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Working Paper

82

**THE US-JAPAN WOOD PRODUCTS TRADE DISPUTE:
A HISTORICAL PERSPECTIVE**

Jun Fukuda

June 2001

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Center for International Trade of Forest Products
University of Washington
College of Forest Resources
Box 352100
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EXECUTIVE SUMMARY

Since the early 1980s, the US has worked to persuade Japan to open its wood products market to US products through various channels including bilateral talks, multilateral negotiations, and regional alliances. In response, Japan has reluctantly liberalized and deregulated its wood products imports through tariff reductions, building standards revisions, and foreign product standards recognition over the last fifteen years. Although the US-Japan trade dispute has been a widely discussed topic in general, the dispute over trade liberalization and market deregulation of the wood products sector has been often neglected or seldom mentioned. At a time when discussions of new multilateral trade talks are beginning within the WTO, and Japan is reevaluating its stance toward liberalized wood products imports by initiating a preliminary investigation to the possible implementation of a safeguard action against softwood lumber imports, it will be useful to look back and understand the process through which the US-Japan wood products trade dispute has progressed, the outcomes it has achieved, and the lessons that can be drawn from this experience.

The objectives of this study are 1) to describe the historical development of the US-Japan wood products trade dispute, 2) to summarize the trade liberalization and market deregulation measures taken in Japan as a result of these trade negotiations, 3) to analyze the performance of US products in Japan's mix of wood products imports, and 4) to conduct a preliminary evaluation of US trade liberalization and market deregulation initiatives on Japan's wood products market.

HISTORICAL DEVELOPMENT OF THE US-JAPAN WOOD PRODUCTS TRADE DISPUTE

The US-Japan wood products trade dispute began in the early 1980s under the conditions of a growing US trade deficit with Japan, the economic recession in the US, and the relative decline of the wood products industry in the western US. In 1985, Japan's wood products sector was chosen as a target for the MOSS talks, mainly due to Japan's strong opposition to the reduction of tariffs on veneer and plywood. Both countries reached an agreement to reduce specific wood product tariffs and to modify product standards so as to meet the requests of the US.

In spite of the trade policy changes achieved in 1985, US legislators remained dissatisfied with the growing trade deficit with Japan and legislated the Omnibus Trade and Competitiveness Act of 1988, including the Super 301 provision. Due to US industry frustration with Japan's reluctance toward continuing the MOSS process, Japan's wood products sector was identified as a "priority practice" under the Super 301 provision in 1989. Under the threat of retaliation, both countries concluded the "1990 Agreement on Wood Products." Although the Agreement did not deal with tariff issues directly, it required an overhaul of Japan's building standards and products standards.

After the completion of Super 301 negotiations, the US wood products industry turned to a new trade issue: the zero-for-zero initiative in the GATT Uruguay Round, by forming the Zero Tariff Coalition in cooperation with other industrial sectors. Although several industrial sectors achieved mutual tariff elimination during the Uruguay Round, the wood products sector failed to achieve tariff elimination primarily due to Japan's opposition.

Following the end of the GATT negotiations in December 1993, the US continued its pressure on Japan to eliminate tariffs on wood products. Due to Japan's resistance, coupled with the failure of the Framework talks in February 1994, the US revived the Super 301 provision to name Japan's wood products sector in the watch list, forcing Japan to compromise. With Japan's promise to fully implement the 1990 Agreement and new initiatives in Japan's housing sector that was partly stimulated by the Kobe Earthquake disaster, the US industry finally allowed the removal of Japan from the Super 301 watch list in 1996.

Although the tariff elimination issue was also discussed during the bilateral negotiations following the Super 301 revival, it was eventually transferred to the regional discussions held within APEC. While the elimination of wood products tariffs was successfully included in the EVSL initiative, Japan refused to participate in the wood products tariff measure citing the APEC principle of voluntarism. Finally, APEC members agreed to move the renamed ATL initiative to the WTO, hoping to reach agreement during the Third WTO Ministerial Meeting in Seattle. However, no progress was made on the ATL initiative, or on the initiation of the WTO New Round.

RESULTS OF TRADE LIBERALIZATION AND MARKET DEREGULATION

The US industry succeeded in the trade liberalization and market deregulation initiatives in Japan's wood products sector. As the result of fifteen years of negotiations, Japan reduced tariffs on wood products, changed its building standards from prescriptive to performance-based, and recognized wood products graded in the US for construction use in Japan.

First, regarding tariffs, the MOSS agreement reduced tariffs on specific products including veneer and plywood, and the Uruguay Round Agreement reduced tariffs on most wood products by approximately 30% from the applied level in 1993. The final bound rates were implemented in 1999 following a five-year staging period. However, due to shifts in Japan's wood products imports from logs to processed products, the trade-weighted average of wood products tariffs increased slightly during the 1985-1999 period.

Second, in 1999, Japan revised its Building Standard Law from a prescriptive to a performance-based system, as promised in the 1990 Agreement on Wood Products and the 1996 Emergency Priority Program. Additionally, Japan immediately implemented specific building standard measures listed in the ANNEX of the 1990 Agreement. It is expected that the revised BSL will increase the number of 2x4 wood frame housing starts and promote the use of imported value-added wood products for post and beam homes.

Third, Japan introduced new systems, which recognized imported wood products for construction use in Japan. Regarding JAS, MAFF implemented the FTO system, which permitted the use of test data conducted by recognized foreign testing organizations for the mill certification and product testing process as a result of the MOSS agreement. Later, in 1999, MAFF revised the JAS Law to incorporate the RCO/RFCO system which authorized specific (foreign) certification organizations to certify (foreign) manufacturers to test their own products and self-label them as JAS approved. At the same time, MOC reached a mutual recognition agreement with the US industry which recognized the use of dimension lumber, MSR lumber, and finger-jointed lumber bearing the grademark of US testing agencies for 2x4 wood frame construction in Japan.

These measures will surely provide easier access for foreign products, not limited to just US products, in Japan's wood products market.

EFFECTS OF TRADE LIBERALIZATION AND MARKET DEREGULATION

In spite of its success in the trade liberalization and market deregulation initiatives, the US wood products industry has been losing market share in Japan's imports of softwood lumber, softwood plywood, softwood veneer, structural laminated lumber, wood doors, and wood windows. In some cases, the US increased its exports to Japan, but exports from other countries, mostly Canada and EU, increased more rapidly than those from the US, resulting in a lower market share for the US. This trend indicates that as the US industry was negotiating trade liberalization and market deregulation initiatives in Japan, structural changes were occurring that would adversely impact the competitiveness of the US wood products industry. These structural and market changes include changing material preferences in Japan toward kiln-dried products, the strength of the US dollar relative to Canadian and European currencies, and higher transportation costs from the US to Japan than from the EU. In addition, it should be noted that some studies indicated that other successful countries made substantial efforts to develop a better understanding of Japanese market conditions and accommodate Japanese customers' extra requirement for products and services.

PRELIMINARY EVALUATION

The declining share of US products in Japan's wood products imports can be attributed to two factors: an increase in US domestic consumption of wood products, and the reduced international competitiveness of US wood products. First, wood products exports have become less important to the US industry with the increasing consumption of wood products under the strong economic growth of the 1990s. Second, the US industry has been slow to develop its advantage relative to its competitors in Japan, where some market conditions, including a shift in material preferences toward kiln-dried products, less favorable changing exchange rates, and higher

transportation costs, have adversely impacted the competitiveness of US wood products.

If the US industry wants to increase its wood products exports, it would be advisable for the industry to develop its advantages relative to its competitors in addition to improving market access. Important factors for success include developing a better understanding of the market, making stronger efforts to match product offerings with changing customer preferences, accommodating customers' extra requirements for products and services, improving product quality, and offering competitive prices. Additionally, the US industry may wish to reconsider their export strategies in response to increasing domestic consumption and constrained resource availability and the impact of these factors on their ability to commit to long-term relationships with their foreign customers.

At this time, it is too early to reach a final conclusion regarding the competitiveness of the US wood products industry. Given Japan's changing market conditions, new opportunities could emerge for the US wood products industry to further penetrate Japan's import market. In that case, future success is dependent upon the US industry's efforts to develop its advantages relative to their competitors.

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1 INTRODUCTION

Japan has historically been the largest importer of US wood products. Although Japan's importance to the US wood products industry is declining with the diversification of US exporting partners, the rapid increase in US domestic demand, and the loss of US market share to other foreign countries, Japan's share in US wood products exports in value was still 26% in 1999 (USDA FAS 2000).

Since the early 1980s, the US has worked to persuade Japan to open its wood products market to US products through various channels including bilateral talks, multilateral negotiations, and regional alliances. In response, Japan has reluctantly liberalized and deregulated its wood products imports through tariff reductions, building standards revisions, and foreign product standards recognition over the last fifteen years.

Although the US-Japan trade dispute, in general, has been a widely discussed topic, the dispute over trade liberalization and market deregulation of the wood products sector has often been neglected or seldom mentioned, while attention has been focused on the major industrial sectors, such as automobiles, semiconductors, and agricultural products. In the US, there has been no consistent study describing the historical development of the US-Japan wood products trade dispute. At a time when discussions regarding the initiation of new multilateral trade talks are beginning to occur within the WTO, and Japan is reevaluating its stance toward liberalized wood products imports by initiating a preliminary investigation to the possible implementation of a safeguard action against softwood lumber imports, it will be useful to look back and understand the process through which the US-Japan wood products trade dispute has progressed, the outcomes it has achieved, and the lessons that can be drawn from this experience.

The objectives of this study are the following:

- To describe the historical development of the US-Japan wood products trade dispute,
- To summarize the trade liberalization and market deregulation measures taken in Japan as a result of these trade negotiations,
- To analyze the performance of US products in Japan's mix of wood products imports, and
- To conduct a preliminary evaluation of US trade liberalization and market deregulation initiatives on Japan's wood products market.

It should be noted that this study does not intend to conduct a comprehensive competitive assessment of the US wood products industry in Japan. Rather, it provides a historical perspective on the US trade liberalization and market deregulation initiatives, intending to derive some policy implications.

The remainder of this paper is organized as follows: Chapter Two summarizes the economic background in the US during the early 1980s, and then follows the historical development of the US-Japan wood products trade dispute from the early 1980s to 1999, dividing the dispute into five periods: 1) 1983-1986: the Market-Oriented Sector-Selective talks (MOSS); 2) 1989-1990: Super 301 phase I; 3) 1986-1994: the Zero-For-Zero Initiative in the Uruguay Round; 4) 1994-1996: Super 301 phase II; and 5) 1997-1999: the Early Voluntary Sectoral Liberalization (EVSL)/Accelerated Tariff Liberalization (ATL) initiative. Chapter Three summarizes the measures taken in Japan as a result of the US trade liberalization and market deregulation initiatives, including tariff reductions, building standards revisions, and foreign product standards recognition. Chapter Four analyzes the performance of US wood products in Japan's mix of wood products imports during the period of the disputes and thereafter, primarily by using market share as a proxy for the US industry's competitiveness. Finally, Chapter Five provides a preliminary evaluation of the US trade liberalization and market deregulation initiatives on Japan's wood products market, based upon the earlier discussions.

2 HISTORICAL DEVELOPMENT OF THE US-JAPAN WOOD PRODUCTS TRADE DISPUTE

Since the early 1980s, the US government has consistently pressured Japan to open its wood products market to foreign suppliers, responding to pressure from the wood products industry in the US. Although US trade liberalization initiatives targeting Japan probably date back to the time when the US imposed log export restrictions on western federal lands in 1968, a move which drove the US industry to expand exports of softwood lumber and plywood (Boston Consulting Group 1968: 1), the pressure for trade liberalization intensified after 1980 with the accumulation of the large US trade deficit with Japan. This section will be covered in two parts. First, the economic background in the US during the early 1980s will be explained. Second, the historical development of the US-Japan wood products trade dispute will be explained, breaking it into five periods: 1) 1983-1986: the MOSS talks; 2) 1989-1990: Super 301 phase I; 3) 1986-1994: the Zero-For-Zero Initiative in the Uruguay Round; 4) 1994-1996: Super 301 phase II; and 5) 1997-1999: the EVSL/ATL initiatives.

2.1 ECONOMIC BACKGROUND IN THE US

US Economy

In the early 1980s, pressure for protectionism was gaining momentum in US politics. Although the US had been strongly promoting the concept of free trade under the General Agreement on Tariffs and Trade (GATT) regime since the end of World War II, the situation surrounding the US trade policy had begun to change in the early 1970s toward a regulative trade policy. This change in policy direction can be attributed to a variety of factors including the increased exposure of the US economy to international trade, the relative decline in the competitiveness of US industry, the rise of new competitors in East Asia, the worsening of “stagflation” and the resultant slow economic growth, the high unemployment and price increases, the move from fixed to floating exchange rates, and the emergence of a tripolar economic world (Destler 1992: 44). These changes undermined the competitive position of the US industry in the world economy and focused US attention on the unfair trade practices implemented by other countries, especially Japan.

Japan’s trade surplus with the US in the 1970s became an important issue in US trade policy. Given the changes in the US economy discussed above, the US trade deficit began to increase rapidly in the late 1970s as a result of a decrease in exports and an increase in imports (Figure 1). In 1980, the trade deficit was \$26 billion, 41% of which was incurred through trade with Japan. Although the US trade deficit was partly a reflection of US asset sales to foreign countries stimulated by the low level of domestic savings (Krugman 1997: 47), it was generally perceived as evidence of unfair trade practices by foreign countries. Accordingly, the US began to assert that Japan was exporting products too aggressively with government assistance while limiting imports of foreign goods through a combination of both tariff and non-tariff barriers.

Although many industry and labor leaders argued for the imposition of import restrictions to offset unfair trade practices, the final regulations were often implemented as “voluntary export restraints,” or VER (quotas on trade imposed from the exporting country’s side instead of the importers) because the imposition of import restrictions would have violated the GATT principle of free trade. The most notable example is the VER imposed on Japanese automobile exports to the US in 1981. The first agreement in 1981 limited Japanese automobile exports to the US to 1.68 million units. In 1984, it was revised to allow 1.85 million units in both 1984 and 1985 before it was terminated in 1985 (Krugman and Obstfeld 2000: 204). This protectionist sentiment was later deflected toward “pro-trade” initiatives under the new trade policy stance adopted by the Reagan Administration.

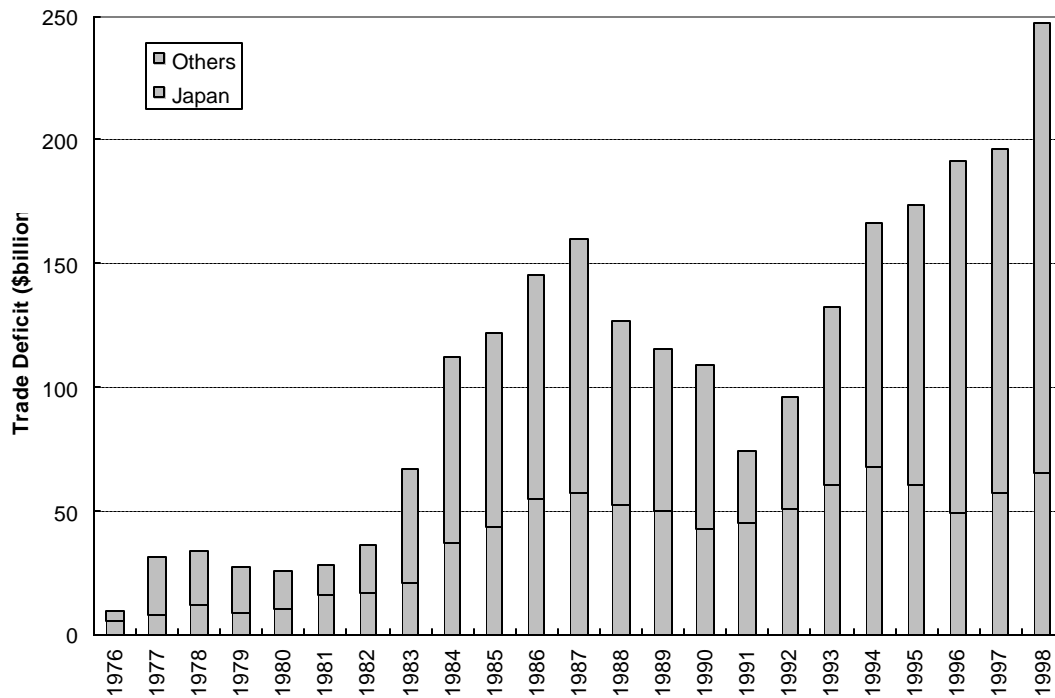


Figure 1. US Trade Deficit, 1976-1998.
 Source: United States (1981-2000).

US Wood Products Industry

For the US wood products industry, the early 1980s was a hard time. In 1980, the Federal Reserve Bank began to reduce the money supply to attack inflation which had begun to rise in the late 1970s, partly due to the Oil Shocks. As a result, economic activity began to decline, displaying zero percent growth in 1980 and sliding to negative growth by 1982. At the same time, the bank prime interest rate skyrocketed to as high as 19% in 1981. Due to the economic slowdown and high mortgage interest rates, the number of new housing starts decreased by 47%, from 2.0 million units in 1978 to 1.1 million units in 1982. This devastated the domestic demand for wood products. Lumber consumption during this period decreased by 26%, from 44 billion board feet (bbf) to 32.4 bbf.

Hardest hit by this economic slowdown was the western softwood lumber industry. While total US softwood lumber production decreased by 25%, from 32.1 bbf in 1978 to 23.8 bbf in 1982, production in the West declined by 34% from 20.8 bbf to 13.7 bbf. Similarly, employment in the western wood products industry during this period declined by 30%, from 257,000 jobs to 179,000 jobs, devastating the regional economy (WWPA 1979, 1983). In contrast, softwood lumber production in the South declined only marginally. As a result, the share of the West in total US softwood lumber production declined from 65% to 58%, while the Southern share increased from 29% to 37% during the period 1978-1982 (Figure 2).

This decline of the western industry can be partly attributed to the overbidding of national forest timber during the period 1979-1981. Under the optimistic projection of wood demand described in the 1979 timber assessment report and the relatively short supply of timber in the West, western mill-owners dependent upon national forests, rushed to secure their timber supply. This overbidding of federal timber resulted in a skyrocketing of timber prices at a rate exceeding 20% per annum over the period 1979-1981. Unfortunately, as wood demand declined with the drop in the number of new housing starts, both timber prices and lumber prices fell sharply. This boom-and-bust movement of timber prices forced many small lumber mills into default, as they found themselves unable to process high priced timber profitably. Responding to the situation in the West, the Forest Service allowed the extension of timber contracts several times. Finally, in October 1984, the

Federal Timber Contract Payment Modifications Act of 1984 (FTCPMA) was signed by President Reagan. The FTCPMA permitted qualifying federal timber contract holders to be cleared of their liabilities upon payment of a buyout fee, a process that saved many wood products firms from bankruptcy (Mattey 1990).

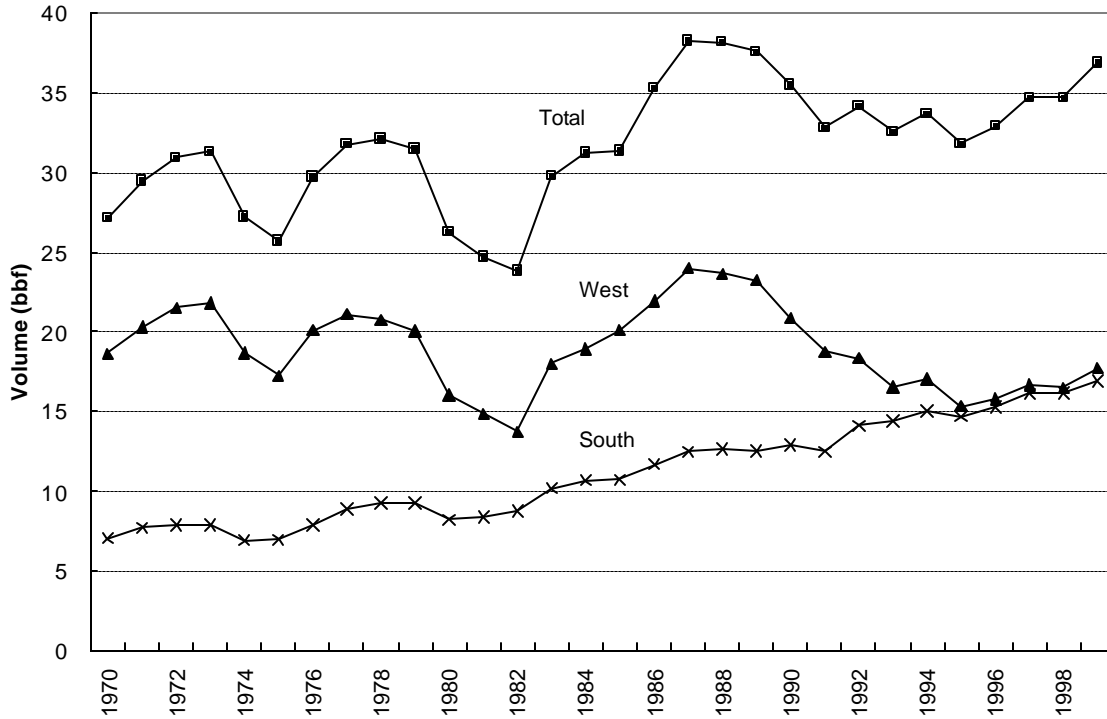


Figure 2. US Softwood Lumber Production by Region, 1970-1999.

Source: WWPA (1975-1999); AF&PA (2000).

