



RAIL LOG NETWORK

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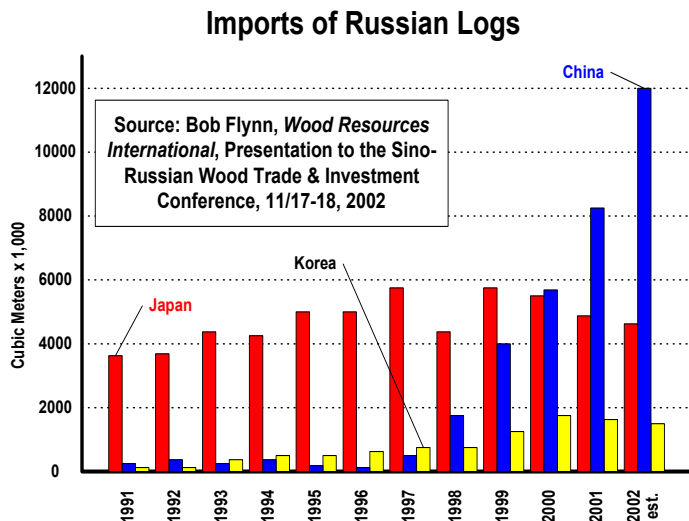
Russian Logs + Chinese Labor = Formidable Pacific Rim Wood Products Competitor

During our July log marketing seminar, Bob Cartano of Munro LLC explained that Russian logs are not necessarily destined directly for Japan anymore but, instead, for mills in China. Bob's talk closely paralleled a presentation that an old friend, Bob Flynn (of Wood Resources International), gave in November 2002 to the Sino-Russian Wood Trade & Investment Conference. The graph on this page is taken from Bob's informative talk.

already eliminated the need for the 178,000 m3 of plywood imported in 1996, becoming a net exporter of plywood in 2001!

This brings us to China's obvious global competitive advantage—labor. International (e.g. Singaporean, Japanese) investment is growing in China in part because of Russian logs but also because of

China's huge labor cost advantages.



Yamane and Lu (Policy Trend Report 2002, IGES Forest Conservation Project) note that the Russian log volume imported to China through the three rail gateway cities of Manzhouli, Erlianhot and Suifenhe grew from 444,000 m3 in 1996 to 7,935,000 m3 in 2001. The port city of Dalian has also seen dramatic Russian log volume increases, from 54,000 m3 in 1996 to 562,000 m3 in 2001.

While China's rapid economic progress has spurred domestic wood products demand, the country has

Dr. Michael Swanson (of Wells Fargo & Co.) predicts that an additional 450 million Chinese workers could be shifted from inefficient state-run enterprises and farms to higher value-added enterprises by 2030. "US manufacturers will be under increasing pressure to step-up...activities that insulate them from the deflationary pressure coming out of China's manufacturing sector. US manufacturers will...abandon commodity and low-cost manufacturing in favor of... customized manufacturing that features differentiation..." (Swanson)



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BUSINESS

GUIDELINES

- Learn all we can about what our customers need so we can do everything in our power to provide it
- Continuously reduce our costs of operation so we can pass cost savings on to our customers
- Safeguard the assets (logs) that our customers entrust us with
- While protecting genuinely proprietary information, serve as our customers' "eyes and ears" where we operate
- Reward loyalty with loyalty
- Grow the rail log network to improve network efficiencies, to enhance customer market power

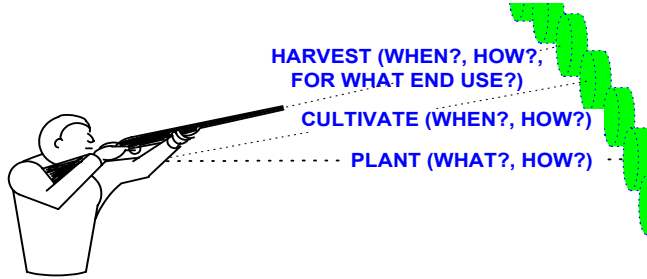
"...the Chinese economic transformation will be faster than most expect, and US manufacturers have even less time to start their race to stay ahead."

