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Taiwan

Solid Wood Products

Annual

2007

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Report Highlights:

Taiwan's solid wood product imports held roughly steady during 2006. Growth was relatively strong in veneers and softwood plywood increasing at approximately 9 and 14 percent respectively, used in construction and as structural material in furniture and interior design. The US remains a relatively minor player in Taiwan's wood market, which is dominated by Southeast Asian suppliers. Taiwan's long-delayed approval of a standardized fire code for wood frame construction continues to hinder growth lumber and engineered wood in the near term. Government authorities are entering into the final decision making process and will announce determinations by mid-September 2007.

Includes PSD Changes: Yes
Includes Trade Matrix: Yes
Annual Report
Taipei ATO [TW2]
[TW]

PRODUCTION

FOREST RESOURCES

Forest cloaks nearly 60 percent (2.0 million hectares) of the island of Taiwan. For much of the 20th century, both the logging industry and wood exports contributed significantly to the island's GDP. Felled virgin stands of cypress, fir, camphor, and oak helped fund Japan's development up through the Second World War (Taiwan was under Japanese rule from 1895 to 1945) and provided essential hard currency exports for the Nationalist Chinese regime after their retreat from Mainland China to the island in 1949. Although the virtual elimination of high-value virgin stands eventually ground the island's logging industry to a halt, Taiping Shan, Taiwan's last major logging district, managed alone to generate 93,000 m³ of felled timber as late as 1959.

Over-harvesting of virgin timber, escalating labor costs, and growing appreciation of the importance of forests in the ecosystem have diminished Taiwan's commercial forestry industry to its present output of around 50,000 m³ per year and re-targeted government initiatives to sustainable management of all forest land. In 1992, Taiwan authorities banned all logging in "natural" timber stands (whether virgin or regrowth). The ban is believed effective apart from cases of illicit felling / removal of individual logs of high-value wood (e.g., camphor, red and yellow cypress, and Taiwan zelkova, among others).

In light of the harvest ban on non-plantation timber and current economic disincentives against logging (low market prices, high labor costs, aging labor force), only 500 hectares in Taiwan are now formally engaged in the production of commercial timber. The peacock pine (willow fir or *cryptomeria japonica*), China fir (*cunninghamia lanceolata*), and Taiwan acacia (*acacia confusa*) are three commonly cultivated species.

From a commercial standpoint, the quality of both natural and plantation stands in Taiwan is considered generally poor - testimony to the unbridled exploitation of formerly rich forest resources during the past century and to a recent history of reforestation efforts that, in many cases, selected species poorly suited to existing soil and climate conditions. A recent Taiwan Forestry Research Institute (TFRI) study estimated that 70 percent of all plantation trees in Taiwan had trunks measuring between 10 and 30 cm in diameter¹. Most of the annual harvest is currently channeled into low value applications, with over 1/4 of output volume used as firewood. TFRI continues to conduct research into using Taiwan wood in higher value applications (including oriented strand fiber boards, plywood backing, and plastic/wood composite materials) although results are not expected to spur significant expansion of land under commercial cultivation.

¹ Ten China fir trees, all around 30 years of age, felled for a separate 1999 study revealed an average trunk diameter of 25 cm and an average ring growth rate of 5.5mm per year.

In spite of its large reserve base of standing timber, the potential for Taiwan to increase production of wood much beyond current levels is minimal due to a diverse set of factors, including environmental regulations, low import prices, labor flight to higher paying sectors (in a recent survey of the forestry industry in Taipei county, only 20 percent of those employed in the sector were below the age of 40), and the long-term investment required (78 percent of privately held commercial forest land in Taipei County was inherited by the current owners).

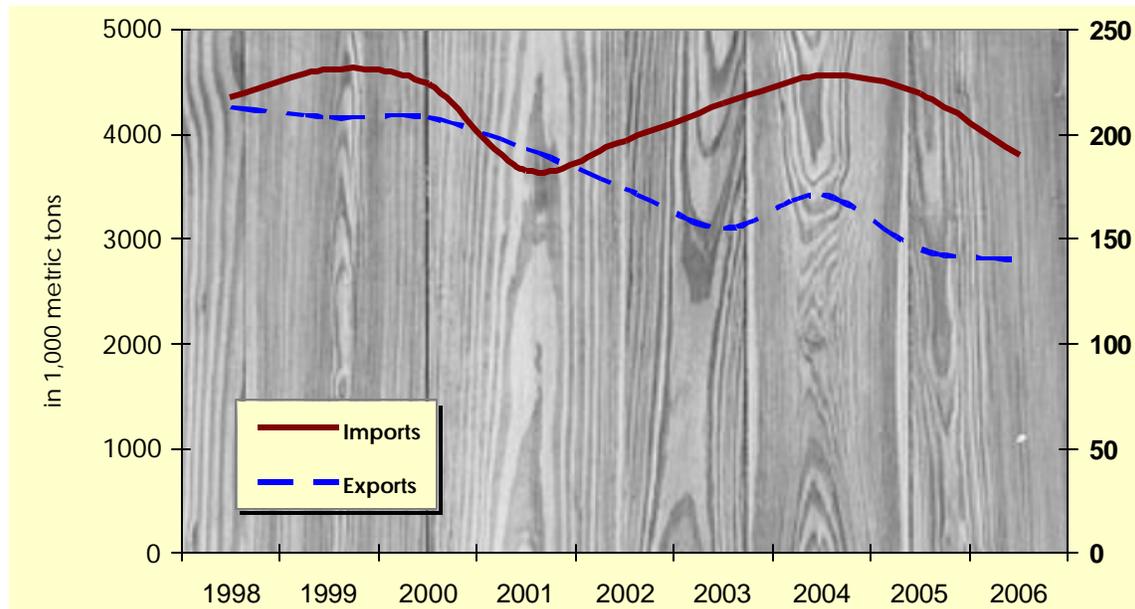
SOLID WOOD PRODUCTS SITUATION and OUTLOOK

