

# Forest Products Export Trends Update for the Pacific Northwest Region

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This paper is part of a series of discussion papers written to provide background information on salient issues identified as important by participants at the *Saving Washington's Working Forest Land Base* forum in November 2004.

## **Abstract**

This paper updates the analysis completed in 1999 (Lippke et. al, 1999) on export trends in forest products from the Pacific Northwest (PNW). Two recent events warranted this review — the collapse of the Asian economies beginning in 1997 and the strength of the U.S. housing market from 1991 to present.

While recovery of PNW exports to pre-1997 levels was projected, this was not the case given strong U.S. domestic markets for solid wood products and changes in the preferences for wood products in traditional Asian markets. The paper and paperboard export markets were robust, primarily due to China's continued expansion of its manufacturing and export sectors, and with increased consumption of paper and paperboard products.

Harvest level restrictions continue to be a factor in determining the competitiveness of export-related businesses. Washington's harvest level is now lower than Chile and New Zealand levels. It has fallen to less than 50% of Finland's harvest level; a country that harvested timber volumes on par with Washington throughout the decades of the 70s and 80s. This factor, along with the shift in demand from overseas to domestic markets, is likely responsible for the changes in export trends. Other factors contributing to the market shifts include the collapse of Asian demand following financial crises, the endurance of the U. S. housing market and the strength of the U.S. dollar.

Export values from the PNW ports in Washington, Oregon and Alaska have declined sharply. The increasing trend for important secondary products reversed following the Asian financial crises. Recent data suggest that Asian markets might be recovering, but they remain far below the peaks observed in 1996 and 1997.

There are important implications for a recovery of export markets for Washington forest products. International trade provides a buffer for manufacturers when markets in a given geographical area are weak. Access to export markets allows Washington producers to maintain capital investment and employment that might otherwise not be provided if determined solely by domestic needs. The past countercyclical periods of demand for wood products between the U. S. and Asia have produced substantial benefits due to the diversified market strategy of forest product businesses in Washington.

Future considerations of PNW exports include two important issues. The increase in Chinese consumption of paper and paperboard products and the potential increase in Canadian forest products supplied as a result of the mountain pine beetle outbreaks in British Columbia.

## **I. Introduction**

Three events have sparked a change in trade patterns of PNW wood products over the past 15 years. First, there was curtailment of timber availability from federal, state, and private forested lands due to habitat conservation rules in the early 1990s. If this supply shock had happened in the southern U.S., there would likely have been minimal international repercussions. In the PNW, however, the reduction in timber availability led to significant adjustments in domestic and international wood products markets. Markets in Korea, China, and Taiwan for U.S. log exports dissipated. The level of log exports from emerging plantation regions such as Chile and New Zealand increased and investments in new plantings in these countries expanded. Wood fiber became expensive, with the result that wood-savings technology became advantageous. Engineered wood products gained market share. An important consequence of the log supply shortage was that logs became more expensive as did secondary and value-added products. This change fostered the aggregate domestic processing capacity to maintain and expand its level of production.

Second, general demand in Asian countries including demand for wood products collapsed in 1997. The financial shock occurred when forest product prices were at historically high levels. The immediate effect was over-supply conditions that led to a collapse in prices and export levels from the PNW and elsewhere, and in returns on investment in those forestry sectors that serviced these markets. Sectors focusing on Asian markets were most affected. The 1999 analysis of exports (Lippke et. al, 1999) was published before the transition to new demand conditions was completed.