Dr. Michael Swanson
Wells Fargo & Co.
July 7, 2003



Strategic Silviculture

We foresters are routinely forced to make silvicultural decisions for which the economic consequences will not be known for many years. We are like the shotgun shooter on this page— we have no alternative but to anticipate where we think competition, processing technology, market demand, etc. will be in the future and, despite the many forces that continually divert the “trajectory” of our target, to hazard our best “shot”. Unlike the shotgun shooter (and the other members of our supply chains), our careers may be over before the actual economic consequences of our silvicultural “shots” are known and appreciated!



Are we wise to abandon the log end uses that attach the most value to the intrinsic properties of our mature trees? By commoditizing our timber offerings, what are we unwittingly doing to our supply chain bargaining clout?

From a marketing perspective, there are only two apparent explanations for our fast-growth, short rotation preference: 1) We cut younger and younger trees, because our near term

cash and earnings needs dominate all other considerations and/or 2) Addicted to auctions, we simply follow the lead of our largest volume log buyer, the domestic softwood stud producer.

The silvicultural approach most of us in the Pacific Northwest have adopted produces the largest timber volume in the shortest period of time. Trees grown in this manner have lots of juvenile wood. The solid wood products that can be produced from these trees will be lower in density and strength and they will have more longitudinal shrinkage upon drying. The paper and chemical cellulose produced from these trees will have shorter fibers, it will be weaker and it will have proportionally more lignin. With the possible exception of tissue, **all of the supply chains that now rely upon on our trees will find logs cut from trees grown in this manner to be less desirable and less valuable.**

Some of the owners of the recently-built, larger scale studmills might argue differently. They might argue that, although more juvenile wood is clearly undesirable, our past silvicultural decisions have produced precisely what their new mills need— very homogeneous, smaller diameter logs that are very amenable to their high-automated processing operations.

“We believe that if you can’t bring something special to a market, you don’t belong in it. The winners are those who carefully analyze needs, identify opportunities, and create value-laden offers for target customer groups that competitors can’t match.”

**Philip Kotler
Northwestern University**

Michael Porter of Harvard’s Business School is a leading business strategy guru. In his ambitious book, *The Competitive Advantage of Nations* (1990), he reminds us, “Successful companies tend to develop a bias for predictability and stability; they work on defending what they have. Change is tempered by the fear that there is much to lose. The organization at all levels filters out information that would suggest

new approaches, modifications, or departures from the norm. The internal environment operates like an immune system to isolate or expel ‘hostile’ individuals who challenge current directions or established thinking. Innovation ceases; the company becomes stagnant; it is only a matter of time before aggressive competitors overtake it.” In a 1996 *Harvard Business Review* article entitled, ‘What is Strategy’, he goes on to say, “As rivals imitate one another...competition becomes a series of races down identical paths that no one can win...leadership...(is) degenerated into orchestrating operational improvements and making deals.”



Porter (in this same *Harvard Business Review* article and in his book *Competitive Strategy*) reminds us that every industry's profitability is a function of 5 forces– 1) The threat of new competitive entrants (how easy is it to get into this business?), 2) The threat of substitutes, 3) The extent of rivalry within the industry, 4) The bargaining power of suppliers and 5) The bargaining power of buyers.

the lands we grow trees on is becoming more intense, most of the suppliers to our timberlands businesses don't have significant bargaining advantages.

This brings us to Porter's final factor– the bargaining power of buyers.

