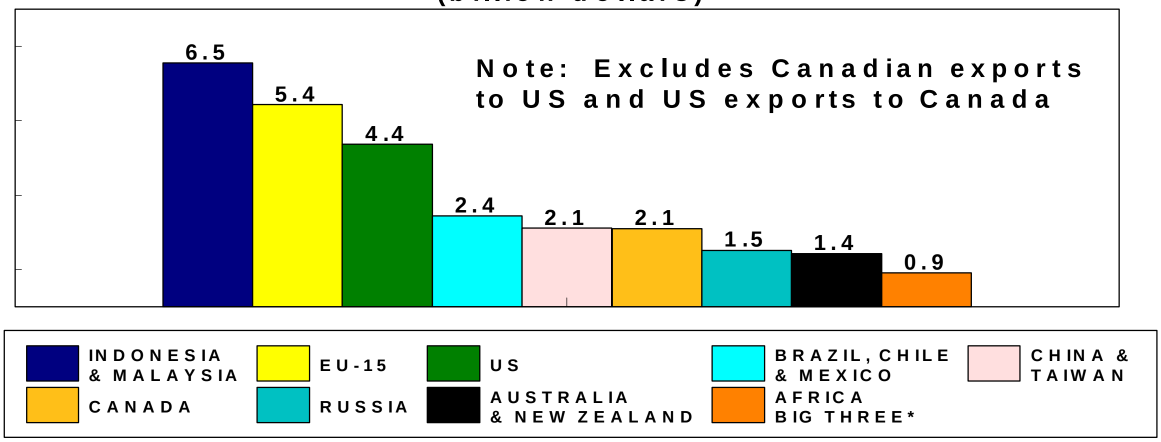
THE OUTLOOK FOR U.S. SOLID WOOD EXPORTS IN AN INCREASINGLY COMPETITIVE WORLD MARKET
Part I: The Scope and Direction of U.S. and World Trade in Solid Wood (the first in a three-part series)

by Roseanne Freese, Agricultural Economist

Total world exports of solid wood products by all countries reached $46.5 billion dollars in 1998, according to statistics provided by the United Nations Food and Agriculture Organization (UNFAO). These exports, however, were 14 percent less than the record-breaking total of $52.5 billion shipped in 1997. Similarly, U.S. exports also surged in 1997 and fell in 1998, but to a far greater degree. U.S. exports plummeted 19 percent from the near record $7.2 billion in 1997 to $5.8 billion in 1998. While the leading factors behind these gyrations were the major downturn of the housing market in Japan and the recession in Asia overall, U.S. producers were hit harder than others. The total value of U.S. solid wood exports to Japan, formerly our largest market, fell by 50 percent in 18 months, making for an unprecedented drop in shipments of $1.7 billion.

While UNFAO data for world exports in 1999 are incomplete, total world exports are expected to have recovered to $49 to 50 billion. U.S. exports achieved only a slight recovery to $6 billion in 1999. This was largely propelled by record sales to Canada and strong sales to the European Union (EU), and Mexico. First quarter export returns for 2000 indicate an improved U.S. export performance of $6.4 billion on an annualized basis. However, these are still below the $7 billion exported annually throughout half of the 1990's and twelve percent below the record $7.3 billion shipped in 1995. If exports to Canada are excluded, U.S. exports for 1999 would then only measure $4.4 billion. While a recession in Japan may universally impact all U.S. hardwood and softwood manufacturers, it cannot explain why the United States is losing market share in a recovering world market.

