strategic Options to Boycotts: Ghana and the European Tropical Hardwood Boycott</i> Ivan Eastin. 1995. Business Strategy and the Environment Conference, Leeds, 20-21 September (7 pp)	5.00
RE37	<i>The Role of Marketing in Promoting a Sustainable Trade in Forest Products in Tropical Regions</i> Ivan Eastin. 1995. Thematic Conference on Inter-Generational Maintenance and Technical Issues for Sustainable Forest Management, Forest Research Institute of Ghana, Fumusua, 12-14 September (8 pp)	5.00
RE36	<i>A Market-oriented Framework for Introducing Lesser-used Tropical Timber Species as New Industrial Products</i> Ivan Eastin. 1995. XX IUFRO World Congress, Tampere, Finland, 6-12 August (12 pp)	5.00
RE35	<i>Natural Resource Legislation in the US Pacific Northwest and Its Impact on the Changing Mix of Forest Products</i> Ivan Eastin, Jamie Barbour. 1995. XX IUFRO World Congress, Tampere, Finland, 6-12 August (8 pp)	5.00

Quantity		Total
	WP61	\$ 7.50
	WP60	\$10.00
	WP59	\$15.00
	WP58	\$20.00
	WP57	\$15.00
	WP56	\$20.00
	WP55	\$ 7.50
	WP54	\$ 5.00
	WP53	\$ 5.00
	SP24	\$10.00
	SP23	\$20.00
	RE40	\$10.00
	RE39	\$ 5.00
	RE38	\$ 5.00
	RE37	\$ 5.00
	RE36	\$ 5.00
	RE35	\$ 5.00

PUBLICATIONS ORDER FORM

Number from our mailing label: _____

Name: _____

Position: _____

Department: _____

Firm/Agency: _____

Address: _____

City: _____ State: _____

Zip Code: _____ Nation: _____

Phone: _____

All payments in U.S. funds. Check or money order must be drawn on a U.S. bank.

RETURN TO: CINTRAFOR
University of Washington
College of Forest Resources
Box 352100
Seattle, WA 98195-2100 USA

Total Publications	_____
Handling	\$4.00
Postage/ \$1.00 per item for US	_____
\$2.00 per item for International	_____
Subtotal	_____
WA Residents Only 8.2 % Tax	_____
TOTAL ENCLOSED:	_____



New Publications:

Working Papers

- WP61 **Achieving Successful Business-to-Business Relationships Between Forest Products Suppliers and Distributors**
Dorothy Paun, Wendy Sammarco. 1996. 22 pages. \$7.50
- WP60 **The Changing Japanese Housing Market: An Assessment of US Export Strategies for Prefabricated Wooden Housing and Building Materials**
Ivan Eastin, Anne Rahikainen. 1997. 60 pages. \$10.00
- WP59 **An Assessment of the Market for Softwood Clearwood Lumber Products**
Ivan Eastin, Chris Lane, Tom Waggener, Roger Fight, Jamie Barbour. 1996. 100 pages. \$15.00

Special Papers and Reprints

- SP24 **Housing Export Opportunities to Japan: A Synopsis**
Synopsis of National Conference, Seattle, WA, September 1996. 64 pages \$10.00
- RE39 **The Market Incentive for Biodiversity:**
Bruce Lippke and Holly Fretwell. 1997. Journal of Forestry 95(1):4-7. \$5.00
- RE35 **Natural Resource Legislation in the US Pacific Northwest and Its Impact on the Changing Mix of New Industrial Products**
Ivan Eastin, Jamie Barbour. 1995 XX IURFRO World Congress, Tampere, Finland, 6-1 August. \$5.00

Errata: Authors on RE38 should be:
Ivan Eastin and Dorothy Paun



CINTRAFOR

University of Washington
College of Forest Resources
Box 352100
Seattle, WA 98195-2100 USA

Address Correction Requested

61-5405



Nonprofit
Organization
US Postage Paid
Permit No. 62
Seattle, WA

UNIVERSITY OF WASHINGTON LECTURE

“Charles Eames and the Plywood Years”

by

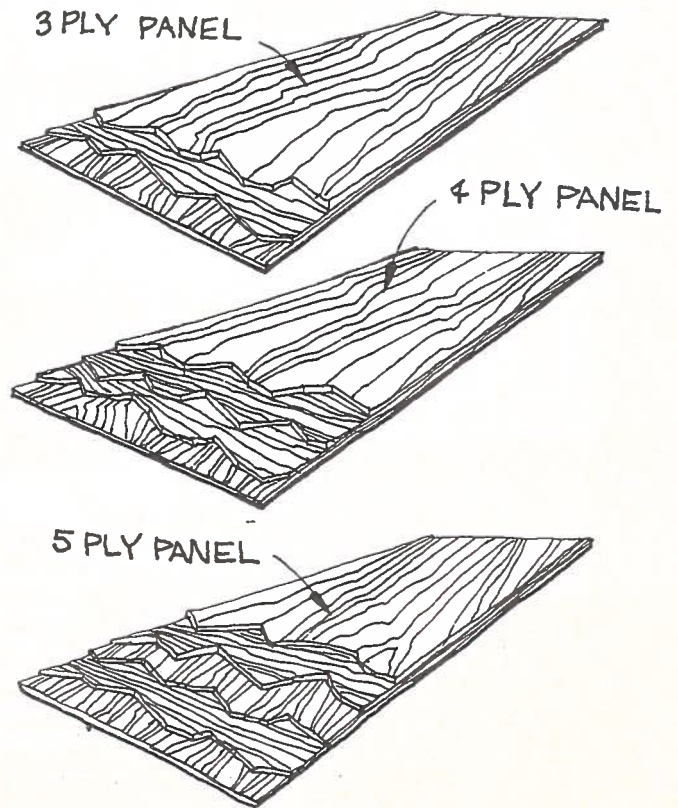
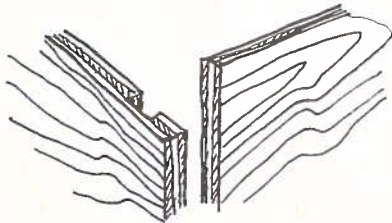
John and Marilyn Neuhart

