

CINTRAFOR NEWS

CENTER FOR INTERNATIONAL TRADE IN FOREST PRODUCTS

Seattle Conference Generally Upbeat About Wood Products

By Linda K. Barr

SEATTLE, Sept. 24, 2001 (Forestweb) — Even forecasters sometimes miss positive trends, attendees at the 18th Annual International Forest Products Markets Conference learned today.

The keynote speaker at the Seattle conference, John Natt, of Clear Vision Associates (San Rafael, Calif.), noted in his “Timber and Wood Outlook” presentation that economists and industry analysts, in general, missed the “inherent underlying strength in the single-family market this year” because they did not pick up a solid demographic trend — an increase in household formations — that has driven the U.S. economy and the wood products industry this year.

Natt, as well as other speakers, had some encouraging words for attendees, but also some sobering thoughts to pass along.

Some trends noted by today’s speakers: The demand and supply for wood products is adjusting world-wide; solid wood products have a bright future even as market share is declining per housing unit; demand and production should increase over the next five years for structural panels, glulam, I-joists, and LVL; OSB capacity is exploding world-wide, at the expense of plywood and in excess of demand; there’s grim news if you are a seller of pulpwood in the Pacific Northwest; and historically the paper and forest products industry has not been kind to investors — but that may be about to change.

Global wood demand

Looking at wood product markets around the world in the post-Asian-crisis era, Tony Halstead, of the USDA Forest and Fishery Products Division, pointed out that the total value for wood products imports by the major buyers of the world was roughly the same on both ends of the Asian economic crisis, approximately \$54 billion in 1997 and again in 2000, but a major shift occurred where the products were headed. In 1997 Japan was the leading market for wood but Japan is now the third leading market behind the United States and the European Union.

Japan’s imports totaled \$15 billion in 1997; by 2000 they had fallen to \$9 billion. The U.S. remains the major supplier, although market share has declined (from 22 percent to 17 percent) with Canada close

behind at 16 percent. China’s imports of sawlogs from Russia have indirectly benefited U.S. suppliers to Japan. “China is sopping up excess Russian sawlogs,” John Natt observed.

With the exception of China, which is importing almost twice as much wood now (much of it in log form) as it did prior to the Asian crisis, most Asian countries have decreased their imports of wood products. China is increasingly being supplied by the European Union, in both logs and lumber, while market share from the U.S., Indonesia and Malaysia have declined. The U.S. share of the China market has decreased from 7 percent to 4 percent, in value terms. In 2000, China imported more than \$660 million of EU wood products, up from just \$60 million in 1997.

South Korea’s imports have dropped 60 percent in the period; Taiwan’s reduction is about 30 percent.

By contrast, Halstead says, the European Union has increased its imports, excluding intra-EU trade, from \$1 billion in 1997 to \$13 billion in 2000, with growth in supply attributed to Russia, Latvia, China, and Romania. Principal products: softwood logs, softwood lumber, hardwood molding, and beams, arches and trusses. At the same time, U.S. market share in the EU decreased from 14 percent to 11 percent. (Much of the U.S. market share was surpassed by competition from Brazilian softwood plywood and veneer panels, causing U.S. market share for these commodities to go from 41 percent down to 7 percent).

Domestic wood demand in the United States

The primary market for wood products in the U.S., of course, is new residential building. According to Kevin Binam, manager of economic services for the Western Wood Products Association in Portland, OR, houses in the U.S. are getting larger, increasing by an average of 200 square feet in the last decade. Single-family homes use about 14,000 board feet of wood, he says. Multi-family construction uses less than half that amount of wood per unit, but wood use per building lot is significantly higher. As a result, total lumber use can be expected to increase in urban areas.