TOTAL VALUE OF WOOD EXPORTS TO THE WORLD IN 1999 BY MAJOR TRADING BLOC
(billion dollars)



* Cameroon, South Africa & Cote D'Ivoire

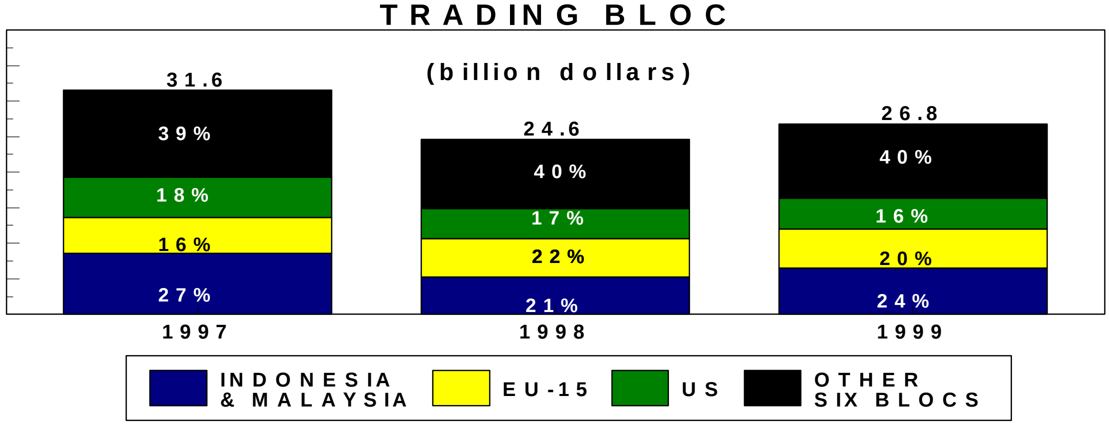
Sources: US Trade, World Trade Atlas, UNFAO & FAS/Moscow

U.S. participation in the world market place has drastically changed over the past decade. In 1990, total world solid wood exports were $36.7 billion, according to the UNFAO, and U.S. exports were $6.5 billion. In the intervening decade, however, the United States has moved from being the world's largest solid wood exporter to the world's largest importer. By 1999, U.S. exports registered a relative decline of $500 million to $6.0 billion, while U.S. imports have steadily climbed from $5.2 billion in 1990 to a record $16.1 billion in 1999. The U.S. surpassed Japan as the largest importer in 1998, importing $14 billion of solid wood products from the world, while Japan's imports dropped to $9 billion.

On the demand side, the United States is the world's most intensive user of solid wood products, with roughly 5,000 commodities (including paper, packaging, resin and pharmaceutical products) in common use. Approximately 95 percent of roughly 1.6 million annual housing starts in the United States use wood-frame construction and according to U.S. Forest Service data, the typical house size has doubled from 1,000 square feet in 1950 to 2,000 square feet in 1997. Combined with roughly 4.5 million renovations per year, the U.S. housing industry accounts for nearly one-fifth of U.S. GNP. Strong housing demand also fuels demand for furniture and interior products, such as hardwood flooring, windows, doors, moldings and builders carpentry.

On the supply side, with 33 percent of land forested, the United States enjoys a comparative advantage in the production, diversity, quality and yield of its forests. Forests cover more land in the United States than for any other use category, such as agricultural, industrial or urban. However, changes in public and private sector harvests, yield technologies, labor costs, and the innovation of new commodities, have significantly altered U.S. production capacity. Harvests from Federal forest lands, are now at their lowest level in 50 years and constitute less than 10 percent of the U.S. timber supply. Output on private forests has grown and 80 percent of U.S. roundwood production is now east of the Mississippi. Increases in labor costs and new yield-improving technologies have stimulated investment in plantation forestry, especially for softwood species, and has allowed the use of smaller-diameter logs from a greater variety of species, particularly hardwoods. Product innovation has lead to the creation of engineered wood