In addition to the relative decline of the western industry, the volume of Canadian softwood lumber exports into the US was rapidly increasing. The appreciation of the US dollar caused by asset sales to foreign buyers, coupled with favorable stumpage prices and lower processing costs in Canada, provided Canadian producers an opportunity to further penetrate the US softwood lumber market (Adams et al. 1986). By 1982, the Canadian share of the US softwood lumber market reached 28%. Accordingly, the Northwest Independent Forest Manufacturers, a coalition of Pacific Northwest softwood lumber manufacturers, alleged that subsidized Canadian lumber imports were a major cause of unemployment in the Pacific Northwest sawmill industry. This complaint marked the beginning of the ongoing Canada-US dispute in softwood lumber trade (Fukuda 2001).

From this discussion, it is reasonable to conclude that the slowdown of the western US wood products industry as a result of the economic recession and the timber contract defaults, coupled with the protectionist atmosphere in the US towards Japan’s alleged unfair trade practices, encouraged the US wood products industry to look to further open Japan’s wood products market.

2.2 MOSS TALKS: 1983-1986.

In response to the continued US demand for increased market access, the Japanese Government introduced a series of economic “packages,” which contained a wide range of economic measures. In December 1981, the first package, called “*taigai-keizai-taisaku*” (the international economic measures), was announced. This package consisted of five major actions, including market-opening measures, import promotion, export restraint, industrial cooperation, and development assistance. Among these actions, the most important

measure was a tariff reduction in April of 1982 that accelerated by two years the eight-year reduction schedule agreed to in the Tokyo Round of Multilateral Trade Negotiations (MTN) for all bound products, including wood products (Nihon Keizai Shinbun 1981; Kawada 1986: 26-32).

In 1983, the National Forest Products Association (NFPA), the largest association of wood products manufacturers in the US, identified the reduction of high Japanese tariffs on hardwood and softwood veneer, softwood plywood and particleboard as its key trade priority for the year (NFPA 1983a). These four wood products were selected for primary consideration because the NFPA believed that exports of these products were hindered by high tariffs in Japan (NFPA 1983b). This allegation was reinforced by the fact that Japan imported a huge volume of logs from the US without imposing tariffs. The NFPA charged that Japan's tariff structure for wood products exhibited a trend of "tariff escalation," that is, lower tariffs were applied on raw materials (logs, chips) with higher tariffs being applied on processed products. The NFPA lobbied the US Congress, sent missions to Japan, and distributed a brochure describing the benefits of tariff elimination for Japanese consumers titled "Eliminating Japanese Tariffs on Processed Wood Products: Twenty Relevant Questions and Answers." Accordingly, this initiative gained momentum among the Office of the US Trade Representative (USTR), Department of Agriculture (USDA), Department of Commerce, State Department, and White House (NFPA 1983c). However, the Japanese Government and Japan's wood products industry strongly resisted the idea of further tariff reductions, rejecting the call for wood products to be included in the economic packages.

In October 1983, the Japanese Government introduced its fourth economic package, called "*sogo-keizai-taisaku*" (the comprehensive economic measures) that included domestic demand expansion, market-access revisions, import promotion, encouragement of capital inflow, promotion of international yen transactions, liberalization of financial markets, and increased international cooperation (JEI 1983a; Kawada 1986: 26-32). Although the market-access revisions included a tariff reduction for particleboard from 13.1% to 12%, US trade negotiators continued to be frustrated by Japan's reluctance to address a number of tariff issues including the high duties on plywood and veneer (JEI 1983b).

In April 1984, President Reagan stopped in Tacoma, Washington on his way to China to demonstrate the Administration's strong interest in promoting the expansion of wood products trade with Pacific Rim countries (NFPA 1984). Although President Reagan's visit encouraged the wood products industry, Japan's fifth economic package, introduced in the same month and called "*taigai-keizai-taisaku*" (the international economic measures), was disappointing for the US industry. In spite of strong lobbying by the US, wood products were again excluded from the list of 76 products identified for tariff reduction or elimination. The chief US trade negotiator labeled Japan's continued unwillingness to reduce the high duties on plywood, veneer and particleboard as "particularly disappointing" (JEI 1984). In response to the strong frustration of the wood products industry, Vice President Bush visited Japan the following month to explain that the new economic package, without the inclusion of wood products, was unsatisfactory to the US (NFPA 1984).

In January 1985, President Reagan and Prime Minister Nakasone initiated the Market-Oriented Sector-Selective (MOSS) talks. The MOSS talks were designed to deal with all identified trade barriers within specific Japanese industries where US firms were competitive in the international market, but had achieved relatively poor results in exporting to Japan, rather than individually target specific trade barriers (Cohen 1998: 27). On this basis, four industry sectors were selected for the MOSS talks: 1) telecommunications, 2) microelectronics, 3) medical equipment and pharmaceuticals, and 4) forest products including wood and paper products. Initially, the Japanese Government strongly resisted the inclusion of wood products tariffs in the agenda. In contrast, negotiations on the technical standards for lumber and plywood progressed relatively smoothly (NFPA 1985a). In April, the Japanese Government announced the seventh economic package "*taigai-keizai-taisaku*" (the international economic measures), covering a wide range of market access measures including tariff reductions for wood products. The announcement stated that the Japanese Government was willing to "consider" tariff cuts on plywood, veneer and particleboard, contingent upon a new program to revitalize the Japanese wood products industry (JEI 1985). At this point, tariffs on plywood had become a sensitive political issue in Japan, but this revitalization program succeeded in deflecting, at least partly, the industry's opposition through the appropriation of new budget funds (Ando 1992: 249). Later, in

July, the new revitalization program was introduced as “*shinrin, ringyo, mokuzai-sangyo k atsuruyoku kaifuku 5 nen keikaku* (5-year revitalization program for forest, forestry, and wood products industry),” consisting of 50 billion yen in subsidies and 100 billion yen in loan programs. It was designated to stimulate demand for wood, promote restructuring of the wood products industry, and provide assistance for forestry operation including thinning and road building (Rinsan Gyosei Kenkyu-kai 1986: 64-69).

In July 1985, the Japanese Government introduced a comprehensive three-year foreign economic policy, called “*shijo-kaiho-kodo-keikaku*” (market opening action program), which covered six areas: tariffs, import restrictions, standards and certification procedures, government procurement, financial market liberalization, and services (Kawada 1986: 26-32). As for the tariffs on wood products, the program clearly stated that “as regards to the reduction of tariff rates on softwood and hardwood plywood and other panel products, the Government of Japan shall implement the reduction as of April 1987” (NFPA 1985b). However, the US continued to push Japan to clarify the extent of the tariff reductions.

Finally, in January 1986, the two countries reached an agreement through the MOSS talks titled the “US-Japan Joint Report on Sectoral Discussions.” The details of the agreement on wood products tariffs and non-tariff issues were as follows (for the text of the Report, see Appendix A):

Tariffs

- Tariff reductions for veneer, plywood, reconstituted board, unfinished pine lumber, fiber building board, finished lumber, laminated lumber, and wooden beadings & moldings from April 1987 (See Table 1).

Non-tariff issues

- Implementation of the necessary tests in order to adopt lodgepole pine and ponderosa pine as materials for structural laminated lumber.
- Discussion of possible joint promotional activities to expand wood products demand in Japan.
- Commencement of tests to establish product standards for structural panel products including OSB and waferboard.
- Admission of representatives of foreign interests as members to the agricultural and forest standard committee.
- Institutionalization of the process for designating “Foreign Testing Organizations.”
- Review of fire and building codes.

The Agreement also stated that each sectoral group would continue to meet in order to review the implementation of the agreements.

It should be noted that the tariff reductions covered pine lumber and finished lumber in addition to the products of interest to the US: plywood, veneer, and other panel products. This is because the Japanese Government considered tariff reduction requests by Indonesia, Canada, and New Zealand, as well as the US. In particular, Indonesia had been insisting that Japan reduce the tariffs on hardwood plywood, which were higher than those on softwood plywood, largely because the Indonesian plywood industry was anxious for new markets following the imposition of the log export ban in Indonesia in 1985 (Rinsan Gyosei Kenkyu-kai 1986: 60). The MOSS agreement promised to equalize tariffs on softwood plywood and hardwood plywood by April 1988. Similarly, Canada had requested that Japan reduce tariffs on veneer, surface-worked plywood, softwood plywood, finished lumber of SPF species, and laminated lumber in March 1985 (Rinsan Gyosei Kenkyu-kai 1987: 55-56). All of these products were included in the tariff reduction measure contained in the MOSS agreement.

During the course of negotiations, both countries agreed to develop a demonstration wood structure to promote increased wood utilization in Japan. In May 1986, the “Summit House,” a three -story multipurpose structure incorporating the latest US wood frame construction techniques and products, was built as a model building in

Tokyo. The Summit House served as a center for US wood promotion activities in Japan for three years (NFPA 1986a).

Table 1. Japan's Wood Products Tariff Reduction in the MOSS Agreement.

Product Description	Tariff Reductions		
	Jan. 1986	Apr. 1987	Apr. 1988
Veneer (for plywood)	15.0	5.0	5.0
Veneer (others)	15.0	5.0	5.0
Plywood (processed)	16.3	12.5	10.0
Plywood (softwood, not less than 6mm)	15.0	12.5	10.0
Plywood (hardwood, less than 3mm)	20.0	17.5	15.0
Plywood (hardwood, 3-6mm)	20.0	17.5	15.0
Plywood (hardwood, 6-12mm)	17.0	13.5	10.0
Plywood (hardwood, not less than 12mm)	17.0	13.5	10.0
Reconstituted Wood	12.0	8.0	8.0
Unfinished Pine Lumber	7.0	4.8	4.8
Fiber Building Board	5.2	3.5	3.5
Finished Lumber (SPF, larch)	10.0	8.0	8.0
Laminated Lumber	20.0	15.0	15.0
Wooden Beadings & Mouldings	7.2	4.8	4.8

The response of the US industry to the MOSS Agreement was mixed. Although the American Plywood Association (APA) was dissatisfied with the results as “too little and far too long delayed” and “of no significant benefit to the plywood industry,” the NFPA expressed satisfaction with the agreement as a “positive development.” The NFPA estimated that the tariff reduction, coupled with the product standard revisions and increased domestic demand, could result in a \$100 to \$150 million increase in US wood products exports to Japan annually, with more than half of the increase expected to come from veneer exports (NFPA 1986b).

2.3 SUPER 301 PHASE I: 1989-1990

During the MOSS talks, the US altered the focus of its foreign trade policy. On September 22, 1985, the Plaza Agreement was implemented, effectively depreciating the US dollar relative to other currencies. On the following day, President Reagan gave a “free trade” speech at the White House, emphasizing his determination to fight for the rights of American producers in foreign markets by aggressively employing Section 301 of the 1974 Trade Act, signaling a new “pro-trade” policy. Section 301, titled the “Enforcement of United States Rights under Trade Agreements and Response to Certain Foreign Trade Practices,” provides for retaliatory actions against foreign countries that unjustifiably burden or restrict US commerce or deny US rights under trade agreements. Under Section 301, the US can suspend or withdraw trade agreements, or impose retaliatory tariffs or quotas (Lash 1998). Since the introduction of Section 301 in 1974, only two of the 48 petitions filed by private firms had resulted in retaliatory actions. However, in September 1985, the USTR self-initiated (without an industry petition) three Section 301 investigations, marking a substantial departure from its earlier passive stance (Destler 1992: 126).

Mainly due to the strong yen resulting from the Plaza Agreement, Japan’s imports of US wood products began to increase. As the exchange rate appreciated from 238 yen/\$1 USD in 1985 to 145 yen/\$1 USD in 1987, US exports of wood products into Japan increased from \$1.1 billion to \$1.8 billion (Figure 3). However, most of this increase can be attributed to increased exports of logs and lumber, rather than processed wood products. Contrary to the NFPA expectation, Japanese imports of veneer and structural panel products increased only marginally.

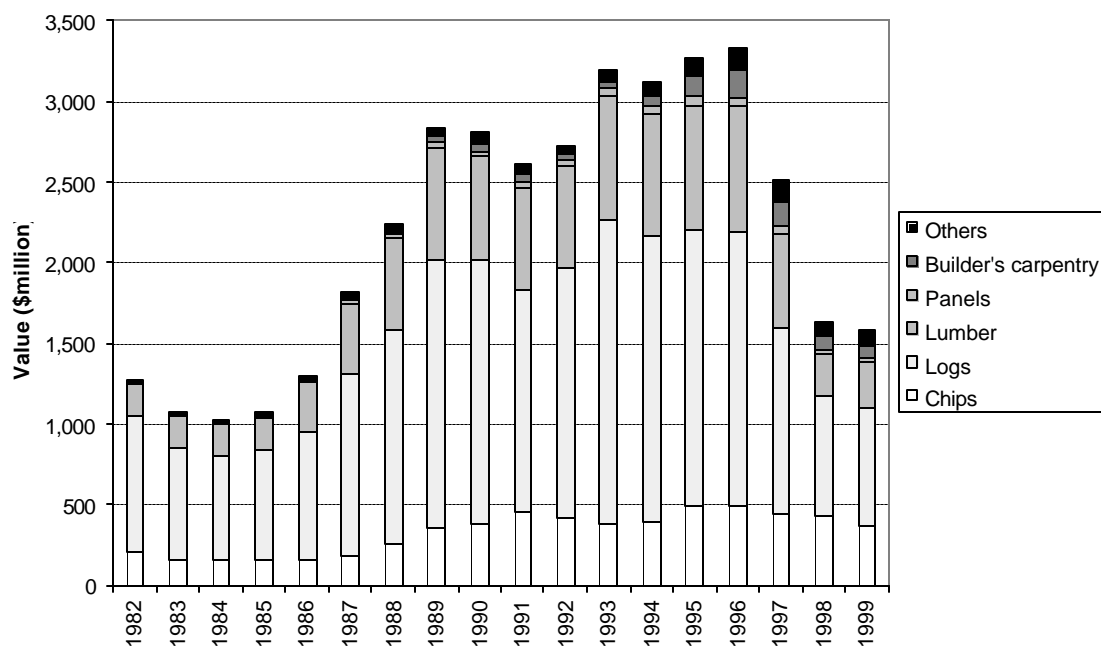


Figure 3. US Solid Wood Product Exports to Japan by Product, 1982-1999.

Source: USDA FAS (1995-2000).

Although the US pushed for further liberalization of wood products trade by continuing the MOSS process as provided in the 1985 agreement, the Japanese Government resisted. In the MOSS wood products trade talks held in August 1988, the US proposed a continued commitment to the MOSS process, but the Japanese negotiators were noncommittal, saying only that they would “consider” this proposal (NFPA 1988a).

Despite the trade policy changes enacted by the Reagan Administration, US legislators remained dissatisfied with Japan’s huge trade surplus, insisting that the US should take stronger actions. Then, after four years of negotiations, President Reagan finally signed the Omnibus Trade and Competitiveness Act of 1988 into law in August 1988. The Act amended Section 301 of the 1974 Trade Act in two important ways. First, the authority to determine whether foreign trade practices were unfair and to decide upon specific retaliatory action was transferred from the President to the USTR, whose office was more aggressive in pursuing market-opening policies. Second, the USTR was required to identify specific countries and practices for investigation and negotiation (“priority countries” and “priority practices”) based upon the annual report on foreign trade barriers, and impose retaliatory actions if negotiations failed, during the period 1989-1990. (In the case of the year 1989, the USTR had to identify priority countries and practices by May 31). This second provision is commonly referred to as “Super 301” (Destler 1992: 132).

In March 1989, the NFPA asked the USTR to target Japan’s barriers to US wood products for trade liberalization under the Super 301 process. The NFPA identified a variety of practices in Japan’s wood products sector as unfairly restricting trade, including tariff escalation, tariff misclassification, counter liberalization subsidies, subsidies, discriminatory standards and building code restrictions, unfair competition and tolerance of cartels, high distribution costs, and discriminatory government procurement practices (NFPA 1989a).

In April 1989, the USTR released the annual “National Trade Estimate Report on Foreign Trade Barriers.” The report targeted Japan’s wood products sector, stating “Japan’s tariffs on and misclassification of wood products as well as its building codes and product standards that favor other non-wood construction materials continue to dampen the demand for wood in general including many competitive US wood products. Industry

claims of government assistance, Fair Competition Codes, toleration of anticompetitive practices, counter liberalization measure, Japanese government procurement policies and unnecessarily restrictive building and fire codes inhibit US exports of wood products to Japan.” The report continued, stating “Despite repeated US requests for consultations on further wood and paper product tariff reductions under the market-oriented, sector-selective (MOSS) framework, Japan has stated further talks are not necessary” (USTR 1989: 98).

In May 1989, the USTR identified six specific “priority practices” in three “priority countries” under the Super 301 process, including the following:

- Technical barriers to trade in the wood products sector in Japan, which impose unnecessary obstacles to imports.
- Exclusionary government procurement practices in the satellite and supercomputer sectors in Japan which bar foreign suppliers.
- Quantitative import restrictions, including import bans and restrictive licensing, imposed in Brazil.
- Trade-related investment measures in India that prohibit or burden foreign investment.
- Closure of India’s insurance market to foreign insurance companies (NFPA 1989b).

Regarding the priority practices of Japan’s wood products sector, the USTR explained, “Access to Japan’s market for forest products is impeded by a variety of tariff and non-tariff measures, including technical standards which favor Japanese producers. These practices include wood grading requirements which discriminate against US wood products as well as a variety of testing standards which impede US exports” (NFPA 1989b). The NFPA estimated that if the practices cited in the Super 301 decision were eliminated or substantially reduced, US exports of processed wood products to Japan could increase by as much as \$1.2 billion annually (NFPA 1989c)

The determination of these priority countries and practices was a compromise between domestic interests pressing the administration to implement the law fully and vigorously and foreign interests concerned about the law’s negative effects on foreign relationships. Although Japan was the main target of the Super 301 process, the US administration, being sensitive to Japan’s concern about being identified as the only unfair country, ultimately named two other countries: Brazil and India. In addition, the administration targeted explicit trade barriers (e.g., exclusionary government procurement practices and technical barriers) that could be easily changed through the governmental actions, rather than structural barriers, which were deeply embedded in Japan’s culture and economic structure (Ahearn et al. 1990: 10-19). Japan’s structural barriers (such as the extended distribution system and anti-competitive practices) were left to be dealt with in a new round of bilateral trade negotiations, the “US-Japan Structural Impediments Initiative (SII) talks”, which were proposed on the same day as the priority country announcement. The SII talks, initiated in September 1989, dealt with six structural issues, including 1) savings and investment patterns, 2) land policy, 3) the distribution system, 4) exclusionary business practices, 5) *keiretsu* relationships, and 6) pricing. It should be noted that the agenda for the SII talks also included a discussion of the structural problems within the US economy, including the large budget deficits, because Japan insisted on equal treatment for both countries (Sato 1991: 171-198).

In response to the announcement of the priority countries, the Japanese Government initially refused to negotiate under the threat of possible retaliations, but later agreed to hold bilateral talks on the three identified sectors on the condition that the talks were irrelevant to the Super 301 process (NFPA 1989d). Negotiations on the wood products sector began in September 1989 under the framework of the existing US-Japan Trade Committee. Although the USTR’s initial announcement named only technical standards, both countries agreed to a broader agenda including tariffs, tariff misclassification, technical standards, and building codes (NFPA 1989e). After a series of intensive monthly meetings, both countries reached a final agreement on the wood products issues in April 1990, a month before the next scheduled announcement of priority countries under the Super 301 process (NFPA 1990a). Given the successful completion of negotiations in the other sectors, coupled with an announcement of the interim report on the SII talks in April, the USTR decided not to name Japan as a priority country in 1990. Later in June 1990, the “1990 Agreement on Wood Products” was announced. (For the text of the 1990 Agreement, see Appendix B).

The 1990 Agreement addressed six specific issues: 1) tariffs, 2) building standards, 3) Japanese Agricultural Standards (JAS), 4) the classification of laminated wood products, 5) the establishment of a wood products subcommittee, and 6) subsidies. First, it stated that the Japanese Government would adopt a positive stance in the Uruguay Round negotiations regarding tariff reduction/elimination for the following specified wood products: sawn wood, veneer sheets, continuously shaped wood, particleboard, fiberboard, plywood, builders' joinery and carpentry, and others. Further, it specified that the tariff reduction would be "at least as ambitious as that achieved in the Tokyo Round," the same expression contained in the commitments made in the Uruguay Round Mid-Term Review of April 1989.

Second, as for building standards, the 1990 Agreement called for a change from prescriptive to performance-based standards and an open and expeditious recognition of new products and building systems. The proposed revision of the building standards is the most prominent issue in the 1990 Agreement, differentiating it from the MOSS report, which only mentioned, "review of fire and building codes to identify possible measures which could stimulate greater use of wood and wood panel products." The 1990 Agreement identified prescriptive standards that specified the physical properties of structural materials, rather than their performance characteristics, as factors discouraging wood products use in Japan.

Third, regarding JAS, the 1990 Agreement required simplification of the certification process (including the Foreign Testing Organization (FTO) system), adoption and revision of the JAS standards with respect to OSB, machine stress rated (MSR) lumber, and nails, recognition of test data provided by foreign testing methods as equivalent to those in the JAS standards, and the establishment of a JAS Technical Committee.

Fourth, the 1990 Agreement reclassified structural laminated wood products, including glulam and structural LVL, from HS 4412 with a 15-20% tariff to "builder's joinery and carpentry," HS 4418.90, with a 3.9% tariff. Fifth, the 1990 Agreement established a "Wood Products Subcommittee" under the US-Japan Trade Committee to meet biannually and review the implementation of the measures specified in the Agreement. Finally, the 1990 Agreement stated that all subsidies should be consistent with GATT provisions and OECD guidelines. This final statement reflected the US industry's concerns about Japan's subsidies to the domestic wood products industry, in particular the revitalization program established to counteract the tariff reductions enacted during the MOSS talks (USTR 1991: 123). The USTR estimated that US wood product exports to Japan would increase by more than \$1 billion as a result of the 1990 Agreement (NFPA 1990a).