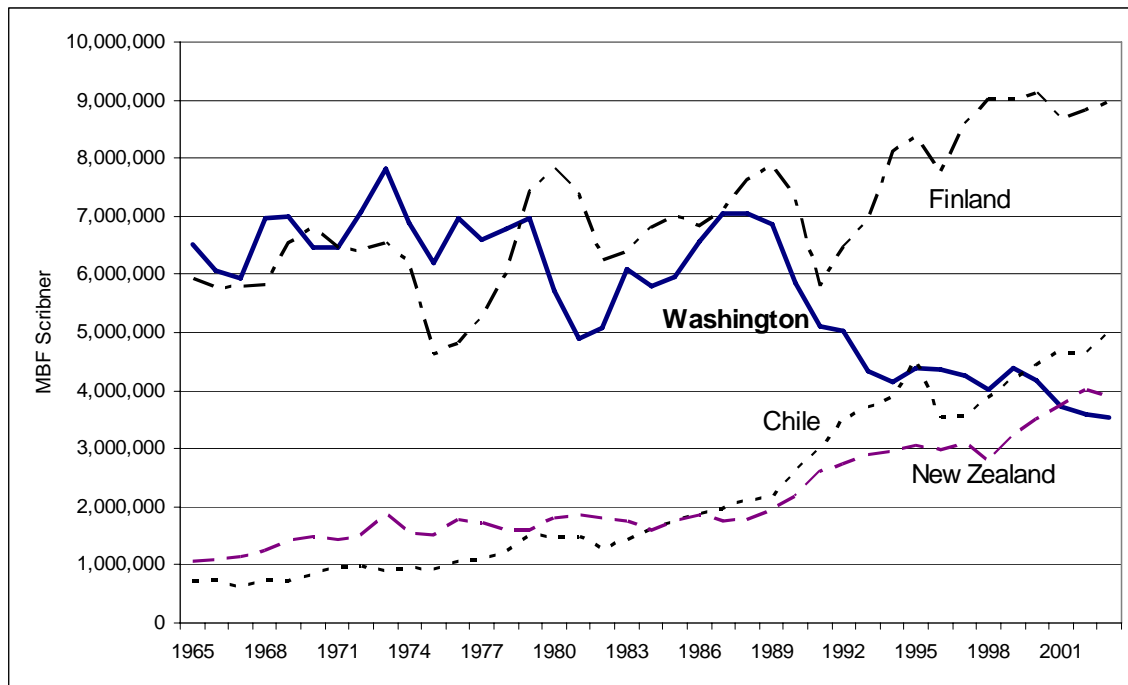
Third, an extraordinary U.S. housing sector boom began following the 1991 recession and continues today. Continued better-than-expected housing starts, which have been stimulated by low interest rates throughout the last 14 years, have shifted global wood product demand from the once tiger economies of Asia and Japan to the booming U.S. housing sector. All this was good news for those U.S. forest products companies that maintained a competitive advantage over their international competitors in domestic markets.

Yet international trade remains an important economic activity in Washington. Its benefits might best be understood using the old adage “diversify your investment portfolio.” In fact, Washington’s export markets have served the state well in times of U.S. recessions. As the current housing cycle illustrates, our region has benefited by redirecting its marketing toward U.S. markets and away from depressed Asian markets. In essence, the access to export markets allowed Washington to maintain a level of capital investment and employment that would otherwise not be available in times of strong domestic demand and weak foreign markets. The past countercyclical periods of demand for wood products between the U.S. and Asia have produced substantial benefits due to the diversified market strategy of forest products businesses in Washington.

## II. Key Supply and Demand Factors Impacting Trade

Placing log harvest levels in perspective, Washington harvest levels have declined substantially from their peak in 1987 to about half. Much if not all of this decline was brought about by harvest restrictions put in place to protect forest habitat. Significant amounts of forested lands were withdrawn from timber production.

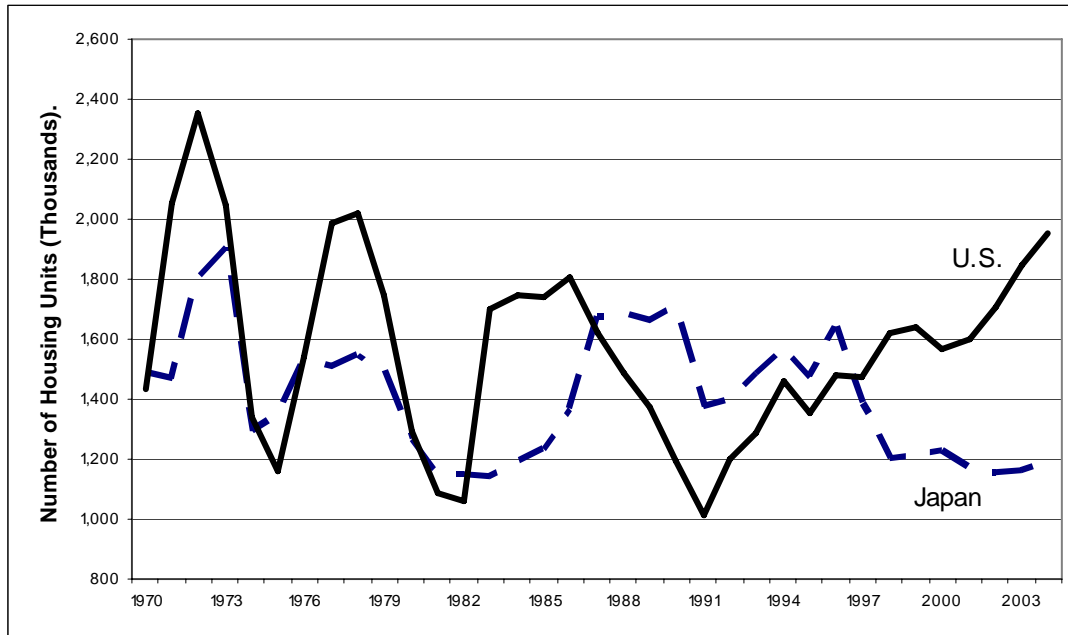
At the same time as Washington’s harvest levels declined, other countries increased their levels. Harvest levels in Chile and New Zealand have grown substantially and now exceed Washington. Levels in Finland expanded following the 1991 recession and are 2.5 times Washington’s total. This global shift in timber harvests has had important implications for Washington’s primary and secondary product exports.



