

CINTRAFOR NEWS

The Center for International Trade in Forest Products

China's Treated Wood Market

By Xiaozhi (Jeff) Cao, Rose Braden and Ivan Eastin, CINTRAFOR

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The following article is excerpted from the final project report which will be available through CINTRAFOR in February, 2007.

As China's economy has grown and personal income has risen over the past decade, spending on landscaping and public works projects has increased dramatically, and with it China's demand for treated softwood lumber. Luxury residential developments commonly include traditional Chinese landscape design elements, including man-made lakes and waterways that are traversed by footbridges and flanked by wooden fences, gazebos, and pavilions with decks. The desire to draw consumers to shopping and tourist areas has also boosted the number of government sponsored redevelopment projects that include outdoor design elements. Many of these projects include walkways, bridges, stages, and landscaping elements made from treated softwood lumber from the US.

The use of pressure treated lumber was almost non-existent in China prior to the year 2000, when overseas suppliers began promoting and selling treated pine lumber in China. Since then, the popularity of treated wood has escalated and China has become an important niche market for US treated southern yellow pine (SYP) suppliers. SYP is now the second leading US softwood lumber species exported to China.

As demand for treated lumber increased, domestic lumber treaters began to emerge and by 2006 there were approximately 150 treating plants operating in China. However, a lack of understanding of proper treating methods and the absence of wood preservation standards seriously undermine the long-term development of this promising market in China.

Barriers to the use of US treated lumber in China

Education and promotion by US exporters, industry associations, and Chinese distributors has improved awareness of US treated softwood lumber species and the importance of proper preservative treating methods on long-term product performance and quality. As a result, treated SYP from the US has developed a reputation in China as a premier treated softwood lumber species. However, as more

domestic Chinese wood treaters have entered the marketplace price competition has intensified. The resulting "race to the bottom" has led to reduced

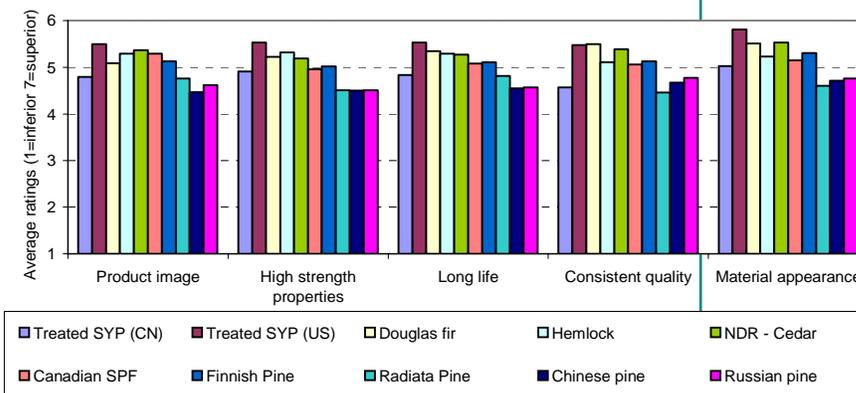


Figure 1. Average ratings of various treated wood species on the product quality attributes.

product quality and performance as domestic Chinese treaters take short cuts to lower their production costs. Inconsistent product quality, counterfeiting and extreme price variation between treated wood products and suppliers plagues China's treated wood market.

Since many Chinese end-users are unable to distinguish between softwood species and properly treated lumber, and many more are simply searching for the lowest price, a number of new suppliers, including Chinese suppliers of plantation pine and South American pine suppliers, have begun to market their species as SYP. However, not all softwood lumber species are equal in terms of their preservative retention levels and ease of treatability. Since China has no wood preservation treatment standards and lacks a process for certifying treated wood products, the consistency and quality of treated wood products varies widely. Industry experts have noted that many companies mix their own preservatives on site using inadequate quality control procedures, and employees receive little or no training regarding proper wood preservation methods and material handling procedures. In order to reduce production costs and meet customers' specifications on color and lead times, many local wood preservers do not follow any production standards.

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Director's Notes:

by Ivan Eastin

Taking a Longer View

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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.

