C I N T R A F O R

Working Paper 69

AN ASSESSMENT OF THE SOUTH KOREAN MARKET FOR NON-STRUCTURAL WOOD PRODUCTS

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July 1999

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This material is based upon work supported by the Cooperative State Research Service, US Department of Agriculture, and the State of Washington Department of Trade and Economic Development. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the funding agency.

Acknowledgements

This work was implemented under a contract with the Softwood Export Council with funds from the Foreign Agriculture Service.

I would like to acknowledge the valuable assistance of the Mr. Ahn, Mrs. Kim, Ms. Shin, and Mrs. Choi, of the American Forest and Paper Association Korea office for their hospitality during my stay in Korea, for arranging interviews with industry experts, translation help, and for their knowledgeable input into my research. The content of this report would not have been possible without the information gathered from all of the interview respondents. Mr. Bob Tichy contributed the survey data presented in this paper, collected at a wood frame housing design seminar that he taught in Seoul. I would also like to thank Mr. Leo Tak, of Leo Tak and Associates, for his review of the final draft of this report and his insightful comments.

Executive Summary

During 1997 South Korea (Korea) imported almost $300 million in primary and secondary wood products from the US, making it the third largest export market for US wood producers. While almost 41% of the value of wood product exports was derived from unprocessed logs, this number is down 85% since 1983. The standard of living for most South Koreans has improved phenomenally since the end of the Korean War, and expenditures on housing and secondary processed wood products imported from the US have increased. The value of wood frame homes and secondary wood products from the US increased 203% from $14.5 million in 1990 to $43.8 million in 1997. As a result, exports of secondary processed products to Korea, as a share of total solid wood exports, increased from 3.9% in 1990 to 14.6% in 1997.

While access to the Korean market continues to improve and demand for wood products appears to increase, US exporters still face many challenges. While some barriers are specific to wood products (*i.e.*, restrictive and inadequate building codes), others are more generic (*i.e.*, complicated distribution system, cultural differences, a complex business permitting system). The challenge confronting US exporters is to develop a better understanding of the Korean residential construction industry; viable end-markets for US wood producers; the extent of repair and remodel activity in residential and commercial structures; Korean business practices; the competitive position of US wood products in Korea; consumer preferences; and marketing strategies that may provide US wooden building materials with a competitive advantage in this market.

This report is based on information gathered during May 1998 through interviews of Korean industry analysts, importers and distributors, architects, construction companies, editors of trade publications, and manufacturers. US manufacturers were also interviewed in order to gather information about specific obstacles that US companies face and strategies they may employ. The result is a compilation of supply and demand trends, import statistics, primary competitors, competitive factors, information about the distribution system for wood materials within Korea, and analysis of risks involved with exporting to Korea. Finally, recommendations for companies either currently selling products to Korea or for those interested in entering the market are provided.

The Korean Housing Market: Viable Markets and Barriers

The most promising sector for solid wood interior products appears to be the single-family and low-rise multi-family residential construction sector. Single-family and low-rise multi-family homes comprise approximately 20% of the housing units built in Korea in 1997. While the majority of consumers live in high-rise concrete apartments, more single-family homeowners are purchasing higher-priced, solid wood products. Among single family homeowners product appearance and quality are more important than price. Wood frame homes are becoming increasingly popular among upper income consumers. The number of homes built was rapidly increasing until the Korean economy took a downturn in late 1997. The number of western-style wooden housing starts increased from 97 units in 1994, to approximately 800 units in 1996, and an estimated 1,100 homes in 1997. Many importer/wholesalers and industry analysts in Korea expected the number of wood frame homes in 1998 to have reached 1,500 if Korea had not entered a recession.

US manufacturers supply approximately 60% of the 2x4 wood frame construction sector. According to interviews of wood frame construction companies, consumers generally use interior wood products from the same country that produced their home. Therefore, while no statistics exist, it is estimated that US manufacturers maintain approximately 60% of the interior wood products market within the 2x4 wood frame home sector as well. US interior wood product manufacturers are significantly less competitive in the high-rise apartment sector, where solid wood and composite products manufactured by lower-cost domestic and Southeast Asian producers are popular. The Korean mortgage system requires consumers to pay approximately 80% of the home price up front, and pay the remaining loan in 5-20 years. Therefore, many consumers cannot afford to purchase expensive finishes when they initially buy their apartment.