Although most timber is now off limits to commercial exploitation, supporting industries in Taiwan which once processed local wood remain strong, with many Taiwan-based companies now important players in the Asia regional and global trade in lumber and lumber products. Initially, Taiwan firms manufacturing lumber, paper, furniture, and decorative wood products, shifted from using locally-sourced to using imported raw materials. As labor and other operating costs rose steadily through the 1980s and 1990s, *most* shifted some or all production offshore. The most common destinations now for Taiwanese investments in wood processing is China (focused on Guangdong Province), followed by Vietnam (focused in Binh Duong Province), the Philippines, and other Southeast Asian countries.

Asia Wood Purchase Decisions Still Centered in Taiwan: While much production has relocated offshore, key operational decisions in Taiwan-invested factories (regarding such issues as installed equipment, order receipt / scheduling, changes to capacity, and raw material purchases [including wood]) tend to remain in the hands of Taiwan-based executives. Based on this practice, and estimating that roughly 1/3 of China, Vietnam, and Philippine furniture exports benefit from Taiwan investment, the power of Taiwanese log and semi-finished wood buyers greatly exceeds the value derived by considering only Taiwan's wood furniture production or wood import / export figures. In 2006, the Taiwan Furniture Manufacturers' Association estimated that Taiwanese furniture manufacturers exported US\$2.8 billion out of China and US\$500 million out of Southeast Asia every year in addition to exports out of Taiwan. This trend could wane over time however, as headquarters and production facilities are moved to the same location.

According to survey data last updated in 2001, nearly 2,500 firms are licensed to operate wood processing / production facilities in Taiwan. Most are small (for example, approximately 2/3 of all furniture makers employ 10 staff or less) and many likely have most or all production overseas. In terms of numbers, Taiwan has 752 furniture manufacturers, 490 lumber manufacturers, 187 plywood manufacturers, 47 "composite" wood products manufacturers (e.g., flooring, special-use composite woods), 84 wood container manufacturers (e.g., crates, jewelry boxes, storage boxes), and 908 firms manufacturing "other" wood products. It is estimated that approximately 70% of Taiwan's overall furniture production is metal.

Taiwan Wood and Wood Product Imports and Exports (HS44): 1998 – 2006

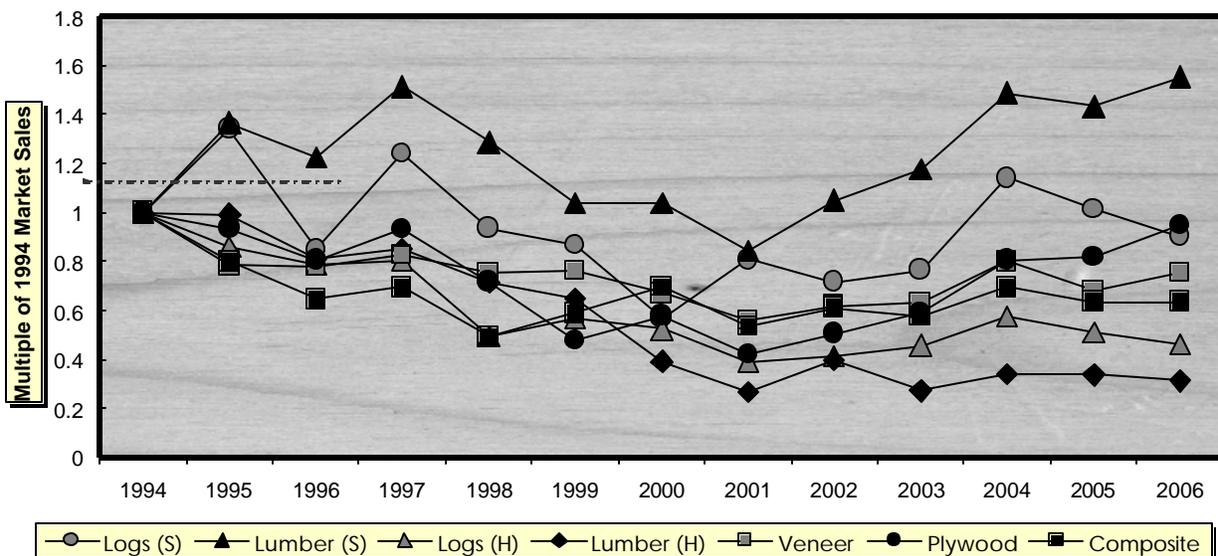


TRADE

Overview and Outlook

Slightly over US\$1.22 billion worth of wood and wood products (under HS code 44 [excluding furniture]) cleared Taiwan Customs during 2006, nearly the same amount by value as 2005, despite a decrease in trade volume of over 13%. The constant sales value is driven in large part by plywood and veneers, with higher growth rates of 10% and 15% respectively in these value-added products. The graph below details forest product trends in the Taiwan market since 1994. Taiwan's forest product trade is quite variable, with only the steady, but yet rebounded sales in hardwood lumber and hardwood logs held constant. Only softwood lumber has shown sustained increased trade over 1994 levels.