2.4 ZERO-FOR-ZERO INITIATIVE IN THE URUGUAY ROUND: 1986-1994

The Uruguay Round of trade negotiations under the GATT was launched at Punta del Este, Uruguay in September 1986. The new round had been proposed by the US in 1982 to moderate domestic protectionist pressure caused by the mounting US trade deficit, to enhance access to foreign markets for US industries, and to reverse the declining support for the multilateral trading system in the world (Schott 1994: 4). Initially, the deadline for the negotiations was set for December 1990, although it was later postponed until December 1993.

During the Uruguay Round negotiations, the US wood products industry strongly advocated the elimination of tariffs on wood products. The "US Wood Products Industry Position on Multilateral and Bilateral Trade Negotiations," issued during the early stages of the negotiations, stated ten principles for trade negotiations. Regarding tariff elimination, it declared "That all major developed countries shall have zero tariffs on all wood products, regardless of the level of processing" (NFPA 1988b).

At the midterm review of the Uruguay Round in April 1989, the ministerial agreement called for "overall reductions at least as ambitious as that achieved by the formula participants in the Tokyo Round," meaning an average one-third cut in tariffs (Schott 1994: 60). In March 1990, the US proposed a program of tariff cuts in the Uruguay Round, which included duty-free access to the US market for wood products and paper, chemical products, steel, aluminum, construction equipment, lift trucks, bicycle parts, electronic products, furniture, and toys and dolls, contingent upon the same duty-free treatment by all GATT participants (NFPA 1990b). Subsequently, as the initial deadline for the Uruguay Round approached, the US wood products industry began enthusiastically lobbying for the tariff elimination initiative, probably because the completion of Super 301

talks with Japan in April 1990 enabled the industry to redirect its efforts towards a new trade issue. However, by October 1990 there had been little interest in the US tariff elimination proposal displayed by the other foreign negotiators (NFPA 1990c).

In order to ensure a higher level of priority and signal support for the US trade negotiator's zero tariff position, several US industry associations and companies formed a lobbying organization, named "Zero Tariff Coalition." The industrial sectors which joined the coalition included aluminum, beer, construction equipment, copper, diesel engines, furniture, gas turbine engines, lead, lift trucks, paper, semi-conductors, toys, and wood products (NFPA 1990c). As for the wood products industry, over seventy-five major wood products companies and nineteen wood products associations, representing more than seven thousand companies, joined the coalition to support the US zero-for-zero tariff initiative. At the Zero Tariff Coalition press conference, the NFPA International Trade Council Chairman advocated the initiative based upon the recognition of the US wood products industry as "state of the art manufacturing industries" with strong competitiveness, and mentioned that the success of the initiative could mean a two to four billion dollar increase in annual export sales, and the creation of an additional twenty to forty thousand jobs within the US wood products industry (NFPA 1990d).

In December 1990, the initial deadline for the GATT negotiations, the Uruguay Round was suspended, mainly due to the disagreement between the US and the EC regarding the final agricultural proposal. In July 1991 at the G-7 Economic Summit in London, in an effort to resume the stalled negotiations, the leaders of the seven major industrialized countries stated that they would seek "in particular, to cut tariff peaks for some products while moving to zero tariffs for others, as part of a substantial reduction of tariffs and parallel action against non-tariff barriers." The NFPA welcomed this statement as a formal recognition of the zero-for-zero tariff initiative (NFPA 1991a). Following the Blair House Agreement on Agriculture between the US and the EC in November 1992, the disagreements between the two countries began to be resolved. In July 1993 at the Quad Trade Ministerial Meeting in Tokyo, the four major countries (Canada, the EC, Japan, and the US) agreed to the elimination of tariffs on pharmaceuticals, construction equipment, medical equipment, steel, beer, furniture, agricultural machines, and spirits, as a result of the efforts by the Zero Tariff Coalition. Although Canada and the US urged Japan to support the zero tariff initiative for wood products, Japan expressed difficulty with the wood products tariff elimination (Rinsan Gyosei Kenkyu-kai 1993: 73-77).

As the final deadline for the negotiations approached, the US wood products industry began to push the Clinton Administration to make progress on the zero tariff initiative, frustrated by the exclusion of wood products from the Quad agreement. The President of the American Forest and Paper Association (AF&PA, renamed from the NFPA) and 120 member CEOs sent a letter to President Clinton and his trade advisors, strongly insisting that "Any Uruguay Round package which does not include zero tariff coverage for wood and paper would mean that an industry that is globally competitive today would be rendered permanently, structurally disadvantaged as a result of a trade policy decision by the US government" (AF&PA 1993a).

Finally, in December 1993, the 117 member countries of the GATT reached a final agreement. As for "zero-for-zero" commitments, tariffs on pharmaceuticals (subject to immediate elimination), construction equipment, distilled spirits, certain furniture, medical equipment, steel, agricultural equipment (subject to a phase-in period of five years), beer (subject to a phase-in period of eight years), and toys and paper (subject to a phase-in period of ten years) were eliminated (Schott 1994: 62). In spite of the US industry efforts to achieve tariff elimination for wood products, agreement was not reached, primarily due to Japan's opposition. The President of the AF&PA expressed frustration with Japan's resistance, stating, "We are very disappointed that Japan refused to agree with the consensus among the major developed countries to eliminate all tariffs on wood products. Failure to reach agreement on this issue deprives the US forest products industry of the bulk of the benefits we had expected to derive from the round and underscores the global impact of Japanese protectionism. It also denies Japanese consumers any relief from high housing costs, and does nothing to stop Japan's growing trade surplus with the United States and the rest of the world" (AF&PA 1993b).

In fact, Japan offered to reduce tariffs for wood products by approximately 50% from the pre-Uruguay Round level (1986), and by approximately 30% from the applied level at that time (1993). Wood products whose tariffs were reduced included lumber, plywood, veneer, particleboard, fiberboard, and laminated lumber

(Rinsan Gyosei Kenkyu-kai 1994: 74) (Table 2). These products covered all of the products specified by the US in the 1990 Agreement on Wood Products. In comparison, the final offers for wood products tariff reduction by the EC, the US, and Canada were 44%, 44%, and 37% (from the pre-Uruguay Round level) respectively (Rinsan-Gyosei Kenkyu-kai 1994: 77). (However, the comparable average of final tariff rates for each country is unavailable).

Table 2. Japan's Wood Products Tariff Reductions in the Uruguay Round Agreement.

Description	Tariff Reductions		
	Pre-UR	1994	1999
Lumber (SPF, planed)	10.0	8.0	4.8
Lumber (pine, not planed)	6.0	4.8	4.8
Lumber (spruce and fir, not planed)	6.0	6.0	4.8
Lumber (larch, planed)	10.0	8.0	6.0
Lumber (larch, not planed)	10.0	10.0	6.0
Lumber (<i>diptero carpace</i>)	10.0	10.0	6.0
Veneer (softwood)	15.0	5.0	5.0
Veneer (tropical wood)	15.0	5.0	5.0
Veneer (other hardwood)	15.0	5.0	5.0
Particle board (sheets or boards)	12.0	8.0	6.0
Particle board (other)	10.0	10.0	5.0
Plywood (tropical wood, less than 6mm)	20.0	15.0	10.0
Plywood (tropical wood, not less than 6mm)	17.0	10.0	8.5
Plywood (softwood, less than 6mm)	15.0	15.0	6.0
Plywood (softwood, not less than 6mm)	15.0	10.0	6.0
Laminated lumber (excluding structural laminated lumber)	20.0	15.0	6.0
Other laminated wood	20.0	20.0	6.0
Fiberboard (density exceeding 0.8g/cm ³)	6.5	5.2	2.6
Fiberboard (density not exceeding 0.8g/cm ³)	6.5	3.5	2.6

Source: Rinsan Gyosei Kenkyu-kai (1999).

At the conclusion of the GATT negotiations, the US administration stated that the final result on wood products and non-ferrous metal was subject to further negotiation and that the US intended to pursue the elimination of import tariffs in these sectors (AF&PA 1993b). Indeed, the USTR pledged to representatives of the wood products industry that it would continue negotiations with Japan on wood products and hoped to achieve a zero tariff agreement by February 15, 1994 (AF&PA 1994a). Through newspaper and press conferences, the US industry continued to press Japan to remove tariffs on wood products. Although President Clinton and Prime Minister Hosokawa discussed wood products tariffs, as well as the US-Japan Economic Framework, during their Summit meeting in Washington DC in February 1994, no progress was made on this issue (AF&PA 1994b).

In April 1994, 108 countries signed the GATT Agreement in Marrakech, Morocco, without the elimination of wood products tariffs. The AF&PA press release on that day stated, "The US forest products industry derives very little benefit from the agreement. Despite the strenuous efforts of many members of Congress and officials in the administration, the US was not able to convince our trading partners to give our forest products the same treatment in the markets that we give them in the US." The AF&PA claimed that twenty-four countries, including the US, the EU, New Zealand, Sweden, Singapore, Hong Kong, Thailand, Korea, and Australia, indicated support or interest in the wood products zero tariff offers, but withdrew when Japan failed to agree (AF&PA 1994c).

This strong sense of frustration with Japan's resistance to adopting the zero tariff initiative on wood products, coupled with the failure of the US-Japan Economic Framework talks, led to an executive order to extend the

Super 301 provision contained in the 1988 Omnibus Trade and Competitive Act for the period of 1994 and 1995.

2.5 SUPER 301 PHASE II: 1994-1996

In the early 1990s, the US economy entered a mild recession caused by accumulating structural imbalances, a tight money market, and an oil price increase following Iraq's invasion of Kuwait in 1990 (United States 1992: 21). GDP growth slowed from a high of 4.2% in 1988 to minus 0.2% in 1991. New housing starts, strongly correlated with GDP growth, declined from 1.8 million units in 1986 to 1.0 million units in 1991, reducing lumber consumption from a high of 50.5 bbf in 1987 to 42.0 bbf in 1991.

When President Clinton took office in January 1993, he implemented an economic policy to revitalize the US economy from the recession and to make the US industry competitive again in the world market. The Clinton Administration initially took a tough attitude toward Japan with respect to foreign trade issues, under the influence of "geo-economics," an approach which was widely accepted among the Administration following the end of the Cold War. The geo-economics theory claimed that economic issues had now become more important for national security than military security concerns following the end of the Cold War. Supporters of this approach often cited Japan's growing trade surplus with the US as the most serious threat to the US economy. Those influenced by geo-economics insisted that, since Japan was playing the game by a different set of rules than other countries, the US should take strong economic measures to encourage Japan to follow the rules adopted by other major countries (Gilpin 2000: 250-264).

In July 1993, President Clinton and Prime Minister Miyazawa initiated a new approach for dealing with structural barriers and problems in both Japan and the US, formally named the "US-Japan Framework for a New Economic Partnership." The Framework covered five issues: 1) government procurement, 2) regulatory reform and competitiveness, 3) other major sectors (e.g., automotive industry), 4) economic harmonization, and 5) implementation of existing bilateral agreements and arrangements, including the 1990 Agreement on Wood Products. Among these issues, government procurement, the insurance market, and the automotive industries were identified as high priority areas for negotiations (JEI 1993).

The Framework differed from previous negotiations, such as MOSS and SII, in that it emphasized the establishment of "objective criteria" to assess the progress of the agreements (United States 1994: 221). (This approach is often referred to as a "results-oriented" trade policy.) However, even before the announcement of the new initiative, there was a substantial disagreement between the two countries. While the US strongly insisted that the final pact should include numerical criteria, such as the export volume or market share of US products, Japan strongly opposed the establishment of numerical targets (JEI 1993). Although it was referred to as "sets of objective criteria, either qualitative or quantitative or both" in the Framework announcement, the US continued to argue that Japan should establish numerical criteria to assess progress, only to meet Japan's strong opposition to quantitative measures. US legislators, frustrated with the slow movement of the Framework talks and Japan's continued opposition to numerical targets, began to call for retaliatory trade actions against Japan (JEI 1994a). Finally, at the Summit meeting in February 1994, the Framework talks temporarily broke down due to the divergent interpretations of "objective criteria."

In March 1994, in response to dissatisfied faction in the US with the failure of the Framework talks, and probably coupled with Japan's resistance toward the elimination of wood product tariffs, President Clinton called for the revival of the Super 301 provision of the 1988 Omnibus Trade and Competitiveness Act for the period of 1994 and 1995, apparently intended to pressure Japan into making concessions. The new version of Super 301 was slightly different from the original one in that it allows six months after the release of the National Trade Estimate Report for the USTR to identify priority trade practices (JEI 1994b).

Following intensive negotiations, the two countries reached agreements in the priority Framework areas of insurance and government procurement on October 1, 1994, the deadline for identifying unfair trade practices under the Super 301 provision. Although the issue on the automotive industries was not resolved by the deadline, the US chose to take a less politically influential course of action by initiating an investigation of the

regulatory barriers to the sale of foreign automobile replacement parts under Section 301 of the 1974 Trade Act, rather than Super 301. In contrast, Japan's market access for wood and paper products was listed as the only priority area to be watched in the List A ("foreign country practices that may in the future warrant identification") under the Super 301 (AF&PA 1994d). (The USTR did not identify any priority practices this time). The USTR report stated, "In the 1990 US-Japan Wood Products Agreement, Japan agreed to substantially reduce tariffs, to reduce subsidies, to speed up product certification, and to adopt performance-based standards and building codes. Progress has been made, but new or existing barriers continue to impede market access. Tariffs, although reduced in the Uruguay Round, remain a significant impediment" (AF&PA 1994e). In September 1995, the US extended the Super 301 provision for two more years, covering the period of 1996 and 1997. Subsequently, the USTR announced the renewal of the "Watch List" status for Japan's wood products sector, indicating that it was prepared to remove Japan from the list as soon as the two countries reached agreement on implementing the objectives of the 1990 Agreement on Wood Products (USDA FAS 1995).

Beginning in 1995, the two countries had been intensively discussing specific technical issues in the US-Japan Wood Products Subcommittee, which was established by the 1990 Agreement. Although the US repeatedly argued during these meetings that Japan should eliminate tariffs on wood products, Japan rejected this request insisting that tariff negotiations had already been concluded in the Uruguay Round Agreement. Subsequently, the discussions moved from the tariff elimination issue to housing construction and technical issues. Finally in July 1996, the chairmen of the subcommittee exchanged letters regarding Japan's commitments, including data exchange, establishment of experts meetings on technical matters, and criteria for reclassification of laminated lumber, as well as a summary of the past accomplishments (Rinsan Gyosei Kenkyu-kai 1997: 71).

At this time, the reduction of the cost of new housing construction had become a major policy issue in Japan. In March 1994, the Ministry of Construction (MOC) implemented an action program aimed at reducing residential construction costs, primarily through promotional activities (MOC 1994: 266). Unexpectedly, the Kobe Earthquake in January 1995, which killed 6,400 people and destroyed nearly 440,000 buildings, focused public attention on housing quality and performance. In February 1996, Prime Minister Hashimoto informed President Clinton of an initiative to reduce housing costs in Japan through increased imports of wooden housing and wooden building materials and through the removal of regulatory obstacles in the construction sector (USDA FAS 1996a). In March 1996, this initiative was implemented as the joint-ministerial "Emergency Priority Program for Reducing Housing Construction Cost" which aimed to reduce residential construction costs by 33% by FY2000 and to stimulate the housing market by deregulating building standards and promoting imported housing and building materials (USDA FAS 1996b). (For the text of the Emergency Priority Program, see Appendix C).

The Program consisted of five components: 1) the comprehensive review of building regulatory framework, 2) the facilitation in induction of imported housings and foreign materials and components, 3) the promotion of leading projects for reducing housing construction costs, 4) the preparation of positive support organizations for consumers, and 5) the promotion of a housing production rationalization program. There are three important issues for the wood products sector that were mentioned in the Program: the introduction of a performance-based building standard, a mutual recognition of foreign wood materials for use in 2x4 wood frame housing, and the promotion of imported housing. First, the Program stated that the performance-based building regulation system was to be prepared in FY1996 for later implementation. Additionally, it stated that technical standards for the 2x4 wood frame construction method were to be precedentially performance-based in FY1996. At this time, little progress had been made regarding the revision of the Building Standard Law, despite the 1990 Agreement stating that building standards should be performance-based. The Program clearly outlined the implementation of performance-based building standards by showing the time schedule. Second, along with the mutual recognition on building codes and international harmonization of building standards, the Program specifically proposed the recognition of structural wooden materials certified by overseas standards for use in 2x4 wood frame construction. Third, the Program proposed various promotional activities for housing imports, including trade barriers identification, promotional exhibitions and conferences, and consultation and information provision through JETRO and other organizations. The intentions of mutual recognition and housing imports were to reduce housing costs through the injection of foreign competition into

the domestic housing industry and to provide broader alternatives for Japanese consumers. It seems that MOC successfully used public awareness of housing issues raised by the Kobe Earthquake disaster to their advantage and accelerated the structural reform of the domestic housing construction market, with the help of “*gaiatsu*”; the market-opening and deregulation pressures from the US.

Subsequently, MOC began to implement the actions specified in the 1996 Emergency Priority Program. In April 1996, MOC recognized lumber bearing the grademark of the WWPA for use in 2x4 construction in Japan, without requiring re-grading to JAS standards (USDA FAS 1996c). Later, this recognition was extended to ten other rule writing and grading agencies accredited by the American Lumber Standard Committee (ALSC) (ALSC 1998).

Responding to Japan’s positive commitments to bilateral negotiations upon the opening of the housing construction market, which was shown in the exchange of letters in the US-Japan Wood Products Subcommittee and the 1996 Emergency Priority Program, AF&PA asked the USTR to remove Japan from the Super 301 Watch List in September 1996 (USDA FAS 1996d). In October, the USTR removed Japan’s wood products sector from the Watch List, stating that, “In an exchange of letters in July 1996, Japan confirmed that it has taken important additional steps toward an implementation of the agreement. Japan has also made deregulation of the housing sector and improved market access for building materials a high national priority” (USTR 1996).

The deregulation of the housing sector is still under discussion in the “US-Japan Enhanced Initiative on Deregulation and Competition Policy,” initiated by President Clinton and Prime Minister Hashimoto in June 1997. The objectives of this Initiative are to improve market access for foreign goods and services and to provide Japanese consumers with a greater choice of products and services at a lower cost. The Initiative covers ten sectors including telecommunications, housing, medical devices and pharmaceuticals, financial services, energy, distribution, antimonopoly act and competition policy, legal services, transparency and other government practices, and motorcycles.

2.6 EVSL/ATL INITIATIVE: 1997-1999

While the housing sector issues were generally discussed during bilateral negotiations following the listing of Japan’s wood products sector under the Super 301 Watch List, the tariff elimination issue was transferred to discussions in the Asia-Pacific Economic Cooperation (APEC). APEC was established in 1989 through an Australian initiative intended to increase the bargaining position of the East Asian/Pacific region in the Uruguay Round negotiations. The goal of APEC is to build the Asia-Pacific community through economic growth and development. In order to achieve this goal, APEC focuses upon three activities: trade and investment liberalization, business facilitation, and economic and technical cooperation. As of February 2001, APEC membership included 21 countries including the US, Japan, Korea, China, Hong Kong, Taiwan, the Philippines, Thailand, Vietnam, Indonesia, Malaysia, Singapore, Brunei, Papua New Guinea, Australia, New Zealand, Peru, Chile, Mexico, Canada, and Russia (APEC 2001; Gilpin 2000: 288-291). Although the US was initially reluctant to take a leadership role in APEC, the Clinton Administration recognized that the organization could be useful in promoting further trade liberalization in East Asia and the Pacific. In December 1993, at the APEC Summit meeting in Seattle, President Clinton acknowledged the importance of the Asia/Pacific region to the US, hoping to transform APEC into a negotiating forum rather than a consultative body. Subsequently, at the APEC Summit meeting held in November 1994 at Bogor, Indonesia, member countries adopted an initiative to achieve “free and open trade and investment in the Asia-Pacific by 2010 for developed member economies and 2020 for developing ones.” In November 1996 at the APEC Summit meeting held in Subic Bay, the Philippines, the APEC leaders instructed their trade ministers to identify potential sectors that were suitable for early voluntary liberalization to achieve the Bogor initiative (APEC 2001; Gilpin 2000: 288-291). In November 1997 at the APEC Trade Ministerial Meeting in Vancouver, Canada, the APEC Ministers selected fifteen sectors including nine priority sectors for early voluntary sectoral liberalization (EVSL). The priority sectors included environmental goods and services, energy, fish and fish products, toys, forest products, gems and jewelry, medical equipment and instruments,

chemicals, and telecommunications mutual recognition arrangement. Each sectoral initiative consisted of three measures: tariff and non-tariff measures, facilitation, and economic and technical cooperation. The forest products sector proposal, which proposed eliminating tariffs on wood products by January 2002 and tariffs on pulp and paper by January 2000, was co-sponsored by the US, Canada, Indonesia, and New Zealand. Although Japan opposed the inclusion of the forest products sector in the EVSL, it eventually agreed because the Minister's Joint Statement stated that "the process of early liberalization is conducted on the basis of the APEC principle of voluntarism, whereby each economy remains free to determine the sectoral initiatives in which it will participate" (APEC 2001; Rinsan Gyosei Kenkyu-kai 1999: 57-65). In the following meetings, however, the wood exporting countries, led by the US, argued that participation in the nine priority sectors and implementation of the three measures were "packaged" and mandatory for each member. Japan rejected this argument based upon the principle of voluntarism and reserved its participation in the forest products and fish and fish products sectors (Rinsan Gyosei Kenkyu-kai 1999: 57-65). The US wood products industry insisted that Japan fulfill its role as a regional leader, especially given the Asian financial crisis which began in July 1997, and open its wood products market (AFPA 1998a).