**Figure 1. Timber harvest levels in Washington, Chile, New Zealand, and Finland: 1965-2003.** Sources: Washington harvest level taken from WA DNR Timber Harvest Reports (various years); Chile, New Zealand, and Finland harvest levels taken from FAOSTAT industrial roundwood production converted to mbf using 5.5 cubic meters per mbf.

While harvest levels increased in other regions of the world, demand for solid wood products also changed. More important, the U.S. became the global center of demand for solid wood products. Japan’s housing sector faltered after the financial crisis in Asia, and it has not rebounded over the past five years. Meanwhile the U.S. housing sector has climbed steadily since the 1991 recession (Figure 2).

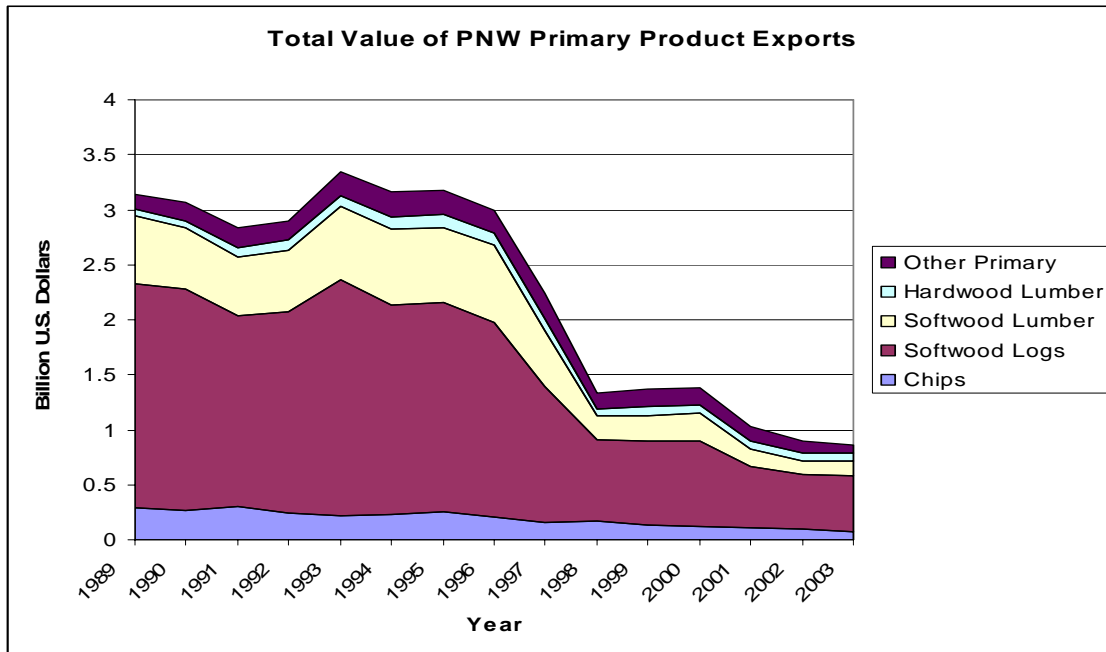
These two factors — lower Asian demand and strong U.S. housing demand — in addition to the sustained low levels of harvests, are important in explaining the level of exports from the PNW and Washington’s forest products enterprises.



**Figure 2. Housing starts in Japan and the U.S 1970-2004.** Sources: Japan housing starts taken from Japan Lumber Reports (various issues); U.S. housing starts taken from U.S. Census data.