The system of awarding contracts to supply materials to construction projects in Korea can make it very difficult for small, particularly foreign, companies to succeed. About 30 large construction firms build approximately 70% of apartments. Small companies hired by condominium associations build the remaining apartments (CERIK 1998c).

Large construction companies purchase not only products, but also product installation from the same company. In high-rise apartments, approximately half of all construction work is subcontracted in this manner. In addition, the subcontractor or supplier provides financing to the construction company. The key to winning a contract may not be subcontractor ability or low price, but the ability to extend financing. If a company is too small to be able to provide financing, they may partner with a product manufacturer.

Problems may arise when subcontractors cannot purchase materials for upcoming jobs because they have not received payment from past contracts they financed. It is common for large construction companies to obtain financing from multiple companies, then pre-sell the apartment units and use the funds received from the financing for other construction projects or financial ventures. Prior to Korea's economic crisis, many large corporations used financing from smaller suppliers to leverage other investments and business ventures. When these investments failed, many large firms declared bankruptcy and defaulted on debts, forcing many smaller companies who had provided financing into bankruptcy as well.

Opportunities Created by the Korean Recession

While the Asian economic crisis sharply curtailed prior financial growth in Korea, it appears that the current economic crisis may have positive long-term impacts on future foreign investment and trade. President Kim Dae Jung and his cabinet launched one of the most aggressive economic restructuring campaigns in Asia. Many of the Korean government's reforms are supplementary to reforms required by the International Monetary Fund (IMF). In an effort to stimulate the domestic economy by attracting foreign capital, the Ministry of Finance and Economy (MOFE) instituted several economic reform policies that will relax real estate and foreign investment laws to attract foreign capital. First, the MOFE instituted a policy to increase the maximum allowable foreign ownership of domestic companies from 55% to 100%. The limit on government-run companies has been expanded from 25% to 30%. Second, new legislation called the "Law on Land Acquisition by Foreigners," adopted in May 1998, allows foreign companies to purchase and develop land in Korea. Residential land development, which was strictly confined to government and public land development, is now open to both domestic and foreign private sector development and all land ownership restrictions imposed on foreigners have been removed. Fourth, administrative procedures for foreign investment in real estate are being streamlined. To facilitate land transactions of government-held debt properties, a series of asset-backed securities was issued starting in July 1998, after approval from industry experts and foreign investment banks. Fifth, the Korea Trade Investment Promotion Agency (KOTRA) was established as a one-stop office for processing and facilitating real estate transactions for foreign investors (Construction and Economy Research Institute of Korea (CERIK) 1998a). Finally, hostile mergers and acquisitions by foreign corporations of domestic firms are now allowed (Korea Trade and Investment 1998).

While the Korean economy has not been restored to pre-recession conditions, economic reform measures are causing the economy to recover at a faster rate than projected. Economic recovery is in part a result of US $58.35 billion in relief funds from the IMF, the World Bank, and the Asian Development Bank. In an effort to restructure the banking system, the MOFE also announced that unstable banks will be merged with relatively healthy banks or will be obliged to transfer their assets and liabilities to viable banks. Financial institutions and large corporations were also required to establish cost accounting systems as a means of making their business operations more transparent (Korea Trade and Investment 1998a).

The combination of foreign financial aid and domestic restructuring in the financial sectors has resulted in tangible changes in Korea's economy. Since first quarter 1998, the Korean government converted US $21.8 billion of outstanding foreign short-term debt to medium-term debt (AF&PA 1998b). By May 1999, the Korean stock market reached the 842 points, or 1.4 million won, the highest point in almost three years. The purchasing power of the won has also rebounded. The won-US dollar exchange rate increased from low of 1,960 won per US dollar in December 1997, to 1,184 won per US dollar in June 1999, Korea's strongest exchange rate since November 1997 (US Federal Reserve Board 1999). Market interest rates also dropped from a peak of 40% to 10-12% in July 1998. Projections for further economic recovery are also promising. The Organization for Economic Cooperation and Development (OECD) raised its growth forecast for the Korean economy from a 0.5% to 4.5%, while other official and private researchers also agreed on a 4% range of growth for Korea in 1999 (Korea Times 1999). J.P. Morgan, a

US-based investment firm, forecasts 4% growth for the Korean economy for 1999, and 4.5% growth for 2000 (Korean Trade and Investment 1999).