Finally in November 1998 at the APEC Trade Ministerial Meeting held at Kuala Lumpur, Malaysia, the APEC Ministers agreed to move the tariff reduction initiative to the WTO process and broaden the participation in the initiative beyond APEC members with the goal of concluding an agreement in 1999. The statement also said that the members could begin immediate implementation of tariff commitments on a voluntary basis. Japan insisted that it would not participate in tariff initiatives for the wood products and fish and fish products sectors because the principle of voluntarism had been recognized by the APEC Ministers (Rinsan Gyosei Kenkyu-kai 1999: 57-65).

In January 1999, the renamed "Accelerated Tariff Liberalization" (ATL) initiative was introduced into the WTO by New Zealand. In June 1999 at the APEC Trade Ministerial Meeting at Auckland, New Zealand, the Ministers reemphasized that the ATL initiative should be concluded in the WTO Ministerial Meeting in Seattle, based upon the agreement in Kuala Lumpur (APEC 2001). Japan stated that it would not participate in the ATL initiative but would commit to the WTO New Round considering various factors including global environmental problems (Rinsan Gyosei Kenkyu-kai 1999: 57-65). Although the US industry's expectation for the ATL initiative to be concluded in Seattle was very high, the WTO Ministerial Meeting in Seattle in December 1999 made no progress on this issue and the WTO member countries even failed to issue a joint statement announcing the beginning of the WTO New Round. The future of the ATL initiative in the WTO New Round is still unclear at this time.

2.7 SUMMARY

The US-Japan wood products trade dispute began in the early 1980s under the conditions of a growing US trade deficit with Japan, the economic recession in the US, and the relative decline of the wood products industry in the western US. In 1985, Japan's wood products sector was chosen as a target for the MOSS talks, mainly due to Japan's strong opposition to the reduction of tariffs on veneer and plywood. Both countries reached an agreement to reduce specific wood product tariffs and to modify product standards so as to meet the specific requests of the US. In spite of the trade policy changes achieved in 1985, US legislators remained dissatisfied with the growing trade deficit with Japan and they legislated the Omnibus Trade and Competitiveness Act of 1988, including the Super 301 provision. Due to the US industry's frustration with Japan's resistance toward continuing the MOSS process, Japan's wood products sector was identified as a "priority practice" under the Super 301 provision in 1989. Under the threat of retaliation, both countries concluded the "1990 Agreement on Wood Products." Although the 1990 Agreement did not deal with tariff issues directly, it required an overhaul of Japan's products standards and building standards. After the completion of Super 301 negotiations, the US wood products industry turned to a new trade issue: the zero-for-zero initiative in the GATT Uruguay Round, by forming the Zero Tariff Coalition in cooperation with other industrial sectors. Although several industrial sectors achieved mutual tariff elimination during the Uruguay Round, the wood products sector failed to achieve tariff elimination, primarily due to Japan's opposition. Following the conclusion of the GATT negotiations in December 1993, the US continued to press Japan to eliminate tariffs on wood products. Due to Japan's resistance, coupled with the failure of the

Framework talks in February 1994, the US revived the Super 301 provision, forcing Japan to compromise. With Japan's promise to fully implement the 1990 Agreement, and new initiatives in Japan's housing sector which were partly stimulated by the Kobe Earthquake disaster, the US industry allowed the removal of Japan from the Super 301 watch list in 1996. Although the tariff elimination issue was also discussed during the bilateral negotiations following the Super 301 revival, it was eventually transferred to the regional discussions held within APEC. While the elimination of wood products tariffs was successfully included in the EVSL initiative, Japan refused to participate in the wood products tariff measure citing the APEC principle of voluntarism. Finally, APEC members agreed to move the renamed ATL initiative to the WTO, hoping to reach agreement during the Third WTO Ministerial Meeting in Seattle. However, no progress was made on the ATL initiative, or on the initiation of the WTO New Round.

3 RESULTS OF TRADE LIBERALIZATION AND MARKET DEREGULATION

Following fifteen years of discussion between the two countries, Japan's trade barriers, both tariff and non-tariff, in the wood products sector have been reduced substantially. In this section, the details of the trade liberalization and market deregulation measures accomplished during the course of the US-Japan trade dispute are summarized regarding tariffs and non-tariff measures including building standards and product standards.

3.1 TARIFFS

Japan's tariffs on wood products were substantially reduced following the MOSS agreement and the Uruguay Round Agreement (Table 3).

As a result of the MOSS talks, tariffs on veneer, plywood, and other wood products were reduced substantially in response to requests from Canada, Indonesia, New Zealand, and the US. Similarly, the Uruguay Round Agreement promised to reduce the average tariff rate for wood products by approximately 50% from the pre-UR level (1986) and by approximately 30% from the applied level at that time (1993), with a five-year staging period. The final bound tariff rates were implemented in January 1999. In addition to the MOSS and the UR, the 1990 Agreement on Wood Products reduced the tariff rate on structural laminated wood products, including glulam and structural LVL, by reclassifying them from HS 4412 with a 15-20% tariff to "builder's joinery and carpentry," HS 4418.90, with a 3.9% tariff.

Paradoxically, the trade-weighted average of tariffs on wood products (Chapter 44 of the Harmonized System) increased from 0.9% in 1985 to 1.9% in 1999, in spite of substantial tariff reductions for each product (Table 3). The trade-weighted average of tariffs is calculated by dividing the sum of estimated tariff revenue for each tariff item (import value times tariff rates) by the total import value. This increase can be attributed to a structural change in the composition of Japan's wood products imports, that is, the decrease in imports of low-tariff products (particularly logs with zero tariffs) and the increase in imports of high-tariff products (particularly lumber and plywood).

While the total import value was fairly similar for 1985 and 1999 (1,092 billion yen in 1985 and 1,171 billion yen in 1999), log imports decreased (from 668 billion yen to 264 billion yen) and lumber and plywood imports increased (lumber from 218 billion yen to 340 billion yen, plywood 15 billion yen to 162 billion yen). This shift from log imports to product imports could be attributed to log export bans in South East Asia and federal timber supply reductions in the US Pacific Northwest. When the tariff reductions are taken into account, the estimated tariff revenue increased from 4.0 billion yen to 7.2 billion yen for lumber and from 2.8 billion yen to 9.9 billion yen for plywood during the same period. This increase in the estimated tariff revenue for lumber and plywood, coupled with a constant total import value, leads to the increase in the trade-weighted average tariff rate.

3.2 NON-TARIFF MEASURES

Although the MOSS agreement and the 1990 Agreement on Wood Products covered various issues regarding non-tariff measures which included the simplification of certification processes, the adoption of an open and expeditious recognition process for new products and building systems, the participation of foreign experts in technical committees, and the establishment of bilateral committees, it would be reasonable to say that the most important changes in Japan's wood products sector as a result of the various US initiatives were the revision of the Building Standard Law (BSL) and the recognition of foreign product standards since these standards directly influence the wood products use in Japan. This section discusses the measures proposed in the MOSS agreement and the 1990 Agreement on Wood Products and its implementation with respect to building standards and product standards.

Table 3. Tariff Reduction of Major Wood Products, 1985 vs. 1999.

Description	1985	1999
Logs (<i>Kiri</i> , roughly squared)	2.5	0.0
Logs (<i>Kiri</i> , excluding roughly squared)	5.0	3.5
Logs (others)	0.0	0.0
Softwood lumber (SPF, less than 160mm thick, planed)	10.0	4.8
Softwood lumber (SPF, less than 160mm thick, excluding planed)	8.0	4.8
Softwood lumber (larch, less than 160mm thick, planed)	10.0	6.0
Softwood lumber (larch, less than 160mm thick, excluding planed)	10.0	6.0
Softwood lumber (others)	0.0	0.0
Hardwood lumber (<i>Dipterocarpaceae</i>)	10.0	6.0
Hardwood lumber (<i>Kiri</i>)	2.5	0.0
Hardwood lumber (others)	0.0	0.0
Veneer (incense cedar and teak)	0.0	0.0
Veneer (others)	15.0	5.0
Plywood (at least one tropical wood surface, surface-worked)	17.5	10.0
Plywood (at least one tropical wood surface, less than 6mm thick)	20.0	10.0
Plywood (at least one tropical wood surface, more than 6mm thick)	18.5	8.5
Plywood (at least one hardwood surface, surface-worked)	17.5	6.0
Plywood (at least one hardwood surface, less than 6mm thick)	20.0	6.0
Plywood (at least one hardwood surface, more than 6mm thick)	18.5	6.0
Plywood (both softwood surface, surface-worked)	17.5	6.0
Plywood (both softwood surface, others)	15.0	6.0
Particle board (in boards)	12.0	6.0
Particle board (others)	10.0	5.0
Fiber board	6.5	2.6
Laminated lumber (non-structural)	20.0	6.0
Laminated lumber (structural)	20.0	3.9
Trade-weighted average (chapter 44)	0.9	1.9
Trade-weighted average (chapter 44, excluding logs)	2.3	2.5

Source: Japan Tariff Association (1985- 1999a).

Note: Trade-weighted averages were calculated by the author.

3.2.1 Building Standards

During the early stage of the trade dispute, the importance of building standards was not well recognized by the US industry, probably due to its focus on the tariff issue as well as the complexity of Japan's building standards system. The MOSS agreement only proposed a "review of fire and building codes to identify possible measures which could stimulate greater use of wood and wood panel products" without any specifications. In contrast, the 1990 Agreement on Wood Products covered a broad range of building standard issues in detail. In particular, the 1990 Agreement clearly stated that it was the policy of the Japanese Government that the BSL should be performance-based. Additionally, ANNEX B of the 1990 Agreement proposed specific building standard measures to be implemented, including deregulation of structural restrictions on wood frame construction and building code approval for three-story multi-family wood housing. In this section, the BSL revision will be discussed first, followed by the other minor issues listed in ANNEX B of the 1990 Agreement.

Building Standard Law

The Building Standard Law, the foundation of building regulations in Japan, was overhauled in June 1998 for the first time since its introduction in 1950 and the revisions were fully implemented in June 2000. These revisions included the following: 1) consigning building confirmations and building inspections to private organizations, 2) a revision of the building regulatory system to incorporate performance-based building regulations, 3) the adoption of procedures for building regulations that promote effective land use, 4) the adoption of interim inspections, and 5) the public perusal of documents concerning confirmation and inspections (Ministry of Construction 1998). These revisions reflected the trend towards deregulation and clear policy implementation in Japan, as well as rising concerns over building safety following the Kobe Earthquake in 1995 (Yamaguchi and Sato 1999).

Among them, the performance-based building regulations had been advocated by the US wood products industry since the 1990 Agreement of Wood Products, and its implementation was promised in the 1996 Emergency Priority Program. Before the revision, the BSL and related Cabinet Orders specified the types of materials that could be used in various end-use applications, the sizes of components, and the types of structural systems for building construction, without specifying the expected performance levels. This “prescriptive” standard was often identified as a barrier to the introduction of new technologies and material developments in the construction sector. In contrast, the revised BSL clearly identifies the performance requirements for each structural component (e.g., structure, roofs, and exterior walls), related Cabinet Orders determine the performance criteria, and other Cabinet Orders and Notifications specify the verification methods. The revised BSL permits the use of materials and systems of any kind as long as they satisfy specific performance criteria. However, the old prescriptive standards are still included in the Cabinet Order as examples which satisfy the performance-based standards and are permitted for use (Ministry of Construction 1998).

For example, regarding the structural requirements for buildings within a specified size, the old BSL and its Cabinet Order prescribed a specific structural construction method, while the revised BSL and its Cabinet Order allow other structural construction methods which satisfy specific durability requirements and are confirmed to be safe by structural calculations, in addition to the existing specific construction method (BSL Article 20; BSL Cabinet Order Article 36(2)). Similarly, the old BSL prohibited the use of wood products for large buildings, roofs, and external walls in principle, while the revised BSL permits the use of wood products for these applications as long as they satisfy specific technical standards (BSL Articles 21; 22; 23).

As for the 2x4 wood frame housing system, which is of particular interest to the US industry, the performance-based standards were implemented in June 1997, prior to the revision of the BSL, as promised in the 1996 Emergency Priority Program. The technical standard for 2x4 wood frame housing is stipulated in the 1982 MOC Notification 56 as an exception of the BSL for buildings with special structural systems (BSL Cabinet Order Article 80-2). The notification prescribes specifications for materials, foundation, floor, structural walls, and trusses, but it was revised to exempt buildings confirmed to be safe by structural calculations from this prescriptive standard.

Although the impact of the regulatory reform has not been realized yet, Cohen and Gaston (2001) argue that the revised BSL is likely to accelerate changes in the housing market, including the dramatic increase in the use of pre-cut building components for post & beam homes (including the use of glulam and kiln-dried lumber), and the growing popularity of North American-style 2x4 platform-frame homes.

Other issues

Besides the BSL revision to a performance-based standard, the 1990 Agreement on Wood Products also promised to implement the specific building code revisions listed in ANNEX B. These relatively minor issues were implemented prior to the BSL revision. In this section, six of the minor issues proposed in ANNEX B and subsequently adopted, are discussed.

1) Deregulation of Structural Restrictions on 2x4 Wood Frame Construction.

Regarding structural restrictions on 2x4 wood frame construction, the 1990 Agreement promised to loosen the restrictions on the floor area, the distance between load bearing walls, the width of openings in walls, the nailing requirements, and the use of members of different structures (ANNEX B-II-1-b).

In March 1992, the 1982 MOC Notification 56 stipulating the technical standards for 2x4 wood frame housing was amended to incorporate these changes and to exempt some requirements under the condition that structural safety could be demonstrated through structural calculations. Further, in June 1997, Notification 56 was again amended to include a performance-based standard for wood frame construction. The new Notification states that as long as the building is confirmed to be safe by structural calculations, it is exempted from the prescriptive requirements of the Notification. Therefore, structural restrictions on 2x4 wood frame construction were modified to allow any style of 2x4 wood frame housing as long as it is confirmed to be structurally safe.

2) Wood Buildings as Quasi-fireproof Buildings.

The 1990 Agreement promised to recognize some large size wood buildings as quasi-fireproof buildings and permit the construction and use of them (ANNEX B-II-2, 7). When the 1990 Agreement was signed, any building with a total floor area between 500-1,500 m² located in a quasi-fire protection district was required to be at least a “quasi-fireproof building” (BSL Article 62 (1)), and special buildings (including department stores, shops, hotels, and dormitories) in many districts were also required to be at least “quasi-fireproof buildings” (BSL Article 27 (2)). At that time, a quasi-fireproof building was defined as a building with structural components made from noncombustible materials. Since wood was not recognized as a noncombustible material, it was impossible to build wood buildings of these types.

In June 1992, the BSL was amended to redefine “quasi-fireproof buildings” as buildings with specific fire durability, which may include wooden buildings. Accordingly, this revision allowed the construction and use of wood buildings with a total floor area between 500-1,500 m² in quasi-fire protection districts and special buildings made of wood in any districts.

3) Wood Interiors with Ceilings of Noncombustible or Semi-noncombustible Materials.

The 1990 Agreement promised to permit wood interiors with ceilings of noncombustible or semi-noncombustible materials (ANNEX B-II-3). In special buildings and buildings exceeding certain criteria, the pre-revised BSL and its associated Cabinet Order mandated the use of noncombustible materials (which did not include wood products) in walls and ceilings (BSL Article 35-2; BSL Cabinet Order Article 129 (12)). In March 1992, MOC Notification 548 was issued, permitting the use of wood in walls (but not in ceilings) as an exception under Article 38 of the BSL, as long as they satisfy specific requirements. (Article 38 was the special provision which allowed the use of building materials and systems that did not meet the prescriptive standards in the BSL, as long as they were recognized as having an equivalent performance level by MOC.)

4) Deregulation of Log Construction.

The 1990 Agreement promised to loosen the restrictions on log construction, such as total floor area, height of bearing walls, and number of dowels (ANNEX B-II-5). The technical standard for log construction was stipulated in the 1986 MOC Notification 859 as an exception under Article 38 of the BSL. In December 1990, the Notification was amended to incorporate the changes listed in the 1990 Agreement.

5) Three-story Multi-family Wood Housing.

The 1990 Agreement promised to allow the construction of three-story multi-family wood housing in areas outside of fire protection districts and quasi-fire protection districts (ANNEX B-II-6). At that time, it was impossible to build multi-family wood buildings in excess of two stories in any area since such buildings were required to be a “fireproof building” which could not be built using wood materials (BSL Article 27 (1)).

In 1991, as part of a promotion for US wood frame housing, “Super House” (a model three-story multi-family wood building) was built in Yokohama, Japan, as an exception to the BSL, showing its safety and efficiency (Noga 1997).

In June 1992, the BSL was amended to allow three-story multifamily buildings to be “quasi-fireproof buildings” that may be built of wooden materials, rather than fireproof buildings, as long as such buildings were located outside of fire protection districts and quasi-fire protection districts. Further, in September 1997, construction of three-story multi-family wood buildings was allowed in quasi-fire protection districts as an exception under Article 38 of the BSL, if it was shown that the necessary level of fire resistance had been met (USDA FAS 1997). Finally, in May 1999, the construction of three-story multi-family wood housing in quasi-fire protection districts was incorporated in the BSL revision.

6) Wood External Walls of Fireproof and Quasi-fireproof Buildings.

The 1990 Agreement promised to permit the use of wood for external walls of fireproof buildings and quasi-fireproof buildings in areas outside of fire protection districts and quasi-fire protection districts (ANNEX B-II-9). Under the pre-revised BSL, wood buildings were required to have earth-plaster walls or wall structures with equivalent fireproof performance as earth-plaster walls, even if they are located outside of these fire-sensitive areas (BSL Article 23).

In June 1992, the BSL was amended to exempt quasi-fireproof buildings from this earth-plaster wall requirement. Coupled with the simultaneous re-definition of quasi-fireproof buildings, which permitted the use of wood in quasi-fireproof buildings, it became possible for wood buildings to have wood external walls outside of these fire-sensitive areas. (However, fireproof buildings were not exempt from this requirement because wood buildings were still not recognized as fireproof buildings).

3.2.2 Product Standards

Since the pre-revised BSL stipulated that building materials had to meet the Japan Industrial Standards (JIS) or the Japan Agricultural Standards (JAS) specifications (BSL Article 37), it was critical for foreign wood products manufacturers to receive JAS approval for their products if they hoped to export their products to Japan as building materials. In order to improve its access to the building materials market in Japan, the US wood products industry adopted two strategies during the course of the trade disputes: 1) a simplification of the JAS approval for foreign producers, and 2) an exemption of the JAS approval for foreign products with equivalent quality. In this section, the recent changes in the JAS system regarding foreign products are described first. Then, the alternative recognition system for 2x4 wood frame housing materials is explained, followed by a brief explanation of the new recognition system under the revised BSL.

Japan Agricultural Standards

The JAS is a certification system for agricultural products in Japan. The JAS standard for each product specifies the physical/chemical properties that are required for labeling it as JAS-approved. As for wood products, a total of twenty-four products, including lumber, laminated lumber, MSR lumber, finger jointed lumber, plywood, and veneer, had JAS standards as of February 2001 (Japan Agricultural Standards Association 2001). Until recently, only a Registered Grading Organization (RGO) or a MAFF agency could test and label products as JAS-approved (Agriculture and Forest Materials Standardization/ Proper Quality Designation Law (JAS Law) Article 14 (1)), except when a special certification by MAFF was given to manufacturers to self-label their products as JAS-approved (JAS Law Article 15 (1)). But, even in that case, the products still had to be tested and approved by an RGO or MAFF agency before they were sold (JAS Law Article 15 (2)).

The same system applied to foreign manufacturers, except that they were able to submit test data conducted by registered Foreign Testing Organizations (FTO) in foreign countries to an RGO or MAFF agency for their application for special certification or product approval, instead of having their production process or products tested directly by an RGO or MAFF agency. This FTO system was implemented in 1986, in response to the MOSS Agreement which promised “institutionalization of the agreed-upon method for designating ‘Foreign Testing Organizations (FTOs).’” Later, it was revised to meet specific requests from the US, which were included in the 1990 Agreement on Wood Products, that the documentation requirement and time period for the special certification process should be reduced and that foreign quality control methodologies should be recognized as providing equivalent guarantees of a product’s quality and safety. Following these revisions, the US and Canada

subsequently began to argue that Japan should recognize foreign testing organizations as RGO eligible to approve products, since RGO registration was restricted to domestic public corporations.

After a long period of discussion, the JAS Law was finally revised in July 1999 to introduce a new system of JAS approval. Under the new system, Registered Certification Organization (RCO), an independent organization registered by MAFF, is authorized to certify manufacturers (“certified manufacturers”) to test their own products and self-label them as JAS-approved. This new system is a substantial departure from the pre-revised JAS Law in which testing was conducted solely by an RGO or MAFF agency and labeling by producers was permitted in exceptional cases. In addition to the RCO system, the existing system, in which an RGO or MAFF agency tests and labels products submitted by manufacturers, is still available.

