

Challenges Facing the US Solid Wood and Timberland Sector: A Lending Institution's Perspective

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This paper supplies a broad overview of current and expected trends in the timberland and solid wood sector of the United States economy. These industries are important to rural economies in many regions. They have been through serious restructurings in recent years and these will continue. The implications for financial institutions are significant, as they are for economic development policies more generally. In this paper we will not speak much of the furniture sector, as its situation is well known. Likewise, we will leave panels and engineered wood (e.g. I-joists) to one side because they are typically produced by large corporations and their market dynamics are distinctive. The number of plants is relatively small compared to sawmills and other solid wood plants.

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The BIG Points

Restructuring -- not a cycle

The forces buffeting the wood industry in recent years have been severe. This is an industry accustomed to cyclicalities. Housing starts have long been subject to cycles, and the paper industry is also cyclical. But it is now clear that the changes now occurring are not merely another cycle. They will not be reversed by an improvement in the exchange rate or an uptick in the market. Indeed, US softwood lumber consumption is at all time highs, and the industry is protected by stringent duties against Canadian imports. Yet, financial stress continues, and the number of mills continues to drop. The surge in Chinese imports of furniture has already caused plant closings. Loss of markets to substitutes continues, and buyers often tell us that they won't come back to wood even if its price becomes attractive again.

Many things are changing at once

The changes now facing the forest-based sector are unprecedented in their complexity. This is not just a housing cycle affecting mills making 2X4's. It is a change in trade patterns that hits both the manufacturer of furniture (Chinese imports) and the pallet producer whose customers are disappearing due to the general manufacturing crisis and the fact that ever-rising volumes of imported consumer goods do not require US made pallets.

Changes only partly played out

The shifts now under way have considerable momentum based on fundamental conditions that are favoring other world regions for producing solid wood products. At the moment there does not appear to be any sign that these pressures are moderating, or any way to predict if or when they will.

Higher Price Volatility is Likely

Of special importance to lenders is the higher level of price volatility in the 1990s' compared to previous decades. It is likely that this higher level of volatility will continue.

Many macroeconomic uncertainties

The industry's vulnerability to traditional market cycles has not gone away, and the many current uncertainties in the macroeconomy are additive to the effects of these ongoing structural shifts.

Wood Products do not have to be Produced in the Shade of the trees

In today's globalized world, location dependence on the forest is increasingly a memory, as plants shut down in forested regions while consumers import wood products from remote regions, some of which have little or no commercial forest of their own.

Companies Must Invest to Survive

It is clear that many companies will have to invest in order to have a chance to survive. Yet these investments will inevitably trim labor requirements, leading to ever-lower political support as the contribution to local economies shrinks. At the same time, attracting capital in order to make productivity increasing investments will be more difficult in such an environment of uncertainty.

Management is the scarce resource

Many more small and medium sized firms will fall by the wayside before this round of re-structuring is complete. Some of these will be conservatively run and financed but will be done in by a bankruptcy of a major customer. Others will fall victim to the many forces that affect small family firms, as noted below.

Strong Managers will Survive

At all levels, from logging and timberland ownership to secondary processing, well managed firms will survive and prosper. These will be firms that regularly update equipment and worker skills, and that re-invent product lines regularly. Identifying them may not always be easy, and it will take skills beyond narrow knowledge of balance sheets and financial ratios, which necessarily are backward-looking.

The Trade Playing Field is NOT level

And hoping that "trade policy" somehow will level it back again is naïve. In no industry has a successful recipe yet been found for leveling the playing field for an industry without producing costs and disruptions for that industry's customers. Old fashioned trade remedies were not designed to handle 10 fold and 50 fold cost disparities.

No Iron Rice bowls...

Over and over, we have seen strong customers, some with histories of a century or more, go out of business because the demand for their product came to an end, or buyers found more functional or lower cost sources.

Skepticism is Warranted

About financial prospects of virtually any firm in this sector unless its market position is tightly protected, it's in the low quartile of their cost spectrum globally, and has no debt. If people want to call this pessimism, fair enough. This view is widely shared by well informed observers of this sector.

A Dark Time

... is upon us for this sector, as for all US manufacturing. When it will end can be debated. Current high prices in OSB and structural lumber are not inconsistent with this diagnosis – in fact they benefit our competitors.

Table 1.**Some Straws in the wind –**

Of the world's 20 largest ports, by tonnage, 7 are in China.

There are over 200 million acres of planted forests around the world

The world's lowest cost pulp mill is at Aracruz on Brazil's Coast

Market share of cement in houses increasing

Items at Orland International Builders Show:

“Lyptus” brand flooring at IBS by WeyCo – eucalyptus from Brazil
(looked nice)

Cabinets with parts from China

Kleer – plastic trim products whose promo. Invites buyer to “think beyond wood”

A Continuing Manufacturing Crisis

America's rural areas are experiencing a wrenching crisis across the entire manufacturing sector. From the 50s through the 80s, small plants re-located to rural areas for lower wages, cleaner air, small town lifestyles, and at times to escape escalating big city woes. These plants were a significant aid in helping rural areas to adjust to declining labor requirements in agriculture and food processing as well as falling employment in traditional mainstays such as the railroads.

These industries are often just the ones most vulnerable to offshore competition and to more intense mechanization (Chart 1). Space does not allow reviewing all the causes of this situation, but the US manufacturing sector has seen increased import penetration across a wide range of products, and has experienced intense pressure to boost quality and labor productivity.

Because of its basis in the forest resource, there has been a tendency to think that the wood-based sector is somehow different. But there are far more common threads than is commonly realized. The wood based sector is affected by the same international trends and driving forces as all manufacturing.

Sadly for rural employment conditions, there are two kinds of manufacturing industries: ones that are losing share to offshore low cost sources, and ones that are surviving but are doing so by cutting the labor content of their output. In the past, trends of this sort took place at a modest pace; rural labor markets could adjust. In the past 10-15 years, the pace has accelerated.