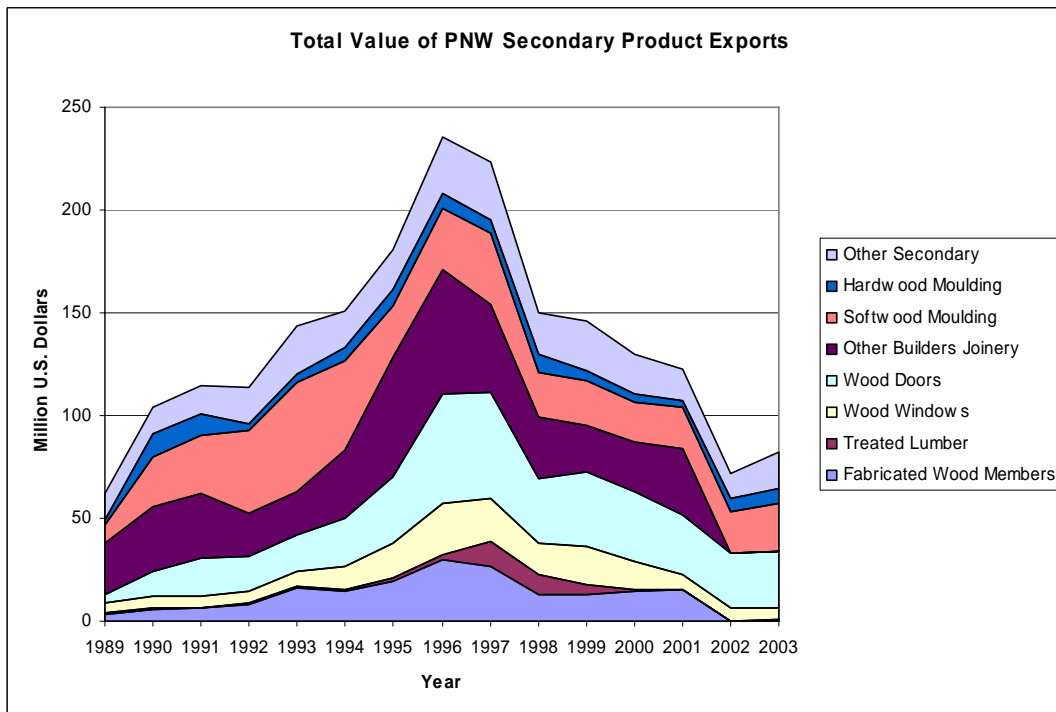
### III. Value of Pacific Northwest Exports

Since the mid-1990s, the export values of both primary and secondary forest products from the Pacific Northwest have been steadily declining, as can be seen in Figures 3 and 4. The sector most affected by the harvesting restrictions in the PNW was log exports, averaging just over \$1.5 billion dollars over the period 1989 to 1996, before collapsing in 1997.



**Figure 3. Total value of PNW primary product exports.**

Source: [http://www.cintrafor.org/RESEARCH\\_TAB/research\\_expdata.htm](http://www.cintrafor.org/RESEARCH_TAB/research_expdata.htm) and International Trade Commission

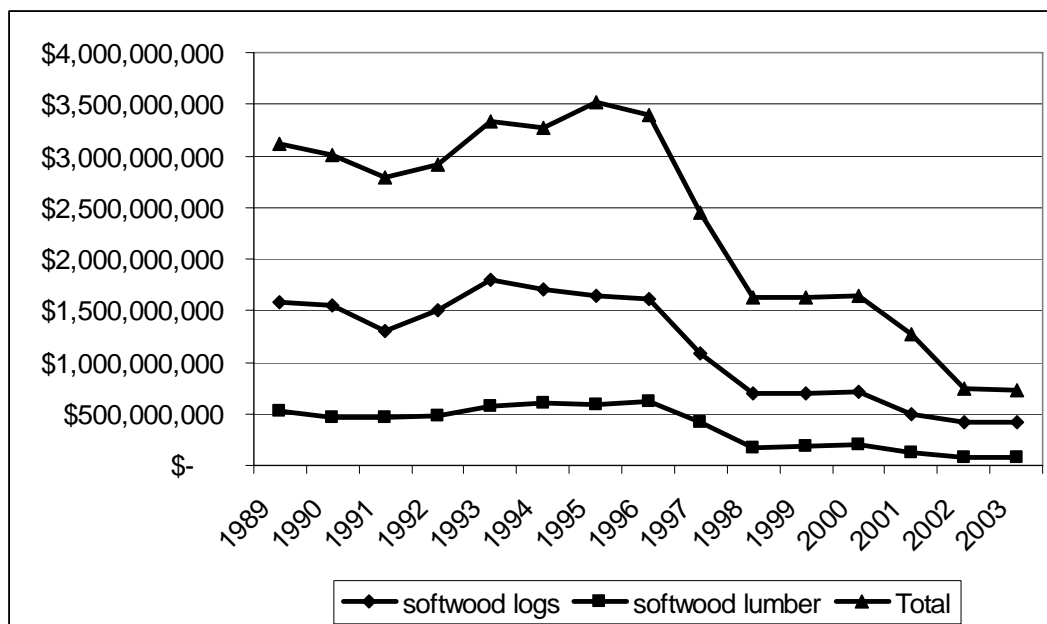


**Figure 4. Total value of PNW secondary product exports.**

Source: [http://www.cintrafor.org/RESEARCH\\_TAB/research\\_expdata.htm](http://www.cintrafor.org/RESEARCH_TAB/research_expdata.htm) and International Trade Commission

With some exceptions in secondary products e.g. doors and moldings, the declines in export levels since the Asian financial crisis have continued despite recent recoveries in Asian markets. The recovery from the Asian crisis had not proceeded as rapidly as initially forecast, but at the same time, the strength of the U.S. housing sector was also not expected. Given the strength of the housing sector in the U.S., the Asian financial crisis shifted the marketing emphasis of PNW firms from exports to domestic consumption. As a result, PNW exports of primary and secondary products to Asian markets continued their dramatic decline as the housing sector continued its unprecedented expansion.