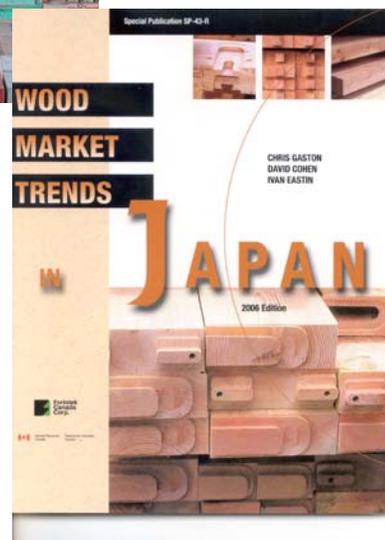
Forest products manufacturers and exporters are often so busy keeping up with the day to day business of making and selling products that they often have little time to reflect on the macro trends affecting their markets. CINTRAFOR often gets calls from industry managers interested in our perspective of the trends that are affecting the industry. This is particularly true now as US housing starts have declined and the domestic demand for wood products has softened. In response to renewed interest in off-shore markets, CINTRAFOR teamed up with forest products marketing experts at the Forintek Canada Corporation and the University of British Columbia to identify and describe the likely trends that will affect the demand for North American wood products in Japan and China over the next 5 years.

The major trends affecting the demand for wooden building materials in Japan over the next five years are summarized in the 2006 publication "*Wood Market Trends In Japan*", which is currently available from CINTRAFOR. The major trends are: **Trend 1:** Japan remains a major wood importing region, **Trend 2:** Yen strengthens against N.A. currencies, **Trend 3:** Increased demand for housing performance and longevity, **Trend 4:** Western-style housing remains strong, **Trend 5:** Hybrid construction becomes established, **Trend 6:** Growth in pre-cut drives shift to kiln-dried lumber, **Trend 7:** Aging population and increased interest in "healthy house", **Trend 8:** Increased diversity in housing styles, **Trend 9:** Continued growth of demand for engineered wood products, **Trend 10:** Government regulation in housing increases, **Trend 11:** Home reform (repair & remodeling) increases dramatically, **Trend 12:** Japan becomes price sensitive, and **Trend 13:** The emergence of power builders.

CINTRAFOR has also been collaborating with our Canadian partners to produce a similar publication on the major trends that will affect the demand for wooden building materials in China over the next five years. "*Wood Market Trends in*

China", which is due to be published in June 2007, identified the following trends: **Trend 1:** Continuing demand for imported fiber despite plantations, **Trend 2:** Yuan will remain undervalued to support export driven economic growth model, **Trend 3:** Increasing Competition from Chinese Exports, **Trend 4:** Market Demographics Improving, **Trend 5:** Shift of investment inward from coast, **Trend 6:** Improving Market Access, **Trend 7:** Housing Policy Favors Affordability, **Trend 8:** "Reform" Activity Increasing in Importance, **Trend 9:** Outdoor Wood Opportunities Expand, **Trend 10:** Glulam Usage on the Rise, **Trend 11:** Infrastructure Development Continues, and **Trend 12:** VA Manufacturing Sector Expanding.

Written in a short, concise format, these publications use full color photographs to help illustrate and explain each market trend. The Japan Market Trends publication has been well received by industry managers and we hope that the China Market Trends publication will also help industry managers gain a deeper understanding of the trends shaping the Chinese market for imported wood products over the next five years. ▲



China Announces Curbs on Wood Products Exports

By Xiaozhi (Jeff) Cao and Ivan Eastin, CINTRAFOR

Introduction

Wood products trade¹ between the US and China has grown an average of 26.3% annually between 1996-2006 (Figure 1). In 2006, the US exported a total \$556 million worth of wood products to China, primarily hardwood and softwood lumber. In contrast, US imports of wood products from China reached almost \$8 billion, dominated by finished and semi-finished products such as furniture, plywood and flooring.