Most discouragingly, even in the face of an improving exchange rate on the US dollar (with the important exception of the Chinese yen), the trade deficit in goods continues to worsen (Chart 2). The forest sector is not exempt from these macroeconomic weaknesses. There is no reason to suppose that this situation is going to turn around very soon.

Chart 1. US Manufacturing Jobs Declined steadily after 2000.

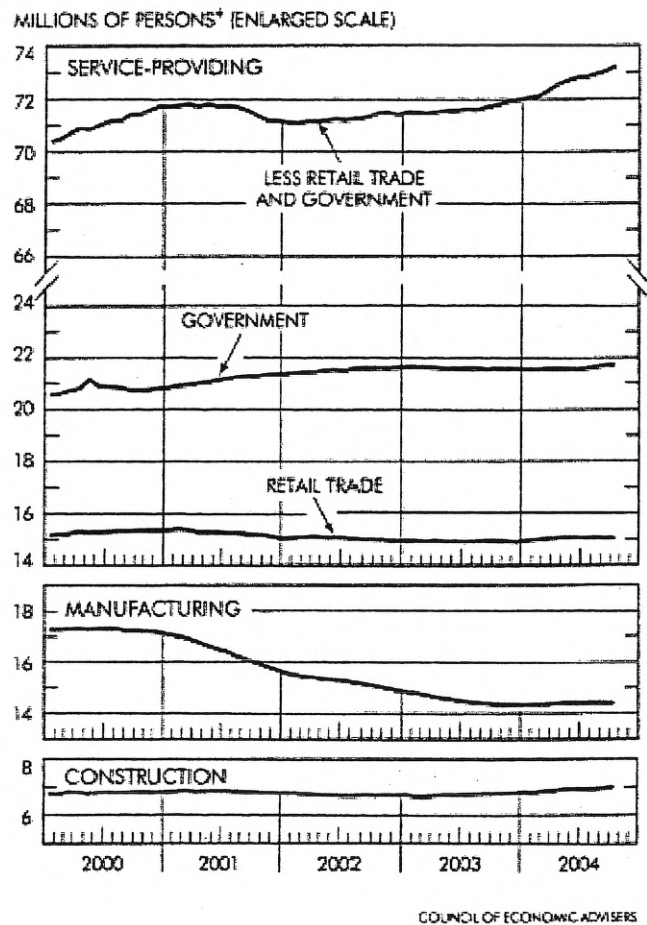
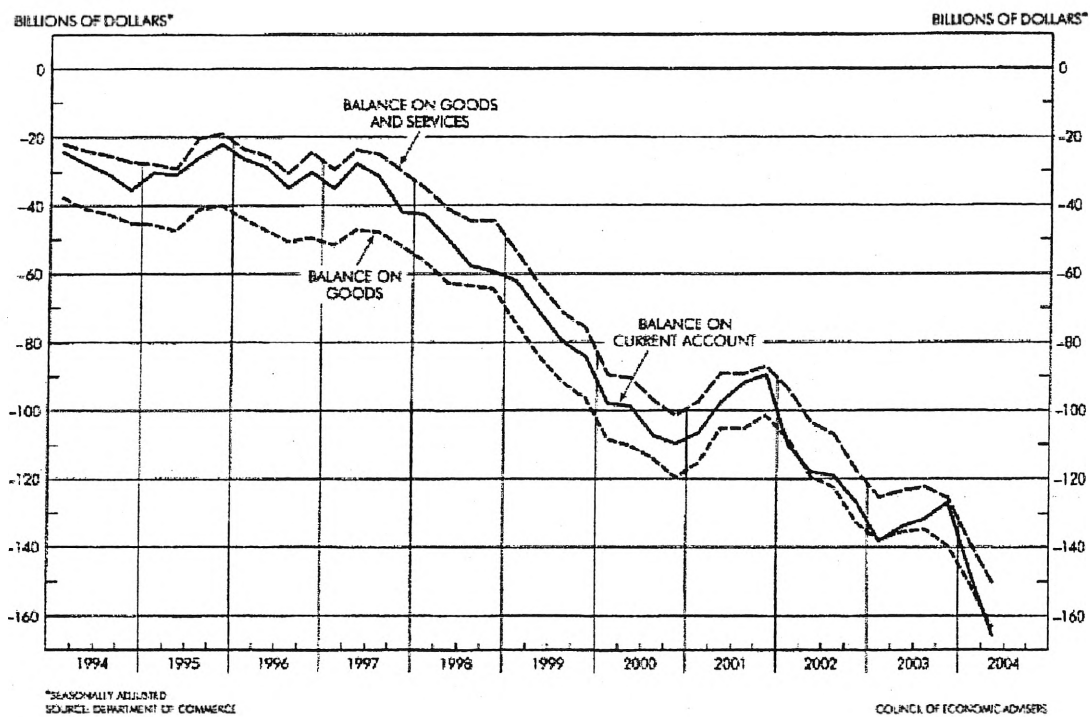


Chart 2. In a decade, our nation's quarterly deficit on goods alone (much of this manufactured) has widened from \$40 billion to \$160 billion.



Description of the Sector

Size of the Solid Wood Sector

The solid wood based sector of the economy is large, complex, and of high importance for rural communities. A quick tally of Annual Survey of Manufacturing data for 2001 indicates product values totaling about \$76 billion for that year (Table 2). Employment is larger. These shipment values cannot be added to imply total impact on the economy, as there is overlap between industries. For example, the wood treating plants use lumber from the sawmill sector. All of these industries depend heavily on markets for chips and plant residuals in the electricity, bark mulch, and paper industries.