While the average amount of lumber per house has declined by about 1000 board feet per unit in recent

CINTRAFOR News is also available on the web.
<http://www.cintrafor.org>

Director's Notes:

by Paul Boardman

China Market Development Project for US Value-Added Wood Products and Building Materials

University of Washington
College of Forest Resources
Box 352100
Seattle, Washington
98195-2100
Phone: 206-543-8684
Fax: 206-685-0790
www.cintrafor.org

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:
Jane Edelson

Over the next few years CINTRAFOR will focus research attention on China and its housing market to better understand how this market for wood products will develop. Together with partners Evergreen Building Products Association (EBPA), State of Washington's Office of Trade and Economic Development, the Softwood Export Council and the American Forest & Paper Association (AF&PA), CINTRAFOR will conduct applied research in China on the residential and building materials distribution system.

A key component in CINTRAFOR's ability to conduct this research in China came in the form of a Department of Commerce grant awarded to the Evergreen Building Products Association for their China Market Development Project for US Building Materials proposal.

This three-year project offers an integrated approach to export growth of US wood building materials by addressing both supply and demand needs. Its activities will focus on creating market demand for US wood products and building materials in China through technology transfer and marketing programs, as well as outreach and education in the US for American building material exporters.

EBPA, with support from CINTRAFOR, will coordinate many China activities from Washington. China's housing needs continue to grow and change. CINTRAFOR's applied research will be key to understanding the changing needs and the appropriate direction for developing a viable wood frame construction market.

CINTRAFOR INDEX

- A Safeguard action in Japan against softwood lumber imports results in an increase of 264,000 yen/house. John Perez-Garcia, CINTRAFOR's IFPM Conference, September 2001.
- The goal of the Natural Forest Conservation Program in China is to reduce state harvest by 19.9 million m³ from 1997-2003. Harvest levels in 1997 were 32046 m³ and China hopes to get it to 12151 m³ by 2003. Tom Waggener, CINTRAFOR's IFPM Conference, September, 2001.
- China's production of industrial logs was just less than 500,000 cum in 1999 and is estimated to drop to about 350,000 cum by 2002. Tom Waggener, CINTRAFOR's IFPM Conference, September 2001.
- Russia log exports to China more than quadrupled, going from over 1500 m³ in 1998 to over 6000 m³ in 2000. Robert Cartano, CINTRAFOR's IFPM Conference, September 2001.
- Of all the harvested pine stands in Siberia, 40% is exported to Japan, 30% is exported to China and the remaining 30% get converted to pulp and domestic use. Robert Cartano, CINTRAFOR's IFPM Conference, September 2001.
- Ninety percent of new construction in Taiwan is reinforced concrete. Steel accounts for 6% and wood around 1%. Jeff Miller, CINTRAFOR's IFPM Conference, September 2001.
- A Safeguard action in Japan may have the opposite effect of more domestic resource use by increasing log imports 44%. John Perez-Garcia, CINTRAFOR's IFPM Conference, September 2001.
- The combination of an increase in demand and a decline of domestic supplies in China has led to increases in imports of logs, lumber and panels by 71% from 1998-1999. David Cohen, CINTRAFOR's IFPM Conference, September 2001.
- From 1992-1999 China imports of lumber increased 194% while imports of plywood dropped 59%. David Cohen, CINTRAFOR's Asian Housing Conference, September 2001.
- Japan's harvest and delivery costs are nearly 3 times higher than in the US PNW region and 6 times higher than Scandinavia and the S. hemisphere. Ivan Eastin, CINTRAFOR's Asian Housing Conference, September 2001.
- China's log imports in 2000 increased 34.3% from 1999. Tom Waggener, CINTRAFOR's IFPM Conference, September 2001.
- US softwood lumber imports from January-June, 2000 & 2001 from Chile dropped 18% and from Brazil dropped 13%. Robert Flynn, CINTRAFOR's IFPM Conference, September 2001.



years, there is also a trend toward more wood usage in homes. Binam pointed out several areas where wood use has increased, such as more complex roof structures of modern homes, with many dips and valleys. While wood-frame construction continues to dominate U.S. home building, concrete structures have a 12 percent market share. Steel-framed homes have less than 1 percent of the market.

Manufactured homes also use much less wood than single-family site-built homes, but dry lumber is very cost-competitive in these homes, says Binam.