The same system applies to foreign manufacturers, that is, 1) foreign manufacturers can test and self-label their own products under the certification by an RCO or a Registered Foreign Certification Organization (RFCO) (JAS Law Article 19-3), or 2) an RGO or a Registered Foreign Grading Organization (RFGO) can test and label products which are submitted by foreign manufacturers (JAS Law Article 19-2). Further, the registration of RCO/RGO was opened to private companies as well as public corporations. These revisions are based upon the idea that public intervention should be minimized in private business and that domestic organizations and foreign organizations should be treated equally. The revised law has ensured the equivalency of the JAS approval process to both domestic and foreign manufacturers and testing organizations (Kojima 2000).

However, it should be noted that the JAS Law stipulates that only the organizations located in specific countries recognized by MAFF as having product standards equivalent to the JAS system can be recognized as RFCO/RFGO (JAS Law Article 19-6-2 (1); 19-6-4 (1)). As of March 2001, only Canada has been recognized as a country having equivalent product standards for lumber, plywood, laminated wood, flooring, laminated veneer lumber, structural panels, and finger-jointed lumber for wood frame construction (JAS Law Enforcement Ordinance Article 78). It is uncertain whether the US will move to be recognized as having equivalent product standards for wood products in the future. (Nevertheless, US manufacturers can be certified by an RCO in Japan or RFCO in Canada.)

As of April 2001, the BC’s Council of Forest Industries (COFI) members associations, including the Canadian Plywood Association (for lumber, glulam, finger-jointed lumber, LVL, structural panels, and plywood), the Canadian Mill Services Association (lumber, glulam, and finger-jointed lumber) and the Northern Forest Products Association (for lumber, glulam, and finger-jointed lumber), have been registered as RFCOs. These RFCOs are authorized to certify manufacturers in the US as well as Canada (2001 MAFF Notification 584). In Japan, the Japan Plywood Inspection Corporation (for plywood, glulam, flooring, laminated veneer lumber, and finger-jointed lumber), the Japan Federation of Wood Industry Associations (for lumber), and the Hokkaido Forest Products Testing Association (for lumber) have been registered as RCOs as of April 2001. JPIC and JFWIA are authorized to certify foreign manufacturers as well as domestic manufacturers while HFPTA can certify manufacturers in Hokkaido only (Center for Food Quality, Labeling and Consumer Services 2001; 2001 MAFF Notification 583).

Due to the introduction of the new system, all manufacturers certified under the pre-revised JAS Law must reapply to the RCO/RFCO for certification under the revised law before June 2003. Otherwise, they will be unable to ship their products with the JAS trademark thereafter.

Mutual Recognition Agreement

Although certified foreign manufacturers can now self-label their own products as JAS-approved, the US wood products industry also explored another system for their graded products to be recognized by the BSL standards, targeting solely building materials used for 2x4 wood frame construction.

Regarding 2x4 wood frame construction, the 1982 MOC Notification 56 stipulates the specifications of construction and requires that structural materials for such construction satisfy the JAS or JIS standards. However, as discussed earlier, the Notification also has a provision that the requirements are exempted when the structural materials are recognized to be structurally sufficient by the MOC. The US industry sought recognition for 2x4 wood frame construction under this exceptional provision.

The recognition of foreign graded wooden materials for the use in 2x4 wood frame construction was included as a measure to reduce housing construction costs in the Emergency Priority Program in March 1996. Subsequently, in April 1996, MOC and the US industry reached a mutual recognition agreement (MRA) in which MOC recognized lumber bearing the grademark of the Western Wood Products Association (WWPA) for use in 2x4 wood frame construction (USDA FAS 1996c). Later in January 1997, this recognition of US lumber grademarks was expanded to include ten rule writing and grading agencies including the California Lumber Inspection Service, Northeastern Lumber Manufacturers Association, Northern Softwood Lumber Bureau, Pacific Lumber Inspection Bureau, Redwood Inspection Service, Renewable Resource Association, Southern Pine Inspection Bureau, Timber Products Inspection, West Coast Lumber Inspection Bureau, and WWPA. These agencies are all accredited by the American Lumber Standard Committee (ALSC), a US organization which formulates and enforces lumber grading rules and design values in the US and Canada. The MOC recognition was further extended to include machine-stress-rated (MSR) lumber in February 1998 and finger-jointed lumber in June 1998 (ALSC 1998).

Under the MRA, lumber, MSR lumber, and finger-jointed lumber with the grademarks of recognized US organizations can be used in 2x4 wood frame construction, even if they have not received a JAS stamp. Therefore, the MRA provides US wood products with easier access to Japan's 2x4 wood frame construction market.

However, it should be noted that the RCO/RFCO system under the new JAS Law and the MRA are essentially the same system regarding the recognition of foreign products for use in 2x4 wood frame housing. While the RCO/RFCO system allows certified foreign manufacturers to ship their JAS-stamped products to Japan, the MRA system allows any US manufacturer to ship their products with grademarks from recognized grading organizations. The only difference is the coverage of the two systems. While the RCO/RFCO system is open to twenty-four wood products for any construction use, the MRA system currently covers the three lumber products for 2x4 wood frame construction. The reason for the existence of two overlapping systems is that they are administered by two different ministries: MOC and MAFF. Although MOC introduced the MRA system earlier, MAFF put the more comprehensive RCO/RFCO system into effect later. There is a view that the JAS system has a strong market advantage over the MRA system in 2x4 wood frame construction, given the JAS mark's wide brand name recognition and the Japanese unfamiliarity with the many US grademarks (Boardman 2001).

New Building Standard Law

Although the pre-revised BSL stipulated that building materials had to meet JIS or JAS standards, the revised BSL allows the use of other materials as long as they are certified by MOC as satisfying specific technical standards (Article 37). In addition, there is a provision of "type approvals" (Article 68-10) which allow the acceptance of a system or component that could be used either by more than one builder or by a single builder in more than one home. The type approval system is a substitute for the earlier Article 38 provision that provided exemptions from the old BSL requirements (Cohen and Gaston 2001). (The exemptions given under Article 38 are set to expire in May 2002). These new provisions will allow foreign wood products manufacturers to export their products without applying for JAS approval, but it is uncertain at the time of writing how these new systems will be implemented.

3.3 SUMMARY

The US industry succeeded in the trade liberalization and market deregulation initiatives in Japan's wood products sector. As a result of fifteen years of negotiations, the Japanese Government reduced tariffs on wood products, changed its building standards from prescriptive to performance-based, and recognized wood products graded in the US for construction use in Japan. First, regarding tariffs, the MOSS agreement reduced tariffs on specific products (including veneer and plywood), and the Uruguay Round Agreement reduced tariffs on most wood products by approximately 30% from the applied level in 1993. The final bound rates were implemented in 1999 following a five-year staging period. However, due to shifts in Japan's wood products imports from logs to processed products, the trade-weighted average of wood products tariffs increased slightly during the 1985-1999 period. Second, in 1999, the Japanese Government revised its Building Standard Law from a prescriptive to a performance-based system, as promised in the 1990 Agreement on Wood Products and the 1996 Emergency Priority Program. Additionally, the Japanese Government immediately implemented the specific building standard measures listed in ANNEX of the 1990 Agreement. It is expected that the revised BSL will increase the number of

2x4 wood frame houses and promote the use of value-added wood products for post & beam homes. Third, the Japanese Government introduced new systems which recognized imported wood products for construction use in Japan. Regarding JAS, MAFF implemented the FTO system which permitted the use of test data conducted by recognized foreign testing organizations for the JAS certification and approval process as a result of the MOSS agreement. Later, in 1999, MAFF revised the JAS Law to incorporate the RCO/RFCO system which authorized specific (foreign) certification organizations to certify (foreign) manufacturers to test their own products and self-label them as JAS approved. At the same time, MOC reached a mutual recognition agreement with the US industry which recognized the use of lumber, MSR lumber, and finger-jointed lumber bearing the grademark of US rule writing and grading agencies accredited by ALSC for 2x4 wood frame construction in Japan. These measures will surely provide easier access for foreign products, not limited to US products, to Japan's wood products market.

4 EFFECTS OF TRADE LIBERALIZATION AND MARKET DEREGULATION

In spite of the long-lasting efforts and success of the US wood products industry to achieve trade liberalization and market deregulation in Japan, the US share of Japan's wood products imports has been continuously decreasing. Since the MOSS talks, the US industry has targeted processed wood products, including softwood lumber, softwood veneer, softwood plywood, structural laminated lumber, and other panel products, for export to Japan. Through bilateral and multilateral negotiations, the US industry succeeded in reducing tariffs on processed wood products, deregulating building standards, and gaining recognition of its product standards as equivalent to domestic standards, as discussed previously. Although the potential of these changes has not yet been fully realized due to the delay in their implementation, especially for measures regarding building standards and products standards, the share of the US industry in Japan's wood products imports has been declining over the past decade as other countries export more to Japan in response to the liberalized market conditions. In this section, the trend of the US share in Japan's imports is discussed regarding softwood lumber, softwood plywood, softwood veneer, structural laminated lumber, wood doors, and wood windows. (The following discussion covers the period 1988-2000, because Japan's tariff classification system was changed to the Harmonized System in 1988).

4.1 SOFTWOOD LUMBER

The US share of Japan's softwood lumber imports has been consistently decreasing since 1988 (Figure 4). Japan's imports of softwood lumber (4407.10.110-399) increased from 6.5 million m³ to 10.7 million m³ during the period 1988-1997, but the US share of imports declined from 35.5% to 12.2%. This declining trend continued even after the sharp fall in Japan's imports caused by the economic recession in 1997, reducing the US share down to 6.5% in 2000. In 2000, 51.3% of Japan's softwood lumber imports were supplied from Canada and 23.1% from the EU, including Finland, Sweden, and Austria. EU countries increased their share of Japan's softwood lumber imports very rapidly, from essentially 0% in 1988.

Regarding softwood lumber for 2x4 wood frame construction, which is of particular interest to the US industry, the market is dominated by Canada. According to a survey by the Japan 2x4 Homebuilder's Association, Japan imported 3.4 million m³ of framing lumber in 1996, 87% of which (3.0 million m³) was from Canada, 12% (434,000 m³) was from the US, and 2% was from Northern Europe (Jenkins 1997a).

Canadian lumber has a longer history in the Japanese market than US lumber. While the US industry historically concentrated on log exports to Japan, Canadian manufacturers tended to export processed lumber due to the log export restrictions in Canada. Therefore, Canadian manufacturers studied the preference of Japanese customers and succeeded in penetrating the softwood lumber market (Cox 1990). Additionally, given Canada's large domestic production capacity and a small domestic market, Canadian manufacturers have traditionally been export-oriented, while the US industry has been more focused upon their domestic market.

The recent success of the European countries can be attributed to several factors, including changing material preferences in Japan, favorable exchange rates relative to \$US, lower transportation costs from the EU, and better customer service. First, regarding changing material preferences, European producers took advantage of the material preference shift in Japan toward kiln-dried lumber among builders, precut housing manufacturers, and glulam manufacturers. This shift was caused by two factors: an effort for higher housing quality and lower costs and the aging and declining number of carpenters (Eastin and Fukuda 2000). In particular, the Kobe Earthquake disaster raised the level of public awareness toward housing quality and performance issues, resulting in the revision of the Building Standard Law and the higher demand for building materials with higher quality and better performance level, such as kiln-dried lumber and glue-laminated lumber. Similarly, lower availability of skilled carpenters led to the higher demand for precut lumber produced from kiln-dried lumber due to its easy handling at the construction site. This material preference shift to kiln-dried lumber will be further strengthened by the implementation of the Housing Quality Assurance Law in April 2000 which requires home builders to provide home buyers with a 10 year warranty against structural defects and low durability (Eastin and Boardman 2000).

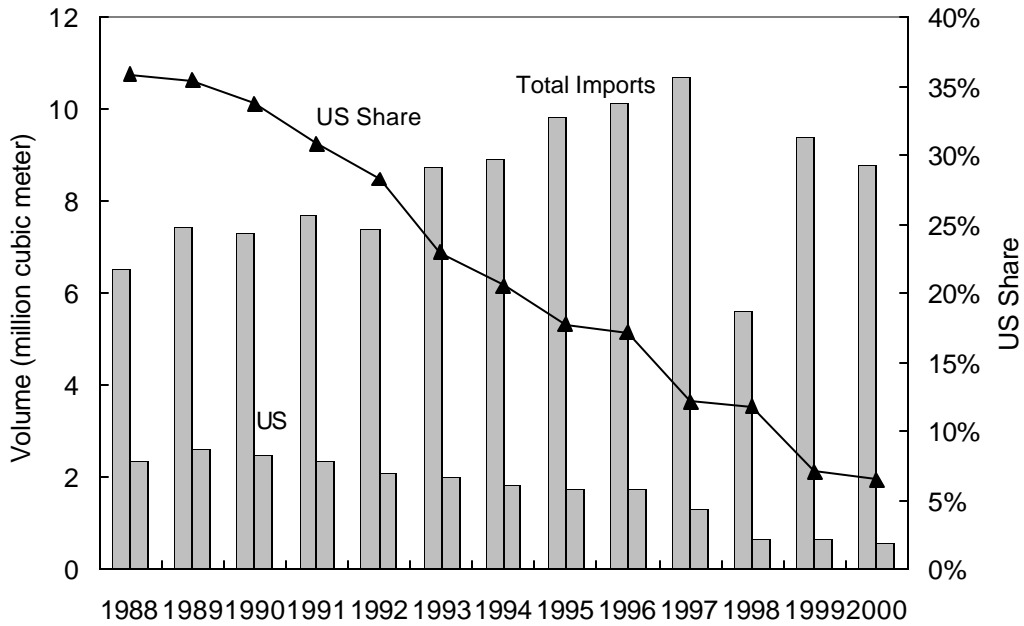


Figure 4. Japan's Softwood Lumber Imports and US Share, 1988-2000.

Source: Japan Tariff Association (1988-2000b).

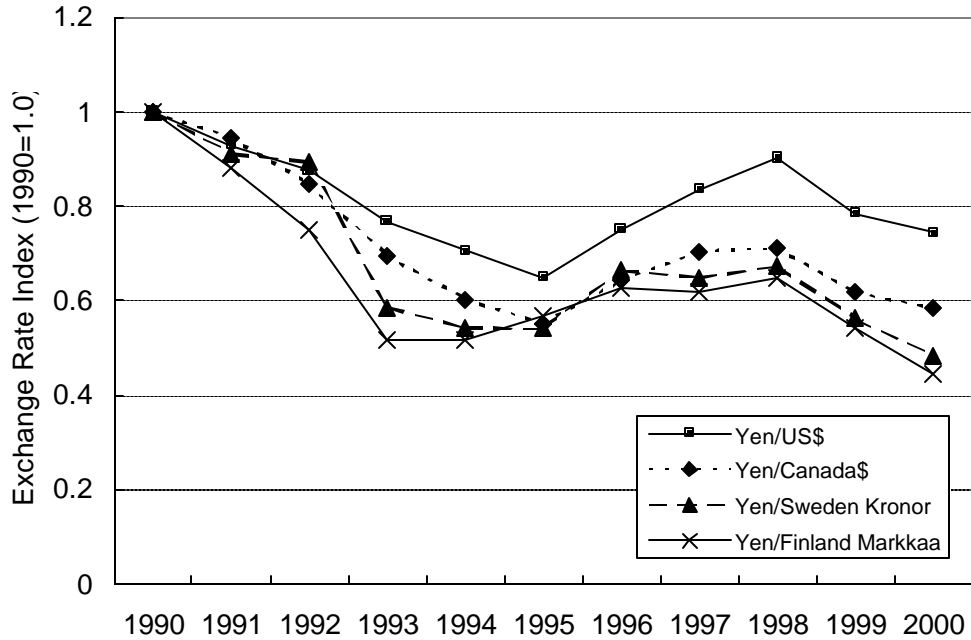


Figure 5. Exchange Rate Index of US\$, Canada\$, Sweden Kronor, and Finland Markkaa to Japanese Yen (1990=1.0), 1990-2000.

Source: FRB (2001).

Note: Exchange rates of Yen/Canada\$, Yen/Sweden Kronor, and Yen/Finland Markkaa were calculated by dividing Yen/US\$ by the exchange rate of each currency to US\$. Each yearly rate is an average of monthly rates of the year.

Second, European currencies have depreciated relative to the Japanese yen more than the US dollar during the period 1988-2000 (Figure 5). While the yen/US\$ exchange rate index (1990 = 1.0) dropped to 0.65 in 1995 before returning to 0.90 in 1998, the yen/Sweden kronor and yen/Finland markkaa exchange rate indexes remained around 0.6 after depreciating in 1993. This relative depreciation of European currencies has certainly provided an advantage of lower product price for European manufacturers exporting to Japan.

Third, transportation costs from Europe to Japan were lower than those from the US in the late 1990s, in spite of its longer time of transportation. As of 1998, it cost \$800 and took 30-35 days to transport a 40-foot container from Hamburg and Rotterdam to Japan, while it cost \$1,000 and took 10-14 days from the US West Coast to Japan. This lower transportation cost from Europe was attributed to the economic slowdown in the region, which reduced exports from Europe while imports from Asia remained relatively stable, thus providing cheap back haul rates for European exporters (Asami 2001).

Finally, European countries are gaining market share by accommodating Japanese customers whenever possible. European mills, which provide kiln-dried lumber in metric dimensions, have made special efforts to meet Japanese customers' extra fabrication and product packaging requirements (USDA FAS 1999; Eastin and Fukuda 2000).

4.2 SOFTWOOD PLYWOOD

The US share for Japan's softwood plywood imports (4412.19.011-022) declined from 26.6% in 1988 to just 1.1% in 2000 (Figure 6). In 2000, 65.9% of softwood plywood imports were supplied from Canada, 13.6% from New Zealand, and 8.8% from China.

Since the early 1990s, consumption of softwood plywood has been increasing in Japan and in 1998 approximately 20% of the plywood consumed in Japan was softwood plywood. Just 17.2% of the softwood plywood consumed in Japan is imported, while the balance is produced domestically, mostly from imported softwood logs and softwood veneer (Rinsan Gyosei Kenkyu-kai 1999: 184). This increase in softwood plywood consumption can be attributed to the lower availability of tropical logs from South East Asia caused by the imposition of the log export bans in the region. In response, the plywood manufacturing industry and construction industry implemented initiatives to substitute softwood plywood for hardwood plywood. In May 1991, the Japan Plywood Manufacturers Association adopted an initiative to increase the production of softwood plywood by 30% over five years. Similarly, in 1992, the Japan Building Contractors Society announced an action program to reduce the use of tropical plywood concrete panels by 35%, partly through substitution to softwood plywood (JAWIC 1993: 19-20).

Although Japan's imports of softwood plywood have increased substantially since the early 1990s, imports from the US have increased marginally. The fact that Canada, with a similar resource base, exported more to Japan during this period (3.2 million m² in 1988 to 14.6 million m² in 2000) shows that the US industry failed to capitalize on the changes in Japan's market environment.

4.3 SOFTWOOD VENEER

Softwood veneer was identified as the product with the greatest export potential during the MOSS talks. The US industry estimated that more than half of the expected increase in wood products exports resulting from the MOSS agreement would come from increased softwood veneer exports (NFPA 1986b). In reality, the US share of Japan's softwood veneer (4408.10.021-029) imports exhibited substantial losses during the 1988-2000 period. Although the US dominated Japan's softwood veneer imports in 1988 with a share of 81.4%, the US share was down to 6.9% by 2000. In 2000, 40.8% of softwood veneer imports were supplied from Chile, 15.7% from New Zealand, 13.9% from China, and 11.2% from Canada. The total volume of imports from the US declined by nearly 90% from 12.4 million m² in 1988 to 1.4 million m² in 2000 (Figure 7).

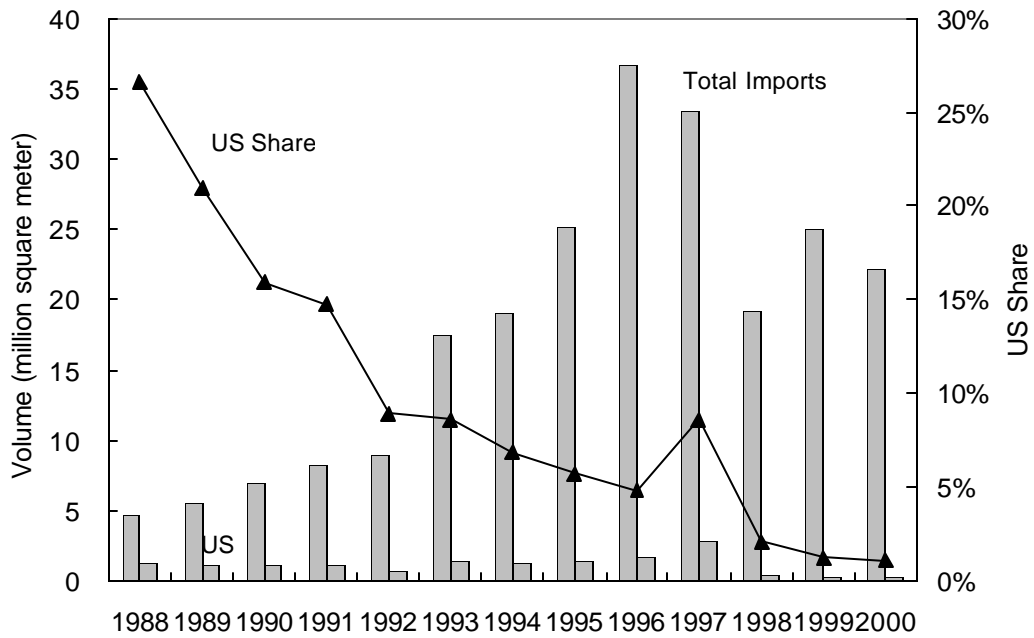


Figure 6. Japan's Softwood Plywood Imports and US Share, 1988-2000.

Source: Japan Tariff Association (1988-2000b).