Table 2. Principal Segments of the US Solid wood Manufacturing Sectors, 2001

	\$ MM
Softwood lumber	11,571
Wood windows and doors	10,136
Cut stock, resawn, & planed lbr	5,434
Reconstituted wood products	5,216
Other sawmill products	5,104
Other millwork incl flooring	4,754
Wood containers & pallets	4,526
Softwood veneer & plywood	4,425
Hardwood lumber	4,310
Wood trusses	4,215
Wood preservation	4,102
Other misc. wood prods	3,978
Prefab wood buildings	3,340
Hardwood veneer & plywood	2,893
Engineered wood members (exc trusses)	1,835
Total	75,839

Source: US Bur. of Census, Ann. Survey of Mfrs.

Patterns of integration vary among the sectors. By and large, these sectors are not strongly integrated within the same firm. This is because of the different resource orientations, and the different customer and distribution now-how characteristic of each industry. In particular, much of the value added end of the wood sector is highly customer-oriented. This is why a large portion of the furniture sector, architectural millwork, and cabinets sector are found in large metropolitan areas and not near the sawmills at the edge of the forest.

Firms are Highly Skewed by Size

Enterprise data on the 2002 Census will not be available until early next year (2006). This information would enable us to discuss the size of *companies*. We do have *establishment* (plant level) data. This data gives a useful indication for most of the sector which consists of single-unit and small companies. For very Weyerhaeuser, there are thousands of tiny wood products manufacturing companies. On average wood products plants are very small (Table 3). Average sales per establishment were only \$6 million a year for sawmills, and much less for millwork and other miscellaneous products. Average employment in the selected industries was between 20 and 30 workers.

But the averages don't tell the whole story. All of the wood using industries are highly skewed by size. For example, for sawmills, more than half (2000) had 9 employees or less. Many of the firms are "microbusinesses" as a banker would view them.

Table 3. Selected Wood Products Industries: Employment and Sales, 2002.

	Establishments no.	Employees no.	Value of Shipments \$ MM	Employees per est. no	Shipments per est. \$MM
Sawmills	3,807	95,452	21,339	25	6
Other millwk incl flooring	2,064	43,506	5,741	21	3
Cut stock, resawing lumber, and planing	1,213	34,873	5,697	29	5
All other misc. wood products	2,036	42,357	4,694	21	2

Source: 2002 Census of Manufactures.

Looking at the averages for sales and employment, firm size is a significant limitation for these companies' ability to develop depth of expertise in technology, marketing, finance, or logistics.

Wood: Severe Competitive Challenges

The wood sector has been facing significant competitiveness problems in many of its markets. The underlying causes are diverse, and depend on the details of the individual industries involved. A simple way to depict this competitiveness problem is simply to look at price trends over long periods of time. With the volatility in some of these markets, care should be taken in comparisons of individual years, but in this instance, the table below fairly represents the situation. Since 1982, lumber and millwork have increased in price much faster than many competing materials (Table 4). All products shown rose in price faster than the composite for all intermediate products less food and feeds, which stood at 149.7 in Feb. 2005.

Table 4. Price Trends as measured by Producer Price Index, 1980 to the present.

Product	PPI Feb '05
Gypsum prods.	215.9
Softwood Lumber	212.4
Hardwood Lumber	196.7
Millwork	195.3
Fabricated structural metal prods.	174.2
Concrete prods.	172.8
Aluminum mill shapes	162.3
Plastic construction products	151.4

Source: BLS website

Note: PPI is based on 1982 = 100.

Responses to the rising real prices of US wood products include:

Heavier reliance on offshore sources of the same products;

Shifts to composite wood products such as I-joists offering quality improvements and better installed cost performance. This "fratricidal competition" has eroded markets for wide dimension lumber by billions of board feet per year since the early 1990's. Numerous other examples exist.

Shifts to imported intermediate products, such as radiata pine millwork and fencing items or Brazilian elliotis pine plywood that foreclose markets for US primary products.

Imports of consumer end products based on wood, such as furniture. Today, even coffee stirrers are coming from China.

Finally, nonwood products are now entering markets in quantity where in the past they had been unimportant. One example is the slow but steady increase in the market share of cement and metal framing in new housing construction. Other examples include plastic and wood/plastic composites in decking, exterior trim, and fencing applications.

One indicator of the importance of this change is the overall national trade balance in solid wood (Table 5). From a tiny surplus in 1989, the nation swung into deficit by \$4.3 billion by 1994, due to federal timber supply cutbacks and strong domestic demand which met with declining supply responsiveness and caused a bout of high prices. The years after 1999, with the high US dollar, saw dramatic deterioration in the trade balance. Unfortunately, as of 2004, imports did not ease as the dollar has fallen again.

For example, imports of softwood lumber from Europe, thought to be highly sensitive to the euro exchange rate, did not fall in 2004 but instead hit a dramatic new high. In the 1980's, the US solid wood sector, including logs, supplied a modest surplus to the US trade balance, helping to pay for Japanese radios and other imported items. Today, the sector is \$17 billion a year in the red.

Table 5. US Imports and exports and trade balance in solid wood products, including logs.