Other markets for wood products – non-residential and residential repair and remodeling – also have bright futures, according to Binam. For instance, the stock of homes in the U.S. is increasing much faster than houses are being demolished, but the median age of the housing stock is 20+ years and aging, creating an ongoing market for remodelers.

"Overall, lumber use has a bright future," Binam concludes. "We are losing market share per unit of housing, but there are ever more uses for wood."

Structural panels and engineered wood

Structural panel markets are expected to decline 3.2 percent this year, according to Craig Adair, manager of market research for APA-The Engineered Wood Association in Tacoma, WA.

While residential markets are up slightly, all other segments, such as remodeling and industrial uses, are down compared to year 2000. Adair pointed to several reasons for the current flat trend in panel markets, including "a manufacturing-sector recession," a decline in domestic furniture manufacturing, a decline in truck, bus and motor home production, and an increase in competitive supply from countries such as Sweden, Finland and Brazil.

In particular, the explosion of oriented strand board capacity is having a significant impact: In just two years, OSB capacity outside of North America (primarily Europe) will have increased from 600 million square feet to 5.8 billion square feet. Adair forecasts a 2.8 percent turnaround in year 2002 in panel production, and an even greater increase, particularly from the residential sector, in the five-year period ending in 2006. But new capacity in North America will add 9.5 billion square feet through 2006, about 6.5 of which is considered excess. The likely result, according to Adair's figures, is plywood plant closures to offset the increase in OSB capacity.

Engineered wood products have suffered a setback this year, but the demand and production of glulams, I-Joists, and laminated veneer lumber are all expected to increase over the next four or five years.

Pacific Northwest woodchip markets

The 26 pulp mills, exports and other uses for wood fiber in the Pacific Northwest consumed almost 13 million bone dry units in 2000, about 11 MMBDUs of which were primarily from lumber/plywood residuals, imported and domestic, a small fraction was derived from plantation wood, and the balance

of almost 2 MMBDUs was from pulpwood chips, according to Lanse Richardson, director of corporate procurement for Boise Cascade Corp. For the year 2001, however, total demand has declined, fewer pulpwood chips will be needed, and most of that need will be met by hardwood logs.

Looking ahead, Richardson says, log availability to area mills is not expected to change much in the next five years. While there is expectation for an increase in lumber and plywood production, increasing the amount of residuals available, there are fewer acres readily accessible for pulpwood harvests, and much of the traditional pulpwood is now merchantable with modern technology. Further, plantations of hardwoods are increasing. The pulpwood supply is "elastic to any need," Richardson concludes.

The future demand for fiber is a function of the price of paper products. Price determines the willingness of mills to bid for wood, versus closing or taking downtime, says Richardson, adding that he expects the Northwest is "going to lose the equivalent of one-to-two pulpmills of capacity via a reduction in demand." He does not expect any increase in secondary-fiber facilities in the Northwest, and expects the market will favor virgin fiber in the future because of cost considerations.

Is the North American paper and forest products industry poised for recovery?

That question was posed by Don Roberts, managing director of CIBC World Markets, in his 'financial perspective on the industry.' Roberts notes that historically this industry has not been kind to investors. "U.S. government bond yields were greater than the annualized gains of the S&P Paper Index or the TSE Paper & Forest Products Index in the 1990s." He says investors see this industry as underperforming the overall market, and believe there is too much capital employed, there are low barriers to entry but 'meaningful' barriers to exit, it's a fragmented industry with non-differentiated products and poor management.

In Roberts' view, fundamental changes have been happening. Consider, he says, that rationalization and changes in product mix mean that "many" companies can now make money at the bottom of the cycle. Also, capital expenditures have been dramatically reduced, capacity growth is relatively constrained, and the industry is consolidating – which should lead to greater price stability (but not higher prices). And, not least, investors are pleased with the "new blood" managing some key companies.

Conclusion:

Roberts says it may be time to take a second – if selective – look at the forest products/paper sector. He expects some "high-tech refugees" to re-examine shareholder value in the industry.