**Growth in Taiwan Forest Product Import Market Segments
1994 - 2006**



Wood imports across most subcategories are continuing to claw their way back from lows hit around 2000, with increases largely driven by a rebounding domestic economy, continued investment in the island's "recreational" infrastructure, and rising demand for home remodeling materials. While opportunities for sales growth continue to be attractive in certain subcategories (engineered wood and softwood lumber in particular), Taiwan imports today represent just over half of the \$2.1 billion in wood that arrived in 1994. A general preference toward relocating wood processing operations offshore, coupled with continued anxieties about the domestic economy (which is highly dependent upon income from IT product exports), rule out any serious rise in broad-based demand for either finished or raw material wood products in the coming 2-3 year period.

However, it seems clear that the depressed market for wood "bottomed out" and began recovering in 2000-2001. Key segments such as softwood lumber (used for packing material, cement construction braces, interior design framing, and wood frame structures), plywood, and temperate hardwood lumber (mostly used in furniture, flooring, and wood product manufacturing) have returned to a pattern of moderate year-to-year growth due to improvement of the general economy.

Exports of furniture and wood consumer products continue to drop precipitously. Furniture exports during 2006 remained steady due to economic conditions in southern China (the target of furniture investment) and improved demand from European and US customers for Taiwan furniture exports. Wood furniture exports as a segment however fell in 2006 by over 13%, with exports to the US falling by nearly 7%. The US accounts for greater than 1/2 of Taiwan's wood furniture exports, although Taiwanese furniture manufacturers have already largely evolved into transnational enterprises and most have primary production facilities located in southern China, Vietnam, the Philippines or elsewhere.

The bulk of Taiwan's wood imports continue to be low-value softwood lumber and plywood destined for industrial uses and hardwood paneling and veneers used for decorative purposes. This is expected to remain true through at least the coming several years.

Hardwoods: Both Taiwan and Chinese cultures appreciate the aesthetic value of hardwoods and, as incomes rise and quality of life issues increase in importance, families are increasingly likely to purchase hardwood interior decoration products including parquet flooring, wall panels, solid wood dining tables, and other decorative items. Temperate and tropical hardwood species seem to be equally well received by consumers.

For most segments of the hardwood market, consumer preferences should be researched and addressed prior to pursuing market opportunities. For example, more than 90 percent of dining tables sold in Taiwan are round, while the market for rectangular wood tile parquet flooring is particularly hungry for tiles made of unique species (i.e., not currently sold in volume in Taiwan) or in unique configurations. Also please note that general demand for do-it-yourself (DIY) remains shallow - extending little beyond assembling simple furniture out of a box or laying down flooring tiles from a kit. However, the DIY demand continues to show gains and gradually become more sophisticated. Consumers have begun to look seriously at home projects as a means to spend quality family time over long weekends. The major DIY store, international home products chain B&Q (UK), has added more packages including wood due to rising popularity. US suppliers of hardware materials and more sophisticated DIY kits may see increased opportunities over the coming years. The time for market contact and development work, however, is now.

A Note on Flooring: The profitable local parquet flooring industry manufactures wood flooring tiles to a standard 1.5cm (finished) thickness. Flooring lumber exporters able to offer rough hardwood lumber in approx. 1.7cm (unfinished) thickness specifications will help minimize processor waste and provide an important edge over competing suppliers. The 1.5cm (finished) standard is also widely used in China, Japan, and other Asian markets for domestic consumption.

With a well-developed regional wood processing network and growing demand for wood furniture and decorative products (particularly designed to Chinese/Asian-specifications), the highest value sector should continue to be semi-processed wood products, such as hardwood dimension lumber and hardwood veneer. Such intermediate products can be final processed at facilities in Taiwan or elsewhere, ensuring products meet local market expectations and leveraging lower labor costs.

Softwoods: Much of the softwoods imported into Taiwan continue to come in as plywood and dimension lumber. A significant percentage of dimension lumber is consumed by the construction industry to create the temporary supports and casts around which cement is poured to form building foundations, frames, and walls. Around 95 percent of new buildings, both residential and commercial are constructed of reinforced concrete (RC). Plywood sheets are used in many applications including interior decoration, as backing for billboards and signs, and as facing on temporary structures. This is a high volume and low unit-value segment.

The market for wood frame and timber frame homes remains in its infancy. However, changes in consumer attitudes and government policies offer good potential for growth in this sector over the coming years. Of particular limitation, consumers are widely unable to obtain insurance and subsequently loans for wood frame structures due to these questions, combined with yet to be completed fire resistance ratings. While wood homes are equivalent or slightly larger in construction costs compared to concrete buildings, their value is often as little as 20% of their concrete counterparts due to these limitations. Suggestions for improving this situation would include supplying the government with research about flammability from the U.S. industry. Additionally, until ratings are officially adopted, providing potential builders with information concerning the availability of foreign insurance and financing could prove very effective in the short term.

Note that the ferocious Formosan termite and Taiwan's humid climate underscore a need for pressure treated wood in nearly all outdoor / structural applications. The standards for application and treatment are the same as US standards. Laminated wood imports from the US grew slightly in 2003 and 2004 and held steady in 2005 and 2006 (specific figures are unavailable). Growth is attributed largely to increased imports of higher value glue-laminated (glulam) beams. With concerted effort on the part of industry, this positive trend is likely to continue.

Stable economic growth coupled with a rising income base can be expected, over the coming 3 - 5 years, to return healthy growth in demand for imported finished wood products (including the "high end" furniture, DIY, hardwood flooring, and other decorative products where US makers have competitive strength) and for treated softwood lumber for wood-frame construction (single and multiple dwelling homes, small business / academic office buildings, glulam long-span structures, and park / recreational area structures). Imports of items in these categories have grown significantly in value over the past decade in comparison with other forest products industry items. Demand for plywood and second-grade softwood lumber should pick up with any re-ignition of the traditional (reinforced concrete) construction sector.