US Wood Products Imports and Exports			
\$ Billion			
	Exports	Imports	Balance
1989	6,013	5,631	382
1996	7,279	11,595	-4,316
2001	5,142	15,098	-9,934
2004	5,672	23,047	-17,375

Source: USDA For. Agr Serv. Website

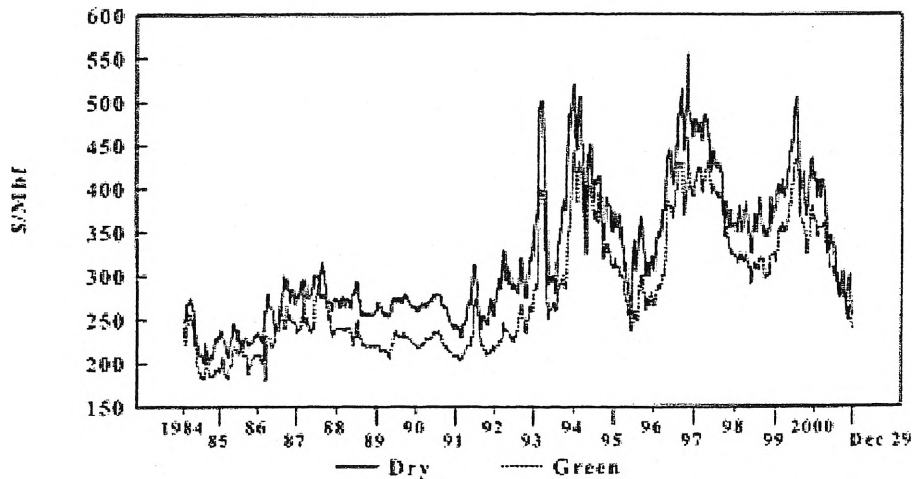
Price Volatility has Increased

An important difference between the 1990's and earlier periods has been the much higher level of price volatility. This has escalated business risks for primary mills, distributors, and secondary wood users. Not only does it increase volatility of revenues, but it raises issues of valuation of goods in process, inventory, and working capital requirements. Another variation in volatility is the higher degree of risk that a customer will go under, taking a supplier's payables with it. More than a few firms have gone out of business for this reason. An elaborate analysis of price volatility

could be undertaken, but the attached chart for softwood lumber serves as a proxy and makes the point.

Chart 3.

**Dry 2x4 R/L and Green 2x4 R/L,
del. Boston, Jan. 1984 to Dec. 2000**



Source: Eastern Quotes & Comments Database.

Given the strength of the competitive challenges as described here, and the stress on the entire US manufacturing economy, it is realistic to think of the coming 5-15 years as a "Dark Time" for this sector. Risks are high, market threats remain potent, and sustained profitability will be elusive. At present it is unrealistic to see any likelihood that this will turn around soon. Elsewhere I speak of resurgence after 20-30 years (See my MFFE essay cited below). For present purposes, however, that is so remote in the future as to be irrelevant for economic development or banking purposes.

The Logging Sector

The loggers build the roads to the woods, harvest the trees, skid them, sort and pile them at roadside, and haul them to the mills. Employment and economic data on this segment of the industry are weak, but it clearly is a significant employer and an important element in the economy of many rural areas. Rapid mechanization has reduced labor requirements, and increasing capital intensity has continued until recently to cause overcapacity. Competitive pressures on paper and lumber manufacturing have been pushed backwards "down the food chain" to severely compress logging profit margins in recent years. Virtually all logging businesses are family firms. Combined incentives of efficiency and avoiding workers comp and union problems have prompted the industry to essentially dismantle all remaining vestiges of company operations that were at one time common. Mechanization has

enabled the age profile of loggers to increase, and today average ages are increasing. Continuity of operation of many of these firms is not assured, as many owners, nearing retirement, are not encouraging their offspring to remain in the business.

It has long been said that loggers cannot make money on pulpwood. Yet, they need the cash flow it provides; they usually operate in multiproduct jobs. To get the business on logs they have to handle the pulpwood. Yet, due to a plateauing of demand, increases in paper imports, and increased use of recycled fiber, US usage of pulpwood peaked in 1995 and has declined since then. US pulpwood usage is down 15% since 1995, and by 29% in the Northeast. These are dramatic declines for the industry's basic bread and butter item.

Supply Issues Caused by logging capacity shortages

In times past, rural labor markets had numerous young entry level workers due to the contracting labor requirements of farming and large rural families. Young people wanted to stay in rural areas. Wood buyers were assured of many loggers and dealers seeking a chance to sell them wood. Many paper companies rationed "tickets" to buy wood. There was ample surge capacity to meet unexpected demands. As recently as the late 1990s' researchers were doing surveys showing large amounts of unused equipment capacity. This surge capacity naturally depressed contract rates paid for cutting skidding and hauling. This surge capacity has disappeared at a wrenching rate.

Heavy investment in mechanized systems has led to a surplus of rusting obsolete iron on the market, skidders and first generation harvesting machines. The depressed value of these items affects capital values of the machines still operating. Equipment distribution and service firms have felt the pinch.

In many forest regions today, delivered wood prices are surging, even in regions where standing timber remains abundantly available. Market participants attribute the situation to a lack of logging capacity. We may have reached the situation, long predicted, when the logging industry's capacity has finally shrunk to the point that wood buyers are actively competing for wood instead of rationing access to their woodpile through a ticket system.

This raises a number of questions. It could be that the financial outlook for the logging sector is finally improving, as it must in order to retain capital and labor to meet industry's needs. It also raises serious questions of whether current high delivered wood prices are sustainable in a world of escalating world competition.