As the second largest wood products supplier to the US after Canada, China's expanding trade surplus with the US has caused concern in recent years. China's trade surplus in wood products reached a staggering \$7.4 billion in 2006, accounting for 25.9% of the total US trade deficit, as compared to 23.6% in 2005 (Figure 2). Growing competition from low-priced Chinese imports has sparked some protectionist sentiment in the US, particularly by furniture manufacturers located in the southeastern US. Some US lawmakers are threatening to introduce bills that would punish China for perceived unfair trade practices if China does not relax its control of the exchange rate and allow its currency to float more freely and open its domestic markets wider to US goods. Antidumping charge against Chinese wooden bedroom furniture is a recent case in point, which led to an average 8.64% initial tariff on most Chinese imports in 2004. There have also been threats to impose antidumping tariffs on imports of Chinese wooden kitchen furniture as well.

Trade policy changes in China

Between mid-September and November, 2006, the Chinese government released a series of new regulations aimed at curbing exports of low-end commodities in an effort to reduce the country's bulky trade surplus. According to these new regulations, significant impacts on wood products industries include:

1. Processing trade VAT rebate rates for 24 categories of wood products (by 6-digit HS code under HS44) and 4 categories of wooden furniture products (under HS94) are to be reduced from 13% to 11%, effective September 15, 2006.



Figure 1: Wood Products Trade between US and China 1996-2006(e)
Source: Global Trade Atlas

The 24 categories of wood products primarily include softwood and hardwood plywood, wooden mirror and photo frames, wooden windows and doors (both

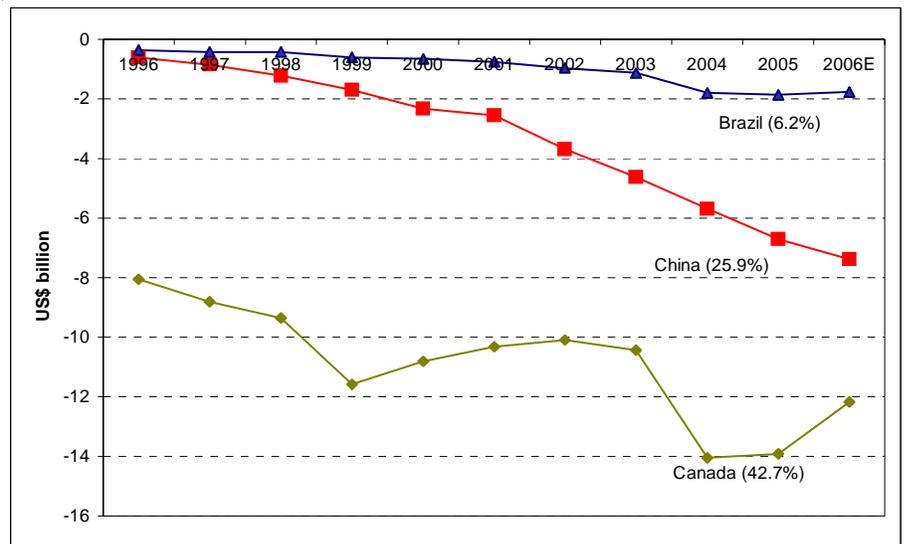


Figure 2: US trade deficit in wood products 1996-2006(e)
Source: Global Trade Atlas

finished products and frames), wood parquetry and miscellaneous wooden articles. Based on 2005's export data, exports from these categories totaled \$4.9 billion and represented 76% of China's total wood exports to the world market. Additionally, four categories of wooden furniture are also subject to this tax rebate reduction, including bedroom furniture, office furniture, kitchen furniture and other wooden products and parts. In 2005, China exported a total of \$4.7 billion in wooden furniture, an increase of 27% from the previous year.



2. For solid wood flooring, disposable wooden chopsticks and wood chips exported from China, a 10% export tariff will be levied, effective November 1, 2006.

Chinese manufacturers of solid wood flooring and disposable wooden chopsticks are facing an increasingly difficult financial situation due to rising raw material costs. Not long ago (April 2006), the Chinese government imposed a 5% consumption tax on these products in an effort to curb pollution and suppress domestic “dirty” industries.

3. A total of 66 categories of wood products and 4 categories of wooden furniture products made from domestically-sourced timber are banned from being exported beginning November 1, 2006, although these products may be exempted for manufacturers located in export-processing zones.