Foreign investment has also surged. According to Korean Ministry of Commerce, Industry, and Energy analysts, foreign investment is expected to reach US $15 billion by the end of 1999 after reaching a record US $8 million in 1998 (Korea Trade and Investment 1999).

The consumer market is also starting to improve. Consumer prices increased 8.6% during first quarter 1998 compared to first quarter 1997. However, by March 1998 consumer price increases decelerated slightly due to the decline in domestic consumer demand and a gradual improvement in the stability of the won (Bank of Korea 1999). Despite a 0.05% decrease in the monthly average income per household, average urban household consumption rose 8.9% during the first three months of 1999 compared to 1998, according to the National Statistical Office. This was the first time since the onset of the economic crisis in late 1997 that urban household consumption recorded positive growth (MOFE 1999a). Imports have also increased. By the end of 1998, total imports declined almost 36% and imports of wood products declined almost 60%. During the first quarter 1999, however, imports of wood products increased from 30% to 200% (depending upon product) from year-end 1998 levels. Forecasts for housing starts predict that 460,000-500,000 will be constructed during 1999, an 80% increase from 1997. Industry analysts expect the demand for wood products from the US to follow the upward trend in the housing sector (AF&PA 1999).

Despite improvement in consumer prices and spending, the unemployment rate continues to increase. Unemployment reached 1.88 million or 8.6% by first quarter 1999, the highest since July 1982 when Korea started to record employment statistics (MOFE 1999). Analysts state that the increase is the result of the aftermath of the economic slump combined with the impacts of business restructuring (Digital Chosun 1999). Government officials expect that the unemployment rate will begin to contract following the overall strengthening of the economy starting during the second quarter 1999 (MOFE 1999a).

Results

Korea's economy is undergoing a dramatic transition that promises to restructure the financial system, construction sector, and business environment comprehensively. Banks and *chaebol*, or large Korean conglomerates, are being required to make their accounting systems more transparent. *Chaebol* are also being forced to raise capital by divesting some of their business holdings. The government has also lifted limits on foreign investment and business partnerships. The result will likely be an open business market where consumers are given more products to choose from, and where international products will be more competitive with Korean-made products. This is an opportune time to begin educating consumers and advertising the benefits that consumers can get by using wood products. When housing was in short supply, construction companies were able to use low to moderate quality building materials and still sell units. Now that there is an oversupply of housing, consumers realize they have a choice and they expect higher quality alternatives.

An open market is likely to have significant implications for product marketing. Korean consumers are very fashion conscious and are influenced by popular trends in advertising. Consumers tend to purchase products they see on television shows, in print advertising, or endorsed by celebrities. Journalists from major daily newspapers are also very influential in guiding consumer preferences. Therefore, newspapers can be very effective in terms of educating Korean consumers about products. After the Korean market is open, product literature, articles, and advertising should focus on the benefits that can be derived from using US products in general or a particular company's product. Advertising that highlights innovations is directly related to product success. Since individuals did not have a wide range of high-quality affordable products prior to the market restructuring, special features and benefits derived from the product should be highlighted. Since US suppliers cannot compete with many domestic and Southeast Asian producers on the basis of price, product marketing should focus on quality, durability, and design attributes.

In general, US companies can increase sales if they market their products in Korea more aggressively. The market for solid wood interior products is far larger than the US market share. For example, according to Korean respondents, US manufacturers have not aggressively marketed kitchen cabinets. In 1997, US companies supplied only 0.02% of the $118,000 imported kitchen cabinet market. On the other hand, US manufacturers have actively marketed wood frame homes through advertising and trade shows. As such, they maintain 60% of the imported wood frame housing market and an estimated 60% of the interior products used in wood frame homes. US companies can take advantage of the recent economic downturn to educate Korean consumers and builders about the benefits of using US wood products. If US companies establish brand recognition in Korea now, when the economy fully recovers Korean consumers may be primed to purchase US goods.

Both Korean and US respondents agree that Europeans, and Italian manufacturers in particular, are more aggressive in their approach to the Korean market, which has translated directly into greater market share. Many trade magazine editors derive the content of the magazines from product literature and promotional articles from manufacturers. US manufacturers do not appear to be capitalizing on trade magazines as a means of advertising. The importance of architects in selling products also appears to be overlooked by US manufacturers. Architects most frequently specify materials. As high-income apartments become more prevalent, architects may be the best route to enter the apartment sector. They rely upon trade magazines, product literature, and trade shows to learn about products, yet based on interview response, US firms do not appear to be reaching this segment. According to architects interviewed, they find most information on US products by attending trade shows in the US.