SHARE OF WORLD WOOD EXPORTS BY MAJOR TRADING BLOC



* Exludes Canadian Exports to the US and US exports to Canada

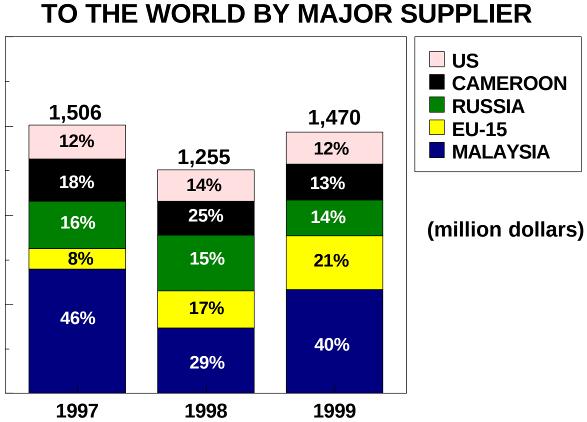
Sources: World Trade Atlas, UNFAO & FAS/Moscow products, such as glue-laminated lumber, trusses, I-beams, oriented strandboard and chipboard. Despite these labor- and fiber-saving developments, U.S. imports have grown rapidly and one-third of U.S. domestic softwood lumber consumption is now met through imports from Canada.

Given the trillion-dollar size of our housing market, the strong dollar, high commodity prices, and the most open market in the world, the United States is the natural focus for both domestic and overseas suppliers. However, there are many other factors impacting U.S. export capacity. World population and income are growing as are world investment and trade in sustainable and recyclable value-added wood products. More and more countries around the world are adopting policies whereby environmental impacts are factored in to development schemes, while wholesale and retail firms (primarily in Western Europe) are exploring the use of exclusively sourcing sustainably managed inputs for their product marketing. With demand growing worldwide for housing, furniture and panel products, the export opportunities are many for U.S. manufacturers.

At the same time, however, overseas plantation and mill capacity are also expanding as many countries in Europe, South America and Oceania also wish to partake of a stronger and growing world market. As a consequence of this expanding competition, the U.S. share among major players (excluding bilateral trade between the United States and Canada) in the world export market has fallen from 18 percent in 1997 to 16 percent in 1999. Through a close study of the export data of nine major trading blocs, including the United States, we will attempt to isolate the factors that influence the ability of U.S. manufacturers to export and determine the scope and scale of competition that are faced by U.S. producers. [Note: we are using the term “bloc” loosely to organize exporting nations geographically. It does not necessarily imply formal trading relationships such as the European Union.]

Counting all players and including bilateral trade between the United States and Canada, total world trade in solid wood products measures roughly $50 billion per year. However, only nine major trading entities are capable of exporting $1 billion of wood products per year. These nine blocs provide 60 percent or roughly $30 billion of the world’s export capacity. The nine blocs are: the European Union, Canada, the United States, Oceania (Australia and New Zealand), China and Taiwan, Latin America (Mexico, Chile, and Brazil), Indonesia and Malaysia, Africa Big Three (Cameroon, South Africa and Cote D’Ivoire) and Russia. While a number of other countries could have been included in these regional groupings, they were excluded due to the absence of consistent and timely data.

TOTAL VALUE OF HARDWOOD LOG EXPORTS TO THE WORLD BY MAJOR SUPPLIER

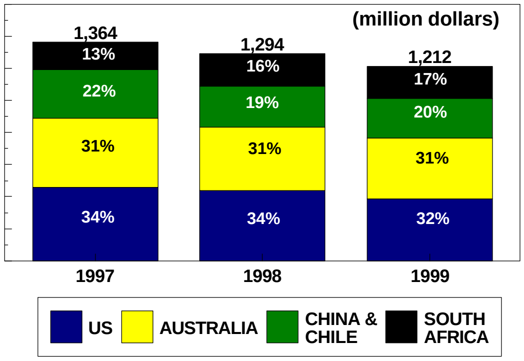


Note: Excludes US exports to Canada & Canadian exports to US.