Changes in Japan’s housing market have also influenced U.S. manufacturers. The wood housing sector in Japan had traditionally been the dominant end-use market for U.S. log exports. Primary products were produced by other suppliers, and as log prices increased, their products became preferred by the Japanese. Demand for logs switched to a demand for lumber, which in turn, continued to shift to a demand for kiln-dried lumber. The markets that were once dominated by PNW exports of western hemlock (*Tsuga*) and Douglas-fir (*Pseudotsuga menziesii*) logs changed (Figure 5). Japanese legislative changes also affected the construction industry, and combined with increased availability of European whitewood glulam products, they hastened the displacement of PNW western hemlock from Japanese markets. Douglas-fir also faced increased competition from European sources with raw material suitable for engineered-wood products. Europe has since successfully maintained its market share in Asia and become a major competitor in lumber exports to North American suppliers. Additionally, countries like New Zealand and Chile produce radiata pine on shorter rotations at lower cost, and it is preferred for lower grade uses.



**Figure 5. Value of PNW exports to Japan.**

Source: [http://www.cintrafor.org/RESEARCH\\_TAB/research\\_expdata.htm](http://www.cintrafor.org/RESEARCH_TAB/research_expdata.htm) and International Trade Commission

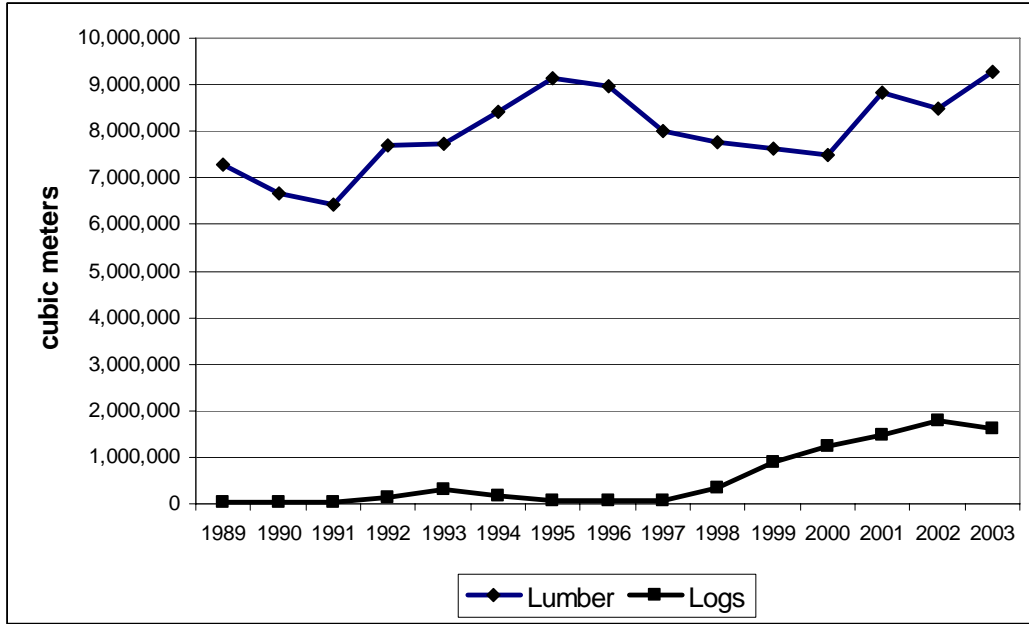
#### **IV. Trade with Canada**

Canada and the U.S. have a complex yet significant trade relationship in forest products. The U.S. is the main importer of Canadian lumber, and Canada's share of the U.S. market has increased to over one-third. This has upset many manufacturers in the U.S. who claim that Canadian lumber manufacturers are subsidized by government stumpage policies. In 1996 the Canadian Softwood Lumber Agreement (SLA) was reached to settle the trade dispute. The SLA was a five-year agreement developed to compensate U.S. domestic producers for excess lumber exports from Canada, and expired on March 31, 2001. Shortly after, the U.S. Coalition for Fair Lumber Imports filed countervailing and antidumping duty petitions against Canada. The trade issue remains unresolved. Duties collected have expanded to \$4.2 billion by June 2005.