Import Regulations

On 1 January 2005, Taiwan began requiring that phytosanitary certificates accompany imported wood in response to the risk of Asian Longhorned Beetle (*Anoplophora glabripennis*). At present, Taiwan requires that an appropriate phytosanitary certificate accompany the following wood products imported from the United States and other countries (see table below):

Table of Commodities Subject to Legal Animal & Plant Quarantine

CCC (Taiwan Tariff) Code			Description of Goods
44 01			Fuel wood, in logs in billets, in twigs, in faggots or in similar forms; wood in chips or particles; sawdust and wood waste and scrap, whether or not agglomerated in logs, briquettes, pellets or similar forms.
44 01. 10.00			
	10	3	
	90	6	
44 01. 21			
44 01. 21. 00	00	2	
44 01. 22			
44 01. 22. 00	00	1	
44 01. 30			Coniferous wood in the rough, whether or not stripped of bark or sapwood, or roughly squared
44 01. 30. 00	90	2	
44 03			
44 03. 20. 10	00	9	
44 03. 20. 90	11	9	
	12	8	
	13	7	
	14	6	
	15	5	
	16	4	
	17	3	
	18	2	
	90	3	
44 03			Other wood (tropical and temperate deciduous) in the rough, whether or not stripped of bark or sapwood, or roughly squared, including: various tropical, Oak, Beech, Garoowood, Sandalwood, Maple, Ash, etc.
4403.41			
4403.41.00	00	6	
4403.49			
4403.49.00	10	6	
	20	4	
	30	2	
	40	0	
	90	9	
44 03. 91			
44 03. 91. 00	00	5	
44 03. 92			
44 03. 92. 00	00	4	
44 03. 99			
44 03. 99. 11	00	4	
44 03. 99. 12	00	3	
44 03. 99. 19	00	6	
44 03. 99. 90			
44 03. 99. 90	10	6	
	20	4	
	30	2	
	90	9	
44 04			Hoopwood; split poles; piles, pickets and stakes of wood, pointed but not sawn lengthwise; wooden sticks, roughly trimmed but not turned, bent or otherwise worked, suitable for the manufacture of walking-sticks, umbrellas, tool handles or the like; chipwood and like
44 04. 10			
44 04. 10. 00	00	2	

CCC (Taiwan Tariff) Code			Description of Goods
44 04. 20 44 04. 20. 00	00	0	
44 06 44 06. 10 44 06. 10 00	00	0	Railway or tramway sleepers.cross-ties.of wood
44 07 44 07. 10 44 07. 10. 10 44 07. 10. 90 44 07. 10. 90	00 11 12 13 14 15 16 17 18 90	7 7 6 5 4 3 2 1 0 1	Coniferous wood sawn or chipped whether or not planed, sanded or finger-jointed, of a thickness exceeding 6 mm
44 07. 24 ~ 29			Various tropical woods, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or finger-jointed, of a thickness EXCEEDING 6 mm
44 07. 91 44 07. 91. 00 44 07. 92 44 07. 92 44 07. 99 44 07. 99. 11 44 07. 99. 12 44 07. 99. 19 44 07. 99. 90 44 07. 99. 90	00 00 00 00 00 00 00 10 20 90	1 0 0 0 9 2 2 0 0 5	Various temperate woods, including Oak, Beech, Garoowood, Sandalwood, Maple, Ash, etc, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or finger-jointed, of a thickness EXCEEDING 6 mm
4410 ~ 12			Particle board, Fibreboard, Plywood, Veneered panels and similar products MAY be subject to import inspection.
44 15 44 15. 10 44 15. 10. 00 44 15. 20 44 15. 20. 00	00 00	9 7	Packing cases, boxes, crates, drums, pallets, and similar packings, of wood
4418 4418.20 4418.20.00	00	4	Door and their frames and thresholds MAY be subject to import inspection

COMPETITION

As with many sectors in Taiwan, price is frequently *the* key driver in purchasing decisions. US competitiveness has been boosted recently due to a decline in value of the dollar *vis a vis* key competitors in Europe for softwoods (veneers, framing lumber, etc.) and cost increases for some tropical hardwoods.

Taiwan importers tend to be familiar with the range of wood products available and major supplier countries. End-users typically rely upon importers for such information. This makes the importer the principal "gatekeeper", determining which wood species to promote and from which suppliers to purchase. While Taiwan/Chinese preferences tend toward darker tropical hardwoods, availability concerns, rising prices, and recent fashion trends toward lighter / brighter wood colors have helped diversify applications for US hardwoods such as maple, cherry, oak, and others. The increasing importance of furniture trends has encouraged consumers to make furniture purchases more often than in the past, but for typically lower prices.

Competition to supply traditional market segments (such as logs, plywood, veneer, furniture, decorative, etc.) focuses heavily on relationship-building and price negotiations due to the strength of Taiwan importers and Taiwan's open trade policies (unlike many product categories, most wood and wood products may be imported from Mainland China). However, in new product areas, such as wood frame housing and wide-span structural (glulam) wood construction, education and promotional efforts not only present opportunities to develop significant new export revenue but are **absolutely essential** to address local market constraints including architect/builder unfamiliarity with wood construction principles and consumer concerns regarding the longevity and safety of wood frame vs. concrete structures (e.g., performance against termites, rot, fire, and other elements).