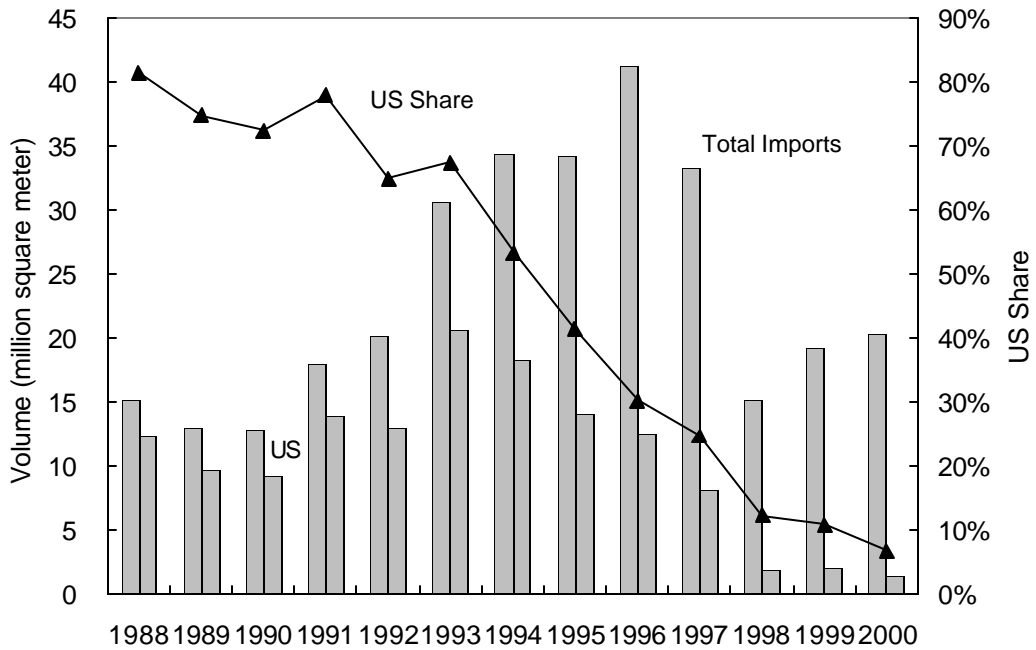


Figure 7. Japan's Softwood Veneer Imports and US Share, 1988-2000.

Source: Japan Tariff Association (1988-2000b).

4.4 STRUCTURAL LAMINATED LUMBER

The classification of structural laminated lumber (including glulam and structural LVL) was an important issue in the 1990 Agreement on Wood Products. Upon the request of the US, Japan reclassified structural laminated lumber from HS 4412 with 15-20% tariffs to HS 4418.90 with a 3.9 % tariff in 1991. In spite of this substantial de facto tariff reduction, the US share of Japan's structural laminated lumber imports declined from 91.6% in 1991 to 9.0% in 2000. Although the volume of imports from the US increased during the period 1991-1996 from 16,000 m³ to 119,000 m³, imports from other countries increased more rapidly, resulting in a consistent decline in the US market share (Figure 8).

As of 2000, EU countries including Austria, Germany, Finland, and Sweden had a 67.3% market share of Japan's imports of structural laminated lumber. The success of these countries could be attributed to the same factors as discussed in the softwood lumber section: changing material preferences in Japan, favorable exchange rates relative to \$US, lower transportation costs from the EU, and better customer service. In particular, the European light-colored species are preferred by Japanese customers (Jenkins 1997b).

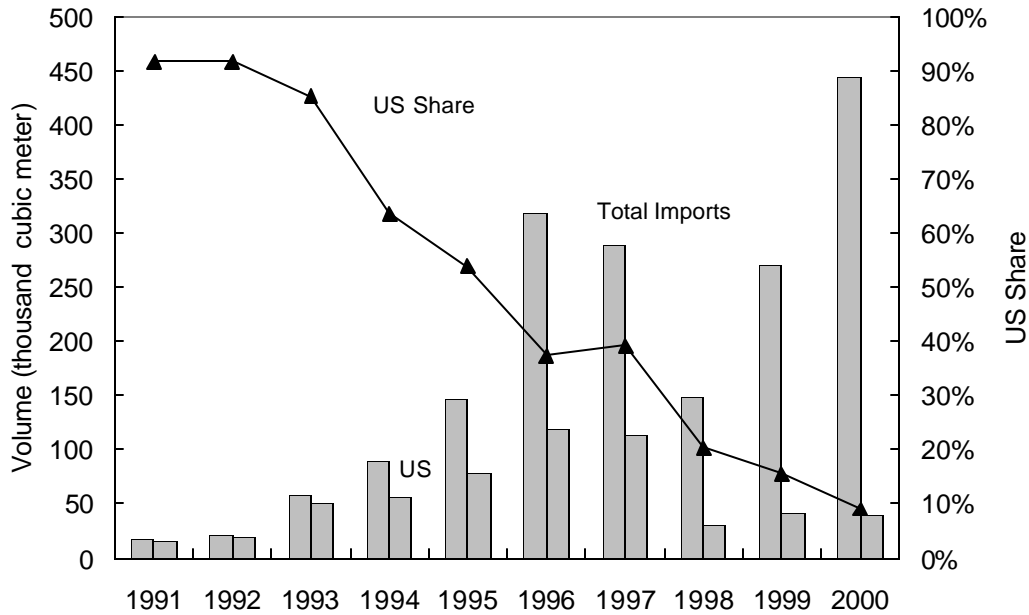


Figure 8. Japan's Structural Laminated Lumber Imports and US Share, 1991-2000.

Source: Japan Tariff Association (1988-2000b).

4.5 WOOD DOORS

Unlike the other processed products discussed above, US exports of wood doors (4418.20.000) were performing well in Japan's import market until 1996. The US share, as well as the export volume, continued to increase, reaching 42% in 1996. However, it began to decline rapidly thereafter, reaching 21.3% in 2000 (Figure 9). The same year, 21.7% of wood door imports were supplied from Indonesia, 13.5% from Malaysia, 13.0% from Canada, and 12.5% from EU countries, mainly Sweden and Italy. Indonesia's share increased rapidly from 9.7 % in 1991, because many Japanese door manufacturers shifted production of doors to Indonesia due to the high labor and manufacturing costs in Japan. While domestic manufacturers, presumably including those in Indonesia, supply various sizes of doors for use in Japan's traditional post-and-beam houses due to the lack of standardization, US producers export doors of the standard US size for use in 2x4 wood frame construction (Jenkins 1997c). Therefore,

at least a part of the decline in the US share can be attributed to the fixed size of US wood doors, although Japan's distribution system which presumably favors domestic producers may also be an important factor.

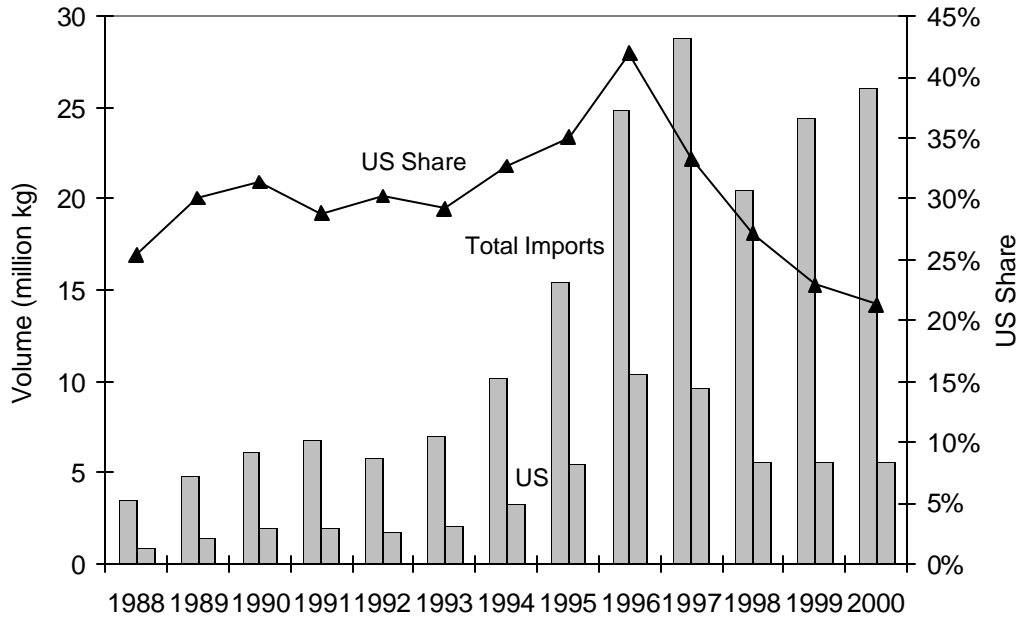


Figure 9. Japan's Wood Door Imports and US Share, 1988-2000.
 Source: Japan Tariff Association (1988-2000b).

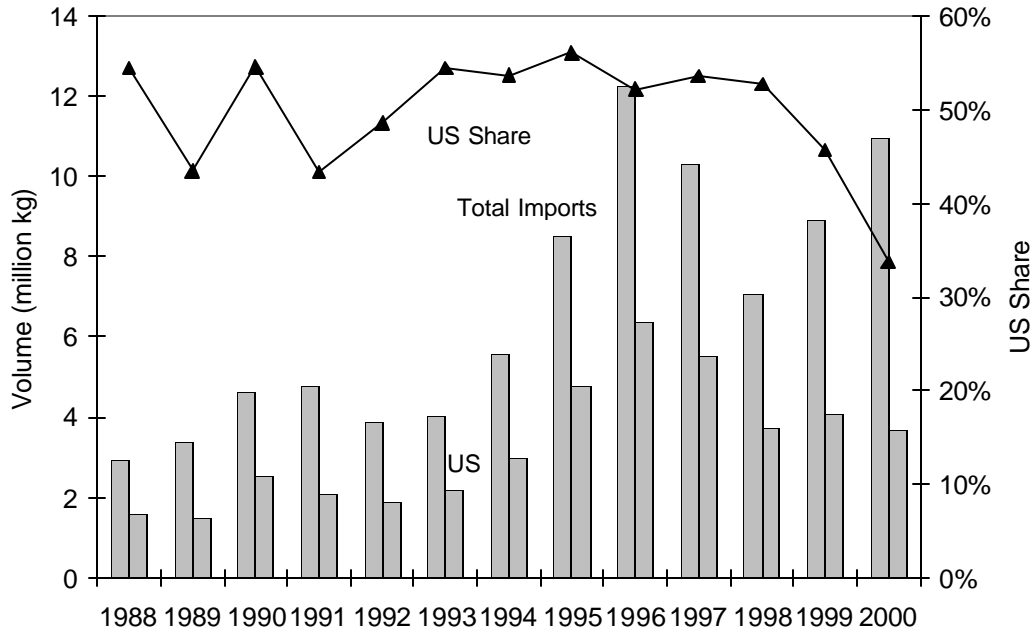


Figure 10. Japan's Wood Window Imports and US Share, 1988-2000.
 Source: Japan Tariff Association (1988-2000b).

4.6 WOOD WINDOWS

The US export of wood windows (4418.10.000) is one of the few successes for US wood products exported to Japan. The US maintained its market share at around 50% throughout the last decade (Figure 10). Although the market share of wood windows is 2% of the total residential window market in Japan (90%: aluminum windows, 8%: vinyl windows), imported wood windows dominate Japan's wood window market with an 81% share in 1996. Due to the dominance of aluminum windows, Japanese manufacturers started manufacturing wood windows only recently in response to the increasing window imports for use in 2x4 wood frame housing. Because of their lack of experience and small size, they have been less competitive than foreign manufacturers (Jenkins 1997c). It could be said that the US industry succeeded in developing a new market for wood windows and keeping its market share, although the US share declined significantly in 1999 and 2000.

In 2000, 33.7% of wood window imports were supplied from the US, 26.6% from EU countries, primarily Sweden and Denmark, and 13.1% from Canada. While Canadian wood windows are similar to US products, European wood windows are very high quality with a narrower range of end uses (Jenkins 1997c).

4.7 SUMMARY

In spite of its success in the trade liberalization and market deregulation initiatives, the US wood products industry has been losing market share in Japan's imports of softwood lumber, softwood plywood, softwood veneer, structural laminated lumber, wood doors, and wood windows. In some cases, the US increased the volume of its exports to Japan, but exports from other countries, mostly Canada and the EU, increased more rapidly than those from the US, resulting in a loss of market share for the US. This trend indicates that as the US industry was negotiating trade liberalization and market deregulation initiatives in Japan, structural changes were occurring that would adversely impact the competitiveness of US wood products industry. These structural and market changes include changing material preferences in Japan toward kiln-dried products, the strength of the US dollar relative to Canadian and European currencies, and higher transportation costs from the US to Japan than from the EU. In addition, it should be noted that some studies indicated that other successful countries made substantial efforts to develop a better understanding of Japanese market condition and accommodate Japanese customers' extra requirement for products and services.

5 CONCLUSION

As discussed previously, the US wood products industry put substantial effort into the trade liberalization and market deregulation initiatives in Japan's wood products sector through tariff reduction, building standard revision, and foreign product standard recognition. Although the trade-weighted average of tariffs on wood products in Japan slightly increased and the potential effects of measures in building standards and product standards have not been fully realized, US wood products are losing their share of Japan's import market. This failure in market penetration could be attributed to two factors: an increase in US domestic consumption of wood products, and a decrease in international competitiveness of the US wood products industry.

Increase in Domestic Consumption

The US has been a net importer of wood products (in value) since 1993, mainly due to its increasing wood consumption during a period of strong economic growth (Figure 11). Since 1991, the US economy has been expanding at an average annual growth rate of 3.6%, reaching as high as 4.6% in 1998. Under this strong US economy, new housing starts increased from 1.01 million units in 1991 to 1.67 million units in 1999. As a result, softwood lumber consumption increased from 41.9 billion board feet (bbf) to 54.3 bbf, or by 29.6%, during the period 1991-1999. However, domestic production of softwood lumber increased by only 10.5% from 33.2 bbf to 36.7 bbf, resulting in a sharp increase in softwood lumber imports, primarily from Canada. Similarly in the wood panel sector, the US has also become dependent upon imports from Canada. As of 1998, nearly 20% of the wood panels consumed in the US were supplied by Canada.

With the increase in domestic consumption of wood products under the strong economic growth, wood products exports have become relatively less important to the US industry in the late 1990s. Exports of softwood lumber declined from 7.1 million m³ in 1991 to 3.0 million m³ in 1999, partly redirected toward domestic processing and consumption. This decline has been further exacerbated by the economic downturn in Asia, particularly in Japan, since mid-1997.

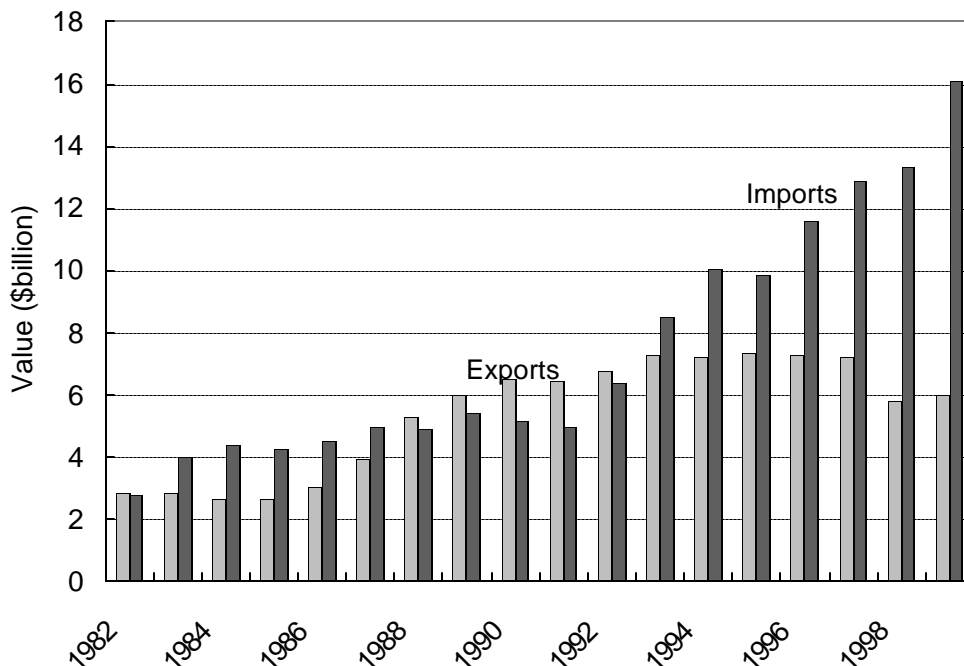


Figure 11. US Wood Products Imports and Exports Value, 1982-1999.

Source: USDA FAS (1995-2000).

US exports of wood products decreased by nearly 20% from 1997 to 1998, approximately 70% of which can be attributed to the decline in exports to Japan. It is ironic that the accomplishments of the trade liberalization and market deregulation initiatives, including tariff reduction, building standard revision, and foreign product standard recognition, began to materialize in the late 1990s when the export potential of US wood products exports began to decline.

Competitiveness of US Industry

As we have discussed earlier, the US wood products industry has been losing market share in Japan's imports of wood products, including softwood lumber, softwood plywood, softwood veneer, structural laminated lumber, wood doors, and wood windows, to other exporting countries, namely Canada and the EU. This trend indicates that some structural changes disadvantageous to the US wood products industry have occurred while the US industry was concentrating on trade liberalization and market deregulation initiatives in Japan. These structural and market changes include changing material preferences in Japan toward kiln-dried products, the strength of the US dollar relative to Canadian and European currencies, and higher transportation cost from the US to Japan than from the EU.

In addition to these unfavorable market conditions, the US industry has been slow to develop its advantages relative to its competitors' in Japan's import market. Some studies have indicated that other successful exporting countries made substantial efforts to develop a better understanding of Japanese market conditions and accommodate Japanese customers' extra requirement for products and services wherever possible. It seems that the US industry put more resources into an effort to modify Japan's market conditions than to accommodating their own needs, seemingly with a strong belief that US wood products would be accepted anywhere. Further, the repetitive trade liberalization and market deregulation initiatives seem to have given US wood products manufacturers a false impression that the only barriers to their market penetration in Japan were tariff and non-tariff barriers, which raised their level of expectation without encouraging their own efforts.

These two factors, unfavorable market conditions and excessive reliance upon trade liberalization and market deregulation initiatives, rather than their own efforts, would be the primary causes of the reduced international competitiveness of the US wood products industry.

Given their failure in market penetration through trade liberalization and market deregulation initiatives, it may be necessary for the US wood products industry to reconsider their strategies for market penetration in foreign countries as well as in Japan. If the US industry wants to increase its wood products exports, it would be advisable for the industry to develop its advantages relative to its competitors in addition to insisting on improving market access conditions. Important factors for success include developing a better understanding of the market, making stronger efforts to match product offerings with changing customer preferences, accommodating customers' extra requirements for products and services, improving product quality, and offering competitive prices. Regarding wood products exports to Japan, lower prices relative to product quality would be a key factor, given the increased price sensitivity of the Japanese consumers caused by the economic recession and market deregulation.

Additionally, the US wood products industry may wish to reconsider their export potentials in response to the increasing domestic consumption and the constrained resource availability in the US. It is said that the US industry has a tendency to export more when domestic demand is low, and retreat from the export market when domestic demand is high. Such a shortsighted behavior is particularly unwelcome in value-added products trade where a direct relationship between suppliers and consumers is important. Therefore, it would be advisable for the US industry to consider the impact of these supply factors on their ability to commit to long-term relationship with their foreign customers.

At this time, it is too early to reach a conclusion about the competitiveness of the US wood products industry. Given Japan's changing market conditions, especially the recent implementation of the revised Building Standard Law, the revised JAS Law, and the new Housing Quality Assurance Law, there could emerge new opportunities for the US wood products industry to further penetrate Japan's import market. In that case, future success is dependent upon the US industry's efforts to develop its advantages relative to its competitors.

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Appendices

Appendix I

US/JAPAN JOINT REPORT ON SECTORAL DISCUSSIONS (January 10, 1986)

APPENDIX I: US/JAPAN JOINT REPORT ON SECTORAL DISCUSSIONS (JANUARY 10, 1986)

IV. FOREST PRODUCTS

Tariffs:

1. The Government of Japan has reduced tariffs by 20 percent on transom, other builders' carpentry and joinery, and fiber building board from January 1, 1986.
2. The Government of Japan stated it would reduce its tariffs on wood products as shown in the Annex effective as from April 1987. Review and discussion will take place as the results of the 1987 reductions have become available.

Non-tariff Issues:

A. Measures in Place

1. Exchange of information to improve understanding of the problems and the particular characteristics of each other's forestry and forest products industries.
2. Confirmation that the restructuring plan for Japan's forest products industry will take into account OECD and GATT guidelines.
3. Development of a demonstration wood structure to promote increased wood utilization in Japan.
4. Revision of the Japanese building code for 2x4 construction to permit increased use of 4x8 panels.
5. Provision of the criteria and procedures for permitting foreigners to participate fully in standards drafting procedures.

B. Measures to be Implemented

1. Prompt implementation of the necessary tests in order to adopt lodgepole pine and ponderosa pine as types of trees, which can be used as materials for structural laminated lumber. Revision of the laminated lumber standard if warranted by the test data.
2. Discussion of possible joint promotional activities to expand demand in Japan for wood products in addition to the demonstration wood structure.
3. Prompt commencement of tests to establish product standards for structural panel products, such as newly developed oriented strandboard, waferboard, etc.
4. Appointment of representatives of foreign interests as members of the technical sub-committees of the research committee for agricultural and forest standards and admission of representatives of foreign interests to participate in the drafting of standards, as stated in the Action Program.
5. Institutionalization of the agreed-upon method for designating "Foreign Testing Organizations (FTOs)."
6. Review of fire and building codes to identify possible measures, which could stimulate greater use of wood and wood panel products.