Sources: US Trade, World Trade Atlas, UNFAO & FAS/Moscow

The chief characteristics of each one of these nine blocs is that each entity maintains a relatively consistent or unique mix of species; shares common tariffs, such as the 15 countries of the European Union (EU); or, has highly interdependent marketing structures,

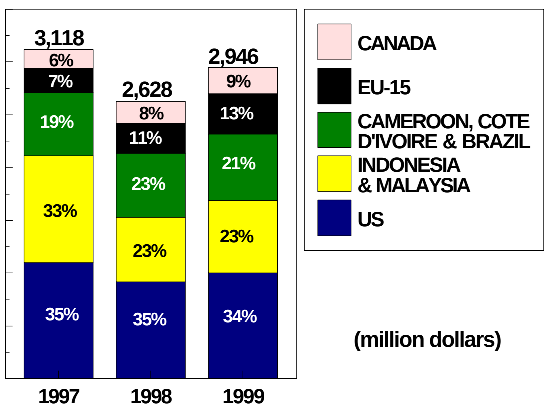
TOTAL VALUE OF WOOD CHIP EXPORTS TO THE WORLD BY MAJOR SUPPLIER



Note: Excludes US exports to Canada & Canadian exports to US.

Sources: US Trade, World Trade Atlas & UNFAO

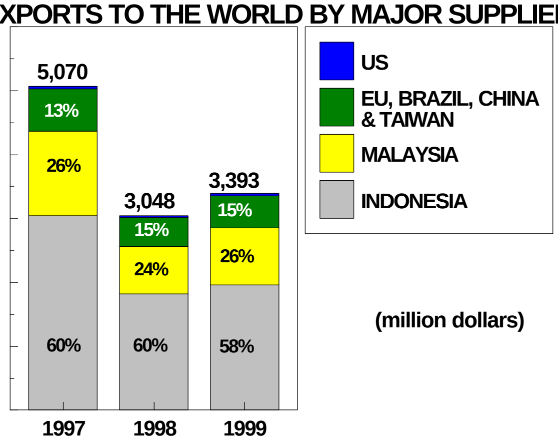
TOTAL VALUE OF HARDWOOD LUMBER EXPORTS TO THE WORLD BY MAJOR SUPPLIER



Note: Excludes US exports to Canada & Canadian exports to US.

Sources: US Trade, World Trade Atlas & UNFAO

TOTAL VALUE OF HARDWOOD PLYWOOD EXPORTS TO THE WORLD BY MAJOR SUPPLIER



Note: Excludes US exports to Canada & Canadian exports to US.

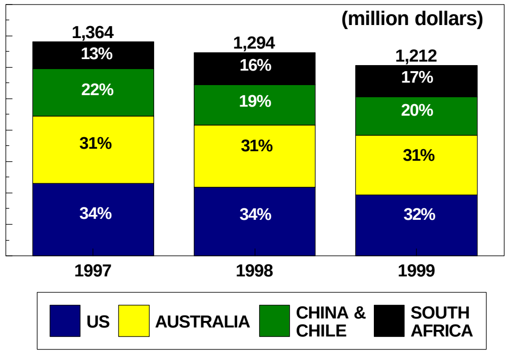
Sources: US Trade & World Trade Atlas

such as China and Taiwan and Indonesia and Malaysia. This report is based on export data for 1997 through 1999 obtained primarily from the U.S. Department of Commerce for the United States and from the World Trade Atlas, UNFAO, and FAS Attache Reports for Solid Wood Products for determining exports by the eight other blocs. It should also be noted that only countries capable of exporting $100 million or more of a particular commodity per year are identified in the accompanying graphs.

Note that for this analysis we are intentionally excluding the nearly $14 billion in bilateral trade between the United States and Canada. This exclusion allows us to measure and identify more clearly the changes in worldwide demand and supply in third-country markets. Many would argue that the United States and Canada should be grouped together as one trading bloc due to the similarity of their species, high market-interdependence, and the North American Free Trade Agreement (NAFTA). For the purposes of this study, however, we will treat the United States and Canada as separate blocs to identify the strengths, weaknesses and opportunities that uniquely face U.S. solid wood exporters.