Canada is currently dealing with an historically destructive outbreak of the mountain pine beetle in British Columbia. This beetle attacks and kills Canada's most abundant commercial species, lodgepole pine. The Mountain Pine Beetle Action Plan for 2005-2010 estimates British Columbia's total inventory of mature lodgepole pine at 1 billion cubic meters. At the time of the Action Plan's publication the beetle had killed an estimated 283 million cubic meters of forest. Extended periods of cold weather ranging from -20C to -40C are needed to eradicate the mountain pine beetle. In the absence of optimal weather conditions, it is believed that 50 percent of the mature pine will be dead by 2008.

In response to this attack, Canada is increasing its harvest levels in order to maximize value recovery from the dead timber and improve forest conditions to avert disastrous forest fires. A tree killed by the mountain pine beetle has an approximate 5 to 18 year time frame of commercial viability. The beetle's effects will increase the excess supply of Canadian timber for many years to come. The Canadian government is conducting research to develop strategies for the marketing of the excess supply. British Columbia is even exploring markets for the export of logs where beetle-killed timber is surplus to domestic needs. There is no doubt that increases in the Canadian harvest level will affect world markets in lumber and to a lesser degree logs. Past market assessments have shown that an increase in Canadian harvest levels can result in a decline in U.S. market share for domestic producers.

Figure 6 illustrates the levels of softwood lumber and log imports entering PNW ports from Canada. There is an increasing trend for softwood lumber imports, but further growth in the level of imports is likely to be capped by trade restrictions. More interesting is the recent rise in log imports from Canada. Two factors may be causing this — first, the acquisition of MacMillan Bloedel by Weyerhaeuser Company and second, the collapse of demand in Asia and the excess amount of logs now available because of this collapse. Figure 6 indicates, however, that log imports peaked in 2002. Conversations with log exporters have suggested that the level currently observed in the markets is likely to be at or near its highest level.



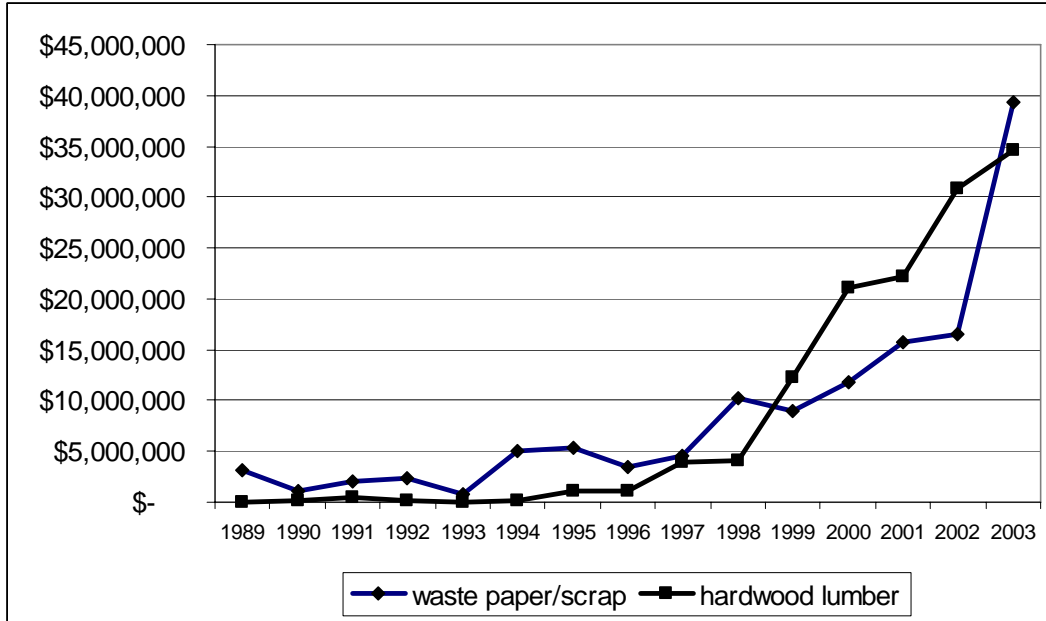
**Figure 6. Imports of softwood logs and lumber from Canada through Pacific Northwest ports.** Source: [http://www.cintrafor.org/RESEARCH\\_TAB/research\\_expdata.htm](http://www.cintrafor.org/RESEARCH_TAB/research_expdata.htm) and International Trade Commission

## V. Trade with China

China’s economy is growing rapidly and is seen as a possibility for increased forest products trade. Currently its log market is in decline, as China has inadequate domestic mill capacity and infrastructure. The U.S. exported no logs to China in 2003 and 2004. For a variety of reasons, including proximity, tax structure, shipping ease, and species familiarity, Russia supplied 90% of logs imported by China.