C. Continuing Issues

1. Procedures for certification of U.S. wood products.

ANNEX

WOOD PRODUCTS TARIFF REDUCTIONS

<u>Description/CCCN</u>	<u>Jan. 1986</u>	<u>Apr. 1987</u>	<u>Apr. 1988</u>
<u>Veneer</u>			
44.14-230	15.0	5.0	
44.14-290	15.0	5.0	
<u>Plywood</u>			
44.15-111	16.3	12.5	10.0
44.15-191*	15.0	12.5	10.0
44.15-192	20.0	17.5	15.0
44.15-193	20.0	17.5	15.0
44.15-194	17.0	13.5	10.0
44.15-195	17.0	13.5	10.0

* Softwood plywood not less than 6mm in thickness.

Reconstituted Wood

44.18-100 12.0 8.0

Unfinished Pine Lumber

44.05-310 7.0 4.8

Fiber Building Board

44.11-900 5.2 3.5

Finished Lumber

44.13-300 10.0 8.0

Laminated Lumber

44.15-200 20.0 15.0

Wooden Beadings & Mouldings

44.19-000 7.2 4.8

N.B. Review and discussions will take place as the results of the 1987 reductions have become available.

Appendix II

AGREEMENT ON WOOD PRODUCTS (June 15, 1990)

APPENDIX II: AGREEMENT ON WOOD PRODUCTS (JUNE 15, 1990)

MEASURES TO BE TAKEN BY THE GOVERNMENT OF JAPAN RELATING TO WOOD PRODUCTS

(MEASURES)

I. TARIFFS

1. The Government of Japan (GOJ) has decided to take a positive stance in the Uruguay Round Negotiations with respect to the reduction, or as appropriate, elimination of tariffs on the wood Products specified in Annex A, which is attached hereto.
2. Following commitments made in the Uruguay Round Mid-Term Review of April 1989, and without prejudice to the basic negotiating methods described in that commitment, the GOJ:
 - a. Will take necessary measures, including seeking Diet approval, to reduce overall tariff rates on the wood products specified in Annex A from current applied rates by a target amount at least as ambitious as that achieved by the formula participants in the Tokyo Round as part of the implementation of the results of the Uruguay Round Negotiations;
 - b. Recognizes the importance, as stated in the Uruguay Round Mid-Term Review of April 1989, of reducing or eliminating high tariffs, tariff peaks, and tariff escalation, and thereby is of the view that:
 - (i). the implementation of Uruguay Round Negotiations should ultimately result in the achievement of low tariffs on the wood products specified in Annex A, and
 - (ii). the initial reductions in high tariffs (rates 8 percent and above) on those products specified in Annex A will be greater than subsequent staged reductions in order to achieve immediate substantial improvement in market access.
 - c. Intends to work closely with the United States Government (USG) and other interested parties on tariff issues in the Uruguay Round and to negotiate with the USG and other interested parties as part of the Uruguay Round Negotiations the level and staging of tariff reductions on wood products specified in Annex A in accordance with the above guidelines.

II. BUILDING STANDARDS

A. Definition: for purposes of the "Measures to Be Taken by the Government of Japan Relating to Wood Products" (Measures), the term "building standards" means the Building Standards Law, as well as relevant cabinet orders, enforcement regulations and notifications. The legal requirements under the Building Standards Law encompassed by this definition are sufficient to allow the practical and effective implementation of the measures to be taken under Part II and Annex B of the Measures.

B. Performance Requirements

1. It is the policy of the GOJ that, in principle, building standards and requirements should be performance-based and that, where the performance of wood products or wooden building systems is equivalent to that stipulated by these standards and requirements, their use should be permitted.
2. Where only prescriptive building standards are now stipulated, the GOJ will add performance-based standards to the maximum extent possible. In particular, the GOJ notes its intention to introduce into its building standards new testing methods for acceptance of wood fire doors as well as new structural calculation methods for wood frame construction, as detailed in Annex B, which is attached hereto. These new standards will be put into effect in June 1990 for fire doors and by the end of Fiscal Year 1991 for new structural calculation methods for wood frame construction.
3. The GOJ will continue and strengthen its program, directed by the Ministry of Construction (MOC), of research and development to expand the use of wood products and modern building systems in

construction. On the basis of current data and information available to it and in accordance with new technical developments, the GOJ will amend promptly its building standards and requirements so as to permit the use of proven wood products and safe building systems.

4. The specific actions now being implemented or contemplated as well as the objectives are outlined in Annex B.
5. With the objectives of promoting the use of proven wood products and safe building systems, and of exchanging views and technical information on building standards, the GOJ will establish, in cooperation with the USG and/or other interested countries, a Building Experts Committee, including representatives of the public sector and private technical experts of Japan, the United States and/or other interested countries. This Committee will hold its first meeting as soon as possible in 1990.
6. With a view towards further improving information about the building standards, rules and regulations and providing a sound basis for the deliberations of the Building Experts Committee, the GOJ is providing the information outlined in Annex F, which is attached hereto.

C. Expeditious Recognition of New Products and Building Systems in the Building Standards and Expeditious Incorporation of JAS and JIS Standards into the Building Standards

1. It is the policy of the GOJ that the recognition of new products and systems and the incorporation of appropriate products coming under Japanese Agricultural Standards (JAS) and Japanese Industrial Standards (JIS) into the building standards should proceed in an expeditious, transparent and predictable manner. In accordance with the "Action Program for Improved Market Access" formulated in July 1985, technical appraisal regarding safety and workability should be completed and new products and systems recognized in the building standards within a three-month period, unless there are exceptional circumstances. The GOJ will seek to incorporate appropriate products coming under JAS or JIS standards into the building standards within a six-month Period.
2. Foreign test data will be accepted whenever possible, consistent with the GATT Agreement on Technical Barriers to Trade, in considering the recognition of new products and systems. In this regard, the GOJ draws attention to the 1987 "Guidelines on the Acceptance of Overseas Inspection Data."
3. The GOJ will further take the actions specified in Annex C, which is attached hereto, concerning the incorporation of JAS and JIS standards into the building standards.

D. Open and Expeditious Certification

1. The GOJ is of the view that, in general, open certification, or general approval of new building materials and systems, is desirable and that closed certification, or the approval of new products or systems only for specific applications or by specified firms, should be avoided except where the new products or systems are of such a technologically unique or complex nature as to warrant such treatment.
2. The GOJ is also of the view that there should be expeditious acceptance of test results and data compiled by the relevant bodies of other countries in the building standards' approval and certification system, even when test methods differ, provided that the methods employed provide sufficient means to determine conformity with the relevant technical regulations or standards in accordance with the 1987 "Guidelines on the Acceptance of Overseas Inspection Data."
3. The GOJ has made efforts to streamline its procedures for approval and in this regard draws attention to the 1987 "Guidelines on the Acceptance of Overseas Inspection Data" and recent work on the categorization and public notification of data necessary for technical appraisal. The GOJ also notes in this regard that, unless there are exceptional circumstances, such approval is effective on a nationwide basis.
4. The GOJ will make further efforts to expedite open approval and certification by taking the actions set forth in Annex D, which is attached hereto, and, consistent with its commitments to provide improved information services, briefing sessions and explanatory information on the approval process to foreign companies upon request.

E. Implementation

1. The GOJ will take all necessary and appropriate actions to ensure nationwide application of all the modifications to the building standards required to implement the actions of the GOJ set forth in this Part, as well as in Annexes B, C and D of the Measures.
2. The GOJ will cooperate with the USG and/or other interested parties to resolve disputes and problems related to the recognition, incorporation, approval and certification of wood products or building systems as quickly as possible and in a manner consistent with the Measures. It is anticipated that disputes will be resolved within three months upon receipt of sufficient data from the parties concerned.
3. The GOJ will inform building officials, local government officials and other appropriate officials, as well as the construction industry, in an effective and timely manner of all changes in the building standards and other requirements set forth in the Measures.

III. JAPANESE AGRICULTURAL STANDARDS

The GOJ will take the following measures with respect to the Japanese Agricultural Standards (JAS).

A. Simplification of Certification Process

1. In order to simplify and expedite the JAS certification process, the GOJ will eliminate, reduce and simplify the documentation required for JAS mill certification. Through the actions described in Annex E, which is attached hereto, with respect to the documentation requirements in the certification of a mill producing structural plywood, the GOJ will implement the following, except in extenuating circumstances:
 - a. The documentation required for JAS mill applications will be reduced by approximately one-half, and the time period for the GOJ to conduct an on-site inspection and to review and approve the application will be shortened to four months for applications submitted directly to Registered Grading Organizations (RGO's) (only two or three months will be required in cases in which no problems are encountered).
 - b. When the Foreign Testing Organization (FTO) system is used, the time period, referred to in sub-paragraph (a) above, will be no more than two working weeks.
 - c. For the approval of new plants, the time period for the GOJ to conduct an on-site inspection and to review and approve the application will be shortened to five months, except when the FTO system is used the time period will be no more than two weeks, and in cases where no problems are encountered, the time period will be shortened to two to three months.
2. In the certification of mills producing products other than structural plywood, the GOJ will take actions similar to those described in Paragraph (1) above, as well as those described in the documentation requirements detailed in Annex E with respect to structural plywood.
3. Under the FTO system, the provision of quality control facilities, equipment and personnel is the responsibility of the FTO, and not of the applicant mill, where there is a quality control contract between the FTO and the applicant mill. In seeking JAS certification, an applicant mill will not be required to provide documentation with respect to the quality control requirements.

B. Adoption and Revision of JAS Standards

1. The GOJ will revise the JAS standards:
 - a. to include the alternative method of the Nail Shear Test and to incorporate stress values in the structural panels standard; and
 - b. to recognize Machine Stress Ratings (MSR) and stress values for lumber uses including for use in the manufacture of laminated lumber products.
2. In revising the standards in Paragraph (1) above, the GOJ will:

- a. acknowledge and utilize the extensive experience and technology available in the United States and other countries to the maximum extent possible: and
- b. make the maximum use of the data on OSB stress values and the stress values for MSR lumber provided by U.S. and/or other foreign entities.
3. Based upon recognition of the impracticality of retesting MSR lumber at the time of importation, the GOJ, after assessment of and rendering a judgment on the quality control programs of certified MSR grading organizations in the United States and other countries, will as a matter of principle recognize the certified stress values referred to in Paragraph (2)(b) above.
4. Foreign technical experts will continue to participate in the development of JAS standards. Foreign test data will continue to be utilized whenever possible, consistent with the guidelines established by the GOJ in "Improvement of Japanese Standards and Certification Systems."
5. The preparation of the final draft of the revised standards, referred to in Paragraph (1) above and the necessary domestic procedures, including the activities of the Research Committee for Agricultural and Forestry Standards, will be completed by March 31, 1991 and the revised standards will be put into effect by July 1, 1991.

C. Equivalency in Testing

1. It is the view of the GOJ that, even where test methodologies and other requirements differ from those set forth in the JAS standards, foreign quality control methodologies can provide equivalent guarantees of a product's quality and safety.
2. The GOJ will judge the equivalence of a foreign quality control methodology on the basis of its analysis of performance and test data provided through a parallel testing program.
3. Upon receipt of a request by a Foreign Testing Organization or other entity, which intends to seek approval of a parallel testing program, the GOJ will, in no more than 60 days, except in very complicated cases, notify the applicant of all the parameters of the testing program that will be required (e.g., the duration of the testing) and all other necessary data that must be submitted with the application. When this data has been submitted, no other information will be required of the applicant.
4. Within six months of submission of the necessary test data, the Research Committee for Agricultural and Forestry Standards will make a judgment that a foreign testing method provides equivalent results. As soon as possible but within 30 working days, after the Research Committee has made an affirmative equivalency judgment, the GOJ will make an official proclamation in the KANPO of the acceptance, on a provisional basis, of the foreign testing methodology.
5. Thirty (30) days after the equivalency judgment is published in the KANPO, and prior to GATT notification, the GOJ will begin to accept the foreign test results as equivalent to JAS test results. These test results will fulfill the JAS requirements, in accordance with relevant laws and regulations in Japan.
6. It is understood that as a result of the GATT notification process, the GOJ may be required to alter its provisional acceptance of the foreign testing method.

D. JAS Technical Committee

1. The GOJ, in cooperation with the USG and/or other interested countries, will establish a JAS Technical Committee, composed of representatives of the governments and organizations participating in the JAS system and, as it is deemed necessary, private sector technical experts for the purpose of assisting that government.
2. The initial meeting of the Committee will be held before June 30, 1990, and approximately once every year thereafter, with more frequent meetings held when necessary.
3. The purposes of the Committee will be to:
 - a. hold regular meetings to exchange views and deepen understanding of JAS product standards and the product standards of other countries and such other issues as may be agreed upon;

- b. identify products where harmonization of standards would facilitate trade in forest products;
- c. examine and make recommendations with respect to the harmonization of standards, in particular with respect to the future development of common standards and testing methodologies; and
- d. prepare reports on progress in the implementation of the actions set forth in section B of this Part and in Annex E.

IV. CLASSIFICATION OF LAMINATED WOOD PRODUCTS

1. This Part of the Measures sets forth the policies and actions of the GOJ regarding the appropriate classification of laminated wood products, including, but not limited to, glue laminated (glulam) arches, headers and beams; laminated posts; laminated veneer lumber (LVL); laminated veneer lumber joists and trusses; and tongued and grooved glue-laminated lumber. Where such laminated wood products meet the criteria set forth below, the GOJ has decided to classify these products under Harmonized Tariff Schedule sub-heading 4418.90 (3.9 percent duty), as of June 1, 1990.

2. The GOJ has decided to classify the following laminated wood products under Harmonized Tariff Schedule sub-heading 4418.90 (3.9 percent duty), as of June 1, 1990.

A. Glulam

- 1. Structural 1/ glue-laminated lumber that has a minimum cross section width of not less than 3 inches (76 mm) and a depth (a multiple of the lamination thicknesses) of not less than 5-1/2 inches (140 mm) and that fulfills any one of the conditions described below at the time of importation:
 - a. processed (curved, camber, tenons, mortises) to be a particular shape for beams or arches;
 - b. has bolt holes in appropriate locations;
 - c. planed or sanded, and chamfered; or
 - d. with average lamination thicknesses of not less than 30 mm
- 2. Glue-laminated lumber that has a cross section width of less than 3 inches (76 mm) and a depth of less than 5-1/2 inches (140 mm) or across section greater than or equal to that size, but which does not fulfill any of the four conditions set forth in sub-paragraph (a)(1) above, is classified as structural glue-laminated lumber when the shipment is accompanied by technical materials 2/ or hardware 3/ showing that the products are intended to be used for structural applications 4/ in the construction of any kind of building, etc. without significant further processing 5/.

B. Laminated Veneer Lumber

Structural laminated veneer lumber (LVL), which fulfills any one of the conditions described below at the time of importation:

- 1. assembled products (e.g., I-beams or I-joists, combination beams with steel products, and trusses);
- 2. products in the form of recognizable unassembled pieces (e.g., prepared with tenons, mortises, dovetails or similar joints for assembly);
- 3. pieces processed to a particular shape (e.g., curved, camber) for beams or arches; or
- 4. products having a cross section width (or thickness which is a multiple of the thickness of the laminations) of not less than 1-1/2 inches (38 mm) and a depth of not less than 3-1/2 inches (89 mm) and accompanied by technical material 2/ or hardware 3/ showing that it is intended to be used for structural applications 4/ in the construction of any kind of building, etc. without significant further processing 5/.

C. Tongued and Grooved Glue-laminated Lumber

Tongued and grooved glue-laminated lumber (so-called "decking") which has a width of not less than 5-1/4 inches (133 mm) and a depth (a multiple of the lamination thicknesses) of not less than 2-3/16 inches (56 mm), is designed for use as flooring, roofing, etc., and is not recognizable as glulam when assembled because it is used in flat panel

form. Nevertheless, decking prepared with end-joints, such as tenons or mortises, for assembly is classified under Harmonized Tariff Schedule sub-heading 4418.90 (3.9 percent duty).

1. The term "structural" as used herein is intended only to be descriptive and shall not imply the need to meet requirements in addition to those specified herein.
2. The term "technical materials" include drawings or diagrams, standard specifications or similar technical manuals, and installation instructions.
3. The term "hardware" includes hangers, metal plates or brackets which are appropriate in size and quality for the products involved.
4. The term "structural applications" includes beams, arches, posts, headers, purlins, and other members, which are used in the main frame of any building.
5. The term "significant further processing" refers only to re-sawing and overlaying, but not cutting to length or joining members together.

V. ESTABLISHMENT OF WOOD PRODUCTS SUBCOMMITTEE

A. Accomplishment of the Objectives of the Measures

1. The objectives of the Measures are to achieve substantial improvement in market access and to encourage the use of wood products in Japan.
2. With the implementation of the Measures, it is the intent of the GOJ that the use and importation of wood products and wood building systems will be facilitated and a framework established for addressing any relevant issues in the future.
3. Toward this end, the GOJ will cooperate with the USG and/or interested parties to resolve expeditiously any disputes or problems related to the building standards, JAS standards or tariff classifications in a manner consistent with the Measures.

B. Wood Products Subcommittee

1. For the purposes of overseeing the implementation of the policies, procedures and actions set forth in the Measures, resolving disputes and problems arising under it, and facilitating trade in wood products as well as the increased use of wood products, a Wood Products Subcommittee (Subcommittee) of the U.S.-Japan Trade Committee will be established.
 - a. The Subcommittee will be composed of senior officials of the GOJ and the USG and other appropriate government experts.
 - b. The Subcommittee will meet twice a year at or about the same time as the Trade Committee, and more frequently when requested.
2. The Subcommittee will review the actual implementation and operation of the policies, actions and procedures upon which the Measures are based, as well as the work of the technical committees established under the Measures (Building Experts Committee and JAS Technical Committee). When disputes arise with respect to the implementation of the Measures, the Subcommittee should seek to resolve them within six months.
3. The Subcommittee will endeavor to identify actions and areas of cooperation which will contribute to the achievement of the objectives of the Measures. If the Subcommittee identifies areas in which revisions are appropriate to achieve the objectives of the Measures, the GOJ will implement mutually acceptable revisions.

VI. SUBSIDIES

In order that the objectives of the Measures will not be undermined, it is the intention of the GOJ that any existing or future subsidies to manufacturers of forest products shall be consistent with the Agreement on Interpretation and

Application of Articles VI, XVI and XXIII of the General Agreement on Tariffs and Trade and, in that regard, will not nullify or impair benefits accruing to any GATT Contracting Party, directly or indirectly, under the GATT. In addition, such subsidies will be consistent with the OECD Statement on Positive Adjustment Policies of 1982.

ANNEX A

JAPANESE WOOD PRODUCTS TARIFFS

HS #	Current
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Sawn Wood

4407.10-110	8.0
4407.10-121	4.8
4407.10-210	8.0
4407.10-290	10.0

Veneer Sheets And Sheets for Plywood

4408 10-010	0
4408.10-021	5.0
4408.10-029	5.0
4408.90-410	5.0
4408.90-490	5.0

Wood Continuously Shaped along any of its Edges or Faces

4409.10-100	7.5
4409 10-200	4.8
4409.10-310	8.0
4409.10-320	0
4409.20-190	7.5
4409.20-200	4.8
4409.20-320	0
4409.20-330	10.0
4409.20-340	0

Particleboard

4410.10-010	8.0
4410 10-020	10.0

Fiberboard

4411.11-000	5.2
4411.19-000	5.2
4411.21-000	3.5
4411.29-000	3.5
4411.31-000	3.5
4411.39-000	3.5
4411.91-000	3.5
4411.99-000	3.5

Plywood U. Panels and Similar Laminated Wood

4412.12-011	10.0
4412.12-019	15.0
4412.12-021	15.0
4412.12-022	10.0
4412.19-011	10.0

4412.19-019	15.0
4412.19-021	15.0
4412.19-022	10.0
4412.21-010	15.0
4412.21-090	20.0
4412.29-010	15.0
4412.29-090	20.0
4412.91-010	15.0
4412.91-090	20.0
4412.99-010	15.0
4412.99-090	20.0

Builders' Joinery and Carpentry of Wood

4418.30-000	3.9
4418.40-000	3.9
4418.50-000	5.8
4418.90-100	10.0
4418.90-221	3.9
4418.90-229	3.9

Other Articles of Wood

4421.90-099	5.8
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ANNEX B

I. THE OBJECTIVES AND ACTIONS CONCERNING BUILDING STANDARDS

1. The GOJ acknowledges the importance of life safety, structural performance and fire control requirements in its building standards.
2. It is the policy of the GOJ that the use of wood products and wood building systems should be permitted where these products and systems provide levels of safety equivalent to or superior to those required of other building materials. It further recognizes that standards for safety are not fixed but vary in accordance with technological developments. In this regard, the GOJ recognizes that progress has been, and continues to be, made in the development of wood building systems providing the structural and life safety equivalent to other building systems.
3. It is the policy of the GOJ that building standards should be transparent, facilitate the introduction of new products and systems, protect safety and, to the maximum extent possible, be performance-based. Thus, the GOJ acknowledges that:
 - a. The Measures should not only resolve current disputes but establish a system that will alleviate potential problems that may arise in the future concerning the introduction of new products or systems into the building standards and facilitate the modification of existing building standards so as to permit the use of proven wood products and safe wood building systems.
 - b. In accordance with the Measures or after necessary technological study has been completed, the GOJ will continue to incorporate proven wood products and safe systems into its building standards and will actively make the modifications in its building standards necessary to accomplish these objectives and the actions specified in this Annex.
 - c. It is important that building standards regarding the use of wood products, systems and certification be clear, predictable and readily available to interested parties. To that end, the GOJ will improve the information services available to foreign entities as specified in this Annex.