Canada is the leading supplier to the U.S. market, with U.S. imports increasing rapidly. U.S. imports from Canada were $3.5 billion in 1990 and represented 68 percent of total imports for that year, but by 1997 this had risen to $9.5 billion and a 73 percent share. In 1999, total imports from Canada rose again to $11.8 billion and maintained a 73 percent share of what is now a $16.1 billion import market. Imports by the United States from other countries are also increasing – from $1.7 billion in 1990, to $3.4 billion in 1997, and most recently to $4.3 billion in 1999. Overall, U.S. imports

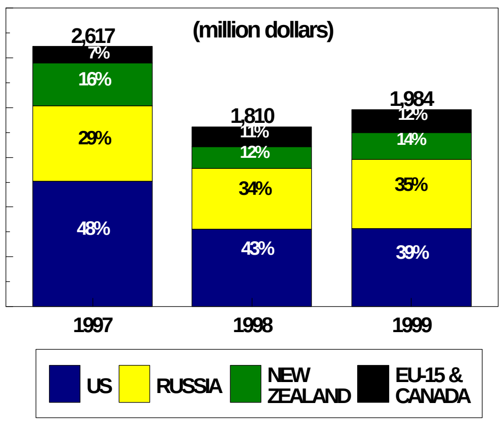
TOTAL VALUE OF WOOD CHIP EXPORTS TO THE WORLD BY MAJOR SUPPLIER



Note: Excludes US exports to Canada & Canadian exports to US.

Sources: US Trade, World Trade Atlas & UNFAO

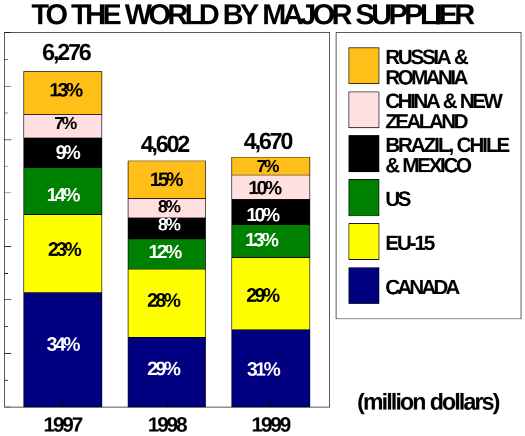
TOTAL VALUE OF SOFTWOOD LOG EXPORTS TO THE WORLD BY MAJOR SUPPLIER



Note: Excludes US exports to Canada & Canadian exports to US.

Sources: World Trade Atlas & FAS/Moscow

TOTAL VALUE OF SOFTWOOD LUMBER EXPORTS TO THE WORLD BY MAJOR SUPPLIER



Note: Excludes US exports to Canada & Canadian exports to US.

Sources: U.S. Trade, World Trade Atlas & FAS/Moscow

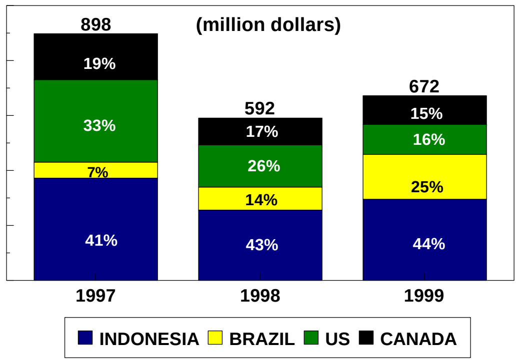
from Canada grew by 237 percent over the decade, while imports from the rest of the world grew by 153 percent.

The nine blocs represent 60 percent of world exports. In 1999, Canada emerged as the leading U.S. export market, with total U.S. exports reaching a record $1.7 billion. Traditionally this place has been held by Japan, but with Japan's ongoing economic problems, U.S. export recovery is not expected in the near term. U.S. solid wood exports to Canada range across product categories, with hardwood lumber the single largest at $330 million, a 19 percent share in total annual average exports for the 1997-1999 period.