Market Development Strategies

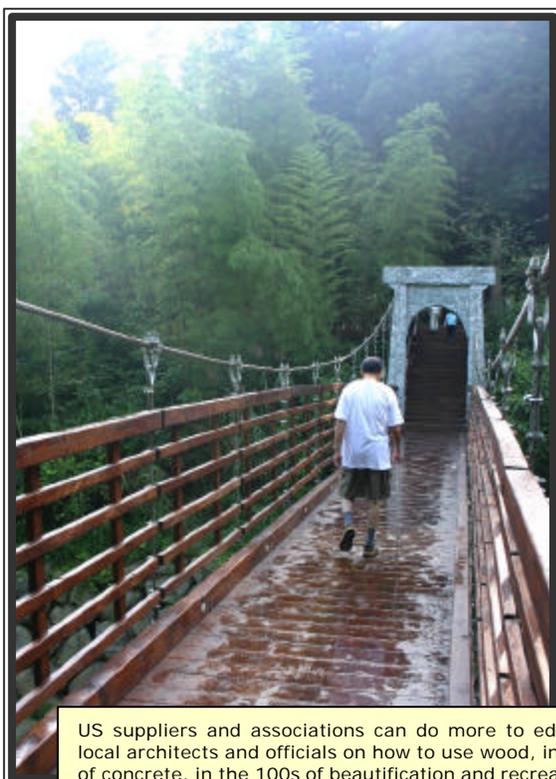
Manage customer relations well and know your competition: Taiwan remains a price competitive market for both business-to-business and retail consumer transactions. A well-developed relationship with your Taiwan buyer should help secure for your business some price buffer against competing suppliers, but in general, unless you supply a unique product or have other specific supplier advantages, purchase price is likely to be a recurring topic of discussion. To address price concerns effectively, maintain a good understanding of what competitors can (and cannot) provide in terms of products and services as well as of your own products and services.

A small circle of a dozen or so importers handles most log and lumber imports. Most have historical roots in Taiwan's early logging industry and are typically private, family-controlled enterprises. This makes relationship building and responsiveness to client requests exceptionally valuable tools in building your log/lumber exports into this market (and - as noted above - to China, Vietnam, and other markets) and to secure a steady sales relationship.

Education: Use of structural wood is expected to continue to increase, under its own inertia, slowly over the coming 5-year period, fueled by individual developers' exploitation of niche opportunities. International industry and association support of promotion and basic skill training programs will be, however, essential to position wood as an effective challenge to reinforced concrete (rc) and steel in the large number of proposed and ongoing recreation infrastructure projects (*100s of projects of varying sizes at national, county, and local levels*), in the market for single home / low-rise apartment community developments (*10-30 per year*), and in the market for vacation hotel / retreat construction.

In interior design and furniture production segments, US suppliers are encouraged to assist Taiwan buyers (agents and importers) to better understand the range of temperate hardwoods available and wood performance characteristics.

Due to the "local" nature of most wood end-users in Taiwan (and Greater China), exporters and associations are encouraged to prepare and print promotion and education materials in Chinese for broadest coverage. When limited to preparing materials in one Chinese character format only, traditional Chinese (rather than simplified) is still deemed the format most widely accepted in both Taiwan and China.



US suppliers and associations can do more to educate local architects and officials on how to use wood, instead of concrete, in the 100s of beautification and recreational infrastructure projects budgeted each year.

Ecolabeling: At present, consumer awareness / concern regarding ecolabeling and sustainable forest management practices end, in the main, when product cost increases as a result. While there exists future potential for selling premium-valued wood products based on ecolabeling/environmental concepts, such will require significant up front investment in brand development. The government does not have an active certification or labeling program to recognize wood harvested from well-managed sources. To date, the international home products chain B&Q (UK) is the only supplier of wood products (lumber, outdoor furniture,

parquet floor tiles, etc) into the market reportedly requiring suppliers to certify that wood used is sourced from well-managed forests (as certified by the Forest Stewardship Council). Their success with sales to date is believed attributable as much to their unique position in the marketplace (the only DIY superstore) as to consumer preference for the FSC label.

Market Segment Analyses

Construction Sector

Overview

Spending by central, county, and local governments was a principal factor that helped Taiwan find a base and then see some lift in demand for solid wood products. Successful beautification projects completed during the late 1990s in places like Hualien, I-Lan, and Nantou are now being replicated around the island, spurring demand for treated SYP and western species for outdoor applications. The trend seems set to continue through the coming several years, with local governments securing and implementing budgets for civic improvement projects in the run-up to local and national elections.

Continued concerns regarding the stability of the current economic recovery, a relatively high rate of multiple home/apartment ownership, and the large inventory of available housing in the suburbs of major metropolitan areas are factors which currently weigh upon the construction sector at large and promise to continue doing so through the foreseeable future. The number of construction licenses issued in 2005 decreased by almost 5% from the previous year. The single bright spot is the flurry of construction, which is now going up near the future stops of Taiwan's high-speed rail (currently under construction). Public and private construction linked to the high-speed rail project, coupled with several particularly large single-building projects in Taiwan's metropolitan areas, accounted for upwards of 1/2 of building licenses issued during 2005. Additionally, the floor area for construction under these newly issued licenses was up 1.65% from 2004, posting the highest in the past eight years.

Uncertainties regarding the long-term value of real estate holdings, an uptick in the number of mortgage defaults, and a relatively high level of multiple residence ownership (i.e., family owns more than one house or apartment) continues to weigh upon real estate and depress transaction prices. In general, there is nothing on the foreseeable horizon that would spur a sustainable rise in property prices. Prices may be expected to see further drops or remain the same over the coming several years.

The combination of lower prices and attractive interest rates is likely to help primarily sales of apartments in already-constructed reinforced concrete (RC) / steel girder buildings and to improve slightly demand for new high-rise construction in suburban areas. While wood used in interior design should benefit as a result, structural wood should not experience any particular benefit from these trends.