"Given the maturity of the industry, one would expect the industry to return more cash to shareholders than it takes from them," says Roberts. †



An Update on Japan's Proposed Safeguard Action Against Softwood Lumber Imports

By: Ivan Eastin, Paul Boardman, and John Perez-Garcia

Over the past forty years Japan has increasingly come to rely on imported timber to supply the raw material demand of the domestic forest products industry. Today, over eighty percent of the wood processed by the forest products industry is imported, Figure 1. However, this figure varies considerably across specific industry sectors. For example, imports of softwood lumber account for just over thirty percent of total softwood lumber consumption, Figure 2 (page 6). While rapidly increasing imports of softwood lumber, particularly from European countries, have caused concern within MAFF and some sectors of the sawmill industry, it is important to note that the total volume of softwood lumber imports has declined by more than ten percent over the period 1996-2000. And while it is true that imports of softwood lumber from Europe have increased substantially since 1993, this increase has been offset to a large extent by substantial declines in imports from Canada and the US.

The lack of competitiveness of Japan's wood producers and the continued growth in imported lumber and lumber products have led the Japanese government to review lumber import trends and their relation to the depressed wood products market. One possible result of the inquiry could be the implementation of a policy to safeguard the domestic industry from further growth in wood product imports. Any Safeguard Action under WTO guidelines would require the Japanese government to: (i) identify the affected industry (i.e., the forestry sector, the processing sector or value-added sector); (ii) identify the affected product and its relation to substitute import products; (iii) determine the unforeseen developments that have led to a sharp increase in imports and resulted in injury to the affected industry; and (iv) determine how a Safeguard Action would improve the competitiveness of the affected industry over the 4 to 8 year period it is in effect.

Many of the reasons for the lack of competitiveness within the Japanese forestry and wood product sector have more to do with internal systemic issues than with softwood lumber imports.

Forestry Industry: Internal Systemic Issues

- Japan has an unusually high cost of forestry compared to other regions of the world.
- Poor profitability in forestry is due in part to geography (i.e., steep terrain and limited transport infrastructure) which increases the cost of timber harvest and extraction.

- The estimated IRR from a domestic sugi plantation has declined from 6.3% in 1965 to 4.1% in 1975 to 2.1% in 1985 to 0.9% in 1993.



- The exceedingly small size of private forests, most are around 5 hectares or less, makes it difficult for owners to raise capital and manage forests efficiently.
- The depopulation and aging of the forestry and wood products workforce seriously impacts productivity and efficiency within the forestry industry: 57% of forestry workers are over the age of 55 while less than 10% are under the age of 35.

Wood-processing Industry: Internal Systemic Issues

- Japan's harvesting and delivery costs to the mill are now nearly three times more than those costs in the US Pacific Northwest region and six times larger than those in Scandinavia and the southern hemisphere.
- High log prices, energy costs and labor costs combined with a low log processing efficiency results in Japan's sawmills being high cost producers of lumber relative to their competitors.
- Electrical rates for the sawmill sector in Japan are 3 to 4 times higher than other producers.
- The small size and scale of sawmills in Japan contribute to their lack of profitability. Production cost estimates for 1996 indicate that Japanese costs are approximately 156% higher than a sawmill in British Columbia, Canada. While labor, energy, and capital costs are less than 50% higher than BC, stumpage prices for sugi are 250% higher than hemlock.

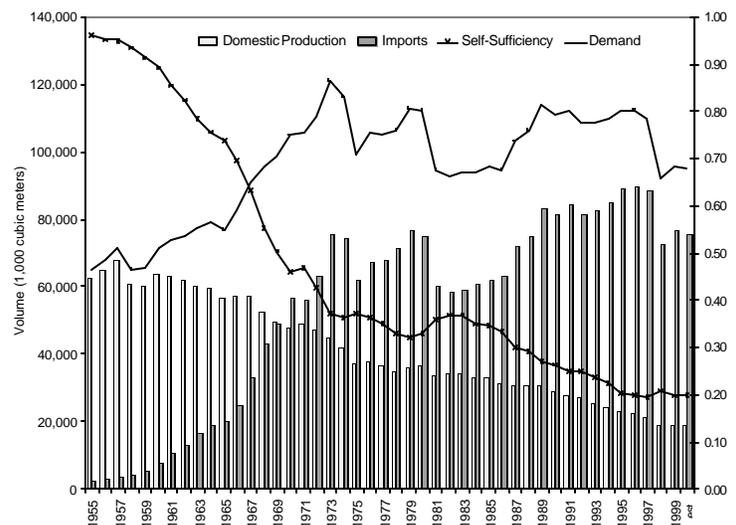


Figure 1. The trend in Japanese wood self-sufficiency and imports, 1955-2000.