- d. Given the preference of the Japanese for wood housing and the cost competitiveness of such housing, wood construction in Japan is likely to increase significantly as a result of the Measures.

II. ACTIONS TO BE TAKEN BY THE GOJ IN FISCAL YEAR 1991

1. The GOJ will add, to the maximum extent possible, performance-based standards in those cases where only prescriptive building standards are stipulated, including but not limited to the following:
 - a. The GOJ will develop and implement new tests to allow the use of wood doors for all Type A and Type B applications (June, 1990);
 - b. The GOJ will incorporate the following changes in structural restrictions on wood frame construction where the safety has been confirmed through structural calculations:
 - i. Increase the floor area surrounded by bearing wall lines from the current 60 square meters;
 - ii. Increase the distance between bearing wall lines from the current 12 meters or less;
 - iii. Increase the width of openings in bearing wall lines from the current 4 meters or less;
 - iv. Change the nailing requirements; and
 - v. Ease the restrictions on the use of members of different structures.
2. The GOJ will revise the structural design manual including current basic data and guidelines for the structural design of large sectional wood buildings. The GOJ will allow large sectional wood buildings as quasi-fireproof buildings and permit the construction and use of the following:
 - a. In quasi-fire protection districts, urban areas and all other areas except fire protection districts, wood buildings of no more than three stories for offices and row houses or any combination thereof, with a total floor area of from 500 square meters to not more than 1500 square meters;
 - b. In areas outside of fire protection districts and quasi-fire protection districts, wood buildings of not more than two stories for commercial/retail (department stores, shops, etc.), offices or any combination thereof, with a total floor area of less than 500 square meters on the second floor, and an aggregate total floor area of not more than 3000 square meters for the entire building.
 - c. In areas outside of fire protection districts and quasi-fire protection districts, wood buildings of not more than two stories, such as hotels, dormitories, etc., with a total floor area of less than 300 square meters on the second floor and an aggregate total floor area of not more than 3000 square meters for the entire building.
3. The GOJ will make the necessary technical evaluation to permit wood interiors with ceilings of non-combustible or semi noncombustible materials.
4. The GOJ will grant general approvals for new building materials or building elements, which do not require unique and/or complex technology and are accompanied by appropriate manuals.
5. The GOJ will allow the construction of restaurants, shops, club houses as well as cottages of log construction by making the following changes in its building standards (Spring, 1990):
 - a. The restrictions on total floor area will be modified to increase the maximum allowable area from the current 150 square meters to 300 square meters. The restrictions on height will be increased from a maximum height of 7 meters to 8.5 meters.
 - b. The restrictions on the sectional area of logs constituting bearing walls will be revised to increase the current limit of between 120 and 700 square centimeters to between 120 and 1400 square centimeters.
 - c. The limit on the height of bearing walls will be changed from no more than 3.2 meters to no more than 4.0 meters.
 - d. The limitation on the width (horizontal distance) of bearing walls will be eased from more than 1 meter to more than $0.3 \times H$ (H = height) meters.

- e. The limit on the distance between bearing wall lines will be increased from 6 meters or less to 8 meters or less and the limit on the floor area surrounded by bearing wall lines will be increased from 30 square meters or less to 40 square meters or less when the safety of the structure has been confirmed by structural calculations or experimentation.
 - f. The requirement for the number of dowels will be revised to take into account the diameter of the dowels used.
6. The GOJ will allow the construction of three-story, multifamily wood housing and commercial and mixed use wood buildings, as specified in sub-paragraph (f) below, in areas outside of fire protection districts and quasi-fire protection districts when the following conditions, which shall be applied in such a manner as to allow the practical and economic construction of such buildings while not reducing the safety level, are met:
- a. Setbacks from the boundary of the adjacent lot are 3 meters (gable side) and 4 meters (front and back);
 - b. Buildings may be from 500 up to 1000 square meters in size;
 - c. Main structural components, such as walls, floors, ceilings and roofs meet the one-hour fire test specified in Paragraph 8 of this Part of the Annex;
 - d. Evacuation facilities enable residents to exit in two or more directions;
 - e. When building sections are separated by a fireproof system, using non-combustible material of a width of 3 meters, each section shall be treated as a separate building for purposes of calculating the permissible building area; and
 - f. The uses of three-story, multi-family wood housing and commercial and mixed use wood buildings are the following:
 - i. The first and second floors can be used in various ways, such as for offices, stores, apartments, commercial/retail establishments (including both goods and services), offices such as for lawyers, doctors and other professionals, and restaurants: and
 - ii. The third floor can only be used for offices and apartments.
7. The GOJ will allow fire-preventive buildings of wood frame construction as quasi-fireproof buildings and permit the construction and use of the buildings specified below. Main structures of these buildings, such as walls, floors, ceilings and roofs must meet a one-hour fire test as specified in Paragraph 8 of this Part of the Annex.
- a. In quasi-fire protection districts, urban areas and all other areas except fire protection districts, wood buildings of no more than three stories for offices and row houses or any combination thereof, with a total floor area of from 500 square meters to not more than 1500 square meters;
 - b. In areas outside of fire protection districts and quasi-fire protection districts, wood buildings of not more than two stories for commercial/retail (department stores, shops, etc.) or office use or any combination thereof, with a total floor area of less than 500 square meters on the second floor, and an aggregate total floor area of not more than 3000 square meters for the entire building.
 - c. In areas outside of fire protection districts and quasi-fire protection districts, wood buildings of not more than two stories, such as hotels, dormitories, etc., with a total floor area of less than 300 square meters on the second floor and an aggregate total floor area of not more than 3000 square meters for the entire building.
8. The GOJ will conduct the necessary technical review to establish and put into operation a new fire test methodology and criteria similar to that of ISO Test 834. The test criteria and methodology will be such as to permit the use of wood/gypsum systems, which meet the one-hour fire rating set forth in ISO Test 834.
9. The GOJ will formulate standards permitting use of wood for external walls of fireproof and quasi-fireproof buildings in areas outside of fire protection districts and quasi-fire protection districts as long as such construction poses no obstacle to fire preventive performance.

10. Following submission of test data and documents on structural quality control systems, the MOC will grant approval to the allowable unit stresses for species of lumber; and for this purpose the MOC will recognize the lumber bearing applicants' grade marks. At the earliest possible date, the MOC will incorporate these unit stresses into the building standards.

11. The GOJ will upgrade the information services provided by the MOC. These include the establishment of a contact point for foreign entities in the MOC and the establishment of an International Department within the Building Center of Japan to provide information in English on approval systems, as well as the provision of briefing sessions for foreign entities on the building standards and approval systems. The GOJ will make every effort to ensure that foreign firms are aware of the availability of these services.

12. The GOJ will revise the restrictions on height and eave height for wood buildings described in Paragraph 6 of this Part of the Annex, and for row house complexes which meet the conditions specified in that Paragraph, to provide for the following:

- a. An eave height of 11 meters; and
- b. A height of 15 meters. However, provision must be made for increasing the allowable height of the building to maximize the habitable space and to permit economic and practical construction in those cases where the necessary pitch of the roof and the dimensions (length and width) of the building are such as to render the 15 meter height limitation impractical.

III. ACTIONS TO BE TAKEN BY THE GOJ IN FISCAL YEAR 1993

1. As provided for in Paragraph 6 of Part II of this Annex, the GOJ will allow the construction of three-story, multi-family wood housing and certain commercial and mixed use buildings, as specified in sub-paragraph (f) below, in areas outside of fire protection districts and quasi-fire protection districts with the following modifications in the building standards, which shall be applied in a manner to allow the practical and economic construction of such buildings without reducing the safety level:

- a. Setbacks from the boundary of the adjacent lot are 3 meters (gable side) and 4 meters (front and back):
- b. The allowable size of the building will be increased substantially above 1000 square meters, but not more than 3000 square meters;
- c. The fire test methodology and criteria referred to in Paragraph 8 of Part II of this Annex will be revised as appropriate. However, the criteria and methodology will be such as to permit the construction and use of wood/gypsum systems which meet the one-hour fire rating set forth in ISO Test 834:
- d. Main structural components, such as walls, floors, ceilings and roofs can meet the one-hour fire test specified in sub-paragraph (c) above; and
- e. The GOJ will develop alternative rules for fire separation between building sections, in accordance with international practice, with an intention of reducing the size of the current fire separation structure and of permitting firewalls. Building sections separated by such walls shall be treated as separate buildings for purposes of calculating the permissible building area.
- f. The uses of three-story, multi-family wood housing and commercial and mixed use wood buildings are the following:
 - i. The first and second floors can be used in various ways, such as for offices, stores, apartments, commercial/retail establishments (including both goods and services), offices such as for lawyers, doctors and other professionals, and restaurants; and
 - ii. The third floor can only be used for offices and apartments.

2. Based on the experience gained from the implementation of the Measures, in particular the actions undertaken pursuant to this Annex, the GOJ will review its building standards concerning heights, area and other requirements so that the use of wood may be expanded.

IV. BUILDING EXPERTS COMMITTEE

1. The GOJ will, in cooperation with the USG and/or other interested countries, establish a Building Experts Committee, including representatives of the public sector and private technical experts in Japan, the United States and other countries.
 2. The purposes of this Committee will be to:
 - a. hold regular meetings to exchange views and deepen the understanding of each country's building standards and codes;
 - b. examine the building standards and building codes of each country with the objective of providing for the harmonization of standards, in particular with respect to the future development of common standards and testing methodologies; and
 - c. prepare annual reports on the progress of the implementation of the actions specified in this Annex.
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ANNEX C

In order to provide for recognition of JAS and JIS standards in the building standards, the GOJ confirms the following:

1. Following evaluation of the test data provided by entities of the United States and/or other countries, the GOJ will recognize Oriented Strand Board and Waferboard (OSB/WB)- which meets the JAS for structural panels as having equivalent performance characteristics to the same thickness of Class Two JAS plywood. It is recognized that the U.S. has already provided this data and that the GOJ has already initiated this process.
 2. The GOJ will implement the following measures concerning the usage of OSB/WB:
 - a. OSB/WB will be added to the notification on multipliers of wood frame (the resistance coefficient for shear wall) for wooden buildings using Japanese post and beam construction
 - b. OSB/WB will be permitted for use in bearing walls of conventional wooden buildings; and
 - c. OSB/WB will be permitted for use in walls, floors and as sheathing on roofs in wood frame construction.
 3. The GOJ will improve the test method for intumescent fire retardants.
 4. Based on test data provided by the applicant, the GOJ will approve under the building standards the use of box nails, as well as other nails and fasteners, in wood construction in all appropriate applications, in accordance with their holding properties.
 5. With respect to MSR, the GOJ will seek to incorporate MSR into the building standards within six months, following its recognition by JAS, and permit its use in laminated wood products, as well as in all lumber applications.
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ANNEX D

OPEN APPROVAL FOR NEW SYSTEMS AND PRODUCTS WHICH DEMONSTRATE ADEQUATE PERFORMANCE

1. The GOJ will grant general approvals for new building materials or building elements, which do not require unique and/or complex technology for builders and are accompanied by appropriate manuals.

2. Should open approval not be possible immediately, approval of a new structural building material or system for a specific application should be granted within three months. Open approval of new non-structural materials or assemblies should be granted within three months.

3. Where a new product or system is so unique or technologically complex that the initial approval must be limited to specific applications, the GOJ will grant, unless there are exceptional circumstances general approval to the applicant as soon as results are obtained from no more than four applications of the product or system.

ANNEXE

[This annex is not included. It is a four-page spreadsheet detailing the documentation necessary for a sawmill to apply for GOJ certification of its quality control programs, and indicates which requirements are being reduced or eliminated.]

Appendix III

EMERGENCY PRIORITY PROGRAM FOR LOWERING HOUSING CONSTRUCTION COST (March 26, 1996)

**APPENDIX III: EMERGENCY PRIORITY PROGRAM FOR LOWERING HOUSING
CONSTRUCTION COST (MARCH 26, 1996)**

1. Comprehensive Review of Building Regulatory Framework

A. Comprehensive Review of Building Regulatory System

- a. Rationalization of Building Regulatory System In order to create rational regulatory system which more accurately responses to international cooperation, promotion of deregulation and other needs of the time Building Council is now investigating and deliberating on "How New Building Administration Should be in the Face of Economic Social Changes Looking into the 21st Century". On the basis of Building Council's investigation and deliberation new systematic framework for building regulations is to be prepared during FY 1996, there upon tangible preparation of the system, such as legal measures, are to be undertaken promptly thereafter.
- b. Introducing Performance Concept to Building Regulatory System Amongst studies under 1) above, as for building regulatory system, in particular, from a point of view of harmonization with international standards, induction of self-responsibility system, enlarged people's choice freedom, and inducement of technological developments, present system centering on prescriptive regulations is to be basically changed to performance-based regulations.
- c. Performance-based Regulations of Wood Frame Construction Technical Standard As for housings by wood frame construction method (i.e. 2x4 method, etc.) technical standard of structural method thereof is to be precedentially performance-based during FY 1996

B. Comprehensive Review of Regulations on Water Supply

- a. Review of Regulations on Plumbing Fixture Contractors In order to relax regulations on plumbing fixture contractors in performing works for appointed water works utilities which require office within their service area, national qualifications shall be established for plumbing fixture engineers so that any contractor with qualified engineers may be appointed and undertake work for any waterworks utilities. For this purpose, the revision of Water Works Law is currently been submitted to the Diet.
- b. Rationalization of Water Supply Equipment Regulations With regards to water supply equipment, national standards for the equipment structure and materials shall be clarified in an effort to establish performance-based standards of these. Attended with this, water supply equipment type approval and quality inspection presently required prior to use will be amended with general review of present system to a system in which it will be up to consumer whether or not to use one of products certified by an independent certification organization. This is expected to be enforced from FY 1997. In the new certification system by an independent third-party organization, in-house inspection and random sampling systems shall be inducted for radical simplification, whereas with present type approval system total sampling is required. Moreover, in order to promote international harmonization of regulations, mutual recognition with overseas certification organizations shall be promoted.

C. Introduction of Factory Prefabrication Systems for Gas Piping Works The Factory Prefabrication

System for Gas Piping Works will be implemented as of July 1996. This new measure is aimed to enhance housing manufacturers to practice laying gas pipes by themselves at their own factories under certain standards.

2. Facilitate Induction of Imported Housings and Foreign Materials and Components

In order that Japanese consumers have a larger selection to choose regarding housing construction, it is necessary to create highly competitive housing market. Moreover, based on need for international cooperation and existence of price differences between Japanese and foreign housing construction costs, with regard to imported housings and foreign materials and components, in particular, there is need for preparation of conditions for their smooth introduction. For this reason there is a pressing need to forge ahead with following policies.

- A. Promotion of Mutual Recognition on Building Codes and International Harmonization on Building Standards
In order to streamline certification process for building materials, discussions with related foreign organizations shall be promoted for mutual recognition on building codes so that mutual acceptance of building materials may be facilitated by, for instance, recognition of foreign testing laboratories which can supply acceptable test data. Further, with regards to foreign materials and components, in order to improve their access into Japanese market international alignment of JIS and other standards are to be promoted. As for wood frame construction method, in particular, it is necessary to arrange that among the materials which conform to overseas common standards, some materials like lumbers, plywood, etc. that have sufficient structural strength with proper quality control system and have many things in common with Japanese products may be used for wood frame construction in Japan, provided that conformity with the said overseas standard is certified and indicated. In view of the above, discussions with overseas organizations concerned shall be proceeded with 3 countries and 10 organizations and for 30 types of building materials as an aim within FY 1996.
- B. Facilitation of Supply of Housings Using Foreign Materials and Components
In order to facilitate supply of housing using foreign materials and components, such as wood frame construction method, examination for certification by the Minister of Construction under Building Standard Law Article 38 of special building materials and structural methods must be rationalized, and examination standard for introduction of housing employing foreign methods be prepared.
- C. Establish "Housing Import Information Dial"
It has been pointed out existence of legal obstacles such as building regulations, facilities related regulations in induction of imported houses, foreign materials and components into Japan. In order to promptly and generally grasp these pointed out matters "Housing Import Information Dial" is to be introduced utilizing Internet. Information collected at the "Housing Import Information Dial" are to be made public periodically, while at the same time notify relevant organizations for necessary corrective actions.
- D. Promote Propagation of Foreign Building Materials by Holding "Imported Construction Materials and Equipment Fair"
In order to promote propagation of foreign building materials, etc., while promoting exchange of information between foreign building material producers and Japanese housing manufactures, it is also necessary to increase opportunities for supplying information to foreign suppliers wishing to enter Japanese market. For this purpose, "Imported Construction Materials and Equipment Fair" jointly sponsored by relevant organizations, is scheduled to be held at Yokohama during FY 1996 with supplies from many foreign nations being asked to participate, while at the same time insuring wide publicity of the Fair to the domestic housing manufacturers and other related people for providing effective place for supply and exchange of information. Coinciding with opening of the Fair, housing and construction industry organizations and other interested parties are to be invited to attend Import Promotion Conference for active utilization of foreign building materials, etc.
- E. Utilization of JETRO Imported Housing Exhibitions and JETRO Housing Materials Centers
In order to promote propagation of imported housings, 8 existing JETRO Imported Housing Exhibitions are to be actively utilized for providing necessary information to the consumers. Further, to promote dissemination of foreign materials and components, 2 existing JETRO Housing Materials Centers are to be utilized to provide information as well as to promote business talks.
- F. Expediting Immigration Procedure for Foreign Skilled Labors Participating in Construction of Imported Houses Based on Immigration Control and Refugee Recognition Act and Ministry of Justice Ordinance, when granting skilled labor resident status to foreign skilled labors participating in construction of imported housings, efforts are to be made to quicken examination procedures to 2 to 3 weeks from the time applications for necessary resident approval certificate to be granted to the said foreigners are made.

3. Promotion of Leading Projects for Reducing Housing Construction Cost

In order to widely publicize effects of various policies for reducing housing construction cost to housing manufactures and consumers, following model projects are to be actively promoted.

- A. Undertake Model Projects for Utilizing Foreign Materials and Components
Housing and Urban Development Corporation (HUDC), regional housing supply public corporations and other public housing

supply organizations are to undertake model projects during FY 1996 to indicate to both consumers and housing manufacturers possibilities of foreign materials and components and to set examples in using foreign materials and components while at the same time grasping cost reduction effect.

- B. Construction of Low Cost Model Housing Development In order to widely publicize to public general of standard type housings, etc. incorporating "Plus You" housing, imported housings, reduced option specifications and to promote propagation of low cost housing market low cost model housing developments by all prefectures in the nation are to start preparation thereof in FY 1996. For this purpose, HUDC, regional housing supply corporations and other public housing supply organizations themselves are to make active effort in creating low cost model housing developments, while central government and regional public organizations are to assist in planning, designing, exhibitions, etc. when public housing suppliers, private sector housing supply cooperative enterprises undertakes low cost housing developments.

4. Preparation of Positive Support Organizations for the Consumers

To cite an example for high housing construction cost in Japan is due to lack of information of consumers on housing construction, and consumers taking not necessarily appropriate selection procedure due to the foregoing. With most Japanese consumers, house is an "once in a life time purchase", there is also a limit to information gathering by consumer alone. For this reason it is necessary to prepare an environment in which accurate information can be obtained by a consumer and so that consumers may have larger freedom in choice. Following policies are to be actively promoted.

- A. Prepare "Housing Up Center" At least one "Housing Up Center" in each of the prefectures in Japan is to be established during FY 1996 which are to be provided with such information from basic knowledge to specialized information on housings and housing construction materials and components, including information on imported housings and foreign construction materials and components, in order that consultations from consumers can be accurately responded.
- B. Preparation of Housing Performance Evaluation Indication System In relation with durability, insulation and other performance properties of a house, create unified framework for housing performance and indication system so that consumers may compare and evaluate housing performance while considering the cost.
- C. Activation of Housing Market In order to enlarge consumer's freedom of choice, it is necessary that housing market be activated through enhanced competition by promoting new entries into housing market, supply of highly durable and alterable housings, development of resale housing market, promotion of housing remodeling, etc. To this end, the scope of housing performance warranty scheme is to be expanded to include as their objects rental and resale housings. Also information supply system for house remodeling is to be established to provide information on the contractors and so forth. Moreover, research and development on housing production and supply system shall be conducted, while promoting the project "House Technology Development for Creative Life".

5. Promotion of Housing Production Rationalization Program

With present state of Japanese housing manufacturing system, it has been pointed out from various circles as a result of various problems, such as productivity, multi-tier subcontractor structure, multi-tier multi-phase distribution system, have contributed in raising housing construction cost. In order to solve these problems it is necessary to give actively support medium and small housing manufacturers in enhancing productivity and quality control, strengthen management base, etc., while rationalizing housing material distribution system. For this purpose the following are to be promoted.

- A. In order to propagate superior but low cost housing production system to medium and small housing manufacturers, supports and guidance are to be provided for cooperative production and intensified informationalization of the medium and small housing manufacturers.
- B. Prepare regional centers, which will serve as prefecture level housing industry modernization nucleuses.
- C. Augment training facilities for securing and educating building construction skilled labors.

- D. Rationalize distribution system by informationalizing housing material and component industries encouraging standardization of housing components and equipment concerning their sizes and methods of installment.
- E. Technological developments of durability, seismic resistance, conservation, barrier free and others technologies agreeing with medium and small housing manufacturers characteristics.