Foreign companies must also invest time and resources to learn about Korean consumer preferences and product needs. For example, Korean consumers do not like do-it-yourself projects. Instead, retailers provide full service with the goods they sell, often assembling break-down furniture as part of after-sales service.

While the majority of consumers live in high-rise concrete apartments, this may not be the most viable sector for US solid wood products. It can be both complicated to understand the distribution system and to establish a contract with large companies. It can also be financially risky to try to sell materials to these firms. More viable markets include 2x4 wood frame homes, wood townhomes, non-wood single-family and low-rise multi-family homes, and the remodeling sector.

While North American interior wood products dominate the single family 2x4 wood frame home market, a limited number of individuals are capable of affording single family homes and the larger lot size that a single family home requires. The desire to own a wood frame home, however, is widespread, particularly among the younger population. According to a survey conducted by the KyungHuan Daily Newspaper and LG Advertising, many young people indicate that they prefer wooden homes in a suburban setting even if it means a long commute to their jobs (AF&PA 1999). Therefore, the market for American-made interior wood products may increase if US policy-makers and builders are able to increase the number of affordable townhomes. The current building code in Korea places height and construction restrictions on wood frame housing, which requires builders to modify their building plans to include more fire protection measures. However, a new building code that more closely resembles US codes is currently being reviewed by the Ministry of Construction and Transportation (MOCT; AF&PA 1999a). The Korean government has already made land available in outlying areas around Seoul to encourage the development of "Satellite Cities." Builders might look to these areas for sites for townhome developments. The benefits of making wood frame housing affordable are two-fold. By building and marketing townhomes as an affordable alternative for wood frame homes, builders may not only reach a larger segment of the population, but since Korean consumers are heavily influenced by fashion trends and word of mouth advertising, townhomes may catch on as a popular new trend.

Another aspect to consider is product presentation. Many US companies that sell products to Korea commonly sell materials to US exporters and consolidators who supply the wood frame home market. One US company found that exporters were not packaging their products with complementary goods, therefore, only components were being supplied to the Korean market, which added one more obstacle to winning Korean customers. If a consumer wants to use US made materials they may go through the extra work required to locate, purchase, and make them fit with Korean appliances. However, most consumers select their flooring, kitchen cabinets, moulding, appliances, and other home products from retail outlets that carry all of these goods in one place.

US companies may stimulate local sales by using multiple product showrooms. Product showrooms offer a way to reach consumers, contractors and builders. Since architects specify materials used, and contractors make recommendations to customers, it is important to focus on reaching these individuals. Showrooms and trade shows allow these important customers to see products first hand. Showrooms may also help companies develop brand recognition. If consumers see products at showrooms they may be more likely to specify US products to their contractor when upgrading their homes. It may be useful for US firms to partner with Korean firms to open a showroom featuring products from the US and Korea that work together. For example, if a US kitchen cabinet manufacturer partnered with a Korean appliance and fixture supplier, customers could pair a variety of cabinet styles with appliances. A drawback of showrooms is capital investment. A stair manufacturer estimated a showroom would require approximately $80,000 in inventory for its product alone. The opportunity to realize far larger returns is great however. During 1996, the stair manufacturer sold $350,000-$400,000 without a showroom. Since product showrooms help manufacturers reach more consumers, the potential to increase sales further could be great.

Further research is also needed to understand how North American building components such as doors and windows can be used in traditional post and beam construction. This research would require a greater understanding of the structural aspects of post and beam construction and the distribution system and selection process for materials within this sector. This type of endeavor would also require more interaction between US wood industry promotional associations and Korean architects in order to encourage architects to incorporate US products into homes of traditional design.

There is a definite need to educate consumers and builders about US products and product attributes. As income has increased, the public knows that it wants wood homes and interiors. However, consumers base their decisions about quality primarily on appearance and are unaware of species differences. US firms should market their products to trade magazines, architects, builders, and consumers based on cost competitiveness, product innovations and benefits derived from using a particular brand or species.

US products are not generally cost competitive with Southeast Asian products on a volume basis, yet less wood can be used to deliver equivalent durability. Therefore, suppliers and manufacturers need to teach builders how to use US products efficiently. For example, instead of using a 1 9/16" thick door frame (40 mm), US suppliers and agents can teach Korean builders that 1 1/4" door jambs are structurally sound and cost competitive.