continued on page 6

Timber Substitution Rule Under Review

By Paul Boardman and John Perez-Garcia

A Legislative Task Force is reviewing the Timber Substitution Rule, adopted in 1991 to implement the federal ban on the export of restricted logs. Dr. John Perez-Garcia and Paul Boardman, of CINTRAFOR, are representing the University of Washington as advisory committee members to the Legislative Task Force. The advisory committee, composed of various stakeholders, is helping to identify and evaluate factors that, under these substitution rules, contribute to competition for Department of Natural Resources state timber. CINTRAFOR's position to the advisory committee is as a representative of the University of Washington, which is a trust beneficiary of the Department of Natural Resources revenue from timber sales.

To help evaluate the state rules the Legislative Task Force put forth four questions. The University of Washington answers to these questions are as follows:

What was the reason for adopting the rules?

The apparent intent of the timber substitution rules was to ensure that timber was available to domestic wood processors immediately following a reduction in federal timber sales. The substitution rules were intended to save jobs and retain capital investment in the State of Washington at some cost to state revenues during a phase in which a reduction in federal timber sales limited the available supply of wood raw material to domestic sawmills in Washington as well as other states in the Pacific Northwest region. Log exporters were viewed as competing for wood raw material with domestic processors. In light of these limited domestic supplies, log exporters were restricted to exporting timber harvested solely from private lands. The timber substitution rule prevented Washington log exporters who both owned timber and had processing facilities from bidding on state timber sales.

Have the rules achieved their intended purposes?

Timber has been diverted from export markets to domestic processors throughout the period in which the rule was in effect. The timber substitution rule has, at some unidentified cost, maintained wood raw materials in the region and maintained mill jobs and processing facilities that would have otherwise been shut down due to the curtailment of federal timber sales. However, a substantial number of the saved mills and their associated jobs have been located in Oregon, reducing the benefits to Washington. Further, timber supply adjustment to new levels of federal harvests has taken place calling into question the effectiveness of the timber substitution rules in today's market.

Are there other good/bad consequences brought about by the rules?

Some level of jobs and investment in saw milling was saved during a period of uncertain federal timber harvest levels, though at an unidentified cost. An unintended consequence has been that a portion of these benefits have flowed into Oregon rather than providing the benefit to Washington.

The competitiveness of Washington mills has been lowered. The substitution rule has allowed a greater amount of raw wood materials to be processed in Washington (and Oregon) than would have occurred otherwise, and as a result has maintained a portion of the milling capacity that would have shut down otherwise due to cost competitiveness. The flow of logs from Washington to Oregon indicates that Oregon mills are more competitive in obtaining timber using state bids than the Washington mills. The substitution rule (and log export ban) should have allowed a gradual transition to a lower capacity level eliminating the negative economic effects of immediately decommissioning productive capital and their associated jobs that would occur with the sudden and unexpected curtailment of federal timber sales. The maintenance of the timber substitution rule does not allow for a market adjustment based on competitiveness to take place.

The number of bids on each state timber sale was potentially reduced due to timber substitution. In some instances, this would significantly lower the price received for state timber. In other instances, the potentially lower number of bids would have had a negligible effect, as more bids might not have had any impact on the sale price. Overall, however, revenues associated with timber sales from state lands have been reduced.

The value of state timber on sale has been reduced due to export restrictions. Log export premiums are no longer generated for state timber.

In general, the winners under the substitution rules are timber processors that are able to purchase the additional volume of wood raw materials that would have otherwise gone overseas, the labor associated with these processors and the economic benefits brought about by this labor pool. It should be noted that a portion of these processors are not located in Washington.