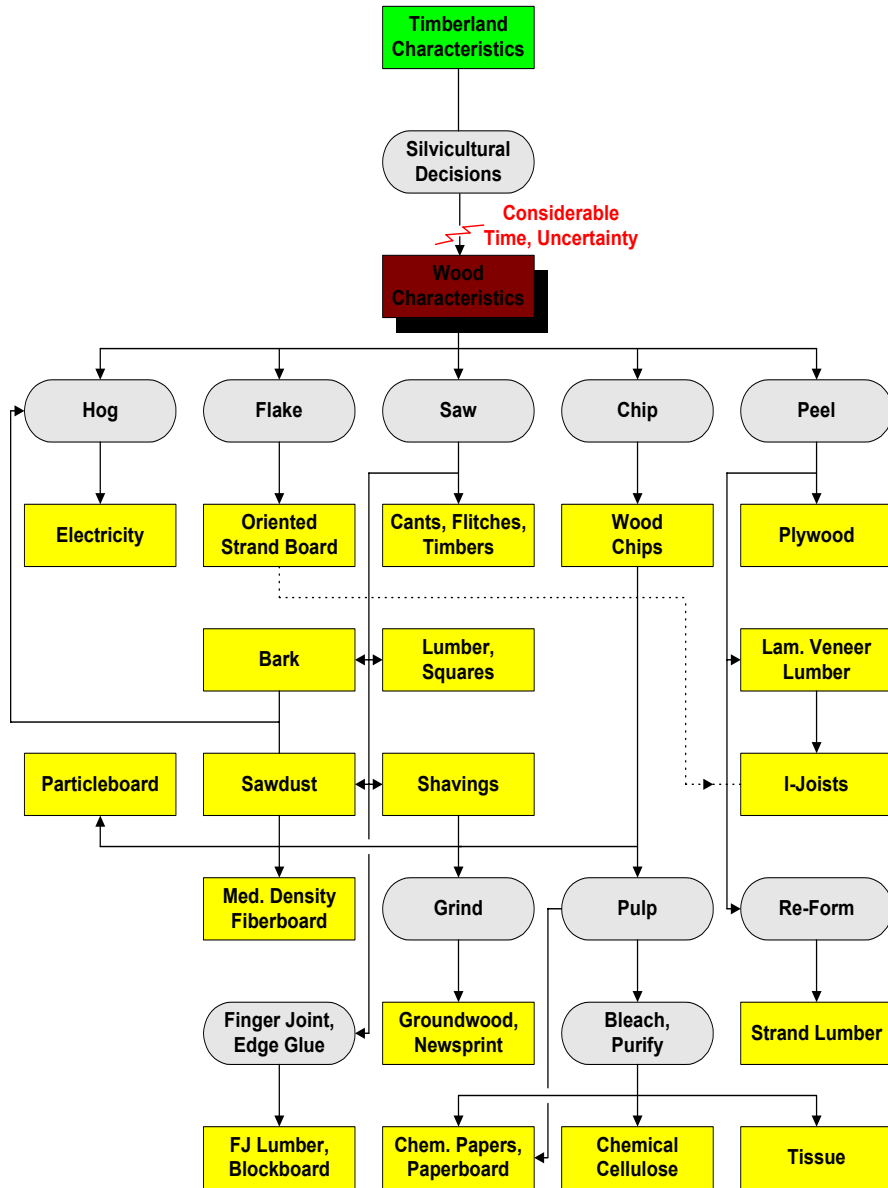
Porter reminds us that our buyers are more powerful and aggressive if: 1) Our markets are dominated by a few buyers, 2) Our products aren't unique, 3) Our buyers incur low switching costs if they decide to buy elsewhere, 4) Our products represent a comparatively large share of the buyers' costs and 5) Our buyers have little bargaining power in their markets and earn low profits themselves.

Let's work our way through these 5 forces. There are very few "barriers to entry" in commodities. Capital is mobile and processing technology advantages are fleeting (see Edwin Mansfield, 'How Rapidly Does New Industrial Technology Leak Out?', *Journal of Industrial Economics*, December, 1985).

Our industry is replete with examples of new competitive substitutes. OSB, I-joists and MDF are wood products examples. Polylactic Acid (a corn-derived polymer) is an example of a new chemical cellulose substitute. Inter-industry rivalry? Pulp & paper markets are already globalized. Competition is intense and becoming more so. As softwood sawmills become more capital-intensive, larger and less numerous (see page 4), stud markets will also become hyper-competitive. While competition for

Our decision to produce small, fast-growth, homogeneous logs for commodity mills (in a consolidating industry) would give Porter cause for concern. Not only are we giving up our log bargaining leverage, we are also aligning ourselves with customers who must be very log price-conscious if they hope to succeed in their cost-focused markets.

Our silvicultural decisions commit us to supply chains. As thinking creatures, we have the opportunity (mandate?) to make those choices purposefully.