Leading authorities and authors of 3 books on Eames designs

**Henry Art Gallery Auditorium
University of Washington
Friday, May 2, 1997
7:30pm**

Free to the Public

A fascinating illustrated lecture on the pioneering innovations in designs with plywood by Charles and Ray Eames with many connections to the Pacific Northwest where the plywood industry was rapidly developing.

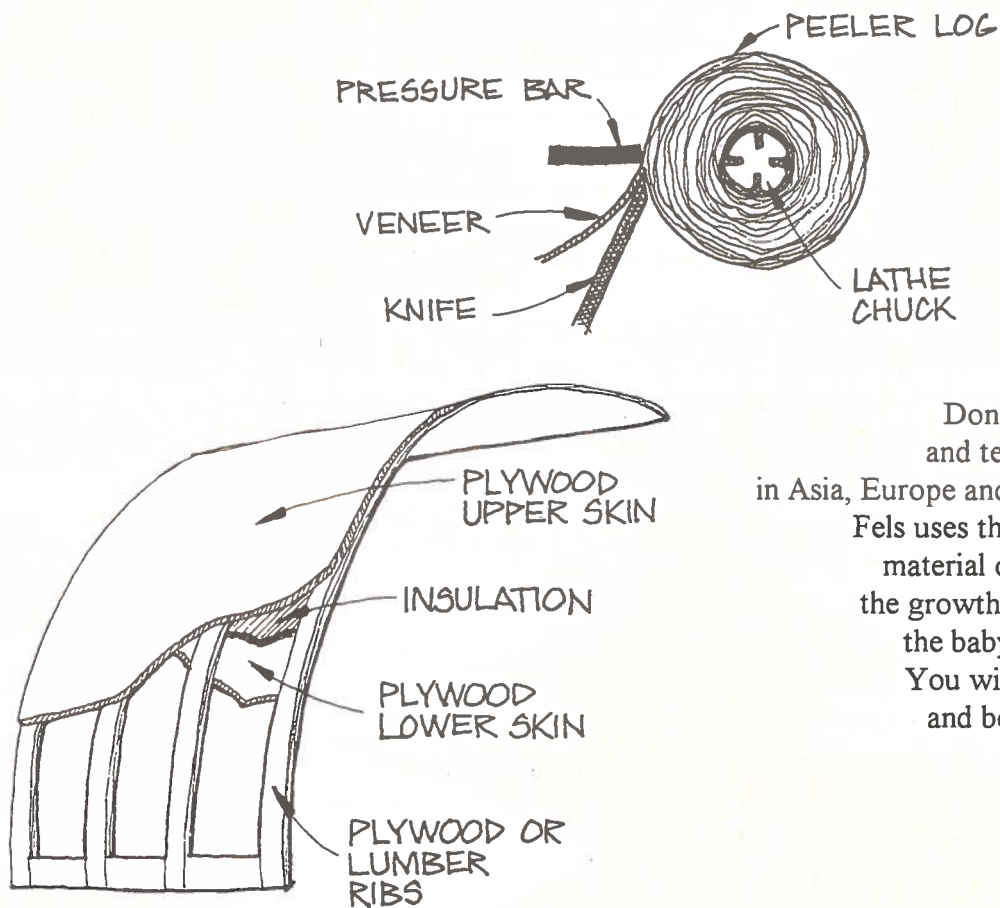


In conjunction with the University of Washington Lecture, the Bellevue Art Museum is presenting an exhibit by Seattle artist Don Fels, titled:

“7-Ply: Plywood and Memory”

Bellevue Art Museum
Bellevue Square
NE 8th and Bellevue Way
Bellevue, WA
206/454-6021

April 26 through June 15, 1997



Don Fels, artist, thinker and teacher has exhibited in Asia, Europe and the United States. Fels uses the common building material of plywood to trace the growth and experiences of the baby-boom generation. You will literally walk into and be surrounded by his multimedia work!

Sponsors of the Lecture and Exhibit include
(as identified by date of print)

American Plywood Association
Cornish College of the Arts
Dunn Lumber Company
Henry Art Gallery
University of Washington's College of Forest Resources
Weyerhaeuser Corporation