Trust beneficiaries and consumers of processed products such as lumber and plywood pay for the benefits of the timber substitution rules that processors enjoyed through lower prices paid for timber and higher lumber product prices.

Should the rules be changed, and if so: How and by whom

The rules should be eliminated. There is a cost associated with maintaining the rules in place, and the benefits associated with the rules have been reduced substantially. The rules cannot be used to address the economies of scale issues of smaller mills. If there are concerns regarding economies of scale issues of smaller mills, they need to be identified and addressed separately.

Should a majority of interested parties decide to maintain the rule, the rule's current form should be changed to allow for a greater number of exemptions. The exemptions could be based



continued on page 6

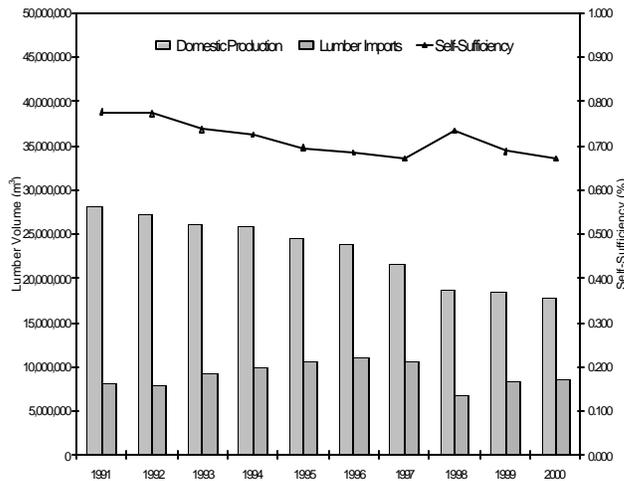


Figure 2. Japanese production, imports, and self-sufficiency of lumber, 1991-2000.

The performance based regulatory environment surrounding the housing industry (Housing Quality Assurance Act and the 10-Year Housing Warranty) is altering the product and species mix, displacing some domestic species. For example, demand for yellow cedar and treated lumber in ground sill (dodai) applications has also increased as a result of the 10-year Housing Warranty.

More importantly, over the past five years two significant factors have dramatically changed the competitive landscape of the softwood industry in Japan. The first factor was the Kobe earthquake which provided the impetus for the passage of the Housing Quality Assurance Act. The second factor was the Asian economic crisis and a series of recessions that have affected the Japanese economy over the past four years. These regulatory and economic events have combined to substantially change the structure of the demand for softwood lumber. Specifically, these events have increased the price sensitivity of Japanese buyers, have seen species preferences change from North American hemlock (and to some extent Japanese sugi) towards European whitewoods, and have seen product demand change from green lumber towards kiln dried lumber and from solid sawn lumber to glue laminated lumber.

"Timber Substitution" continued from page 5

on criteria in addition to the three that are currently in place. The new criteria could consider the effect that potentially excluded bidders might have on the sales bid price, the exportable quantity of logs and the competitiveness of the timber market.

Recommendation by University of Washington:

Dissolution of the timber substitution rules for the following reasons:

1. The DNR has an obligation to act with undivided loyalty to the trust beneficiaries (UW). The rules seem to be impeding their ability to fulfill this responsibility.



2. The timber substitution rules do not seem to be fulfilling their intended purpose, which was to enhance the competitiveness of the

The Japanese forest products sector, already marginally competitive in many market segments, has seen its competitiveness reduced still further by the recent regulatory and economic trends in Japan. A combination of high raw material costs, high processing costs, and the small size and production capability, low productivity, and out-dated processing technology of the typical Japanese sawmill severely restricts the ability of the industry to respond to this new competitive environment. In particular, the small size and production capacity of the typical sawmill restricts the ability of these firms to access capital and new processing technology that could help them increase their competitiveness. It is these and other systemic internal issues that are at the core of the competitiveness issue within the Japanese sawmill industry.