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Recent Paneltech Developments

US Softwood Sawmills

Rnk	Annual Prodn	Owner	Location
1	385 MMBM	Hampton	Willamina, Or
2	340 MMBM	Seneca	Eugene, Or
3	335 MMBM	Weyerhaeuser	Cottage Grv, Or
4	325 MMBM	Simpson	Shelton, Wa
5	270 MMBM	Stimson	Forest Grv, Or
6	260 MMBM	Weyerhaeuser	Aberdeen, Wa
7	260 MMBM	Weyerhaeuser	Green Mtn., Wa
8	240 MMBM	Weyerhaeuser	Dierks, Ar
9	236 MMBM	Simpson	Korbel, Ca
10	235 MMBM	Simpson	Tacoma, Wa
11	230 MMBM	Hampton	Tillamook, Or
12	230 MMBM	Hampton	Randle, Wa
13	227 MMBM	Sierra Pacific	Lincoln, Ca
14	220 MMBM	Weyerhaeuser	Wright City, Ok
15	219 MMBM	Weyerhaeuser	Bruce, Ms

Source: Timber Processing, July/August, 2003

LOGS We are currently shipping more and more of our log cars to the Southeastern US to help our customers there access more distant hardwood supplies. Despite favorable hardwood timber inventory statistics in the south, accessible, affordable hardwood is becoming a serious, long term procurement challenge. We also inked a new multi-year agreement this past month with one of our best, longest-term, log car customers in the west. We bought a new (to us!) log loader and we relocated it to our new facility (see below) in Centralia, Wa.

LOGISTICS The Centralia trans-loading yard is all paved and the warehouse is completed. The office interior is being finished and we are moving in truck scales which we will locate near the office. We have a log loader back in the yard and lift trucks are on the way. Its time for us to get back to marketing the facility! The Tacoma facility and marketing plan both continue to take form.

WEBS Surprisingly, forest fire danger threatens to have a larger near term impact on our overlay customers than on our log customers.

CONSULTING We continue to pass on most new consulting opportunities. Roy may soon begin one small pulp and paper project.

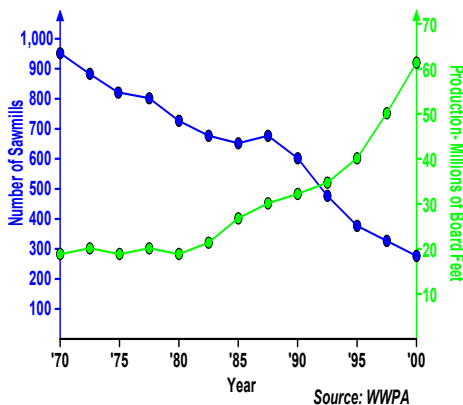
How Big Will They Get?

The new Roseburg Forest Products stud mill in Dillard, Oregon will reportedly produce 320 MMBM per year with provisions for expansion up to 500 MMBM. That will be a massive mill but it certainly won't be the biggest. Canfor's mill in North-western BC

(Houston, BC) will soon expand its capacity from 450 MMBM to 600 MMBM. Klausner's mill in Germany currently produces 550 MMBM. What are the economies of scale for sawmills?

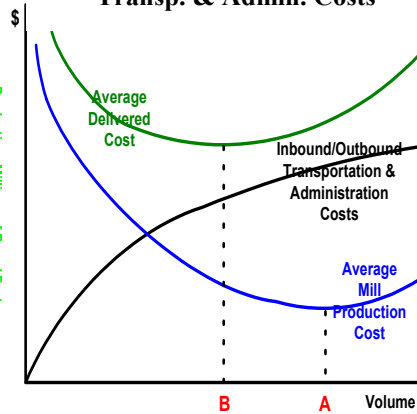
Are we witnessing a trend toward softwood sawmill consolidation with just a few regional "mega-mills" emerging with unassailable cost advantages?

Sawmills Are Definitely Getting Bigger



Canfor will reportedly (see Gordon Hamilton, *Vancouver Sun*, 4-30-03) reduce the Houston mill's production costs 4% through the expansion project and improve the mill's annual cashflow by \$20 million (CDN). How can smaller mills hope to compete? Astute operators know that mill production costs are only part of the story. Bigger mills (as the right hand graph illustrates) drive up inbound and outbound transportation costs. They are also more difficult to manage. The most cost-efficient scale is found by summing production, administration and inbound/outbound transportation costs. Sawmill scale economies are one of three elements of commodity mill cost-minimization.

Mill Production Cost vs. Transp. & Admin. Costs



costs. Sawmill scale economies are one of three elements of commodity mill cost-minimization.