The reluctance to extend credit also appears to hinder use of US products in Korea. Korean importers reported that it is easy to source a wide variety of wood products, but they are constrained by the fact that invoices must be paid in full upon delivery. Several Korean respondents stated that suppliers in other countries extended 90-180 day payment invoices, which has helped introduce their products to the Korean market. However, there can be significant risks involved with extending credit to firms that do not have an established credit history with the supplier. US suppliers reported both positive and negative experiences with extending financing to Korean firms. Some stated that it had "proved over the years to be a credit risk," and that some Korean companies tried to re-negotiate the price of goods after they were received. Other companies reported that they had not had problems receiving payment. Most US firms were willing to extend credit to firms with which they had a long working relationship. In light of the Asian economic crisis and its impact on the construction industry, the risk of extending credit in hope of expanding sales may be excessive.

The decision to select a particular country as a supplier seems to depend heavily upon the agent the Korean company interacts with. Some Korean builders base their opinions about finished products from the US on past experiences with lower grades of lumber that have been common in Korea. Thus, opinions about the quality of US products vary greatly from company to company. While most importers reported that producers in the US and Canada provide the highest quality temperate hardwood and softwood products, others cited other countries such as Switzerland, Germany, and Russia. These varying opinions may be a case of a supplier or agent failing to provide materials that are appropriate for the intended final use. It is important in an emerging market such as Korea where reputation is highly dependent upon word of mouth advertising, that agents and sales people take the time to understand what their customers' product needs are before supplying the product. Attentive after sales service is also vital. It is vital to understand if and why a customer is not satisfied with the product. Without an active customer satisfaction evaluation, customers are more likely to switch suppliers than voluntarily explain product problems.

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Research Objectives

The information presented in this report is a consolidation of existing literature, South Korean (Korean) statistical publications, government publications, web sites, and interviews that took place during June 1998 with Korean manufacturers, import companies, wholesalers, construction companies, architects, and US and Korean trade specialists and manufacturers who have done business in Korea. The objectives of this research project are to:

- Identify the types of non-structural secondary processed wood products that are being exported to Korea.
- Identify market constraints (tariff and non-tariff) that impact, or may impact, the competitiveness of US value-added wood products in Korea.
- Identify distribution channels and export strategies currently being used to export secondary processed wood products and wooden building materials into Korea.
- Assess the future market potential for value-added wood products in Korea.
- Sample end-user perceptions of US value-added wood products in Korea.
- Identify factors that affect the competitiveness of US value-added wood products in Korea and assess their marketing strategies.
- Provide recommendations on improving US competitiveness in this industry.

Research Methodology

A researcher from The Center for International Trade in Forest Products (CINTRAFOR) traveled to Seoul, South Korea, to interview representatives from government and industry who are involved in the market for non-structural interior wood products. Interviewees were selected through contacts with the AF&PA Korea office, independent research, and industry referrals. Few formal government statistics exist regarding domestic production and imports of value-added wood products or the size the of the interior wood products market. Therefore, research focused on obtaining information from individuals representing industry associations, large domestic manufacturing firms, and industry experts. Statistical information was gathered from the US Department of Commerce, the Korean government, Korean banking institutions, and existing literature.

Korean wholesalers, importers, and architects were also interviewed to determine consumer perceptions of interior wood products, product requirements, competitive advantages between suppliers, and specific constraints to using imported materials. Respondents were also questioned about the distribution process for imported wood products and how products are procured by large and small construction firms. Further information was gathered from responses to a questionnaire administered at a 2x4 wood frame construction class taught in Seoul, Korea.

US manufacturers and wholesalers were also interviewed about their experiences with exporting wood products to Korea.

Introduction

During 1997, South Korea (Korea) imported almost $300 million in primary and secondary wood products from the US, making it the third largest export market for US wood producers. While almost 41% of the value of wood product exports was derived from unprocessed logs, this number is down 85% since 1983. The standard of living for most South Koreans has improved phenomenally since the end of the Korean War, and expenditures on housing and secondary processed wood products imported from the US have increased. The value of wood frame homes and secondary wood products from the US increased 203% from $14.5 million in 1990 to $43.8 million in 1997. As a result, exports of secondary processed products to Korea, as a share of total solid wood exports, increased from 3.9% in 1990 to 14.6% in 1997.