It is clear that the implementation of a Safeguard Action designed to provide the domestic sawmill industry with relief from competition from imported softwood lumber would not be likely to improve the competitiveness of the industry in the long-run. Most small and many medium-sized sawmills simply do not have a comparative advantage in the production of softwood lumber relative to lower cost producers in other countries given the internal systemic issues that exist within the industry. The net result of any Safeguard Action would be to impose high costs on Japanese consumers and home buyers while having only a marginal impact on the competitiveness of the sawmill industry, Table 1. †

	25% Safeguard Tariff
Lumber imports	-100%
Domestic lumber production	+20%
Log imports	+44%
Domestic log production	+7%
Japanese lumber prices	+16%
Gains to Japanes forest owners	+13% (US \$412 million)
Gains to Japanese mills	+212% (US \$2.2 billion)
Losses to Japanese consumers	-12% (US \$3 billion)

Table 1. Summary of the estimated impact of a 25% Safeguard tariff on softwood lumber imports.

State of Washington and to save jobs within the State.

3. The timber substitution rules seem to be decreasing the competition of the bidder pool for timber sales off DNR lands thereby decreasing the revenues to its trust beneficiaries.

4. The industry is relatively healthy and a continued strong housing market should preserve the industry's health for some time. Low interest rates in the housing sector will bolster the positive outlook for the industry.

5. Conditions no longer exist for the timber substitution rules to help industry transition to short supply conditions. Timber supply shortages no longer exist.

6. Trust beneficiaries provided the subsidy to mills during the transition phase and should no longer have to do so. †

WP = Working Papers / **SP** = Special Papers* / **RE** = Reprints / **AV** = Available from Others / **FS**=Fact Sheet

*Papers on policy, surveys, proceedings, and other items. Please call or see our website for a complete list of publications and their abstracts.

Phone: (206) 543-8684 Fax: (206) 685-0790 Web : <http://www.cintrafor.org>

WP 86	Report on the Taiwan Market for Wood Frame Construction and Softwood Building Materials Rose Braden. 2001. (45pp)	\$20.00
WP 85	How Competitive Advantages Can Lower Entry Barriers in China: Case Studies in the Interior Building Products Industry Cameron Crump, Dorothy Paun, and Paul Boardman. 2001. (45pp)	\$20.00
WP 84	A Technical Evaluation of the Market for US Wood Windows Within the Japanese Post and Beam Construction Industry Ivan Eastin, Joseph Roos, Paul Boardman. 2001. (103pp)	\$20.00
WP 82	The US-Japan Wood Products Trade Dispute: A Historical Perspective Jun Fukuda. 2001. (70 pp)	\$20.00
WP 81	Survey of International Opportunities for Alaska Softwood Producers Ivan Eastin, Rosemarie Braden. 2001. (111 pp)	\$20.00
WP 80	A Study of the Effects of the Canada-US Softwood Lumber Agreement Jun Fukuda. 2001. (58 pp)	\$20.00
WP 79	The Effect of a Tariff Elimination Policy on the Forest Sector: A Global Perspective John Perez-Garcia. 2001. (23 pp)	\$20.00
WP 78	A Characterization of the Residential Deck Market in the US Steven R. Shook, Ivan L. Eastin, Samuel J. Fleishman. 2001. (53 pp)	\$20.00
WP 77	International Timberland Investments: Linking the Mean-Variance Approach to Country Assessments William J. Turner. 2001. (78 pp)	\$20.00
WP 76	Time Series Methods for Commodity Price Forecasting: An Application to Market Pulp Gerard Alexander Malcolm. 1999. (94 pp)	\$20.00
WP 75	Changing Export Trends and the Health of the Pacific Northwest Forest Sector Bruce Lippke, Rose Braden, and Scott Marshall. 2000. (86 pp)	\$20.00
SP 38	Small Diameter Timber: A Review of the Literature Dorothy A. Paun and David Wright. 2000. (52 pp)	\$10.00
SP 37	The Forest Sector in Brazil: With Special Emphasis on the Southern Pine Plantations Marcelo Wiecheteck and James Stevens. 2001. (33 pp)	\$10.00
SP 36	Proceedings of the 16th Annual International Forest Products Marketing Conference 2000. (243 pp)	\$45.00
SP 35	Lewis County Economic Assessment Bruce Lippke, Scott Marshall, Michelle Ludwig, Jeffrey Moffett, Dave Fitzpatrick and B. Bruce Bare. 2000. (157 pp)	\$25.00
SP 34	Proceedings of The Second International Conference on Exploring Change in the New Asia: Opportunities for US Building Materials and Housing Exports. Bruce Lippke and Ivan Eastin. 1999. (172 pp).	\$45.00
SP 32	Forest Stewardship Council Certification of the National Forests in the West Coast Region of the United States: An Assessment Todd E. Malinick. 2001. (33 pp)	\$10.00
SP 31	A Practical Guide to the Pulp and Paper Industry: A Bibliography and Review of Business Publications Olivier Trendel and Dorothy Paun. 1999. (23 pp)	\$7.50
RE 53	Clearwood Quality and Softwood Lumber Prices: What's the Real Premium? Thomas Waggener and Roger Fight. 1999. West J. Appl. For. 14(2):73-79	\$5.00
RE 52	Equitably Treating Individual Washington State Forest Trusts through Consolidated Management: A Conceptual Approach B. Bruce Bare, Bruce R. Lippke & Weihuan Xu. 2000. Nat Resources J. 40 (3):479-497	\$5.00
RE 51	Intentional Systems Management: Managing Forests for Biodiversity Andrew B. Carey, Bruce R. Lippke, John Sessions. 1999. J. Sus. For. 9(3/4)	\$5.00