The impact of this regulation on the wood products industry is difficult to estimate at this time given the difficulty in identifying the source of raw materials used in most finished wood products. Timber distribution channels in China are fragmented and forest certification and chain-of-custody practices are rarely used. It is estimated that illegally sourced timber accounts for a significant proportion of the industry’s total timber consumption. The difficulty of identifying raw material sources is further compounded by the common practice of using a mix of wood species in many wood products targeted for export markets.

4. To increase its control over re-exported wood products, the government implemented an export licensing system for re-exported sawn timber made from imported logs, effective January 1, 2007.

According to this regulation, sawmills processing imported logs for re-export purposes need to obtain export licenses from appointed government agencies. Ports are designated for re-exported sawn timber, including Suifenhe, Dalian, Manzhouli, Erenhot, Shanghai, Tianjin, Xiamen, Putian and Zhangzhou.

Conclusions

The Chinese government is moving to address its huge timber supply imbalance with an aim to achieving self-sufficiency in the future. In a circulation issued in late 2005, the government announced its plan to reduce wood consumption by 40-50 million m³ per year by 2010. Productivity, wood fiber recycling, wood conservation and material substitution were identified as four key strategies for guiding the wood industry’s future development. The recent



shift in China’s forest products trade policies also fits in this background. Generally speaking, there are 3 trends that will affect the forest products industry over the next several years:

- 1) Higher export tariffs, together with surging raw material costs and an appreciating RMB, may lead to a “hard-landing” for the Chinese wood export industry, especially plywood and wooden flooring.

Recent price hikes for Russian logs have put many plywood mills in a difficult financial situation, forcing some plywood mills to turn to other suppliers such as New Zealand for raw material inputs. Chinese wooden flooring exporters will face a very tough market in 2007. Besides high export tariffs on solid wood flooring, laminate flooring exports are facing fines in the US due to an intellectual property infringement charge filed by three US flooring manufacturers and Netherlands-based Unilin in 2005. The US market accounts for as much as 70% of total Chinese exports of laminate flooring according to industry sources.

- 2) The recently announced export restrictions, and subsequent plant closings, may relieve the wood fiber supply shortage faced by paper and wood panel manufacturers.

Paper, pulp and wood-based panels (except plywood) will remain unaffected by the new export-related regulations. As major consumers of wood fiber in China, the paper and wood-based panel industries have recently been plagued by rising raw material costs. China’s rapidly growing population and pent-up domestic demand are expected to help reduce exports as domestic manufacturers begin to focus more on the growing domestic market in the future.

- 3) A trend toward industry consolidation and increased competition in the domestic market can be expected.

Evidence from the furniture antidumping case suggests that export barriers will speed up export industry consolidation with top exporters taking a bigger share of the market overseas. At the same time, price-based competition will intensify in the domestic market due to excess production capacity in the short-term.

The final impacts of these new regulations on US-China wood products trade flows remain to be seen. However, it should be noted that local enforcement is always the key in carrying out new regulations made by the central government in China. In many cases, new regulations fail to function as expected due to resistance from local governments and lax implementation of these policies at the local level. In many areas of China, the wood processing export industries make a significant contribution to the local economies and there may be pressure at the local level to move slowly on implementing the export tariffs.

(Footnotes)

¹ Consists of all wood products under HS44 and wooden furniture products under HS940330-60 ▲

With no regulatory system in place to monitor and test treating operations, the quality of domestic treated lumber varies widely and is largely substandard in terms of the preservative chemicals used, the treating methods used, preservative retention levels and the uniformity of retention within the treated lumber. In fact, it is not unusual to find wood that has simply been stained to resemble treated wood being sold as preservative treated lumber.

Copper Chromium Arsenate (CCA) (a low cost but effective preservative that has been banned in the US by the Environmental Protection Agency as being potentially harmful to humans) is also used to preserve approximately 70-80% of the treated wood produced in China. The widespread use and low price of CCA treated lumber in China poses a significant challenge to US producers who, in keeping with a voluntary agreement with the EPA, use the more expensive (but safer) preservative ACQ. Since low-price is a key factor considered during the material specification process, many end-users purchase CCA treated wood.