Given these circumstances, the focus of U.S. exporters to China is the market for primary and secondary processed products. This is an area where competition is fierce, as many countries recognize the advantages to establishing a sizeable market share in trade with China. However, lumber consumption in China was estimated at 3.5 billion board feet per year. This compares to approximately 6% of U.S. consumption of lumber. Consequently, this demand does not yet indicate that China is a major player in the world lumber market.

Notable from Figure 7 is the increase in both recovered paper and hardwood lumber from PNW ports. While small in volume, the exponential growth witnessed over the past eight years is something to keep an eye on.

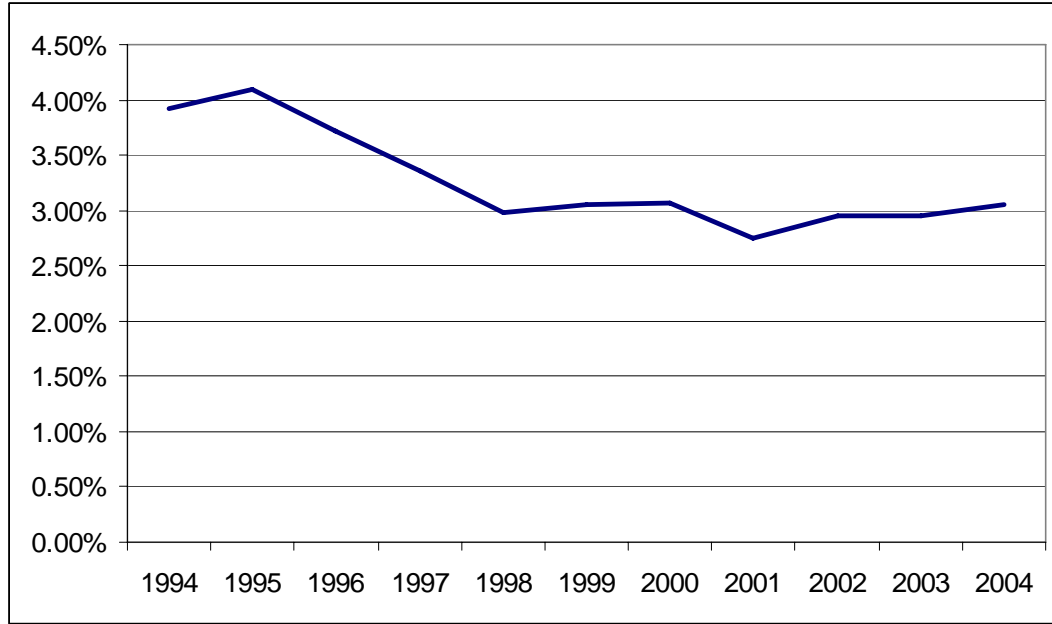


**Figure 7. China imports from Pacific Northwest.**

Source: [http://www.cintrafor.org/RESEARCH\\_TAB/research\\_expdata.htm](http://www.cintrafor.org/RESEARCH_TAB/research_expdata.htm) and International Trade Commission

## VI. Forest Sector Contribution to Washington’s Economy

In 2004 Washington’s forest sector contributed \$14 billion to Washington’s \$459 billion gross business income according to the State’s Department of Revenue. In 1998, its contribution was estimated at \$10.8 billion, \$3.2 billion less. While its proportional contribution to overall gross business income has declined since 1995, the forest sector has contributed roughly 3% since 1998 (Figure 8).



**Figure 8. Percent of total GBI contributed by the forest sector.** Source: Washington Department of Revenue

Washington has experienced lower levels of employment within the forest products sector since 1999 (Table 1). The forest products industry directly employed 42,358 workers in 2003, or more than 14% of total manufacturing employment.

**Table 1. Employment Statistics**

<b>Direct Employment</b>	<b>1999 (NAICS)</b>	<b>2000 (NAICS)</b>	<b>2001 (NAICS)</b>	<b>2002 (NAICS)</b>	<b>2003 (NAICS)</b>
Wood Product Manufacturing	20,958	21,670	18,636	16,670	17,573
Paper Manufacturing	15,238	14,427	14,038	14,229	12,887
Forestry and Logging	7,711	7,386	6,645	6,495	6,087
Forestry Support Activities	1,343	1,294	1,272	1,216	1,297
Plastics Bag Manufacturing	690	662	673	680	728
Wood Kitchen Cabinets & Countertops	3,489	3,521	3,544	3,608	3,786
<b>Combined</b>	<b>49,429</b>	<b>48,960</b>	<b>44,809</b>	<b>42,898</b>	<b>42,358</b>