Publications sold at cost and fund student workers.

Quantity		Total
	WP86	\$20.00
	WP85	\$20.00
	WP84	\$20.00
	WP82	\$20.00
	WP81	\$20.00
	WP80	\$20.00
	WP79	\$20.00
	WP78	\$20.00
	WP77	\$20.00
	WP76	\$20.00
	WP75	\$20.00
	SP38	\$10.00
	SP37	\$10.00
	SP36	\$45.00
	SP35	\$25.00
	SP34	\$45.00
	SP32	\$10.00
	SP31	\$ 7.50
	RE53	\$ 5.00
	RE52	\$ 5.00
	RE51	\$ 5.00

Please attach business card or provide the following information:

PUBLICATIONS ORDER FORM

Number from our mailing label: _____

Name: _____

Position: _____

Department: _____

Firm/Agency: _____

Address: _____

City: _____ State: _____

Zip Code: _____ Nation: _____

Phone (Required): _____

Fax: _____

All payments in US 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 8.6 % Tax _____

TOTAL ENCLOSED: _____

CINTRAFOR

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

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

RETURN SERVICE REQUESTED

02-007



New on www.cintrafor.org:

- **Washington State Secondary Wood Products Directory :**
A complete on-line directory of secondary wood manufacturers listed by name, product type and by city.
- **From Forest to Fence:**
CINTRAFOR in collaboration with the USDA/FS and AFA are hosting a fence design and photography contest. Check out details of the contest and learn more about small diameter thinnings on our web site.

New Publications:

Working Papers

- WP86 Report on the Taiwan Market for Wood Frame Construction and Softwood Building Materials
Rose Braden. 2001. 45 pages. \$20.00
- WP85 How Competitive Advantages Can Lower Entry Barriers in China: Case Studies in the Interior Building Products Industry
Cameron Crump, Dorothy Paun, and Paul Boardman. 2001. 45 pages. \$20.00
- WP84 A Technical Evaluation of the Market for Wood Windows Within the Japanese Post and Beam Construction Industry
Ivan Eastin, Joseph Roos, Paul Boardman. 2001. 103 pages. \$20.00
- WP81 Survey of International Opportunities for Alaska Softwood Producers
Ivan Eastin, Rosemarie Braden. 2001. 111 pages. \$20.00
- WP77 International Timberland Investments: Linking the Mean-Variance Approach to Country Assessments
William J. Turner. 2001. 78 pages. \$20.00
- WP76 Time Series Methods for Commodity Price Forecasting: An Application to Market Pulp
Gerard Alexander Malcolm. 2001. 94 pages. \$20.00