Newly Opened Primary School in Central Taiwan fuses 2x4 structural design with distinctive Asian styling.

Marketing

Due to the generally high price of land, a predilection toward urban living, and a host of entrenched builder and consumer suspicions about wood structures, Taiwan holds little prospect of becoming a huge export market for wood frame construction. However, convergence of several factors highly favorable to wood frame construction makes prospects bright for steady and healthy growth. These positive growth factors include (1) increasing awareness regarding earthquake resistance / safety of wood frame versus reinforced concrete structures, (2) the glut of unimaginative, cookie-cutter residential complexes of reinforced concrete currently on the market, (3) quality-of-life expectations amongst the top 5-10% of Taiwan society that may include consideration of a vacation or second home constructed of wood, and (4) the successful approval and construction of wood-frame homes and other buildings based on building codes recently altered to accommodate wood frame structures.

Demand for wood frame single family and multi-story townhouse dwellings is greatest in three principal market segments, namely (1) vacation homes for those in Taiwan's top income bracket, (2) residential developments executed on the outskirts of major urban centers (designed in wood for a particular purpose such as earthquake resistance or practical appeal to an overseas-educated middle class), and (3) principal homes for families in rural areas. If these three opportunity areas were aggressively developed, the resulting market potential is estimated to be an additional 1,750 housing units built within a 3 to 4-year time frame with steady market growth afterward.

To realize the above market potential requires that material suppliers and their Taiwan partners provide initial development projects with practical technical and educational support. Lack of general architect and builder familiarity with wood frame construction techniques is the key supply-side constraint and consumer unfamiliarity with structural wood "products" is the key demand-side constraint to stronger market growth. The latter includes consumer concerns regarding structural wood covering fire safety ("wood burns, concrete does not"), rot and insects ("wood homes deteriorate quickly in Taiwan's environment"), typhoon resistance, and so on. Concerns can be minimized, and contrasted with the many problems associated with reinforced concrete, through appropriately designed education and promotion programs.

Policy

The Ministry of Interior's Construction and Planning Administration (CPA) is responsible to draft and implement construction regulations and standards. Revisions to building codes published in 1996 and revised in 2003 permit construction of wood and timber frame structures of 4 stories (14 meters) or less². Structures of greater height can be built, but plans require special CPA review and approval.

Inspection and approval of completed structures fall under the jurisdiction of the county (or municipality) in which a building has been constructed.

² Relevant regulatory documents include "Technical Construction Code" (CPA, January 2000 revision) and "Technical Standards for Wood Frame Building Design and Construction" (CPA, May 2003 revision)

Bringing Wood to the Masses: Underscoring commitments to make Taiwan a "greener" island and less vulnerable to frequent tremors, Taiwan authorities have partially completed an update of building codes with the stated objective of classifying wood as a "normal" construction material -- on a par with steel and concrete. While long approved, in practice, for constructing single-family homes, structural wood was proscribed from use in multi-family or scale developments without special central government committee approval. This was due to fire code regulations which forbade the use of *any* "flammable" material as a load-bearing member.

The revised building code was approved in the spring of 2003, albeit without a finalized methodology for determining fire resistance. As of the new code's date of announcement (1 May 2003) builders in Taiwan are permitted to proceed with construction of multiple home residential communities and townhouse developments provided that individual residential units are separated either by a suitably wide open space or a non-wood fire barrier (firewall). The as yet unresolved issue of calculating fire resistance for either 2x4 or timber frame structures continues to require that plans for public buildings (such as office / shopping structures, auditoriums, and other such enclosed structures) must be approved by the central government's construction committee prior to construction and use.

The current fire code permits developers to construct legally multiple home wood frame developments and should gradually remove the previous reluctance (due to lack of legal framework) of banks to finance such projects and insurance companies to cover residences approved under the new code.

Taiwan construction industry officials are in the process of researching fire code revisions to incorporate wood structures. Research and draft code submissions to the CPA continue to be anticipated. Government officials are entering into the final decision making process and will announce determinations by mid-September 2007. A special report will be released following the announcement.

The slow economy and newness of the regulations are expected to hinder any burst of activity with multi-home developments in wood. However, a number of developers already have draft plans to use structural wood for both townhouse and single home residential communities when the economic situation again warrants.

Passage of the Agriculture Development Act in January 2000 opened the door to convert around 160,000 hectares of working farmland³ to non-agricultural (including residential) use. This new regime eliminates the long-standing ban on farmland re-zoning and should open up substantial tracts of prime real estate around the island to commercial development. Officials have paced conversion work initially at around 6,000 ha. per year. Already many recreational farm developments (*nong she*) have been set up to attract domestic tourism. Most use wood (treated SYP, redwood, etc.) in outdoor facilities and some are using structural wood in their main buildings. Opportunities are significant in this sector for both wood suppliers and architects able to provide consulting services on optimal landscaping and structural designs.

³ The Council of Agriculture was reported to have set this number as a target.

The government-sponsored Green Building Program may also provide additional opportunity for the US industry. The government program provides subsidies to companies that build within the green building standards, which are intended to lower negative environmental impacts. Builders get credit for design and material use, which includes wood. It is a legal requirement that any government building that receives funding in excess of \$50 million NT is required to construct using the green building standards. Research that details environmentally friendly attributes of wood, especially greenhouse gas reduction, could encourage architects to use wood, and not other approved materials, in planning and construction. The Beitou Public Library pictured right is an example of a recently-constructed green building using wood. According to the Taiwan Green Building Council to date, Taiwan has more than 500 buildings certified as green building or green building candidate.