Lumber Production

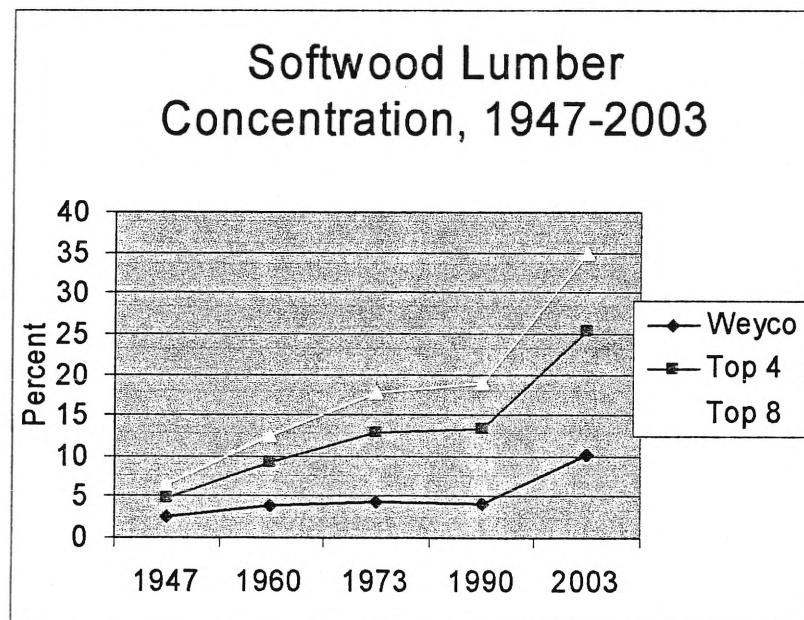
Lumber is a major wood based industry and is highly important to the economy of rural forested areas. US softwood lumber usage reached alltime highs in 2004, and is expected to decline slightly in 2005. Yet about 35% of US needs are met by imports, including growing amounts from Europe and elsewhere. Softwood demand has been boosted not only by all-time high housing construction rates, but by

the characteristics of those homes. Average sizes are double those of the early 50's. About one in three has a large deck. In some regions, nine foot ceilings are standard even on many midscale homes.

Hardwood lumber suffered a severe demand decline from 1999 to 2003 but appears to be strengthening once again. Growing imports of manufactured goods pose a problem for pallet makers, as the pallets all come from overseas. At the same time, their domestic customers are slowly disappearing for the same reasons. This in turn squeezes the hardwood lumber industry which counts on pallet makers to buy the low grade lumber whose production cannot be avoided but which is not needed by any other users. Industry's drying costs are hit by rising costs of natural gas, and transportation difficulties are becoming normal at least seasonally.

In the lumber industry, mill sizes have been increasing due to the high costs of new technology to maximize conversion ratios and quality, and to process smaller logs efficiently. Optimum mill sizes vary depending on hardwood vs softwood, the supply conditions, and the products being manufactured. Company sizes have increased faster than mill sizes, as the leading lumber producers have grown larger and larger. Weyerhaeuser's production in 1948 was 875 million bd. ft; in 2003 it was almost 10 times as high at 7.1 billion bd. ft. As a result, the softwood industry became significantly more concentrated over the postwar period (Chart 4) though not nearly enough to endow leading producers with pricing power.

Chart 4.



Source: Irland, 2005.

The concentration ratios in the chart refer to the US market for 1948 and 1960, and to all North American production after that time.

Secondary Processing

The secondary, or "value added" sector, includes a wide variety of products. Basically the sector is distinguished from primary manufacturing by the fact that primary producers buy logs and secondary ones buy lumber or veneer. The patterns of vertical integration vary widely, however, as there are many exceptions. A few furniture plants buy logs and saw some of their lumber. Other furniture plants job out components production and specialize in design, assembly, finishing, and marketing. Cabinet plants vary widely in size and in patterns of parts procurement. Standardization of cabinets has led to the ability of small urban shops to meet a diversity of consumer needs by ordering custom -produced doors and parts as needed.

The competitive situation for secondary producers has been extreme in recent years, due to competition from nonwood materials and from imports. Repeatedly, mill owners say, "we are not losing the order, we are losing the customer". The furniture plant or other wood using customer has succumbed entirely to offshore competition or to nonwood products. These customers will not be back. Globalization is affecting this sector primarily by way of imports: actual offshoring of plants by established US producers, while it is occurring, does not account for the bulk of the change.

Higher home sizes have not been able to offset the effects of the heavy losses in wood's share in the siding market over the past two decades, or ongoing losses in trim and window markets to competing materials.