<u>Southeast Asia</u>:

- The Indonesia and Malaysia export bloc in 1999 overtook both the EU and the United States in total solid wood exports and now ranks as the world's largest exporter.
- Their total solid wood exports reached $6.5 billion in 1999. Their share in the total exports of these nine blocs is now 24 percent.
- While reforms to improve investment in and management of forestry resources are underway, especially in Indonesia, prospects for the region's future exports are mixed.
- Domestic urban and agricultural demand for land in the short run and more effective environmental reforms in the long run are expected to reduce the amount of available timber in the region.
- In the short and medium term, however, proximity to the major Asian markets of Japan, China and Korea will continue to offer attractive returns and better finance options to manufacturers.
- Exports of hardwood lumber are down, from a share of 33 percent and value of $1 billion in 1997 to a 23 percent share and $700 million in exports in 1999.

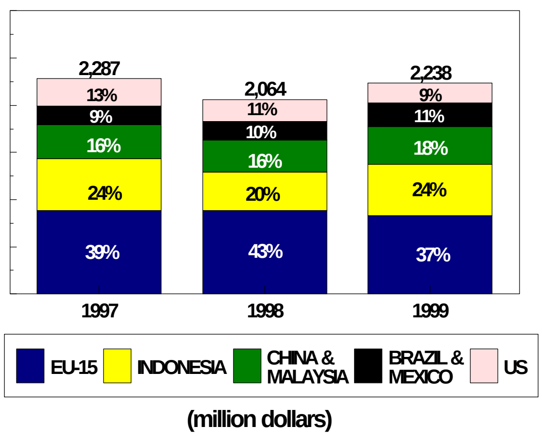
TOTAL VALUE OF SOFTWOOD PLYWOOD EXPORTS TO THE WORLD BY MAJOR SUPPLIER



Note: Excludes US exports to Canada & Canadian exports to US.

Sources: World Trade Atlas & US Trade

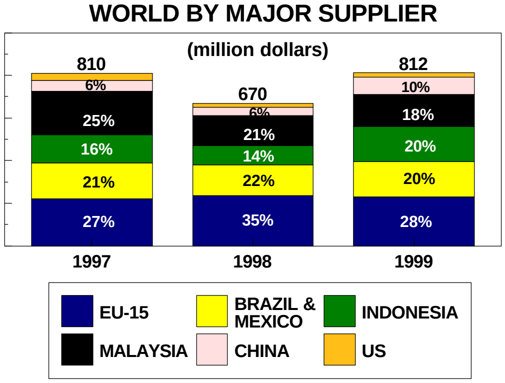
TOTAL VALUE OF BUILDER'S CARPENTRY EXPORTS TO THE WORLD BY MAJOR SUPPLIER



Note: Excludes US exports to Canada & Canadian exports to US.

Sources: World Trade Atlas & US Trade

TOTAL VALUE OF MOULDING EXPORTS TO THE WORLD BY MAJOR SUPPLIER



Note: Excludes US exports to Canada & Canadian exports to US.

Sources: World Trade Atlas & US Trade

- While still principally thought of as a producer of tropical hardwood, Indonesia is the world's leader in softwood plywood trade, with export share rising from 41 percent in 1997 to 44 percent in 1999. Exports by value, however, fell from \$370 million in 1997 to \$290 million in 1999.

European Union:

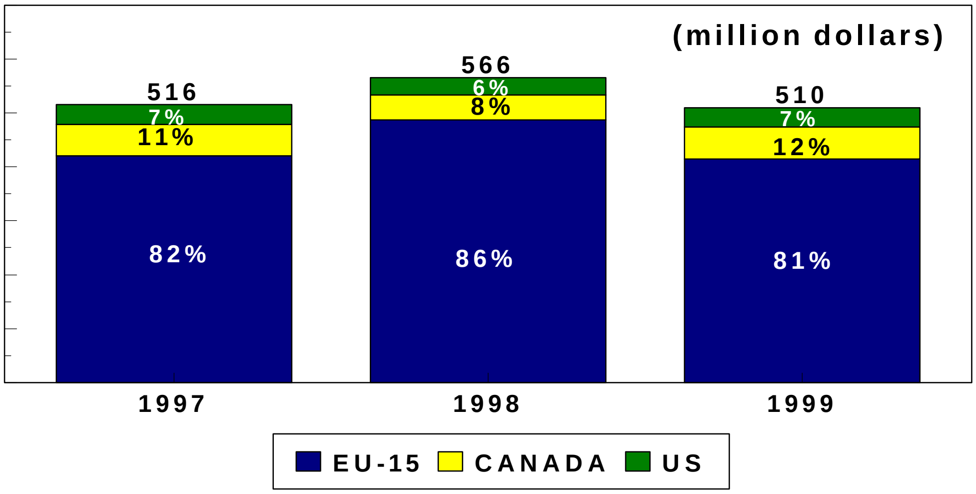
- Only the EU achieved increasing export sales for all three years. EU solid wood exports grew by 6 percent from \$5.1 billion in 1997 to \$5.4 billion in 1999.
- The EU is also the only bloc to achieve an increase in export share, rising from 16 percent in 1997 to 20 percent in 1999.
- The EU is the world's most important particleboard supplier, with a commanding share of the total.
- In 1998, the EU surpassed the U.S. to become the second largest exporting bloc, and is a major U.S. competitor in third-country markets.
- As a sustainably managed producer, EU production, gains in exports, and export share of both hardwood and softwood fiber are expected to continue.

Latin America:

- Despite seriously constrained forestry resources due to pressing domestic needs for agricultural and urban development, the Latin American trading bloc of Brazil, Chile and Mexico has now emerged as the world's fourth largest wood exporter.

- The bloc's average annual exports are \$2.4 billion which registers a 9 percent share of the trade.
- Country level capacity is extremely uneven. The lack of integration in Brazil's land, capital and human resources has constrained efforts to improve forestry management and

TOTAL VALUE OF PARTICLEBOARD EXPORTS TO THE WORLD BY MAJOR SUPPLIER



Note: Exludes Canadian exports to US; US exports to Canada were zero for the period.

Sources: World Trade Atlas & US Trade

investment, while Chilean plantation forestry practices are considered a model for the region. Mexico, by contrast, imports nearly as much as it exports and plays more of a role of a value-adder rather than producer.

- Brazil was the biggest mover on the softwood plywood market, expanding export share from 7 percent and $59 million in 1997 to 25 percent and $165 million in 1999.
- As recovery in the world market continues, the bloc as a whole is expected to maintain its share of the world market. However, plantation forestry in Argentina and Venezuela may significantly expand export capacity from South America in the coming years and result in an increase in market share.

China and Taiwan:

- The bloc of China and Taiwan, despite having one of the world's lowest per capita forestry coverage rates, is expanding its share in the world solid wood products market.
- This bloc has squeezed out both Russia and Canada for fifth place in 1999, with total combined exports of $2.1 billion.
- Their share of the nine-bloc market is now 8.3 percent.
- The majority of China and Taiwan's exports, however, are high value-added wood products. Like Mexico, they import significant quantities of logs and semi-finished products for further processing into furniture, panels and other high-value export items.
- At the same time, actual exports could be even higher due to poorly controlled borders, smuggling and under-reporting to evade taxes and approvals.
- Exports and imports are both expected to increase as reforms to privatize land, housing and associated financing are well underway and Chinese interest and expertise in wood systems and wood design increases.