The Beitou Public Library is a popular, beautiful example of a Taiwan Green Building.

Furniture and Interiors Sector

Overview

As noted previously, Taiwan has 752 firms registered to manufacture furniture and related products in Taiwan. Many specialize in certain woods, styles, or furniture items. In addition to local manufacturing, Taiwan has investment interests in furniture and wood products production overseas worth many times the value of domestic production.

An improved economy that is lifting general consumer spending and a continued reduction in domestic production is driving domestic furniture product sales. Anticipated moderate economic growth should see continued moderate growth for furniture sales through the coming few years. The predilection of Taiwan consumer products manufacturers to set up production operations offshore will similarly continue to reduce furniture export volumes. Exports of wood furniture and chairs declined 13% in 2006 to US\$150 million.

Marketing

The furniture business, along with other well-established wood processing industries, relies on importers for information on wood species, performance characteristics, and availability. As nearly all are small-scale producers in Taiwan, few (if any) firms purchase wood directly from exporters; relying instead on importers for supplies of lumber and other semi-finished wood products.

Therefore, supporting importer efforts to provide furniture-maker customers with information on species, production techniques, and design trends has proven an effective approach to expanding furniture, and interior design segment, sales.

Policy

The combination of high relative labor costs and tightening environmental protection conditions will continue to encourage Taiwan's furniture makers to send production overseas. Less impacted by labor costs, the higher value categories of furniture will continue to be produced in Taiwan and Taiwan will continue to have a broad base of furniture "manufacturers" that focus principally on assembling furniture components manufactured overseas.

Materials Handling Sector

Overview

The materials handling sector in Taiwan is not formally tracked by production or consumption statistics. Based on an estimate from the Taiwan Lumber Association that over half the imports of second-grade spruce, pine, and fir (SPF) are used in material handling, market consumption during 2005 totaled roughly 150,000 m³. The industry is expected to grow moderately over the next 2-3 years due to an improving export outlook. Future growth will depend on solidification of an economic recovery.

Wooden pallets are still preferred in the market due to low cost, despite the fact that Taiwan's humid climate and termite problems make wood a less than ideal material. Damaged wooden pallets are not generally repaired due to Taiwan's relatively high cost of labor. Wooden pallet scrap is either recycled as support / repair material or disposed of as garbage.

Tables and Statistics

Tariffs on wood products have continued to drop since Taiwan's accession into the WTO in 2001. Additionally, Taiwan is continuing to phase out additional taxes and fees on imports. However, importers are still required to pay four small fees. Importers are subject to a value added business tax of 5%, quarantine and inspection fees equal to 0.1% of the cost, insurance and freight (CIF) price of the goods, small Customs service fee and a small harbor fee. The harbor fee is NT\$547, about US\$16.50, for regular 40' containers of lumber, but varies by product content and degree of manufacturing of the imported products.

TARIFF RATE SCHEDULE FOR WOOD AND WOOD PRODUCTS

FOREST PRODUCT TARIFFS AND TAXES (percent)		Tariff	Tariff
TAIWAN	Product Description	2002	2007
4401	stems and roots, fuel wood, chips, bark, sawdust, and waste	0.0	0.0
4403	wood in the rough (all varieties)	0.0	0.0
4404	hoopwood, split poles, piles, pickets, and stakes	0.0	0.0
4405	sandalwood and other wood flours	0.0	0.0
4406	railway sleepers	0.0	0.0
4407	wood sawn or chipped lengthwise	0.0	0.0
4408	veneer and sheets for plywood	0.0	0.0
4409	edge/face shaped wood (as for parquet flooring, molding, etc.)	0.0	0.0
4410	wafer/particle board of wood	3.0	0.0
4411	fiberboard	3.0	0.0
4412a	4412 subcategories of UNFINISHED plywood or veneered/laminated wood panels, excepting subcategories 1910, 9221, and 9910	10.0	10.0
4412. 1410 / 1910	4412a with coniferous wood on both faces, each ply not exceeding 6mm	7.0	0.0
4412.9221 / 9910	other 4412a with coniferous wood on both faces	5.0	5.0
4412b	4412 subcategories of FINISHED plywood or veneered/laminated wood panels, excepting subcategories 1920, 9222, and 9920	15.0	15.0
4413	densified/compressed wood blocks, plates, strips, other shapes	2.0	0.0
4414	wooden frames for painting, photography, etc.	2.0	0.0
4415	wooden crates, drums, boxes, pallets, other	2.0	0.0
4416	staves, casks, barrels, vats, tubs, etc.	2.0	0.0
4417	wood handles, tools, etc.	2.0	0.0
4418	fitted wood structural products (doors, windows/frames, parquet panels, shuttering, shingles, cellular panels, other joinery/carpentry)	2.0	0.0
4419	bamboo chopsticks, wood kitchen/tableware	2.0	0.0
4420	wood statues/ornaments, marquetry, ornamental boxes, other furniture	2.0	0.0
4421	4421 subcategories covering wood clothes hangers, ships, braille boards, moulds/dies, and "other" articles of wood	2.0	0.0
4422 ~ 25	these categories omitted from Taiwan tariff code	0.0	0.0
9406	prefabricated buildings	8.0	5.0

PRODUCTION, SUPPLY and DEMAND (PSD) MATRICES by Product Group

SOFTWOOD LUMBER

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SOFTWOOD LUMBER IMPORTS

Time Period	2005-2006	Units:	1,000 m3
Imports for:	2005		2006
U.S.	32.9	U.S.	61.0
Others		Others	
Canada	224.0	Canada	222.8
New Zealand	116.5	New Zealand	111.6
Chile	68.2	Chile	76.1
China	74.7	China	68.9
Australia	59.0	Australia	99.0
Total for Others	542.5		578.3
Others not Listed	70.7		64.7
Grand Total	646.1		704.0