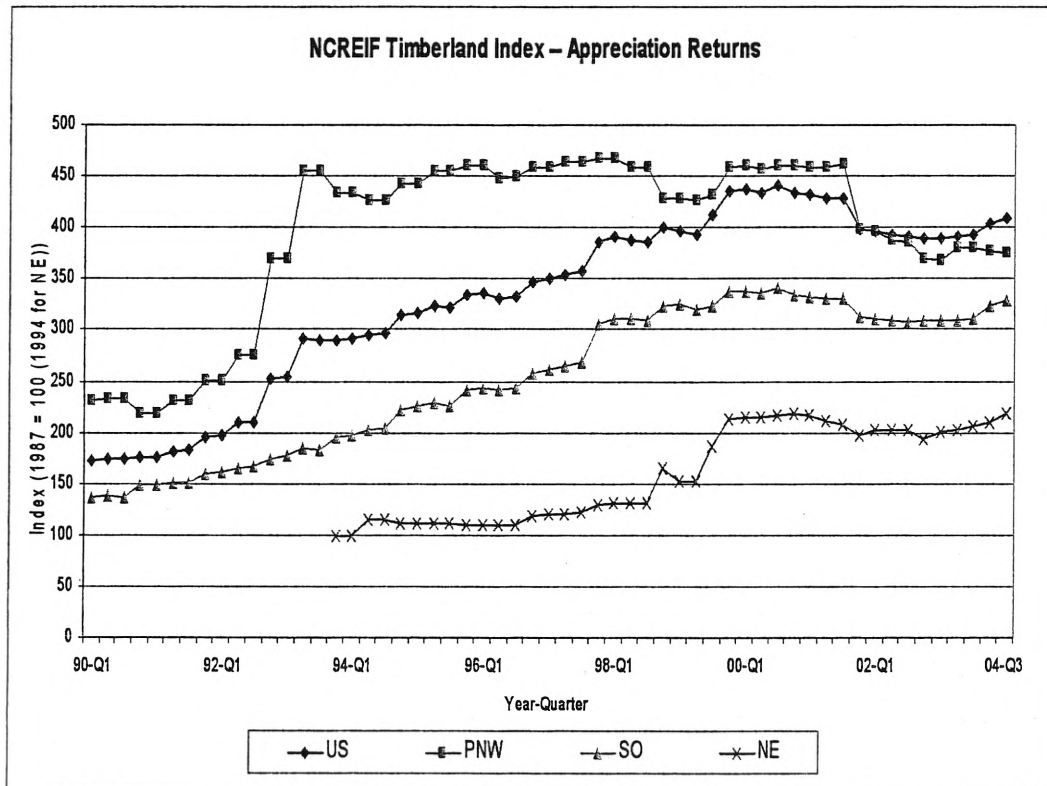
Timberland

Timberland is not only the key source for the industry's raw material, it is also a part of the capital base of some primary and secondary producers in those instances when they own timberland. The completion of the Interstate Highway networks nationwide has brought formerly remote regions within a 3-6 hour drive of major urban areas. Many occasional visitors decide that they want to own a piece of the woods. Rural real estate agents and owners are only too happy to oblige. As real estate values have increased, speculative motives become difficult to distinguish from traditional motives of investment and use.

Fragmentation of forestland ownership has occurred nationwide. At all levels of the size spectrum, ownership sizes are declining, with only a few exceptions. The averages show significant declines in sizes, heavily concentrated in the tract size classes below 1000 acres. While in every region there are individuals and firms accumulating acreage, accumulating forest land for investment or to support manufacturing is much more difficult due to the high prices and the high price premiums for smaller tracts.

In local areas, timberland values are increasingly being driven by land values for development and speculation instead of timber production. Rural land markets tend to be roughly linked to urban ones. As urban land markets have inflated in the past decade, the effect has spilled out into remote forested area. People see forest land prices as very low when compared to suburban land prices. When northeastern or California suburbanites they sell a home, their capital gains will fund a condo down South as well as a piece of lakefront or a view lot in the woods.

Chart 5. Timberland Value Appreciation, 1990-2004.



Source: NCREIF data, from Bret P. Vicary presentation, 2005.
(J. W. Sewall Co)

Note: This chart depicts the appreciation component of returns, not including annual net incomes. It is a proxy for timberland prices.

As a result of this outward spread of land prices from suburbia, across ever-larger regions, in many areas land is now too expensive for growing wood. This means that forest land values have supplied good loan collateral in the past – but only in periods of rising land values (Chart 5). Experience shows that significant downturns in urban and suburban areas quickly affect liquidity and prices in the rural forestland market. It may be that prices in some regions are currently discounting

expected continued increases in real estate sales values. It would be surprising if the timberland sector were totally insulated from the effects of overheated valuations elsewhere in the economy. In the recent past, shrewd observers of timberland markets urged investors to include little or no "HBU" potential in their valuations unless they were virtually within sight of the exit on the Interstate. Today, this caution is less widely heard.

Institutional investors now own millions of acres of timberland (now well above 10 million acres), most of it purchased from integrated industrial corporations selling their landbases. In the large tract market, land prices appear to have peaked. There is concern in some quarters about how the current generation of institutional investors will be able to sell at a profit when their 8-12 year investment horizons are reached. This is especially true in view of the bargains being found in New Zealand and elsewhere where growth rates are spectacularly high.

High net worth investors are being told by financial planners that timberland is a desirable part of a longterm diversified portfolio. Participants in the timberland market report that such buyers are appearing with greater frequency, and not just in the wealth classes represented by several recent purchases in Maine (John Malone and others)

Timberland plays an important role as collateral in lending to integrated firms. Experts who are involved in timber deals unanimously believe that there has been a "bubble" in timberland values in the US in recent years. Preliminary signs hint that prices have been peaking for a year or two, but prices seem to be capitalizing future rates of stumpage price appreciation that seem optimistic in view of the world market conditions as they appear today (see website of any TIMO). That is, as the old Wall Street saying goes, they are "discounting the hereafter, not just the future". Lenders would be well advised to apply a healthy dose of skepticism to appraised values as a basis for collateral decisions.

Regional Issues – Selected Areas

The wood products sector varies widely across the country due to different species growing in the forest, different history, and different markets. To indicate some of the key differences, I comment briefly on selected regions here.

Intermountain Region -- In this region, federal timber supplies have been critical for wood supply over the century to about 1990. Since then, falling harvest levels on federal lands have left mills and communities unable to survive. For example, more than half the nation's production of ponderosa pine has been lost as a result. Not only sawmills but the many millwork plants using ponderosa have succumbed. In some areas, small value added plants may be migrating out of higher cost, crowded metro areas, or out of California in particular, to more rural locations. There is much discussion of how to use the millions of tons of unnaturally high stocking on western

lands that represent excess fuel loadings and a hazard to the forest and to nearby property. But harvesting that material is very costly, and highly controversial due to activists seeking to end timber cutting in public lands. There is no clear business strategy in view for solving this problem. In this region, any plant depending heavily on federal timber is simply a gamble from a banking standpoint.

West Coast – Timber supplies have been more mixed in California, Oregon, and Washington, with significant private ownerships and state lands in some areas. Dramatic reductions in federal supplies after about 1991 helped trigger massive shifts in the local industries. Then, after the mid 90's, the economic problems of Japan and the "Asian Flu" meant that the region's exports of chips, lumber, and logs entered a steady decline. There will be no recovery of the Japanese market paying its high prices.

Log and lumber prices jumped in the 1990's in response to the strong economy and tightening national timber supplies, and for a period, private timberland values rose strongly. Groups opposed to harvesting on public lands, having forged successful tools for gaining their objectives, are now turning those tools to the state lands, so we can expect further cuts in public land supplies.

Southern California is a very large furniture producer, with many other supplier industries. California is largely a wood importer whose suburban residents prefer not to see forests there harvested (the State AG is suing the Forest Service over a modest proposed increase from a severely depressed level of harvest on the National Forests). Tough air quality laws are causing some wood plants to migrate to Mexico from the LA basin, due to the restrictions on finishing.