The market with the greatest potential for long term growth appears to be the residential construction sector. This sector has performed well in response to high levels of economic growth, increased standard of living, an increase in the housing supply ratio, a decline in the price of land, and increased urbanization, all of which have increased the demand for improved living conditions. In 1992, the Korean Ministry of Construction and Transportation (MOCT) estimated that there was a shortage of almost 3 million housing units, primarily in urban areas. To alleviate this shortage, the Korean government implemented a program to build 2.5 million new housing units during the 1992-1996 period. Over the past five years, the combination of public and private housing starts have totaled 3.1 million units and by 1997, the housing supply ratio reached 92%. In order to achieve a 100% housing supply by the year 2002, the Korean government plans to construct 500,000 new units per year (AF&PA 1998b).

Concrete high-rise apartments comprise approximately 80% of the housing units in Korea with the remaining 20% either low rise multi-family units or single-family homes (Korean Embassy 1998). It appears that consumers living in single-family or low-rise multi-family homes consume the greatest amount of solid wood products. However, in February 1998, the Korean government lifted a government-imposed price ceiling on the selling price of newly constructed apartments. This move means that consumers can now specify what materials they want used in the interiors of new apartments. It also means that as the housing supply increases and private construction companies are forced to compete more aggressively for consumers, they will likely begin using more expensive materials, including wood, in high-priced apartments as a means to attract customers. The ban on price controls also encourages builders to use more high quality finish materials because they will be able to recoup construction costs by selling apartments at a higher price.

While access to the Korean market continues to improve and demand for wood products appears to increase, US exporters still face many challenges. While some barriers are specific to wood products (*i.e.*, restrictive and inadequate building codes), others are more generic (*i.e.*, complicated distribution system, cultural differences, a complex business permitting system). The challenges confronting US exporters are developing better understanding of the Korean residential construction industry, viable end-markets for US wood producers, the extent of repair and remodel activity in residential and commercial structures, Korean business practices, the competitive position of US wood products in Korea, consumer preferences, and marketing strategies that may provide US wooden building materials with a competitive advantage in this market.

Economic Growth and Current Economic Situation

Since 1962, when the Korean government instituted its first in an ongoing series of Five-Year Economic Development Plans, the economy has grown at one of the fastest rates in the world. The Korean government promoted economic growth by providing incentives for high value-added, capital-intensive domestic manufacturing. Given the limited size of the domestic market, the Korean government promoted exports through several initiatives. A single exchange rate was adopted, short-term export financing was made available, and foreign investment was encouraged. Customs procedures were simplified, and exporters could more easily import raw materials. The Korean government also encouraged businesses to focus on key industries by providing incentives such as tax breaks, subsidies, low interest loans, and manpower training (Yoo 1997).

Economic stimulus initiatives have had significant positive impacts on Korea's economy. Since the first Five-Year Economic Development Plan, the country's real Gross National Product (GNP) has grown at an average rate of more than 8% per year. Between 1960 and 1996, the per-capita GNP increased from less than $150 to over $10,500 (Table 1). As a result of the Asian economic crisis, per capita GNP declined during the latter half of 1997, which negatively impacted the annual average. Prior to the economic crisis, the US government predicted per-capita income would reach US $15,000 by the year 2000 (Korea Army Area Handbook 1997). Economic growth has directly benefited Korean consumers. Korea traditionally has a very high rate of personal savings. The gross savings ratio increased from below 30% of gross consumer income in 1985 to 34% in 1996. Growing personal incomes, high average savings rates, increased overall housing supply, and a ban on government imposed price ceilings on newly constructed apartments have enabled consumers to consider higher quality and higher priced interior finishes. Prior to the economic crisis, more individuals were also purchasing single-family wood-frame homes, a large end-market for solid wood interior products.

Table 1. Leading economic indicators 1975-1998.