SOFTWOOD LUMBER EXPORTS

Time Period	2005-2006	Units:	1,000 m3
Exports for:	2005		2006
U.S.	0.4	U.S.	1.0
Others		Others	
Japan	11.6	Japan	7.6
China	3.7	China	4.0
Hong Kong	0.6	Hong Kong	0.7
Total for Others	16.0		12.3
Others not Listed	0.7		0.6
Grand Total	17.0		13.9

HARDWOOD LUMBER (TEMPERATE)

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TEMP HWD LUMBER IMPORTS

TEMP HWD LUMBER EXPORTS

Commodity	Temperate Hwd Lumber	
Time Period	2005-2006	Units: 1,000 m3
Imports for:	2005	2006
U.S.	33.3	U.S. 32.3
Others		Others
Malaysia	282.7	Malaysia 269.1
Phillipines	50.7	Phillipines 48.0
Indonesia	17.7	Indonesia 8.8
China	24.7	China 15.5
Canada	10.2	Canada 5.2
Papua New Guinea	5.9	Papua New Guine 12.0
Thailand	2.5	Thailand 4.3
Total for Others	394.3	363.0
Others not Listed	33.3	20.7
Grand Total	460.9	416.0

Commodity	Temperate Hwd Lumber	
Time Period	2005-2006	Units: 1,000 m3
Exports for:	2005	2006
U.S.	0.0	U.S. 0.1
Others		Others
China	10.9	China 8.1
Phillipines	0.4	Phillipines 0.4
Hong Kong	9.1	Hong Kong 8.0
Total for Others	20.4	16.5
Others not Listed	4.7	4.1
Grand Total	25.1	20.7

HARDWOOD LUMBER (TROPICAL)

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TROPICAL HWD LUMBER IMPORTS

Commodity Tropical Hwd Lumber			
Time Period	2005-2006	Units:	1,000 m3
Imports for:	2005		2006
U.S.	0.6	U.S.	0.9
Others		Others	
Indonesia	17.4	Indonesia	5.4
Malaysia	9.6	Malaysia	2.7
China	6.4	China	4.6
Myanmar	3.1	Myanmar	2.1
Brazil	1.4	Brazil	1.3
Total for Others	37.9		16.1
Others not Listed	7.6		4.8
Grand Total	46.1		21.8

TROPICAL HWD LUMBER EXPORTS

Commodity Tropical Hwd Lumber			
Time Period	2005-2006	Units:	1,000 m3
Exports for:	2005		2006
U.S.	1.2	U.S.	1.377
Others		Others	
China	6.5	China	5.1
Hong Kong	4.2	Hong Kong	4.2
Japan	1.1	Japan	1.3
Total for Others	11.8		10.6
Others not Listed	2.0		2.5
Grand Total	14.9		14.5

HARDWOOD VENEER

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HARDWOOD VENEER IMPORTS

Commodity	Hardwood Veneer	
Time Period	2005-2006	Units: 1,000 m3
Exports for:	2005	2006
U.S.	0.1	0.1
Others	Others	
China	7.2	4.8
Hong Kong	5.4	3.5
Vietnam	2.1	1.8
Total for Others	14.7	10.1
Others not Listed	3.1	3.5
Grand Total	18.0	13.7

HARDWOOD VENEER EXPORTS

Commodity	Hardwood Veneer	
Time Period	2005-2006	Units: 1,000 m3
Imports for:	2005	2006
U.S.	8.7	7.4
Others	Others	
Malaysia	90.1	95.3
Papua New Guinea	29.0	22.1
China	11.6	21.2
Total for Others	130.7	138.5
Others not Listed	8.6	5.3
Grand Total	148.0	151.3

SOFTWOOD PLYWOOD

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SOFTWOOD PLYWOOD IMPORTS

SOFTWOOD PLYWOOD EXPORTS

Commodity	Softwood Plywood	
Time Period	2005-2006	Units: 1,000 m3
Imports for:	2005	2006
U.S.	0.0	0.0
Others		
China	199.6	282.4
Malaysia	5.8	7.5
Total for Others	205.4	289.9
Others not Listed	1.8	4.2
Grand Total	207.2	294.2

Commodity	Softwood Plywood	
Time Period	2005-2006	Units: 1,000 m3
Exports for:	2005	2006
U.S.	0.0	0.0
Others		
United Arab Emirates	0.8	0.3
China	0.3	0.4
Total for Others	1.1	0.7
Others not Listed	0.0	0.2
Grand Total	1.1	0.9

HARDWOOD PLYWOOD

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HARDWOOD PLYWOOD IMPORTS

Commodity	Hardwood Plywood	
Time Period	2005-2006	Units: 1,000 m3
Imports for:	2005	2006
U.S.	0.0	U.S. 0.0
Others	Others	
Malaysia	359	Malaysia 359
Indonesia	240	Indonesia 151
China	59	China 119
Total for Others	658.4	628.4
Others not Listed	7.7	10.1
Grand Total	666	638.5

HARDWOOD PLYWOOD EXPORTS

Commodity	Hardwood Plywood	
Time Period	2005-2006	Units: 1,000 m3
Exports for:	2005	2006
U.S.	13.2	U.S. 19.3
Others	Others	
Canada	3.7	Canada 4.4
Singapore	2.9	Singapore 2.5
China	3.0	China 73.6
Total for Others	9.6	80.5
Others not Listed	6.3	6.2
Grand Total	29.2	106.0