South – The South's softwood lumber industry has grown over the past decade to new highs, aided by strong demand, a strong regional housing market, and the shrinkage of western production. The treated sector has done well and is adjusting to the loss of the CCA preservative. Land use change is shaping up as a big issue in the South, as is an emerging shortage of logging capacity.

Pulpwood markets were tight for years as a result of strong expansion of OSB production in the south, but since the late 1990's, the region's "brown paper" industries have been in decline due to the effect of the exchange rates on exports. This has driven down pulpwood stumpage prices. Ironically, in parts of the South the supply of hardwood pulpwood, formerly considered a weed, is now tight and stumpage is now higher than for pine. Due to weak markets, many acres of pine plantations will not be thinned on time, and this will cause a loss in productivity. The loss of these pulpwood markets affects the logging sector as well as affecting future forest productivity indirectly.

Up to 1999, the southern hardwood industry experienced strong export markets for hardwood lumber, and many mills modernized and upgraded. After 1999, though, the market went into a tailspin and many small mills were squeezed

out. The situation of the furniture industry, a major hardwood user, is familiar and does not need retelling here.

Northeast -- This region traditionally supported a diversity of small to medium sized wood products plants. The headquarters of several large Fortune 500 firms remain there, due to the prominence of the paper industry in the past. The region's paper industry has largely liquidated its holdings of timberland in the region. A strong value added sector based on species like birch has finally proved vulnerable to offshore competition. If you buy a latte at Starbucks in Portland, look at the underside of the box of wood stirrers and you'll probably see "Made in China". This is barely 100 miles from a plant, now closed, that made stirrers from Maine birch.

With its old mills and small, second growth trees the North has been noncompetitive in commodities (studs, newsprint) for decades. The region no longer produces any newsprint from virgin fiber, though some recycled capacity does exist. At the Home Depot in Augusta., Maine, in the middle of the state sawing more white pine lumber than any other in the US, you will find bifold closet doors made of radiata pine, probably from Chile.

Pennsylvania is in a class by itself, with its huge value added sector, large hardwood lumber industry, and its valuable black cherry sawtimber. A considerable area of well managed state lands supplies large volumes of wood to industry, even as political gridlock slowly shuts down the timber program on the Allegheny National Forest, which was in the past the most profitable Forest in the East.

Notes for Lenders to this Industry

The Family Firm: Some Issues

In a conversation with a trade association executive long ago, I was told that one reason many small wood processing firms are not technologically progressive or aggressive in growth is that they are second and third generation companies. It is legendary that company founders are often not followed by offspring of similar diligence, acuity, and skill (and perhaps luck). Yet even where this phenomenon does not apply, there are traits to the family firm that affect its financial status and decisionmaking. Ownership may be significantly fragmented by even a single generation of inheritance, making decisions harder to reach. Managers and shareholders begin to see the firm as a source of cash, not as something to invest in. Compensation for family members in management may often be higher than warranted by training, ability or performance. Management – and family owners -- may feel a duty to preserve its flow of salaries and perks, and can become risk averse as a result. Many also feel a duty to their neighbors and community to avoid risking

an employer important to the community. Every one can point to examples in which established family firms went bankrupt due to ill timed or aggressive moves.

It can be difficult for family owners to bring in trained outside management when necessary. Family shareholders are often reluctant to pledge personal assets as often required by banks for major loans to support investments. Finally, families often find it difficult to resist the temptation to supply jobs to family members of limited competence or diligence, or to suitably discipline members when it would be necessary. Informal management methods often accompany situations when technical expertise is not considered a key requirement for management positions. This may account for weak financial controls and asset management, limited to nonexistent marketing efforts, and a near-total absence of use of outside expertise except for lawyers and an accountant to file the taxes. In recent years, it has not been uncommon for small manufacturing firms to have no monthly and quarterly financial statements and limited production and cost records suitable for management use. We suspect that the ubiquitous use of computers has probably improved this situation in most instances.

We think that some of these traits of family firms explain why they are so regularly the clients of public financing programs instead of being able to rely on private financial institutions.

“The Equipment Lasts Forever”

In a project years ago working on the furniture industry in southern New England, an accountant familiar with the industry observed, “the trouble with the wood industry is that the equipment lasts forever”. The problem being a “don’t fix it if it ain’t broke” mindset combined with Yankee thrift. Small companies have a hard time, psychologically, disposing of perfectly solid existing equipment that still works. The problem is, the equipment is obsolete in terms of quality and productivity even if it still works functionally. Progressive managers now realize that a regular program of equipment modernization is essential for survival, but this realization has probably not been reached yet in many companies.

The same apparently applies to management methods. In recent years, at an industry meeting, a longtime veteran was heard to bemoan the fact that industry colleagues showed little interest in establishing an informal information exchange process on lean manufacturing.

Management: A Scarce Resource

This portrait suggests that a significant scarce resource in this industry is management, defined here as including operational, financial, and marketing functions. The weakness of many small plants in marketing is well known and will receive no further attention here.

Yet, there are companies which are surviving and even thriving in every area of the country. These are the ones with the most skilled management, able to judge the best situations in which to take risk and to finance those moves conservatively. They often purchase assets of bankrupt or troubled companies and restructure them, often moving the equipment to new locations. These are the *Survivors*.

Implications for Bankers

An environment of continued high price volatility for most product lines should be assumed. The burden of proof should be on anyone claiming otherwise.

There is no clear certainty that vertical integration by itself is a good business idea. Some managers may be able to make it work in a given situation, but it is not a natural requirement.