Rest of the World:

- Canada, Russia, Oceania, and Africa have all incurred a net loss of share in the world market, although Canada, Russia and Oceania did achieve a limited recovery in 1999.
- Separately, the average annual export share for each bloc is Canada with 8.3 percent, Russia with 6.4 percent, Australia and New Zealand with 5.1 percent, and Cameroon, South Africa, and Cote D'Ivoire with 3.3 percent.
- Total exports by each of the four blocs were less than $2 billion per year, but three of the four are major players in the world softwood market. Russia, New Zealand and Australia are especially competitive in the world softwood logs and chip market, while Canada is the most competitive provider of softwood lumber and engineered wood products.
- Future trends in exports from Canada and Russia are particularly difficult to gauge due to governmental policy factors. The U.S.-Canada Softwood Lumber Agreement is due to expire in April of 2001 and it is uncertain whether it will be renewed, modified or allowed to lapse altogether. Canadian provincial interests are divided and environmental controls are becoming more widespread.
- Russian exports are expected to expand in the short run as Russian President Putin downgraded the Forestry Ministry to an agency in May of 2000, thus leaving legal (and illegal) local authorities with more power to make independent marketing decisions, but with less investment and guidance from public sector investment and regulatory agencies.

In worldwide commodity market trade (excluding bilateral trade between the United States and Canada), the United States is the world's:

- Top ranked exporter of hardwood lumber with average annual sales of $1 billion. (Indonesia ranks second with average annual exports of $770 million and the EU ranks third with average annual exports of $300 million.)
- Top ranked exporter of softwood logs with average annual sales of $940 million. (Russia, however is a close second – and growing – with average annual exports of $689 million.)
- Top ranked exporter of wood chips with average annual sales of $428 million. (Australia came in with a very close second of $402 million.)
- Top ranked exporter of hardwood veneer with average annual sales of $269 million. (The EU and Malaysia ranked second and third with average annual exports of $241 million and $181 million respectively.)
- Third largest exporter of hardwood logs, after Malaysia and the EU, with average annual sales of $182 million.
- Third largest softwood lumber exporter, after Canada and the EU, with average annual sales of $686 million.
- Third largest softwood plywood exporter, after Indonesia and Brazil, with average annual sales of $188 million.
- Third largest particleboard exporter, after the EU and Canada, with average annual sales of $35 million.
- Fourth largest exporter of builder's carpentry, after the EU, Brazil & Mexico, and China, with average annual sales of $233 million.

This concludes the first part of this three part study. We have thus far focused on identifying the key wood exporting blocs and describing their competitive strengths and shares of world trade by wood product categories. The fact that the United States is the world's largest forest products importer helps to explain the contrast of recent years between strong U.S. domestic production and declining export market share. Nevertheless, as outlined in the previous paragraph, the U.S. remains a major exporter and world-class competitor across a broad range of products. The second part of this study will examine import demand by major buyers, identify the size and pattern of consumption, and analyze the perception of U.S. products in major markets.

The third part of this study will seek to quantify and rank the factors influencing U.S. exports of solid wood products in the 1990's. These factors include economic growth, U.S. housing starts, exchange rates, and domestic and foreign fiber availability. We look forward to presenting the second and third parts of this study in upcoming issues of *Wood Products: International Trade and Foreign Markets*.

Resources:
David Brooks, *U.S. Forests in a Global Context*, Rocky Mountain Forest and Range Experiment Station, Colorado, USDA Forest Service, Report RM-228, 1993.

James L. Howard, *U.S. Timber Production, Trade, Consumption and Price Statistics 1965-1997*, Forest Products Laboratory, Wisconsin, USDA Forest Service, General Technical Report FPL-GRR-116, July 1999.

Powell, Faulkner, Darr, Zhu and MacCleery, *Forest Resources of the United States*, 1992 (June 1994 Revision), Rocky Mountain Forest and Range Experiment Station, Colorado, USDA Forest Service, Report RM-234, 1994.

Wood Products: International Trade and Foreign Markets, "Annual Statistical Trade Edition", USDA Foreign Agricultural Service, Washington, D.C., Circular Series WP 1-00, April 2000.

The 2000 RPA Timber Assessment: A review of preliminary findings, Southern Research Station, North Carolina, USDA Forest Service, http://www.rtp.srs.fs.fed.us/econ/rpa2000/index.htm, April 2000.