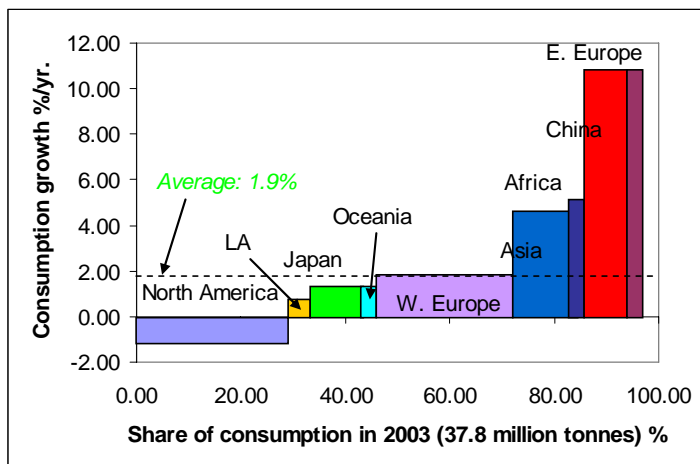
Source: Washington State Department of Employment Security, covered employment and wages, classified by industry; [www.workforceexplorer.com](http://www.workforceexplorer.com)

## VII. Pulp and Paper

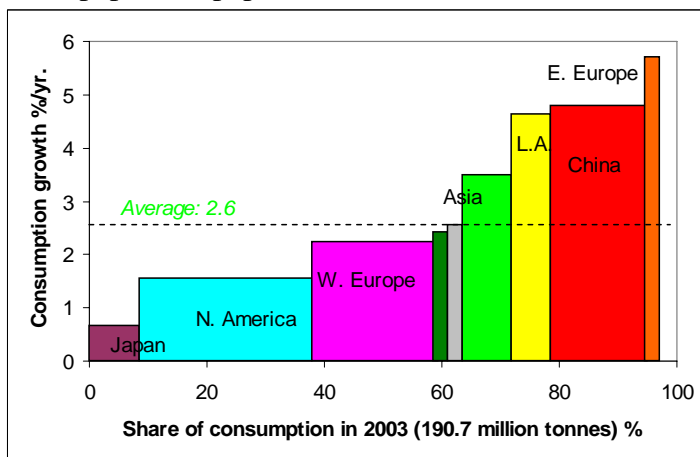
For pulp and paper the story is quite different. The growth of North American demand for paper and paper products has declined relative to other regions in the world. Figure 10 plots the average growth over the previous 10 years against the share of consumption in 2003 for newsprint, other paper and paperboard, and printing and writing papers. In particular, China and the Eastern European nations are the regions that have experienced high growth in all three markets. The global average is also illustrated in Figure 10. Newsprint growth in North America has declined on average over the past 10 years. This fact is of significance since North America comprises a substantial market share of the overall newsprint market. On the other hand, China and Eastern Europe have averaged over 10% growth.

The market for other paper and paperboard also suggests that the growth areas are in China and Eastern Europe. While their average growth rate is lower than for newsprint, it is still nearly 2 times as large as the global average. In addition, China's share of the market is the third largest behind North America and Western Europe.

### Newsprint



### Other paper and paperboard



Printing and writing papers

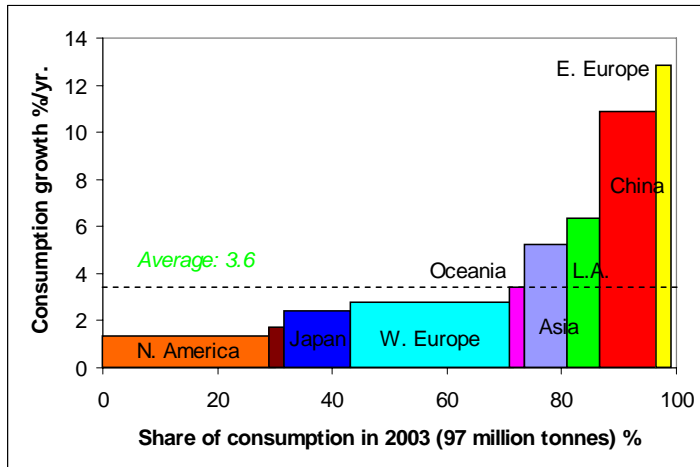


Figure 10. Average market size growth versus share in 2003.

VIII. Conclusion

There have been considerable changes to the PNW export of forest products over the last 25 years. Restrictions on timber harvest levels have led to significant adjustments in international and domestic wood products markets. Significant shifts in the Asian economy combined with a strong U.S. housing sector have resulted in a restructuring of market share for PNW forest products. There is little to suggest a reversal of this situation while the U.S. housing sector continues to expand. China’s needs for packaging material and Canada’s timber supply response to the beetle outbreak are things to watch. Both of these issues could potentially impact export trends of PNW forest products.

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