As the use of improperly treated softwood lumber products continues, the poor durability of these products in the long-term is likely to undermine the market for treated lumber and counterfeit or improperly treated lumber will damage the reputation and competitiveness that treated SYP from the US has developed. In order to ensure that these poor quality products do not undermine the market for treated lumber in China, it is important to understand Chinese users' perceptions of US treated wood products relative to competing products to assist suppliers and industry associations develop effective promotional and educational programs.

Chinese Treated Wood User Survey

To understand how Chinese users perceive US treated wood products relative to other treated wood products, CINTRAFOR conducted surveys at two trade shows in China. The first survey was conducted during the 4th Annual Shanghai International Architecture & Planning Exhibition, held June 15-17, 2006. The second survey was conducted during the 2006 US-China Build (USCB) US Housing & Building Materials seminars in Guangzhou, Qingdao, and Shanghai, held during the period 17-22 September, 2006. A total of 372 surveys were collected, of which 141 were complete.

Respondents rated ten treated wood species on twelve product attributes using a Likert-like scale (1=inferior, 7=superior). Respondents also answered a number of demographic questions to determine if demographic factors (e.g., profession or regional location) affected users' perceptions of products.

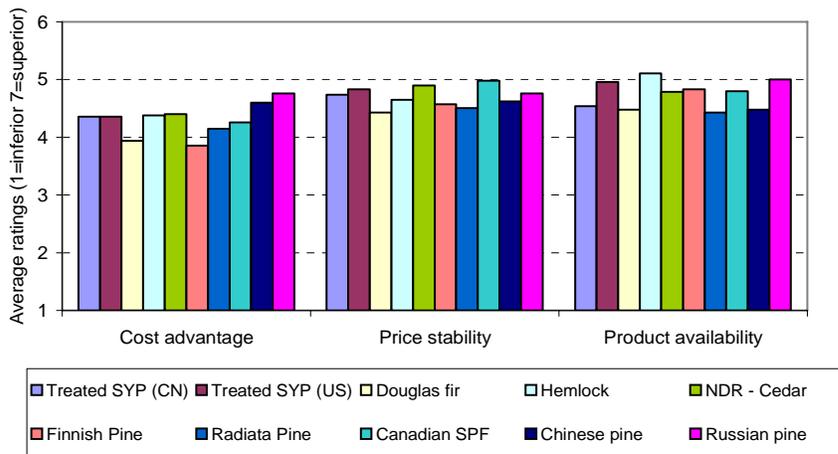


Figure 2. Average ratings of various treated wood species on the economic attributes.

RESULTS

Imported US Treated Southern Yellow Pine versus Domestically Treated SYP

Respondents rated US treated SYP higher than all other species on all quality attributes except consistent quality, where it ranked equally with Douglas-fir. Domestically treated SYP (SYP treated in China), rated significantly lower than imported US treated SYP and it generally received the lowest attribute ratings among all the species considered. Only radiata pine, Chinese pine, and Russian pine were consistently rated lower than domestically treated SYP. Interestingly, respondents reported that there was no cost advantage to using domestically treated SYP compared to imported treated SYP and both products were rated as being priced higher than Douglas-fir and Finnish pine (Figure 2). In terms of availability, respondents rated domestically treated SYP lower than imported treated SYP and most other species. Therefore, according to this survey, respondents see no cost advantage to using domestically treated SYP and they believe that it is lower quality and less available than imported US treated SYP.

While the survey results suggest that respondents recognize that imported US treated SYP is a higher quality product that performs better than domestically treated SYP, it is unclear whether buyers can distinguish between imported and domestically treated SYP in the marketplace. The rapid increase in the sales of domestically treated SYP suggests that end-users may be purchasing domestically treated SYP lumber thinking that they are buying imported US treated SYP lumber. Use of counterfeit grade stamps and brand logos on lumber and engineered wood products by Chinese manufacturers is reportedly commonplace. However, if consumers believe that they are buying high quality treated US SYP when they are actually buying poor quality domestically treated SYP, then the negative impact from poor product quality or poor product durability would seriously undermine the market for US treated wood products.