There is no certainty that value adding will also be profit adding. Intense import competition in the value added fields should be a caution against the widely heard assumption that the path to competitive survival lies down the road of value added operations. The fact that a hardwood lumber company makes a lot of lumber does not at all guarantee success in running a flooring mill. In fact, integrating forward to flooring could create a host of perverse incentives that undermine the lumber operation.

Bankers must find the *Survivors* & work with them.

The *Survivors* will be –

- Strong on technology**
- Strongly financed**
- Balancing new investments with conservative financing**
- Employing innovative, effective marketing**
- Displaying an ability to adapt to adverse market changes**
- Re-inventing their production process and product lines regularly**

Bankers and economic developers, in this harsh economic environment, must avoid promises they can't keep ... And especially, avoid grasping at straws that aren't anchored to something...

Potential Roles of FCB system

Educate the Private financing sector

The virtually complete socialization of farm lending in many rural areas has to be avoided in the forest sector. FCB's need to take leadership to provide market update information and training to try and keep private financing institutions in the business.

A Good Offices role

... in urging state agencies and universities to address skill mix issues in the industry could be very valuable.

Stay Abreast

Of industry trends and developments, to avoid being taken in by the latest clichés and fads.

Package Programs

Many aids for manufacturing businesses offered by the public sector are not effectively marketed to client industries. This is surprising. FCB's could play a role in improving information flow and "marketing" of such programs, often as part of "packaging" of their own lending.

Accept that this is a risky sector and embrace it

There will be washouts, even on deals that look like a "sure thing". The challenge of balancing landing risks in a sector where collateral may be weak will only become more difficult.

Build Internal Human Capital

The FCB system needs to continue to update its own internal expertise and human capital on this sector, and not gain all of its industry intelligence from its own loan customers.

Documents

This is a highly selective list. Obviously it's heavily weighted toward my own work. Developing a good annotated list that covers major sectors nationally, and also adds good regional detail, would be a valuable exercise in helping FCB officials and cooperators keep track of this sector, but doing this would be a sizable undertaking.

You will want to obtain a sample of recent presentations, such as the one in March 2005 at the New England Society of American Foresters, by Al Schuler of the USFS. Find him at aschuler@fs.fed.us. His presentations deal with the furniture sector as well as with construction lumber and panels and engineered products. His general view of the market situation and competitive environment is similar to what is articulated in this paper.

A valuable national overview, built around the resource situation, discusses paper and lumber nationally and at a regional level. It includes projections for the major products:

R. W. Haynes, coord. 2003. Analysis of the timber situation in the US: 1952 to 2050. USDA FS PNW Res Sta. Gen Tech Report GTR-560. Febr. 254 pp. Available on PNW website:

<http://www.fs.fed.us/pnw/pubs/gtr560/>

My own view of the continuing "Dark Time" is not consistent with the nearterm predictions in this analysis, but this document is a key source of trends and outlook information.

A global perspective, just one piece in a large literature, is:

Turner, Buorngiorno, Zui, and Prestemon, Global context for US Forest Sector in 2030. Pres to 2004 SOFEW Meetings. On Web or avail from Buorngiorno at jbuorngiorno@wisc.edu. A more recent summary of this work may now be available.

A recent paper discusses innovation issues thoroughly, focusing on the PNW:

A. Hovgaard, E. Hansen, and J. Roos. 2005. Innovation in the forest products industry: analysis of companies in Alaska and Oregon. USDA FS PNW Res Sta. Gen Tech Report GTR-629. Febr. 65 pp. Available on PNW website:

<http://www.fs.fed.us/pnw/pubs/gtr629/>

INRS. 2005. Maine Future Forest Economy project. Augusta: Maine Dept. of Conservation. See website:

www.state.me.us/doc/mfs/mfshome.htm

Irland, 2004. Maine's future forest economy: driving forces, niches, and private/government priority actions. Chapter in above INRS report to MFS. (Copy submitted separately).

Irland, 2005. Economic structure and US Canadian softwood lumber trade: any connections to trade conflicts? Paper presented to Canada US lumber trade conference, E. Lansing MI, March. Proceedings forthcoming. Powerpoint version on Web at:

<http://www.for.msu.edu/trade/ProgramPresentations.htm>

(Full paper previously sent)

Rice and Irland, Competitive position of Maine paper industry, study at Dept of Wood Science, Univ. of Maine. Completion expected late in 2005. Poster given at NESAF meet, Portland, ME March 2005.

Irland. Maine's forest industry: from one era to another. In: R. E. Barringer (ed.) Changing Maine. Gardiner, ME: Tilbury House, 2004, pp. 362-387.
(previously sent)

Irland Group, Wood flows in New York, Vermont, New Hampshire and Maine, 1997 with recommended monitoring system. Report to NEFA, Inc., Concord, NH. 77 pp.
On web at <http://nefa.conknet.com/publications/woodflows97.exe>

... Summarized in: Irland, "Hardwood log exports to Canada: what is the trend?" Northern Logger, June 2001, p. 18-20, 30-31.

Irland, "Maine's forests: a century of change, 1900-2000." Maine Policy Review, Winter 2000, pp. 66-77.

<http://www.umaine.edu/mcsc/MPR/Vol9No1/irland.pdf>

Irland, "This evergreen empire: Maine's forest resources in a new century," In: Blaine House Conference on Maine's Natural Resource Based Industries: Charting a new course. Conference Report, Feb. 2004. Augusta; Maine State Planning Office.
http://www.maine.gov/governor/baldacci/news/events/natres_conference_1003.html

(While this essay focuses on Maine, it reviews national trends affecting the state's industries).

Irland, "What happened to the white pine market?" Northern Logger, April 2001, pp. 34-35, 68-69.

Irland, "The cedar shingle market: where is it going?" Northern Logger, June 2002, pp. 30-31.

Irland, European softwood lumber imports to the US East Coast: recent developments. Portland, OR: Western Wood Products Association, Yearbook 2004. 2004. pp. 14-16.