Western Softwoods

durability, material appearance, and strength. The only exception was the



high strength attribute where SPF was rated significantly lower than other western species.

Douglas-fir received strong ratings on all quality attributes except product image, where it lagged US treated SYP. According to industry experts, Chinese end-user's experience with DF dates back to the early 20th century when DF was used widely for structural purposes. While DF rated well in terms of quality, it was rated below average on all three of the non-quality related attributes, Figure 2. Although users view DF positively, they clearly believe it is more expensive and availability more limited than some competitors. Since DF is primarily used for wood frame construction, its availability has been constrained by strong US housing demand. As housing demand in the US surged DF prices spiked, which are reflected in the specie's low ratings for cost advantage and price stability

Promotion and education about the advantages of DF through publications and seminars is vital to reintroduce the species to architects, developers, and traders. US trade associations taught Chinese users, who initially disliked the color, that the green hue associated with ACQ-treated wood is a sign that the wood has been preservative treated. Our discussions with developers and architects shows that they dislike incising marks and many believe that incising reduces the structural strength of the lumber.

Western softwood lumber suppliers and industry organizations might consider a promotional campaign to educate end-users on the important role of incising in facilitating the penetration of preservatives into refractory species and that incising is a sign of a properly treated product.

Another western softwood used in limited volumes in China is hemlock. This species is much easier to treat than DF, yet it is more expensive. In China, Canadian suppliers dominate the hemlock market and availability is reportedly consistent. Survey respondents rated hemlock moderately in terms of its quality attributes. Hemlock also rated moderately well in terms of image, strength and durability. However, respondents rated hemlock lower in terms of product quality and appearance. Again, it appears that end-users who select hemlock are trading quality for cost. While respondents rated hemlock somewhat below average on the quality attribute ratings, it was rated highest of all the species in terms of availability and average in terms of cost advantage and price stability.

Canadian promotion of treated SPF in China has been effective and SPF is used in a wide variety of projects. However, respondents rated SPF relatively low in terms of quality and price. While



respondents rated Canadian SPF highest among all species in terms of price stability, it was rated lowest among all western softwoods on quality attributes, with the exception of product image.

Conclusions

Imported US treated lumber has gained a good reputation and established a niche market in China. However, a few central issues hinder widespread market expansion. These include: 1) scarcity of lumber in metric dimensions, 2) poor access to information about US lumber prices and US suppliers by Chinese distributors and importers of US treated lumber, 3) limited understanding among end-users about the quality difference between domestically treated SYP and SYP treated in the US, and 4) improperly treated and counterfeit domestic lumber that is marketed as being imported from the US.

Education has been crucial to the success of imported US treated lumber in China. US government representatives and Chinese distributors have played an important role in educating designers and end-users about the physical properties of US treated lumber, design specifications, and proper treating methods and chemicals. These efforts appear to have been effective and awareness of US treated lumber and its positive attributes appears high. However, while survey respondents rated US treated SYP highly compared to competing species, these positive perceptions have not translated into widespread buying behavior, indicating a need for continued education about the difference between imported and domestically treated wood in terms of durability, quality consistency, appearance, and overall performance. If end users believe that domestically treated wood is interchangeable with properly treated imported softwood lumber from the US, the poor performance and durability of domestically treated wood will seriously damage the reputation of higher quality treated SYP from the US.

Ongoing programs that inform Chinese specifiers, end-users and government officials about the advantages of using properly treated wood products are imperative. For example, providing case study examples would demonstrate the economic benefits of using properly treated wood (despite it slightly higher initial price but much better durability) relative to using lower cost, improperly treated wood that would need to be replaced several times during the life span of a project. In this case the initial high price of the project would be offset by the fact that properly treated would last 15-20 years whereas the improperly treated wood would have to be replaced every 3-5 years, especially in the hot, humid environment of southern China. Industry associations should work with Chinese ministries to use US preservative treating standards as a model for introducing similar standards in China. In the absence of these standards, the entire Chinese market for preservative treated lumber (and the reputation of US treated lumber products) could be undermined by counterfeit and poorly treated domestic lumber products. ▲

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