Year	Population (million)	Real GNP Growth Rate	Per Capita GNP (US $)	Unemployment Rate	Gross Savings Ratio	Exports as a % of GNP	GNP (100 bill. won)	GNP (US $ mill.)
1975	35.3	n/a	$594	n/a	n/a	n/a	n/a	$20,928
1980	38.1	n/a	$1,597	n/a	n/a	n/a	n/a	$60,631
1985	40.8	n/a	$2,242	n/a	29.8%	32.6%	n/a	$91,095
1990	42.9	9.5%	$5,883	2.4%	35.9%	n/a	1,782	$251,793
1991	42.9	9.1%	$6,757	2.3%	36.1%	24.6%	2,142	$292,039
1992	43.2	5.1%	$7,007	2.4%	34.9%	25.1%	2,404	$305,702
1993	43.6	5.8%	$7,513	2.8%	35.2%	24.8%	2,655	$330,769
1994	44.5	8.4%	$8,508	2.4%	35.4%	25.4%	3,037	$378,005
1995	44.8	8.7%	$10,037	2.0%	36.2%	27.6%	3,489	$452,609
1996	45.2	6.9%	$10,548	2.0%	34.0%	27.0%	3,864	$480,430
1997	45.9	8.1%	$9,500	2.6%	33.4%	30.8%	4,509	$442,600
1st half	45.9	5.6%	$5,213	n/a	n/a	n/a	2,102	$239,300
2nd half	45.9	4.5%	$5,120	n/a	n/a	n/a	2,406	$235,600
1998	46.1	-1.7%	$6,823	6.9%	33.2%	42%	4,431	$318,500
1st half	46.1	-2.8%	$3,117	6.3 %	n/a	n/a	2,154	$143,700
2nd half	46.1	-5.3%	$3,792	7.4%	n/a	n/a	2,277	$174,800
1999	46.9	n/a	n/a	8.6%	n/a	n/a	n/a	n/a
1st qtr.	46.9	n/a	n/a	8.6%	n/a	n/a	n/a	n/a

Sources: Foreign Agriculture Service 1998; Korea Army Area Handbook 1997; Korea Overseas Information Center 1998; Korean Embassy 1998; Ministry of Finance and Economy, Korea 1999; National Bureau of Economic Research 1998; National Statistical Office, Korea 1999; Bank of Korea 1999; Korea Trade Investment Promotion Agency 1999.

During the late 1980's and early 1990's, the Korean economy began to slow under the government-guided economic system. Inflation increased and the balance of payments declined as international competitiveness escalated and Korea's once plentiful supply of low-cost skilled labor began to disappear. In 1993, Korea's government adopted a new economic program called the "New Economy." As part of the plan to revitalize the economy, Korea not only strengthened its trade relations with its main trading partners such as the US and Japan, but also expanded its trading partners to include Southeast Asian nations, Eastern Europe, and Third World countries (Yoo 1997). Since this program was adopted, Southeast Asia has become a major supplier of raw and finished wood-based products and has become a major source of competition for the US in trade with Korea.

The Asian economic recession had an immediate and profound effect on the residential construction sector and the wood frame housing and wood-based building materials industries in Korea. Private sector housing orders declined 43% from 1997 to 1998, and 100,000 new apartment units remained unsold by April 1998 (AF&PA 1998d, KOTRA 1999). The impact on the wood frame housing sector has been profound, forcing approximately half of the wood frame construction companies in Korea to declare bankruptcy from the time the economic downturn began to the first quarter 1998 (AF&PA 1998a). During the first quarter of 1998, total imports of pre-packaged wood frame homes declined 69% to $2.5 million, from the same period in 1997. Imports of pre-packaged wood frame homes from the US declined from $6 million during the first quarter 1997 to $1 million during the first quarter of 1998 (AF&PA 1998b).

The recession in Korea started as many of the country's largest corporations declared bankruptcy and bad loans were accumulated by many of Korea's leading lending organizations. These failures revealed unstable business practices among many of the country's largest companies, and the Korean economy incurred a loss in domestic and international investor confidence. By June 1998, the Korean stock market fell to its lowest level in eleven years (The Korea Times 1998). The value of the Korean won rebounded to around the 1,300 won per US dollar in July 1998, after dropping to 1,960 won per US dollar during the last quarter of 1997. However, the weakened purchasing power of the won caused prices of products imported from the US to double over mid-year 1997 prices. The situation was exacerbated as large corporations downscaled and employees were laid off. By April 1998, more than 1.4 million Koreans were unemployed. The number of people unemployed as a result of the Asian economic crisis is expected to exceed 2 million by the end of 1998. Total import expenditures declined almost 15% during the fourth quarter 1997 and by January 1998, import spending had declined by almost 40% to an all time low (Bank of Korea 1998).

Rapid depreciation of the Korean won impacted the Korean economy in two ways. Not only did the reduced spending power of the won limit the volume of imports of value-added goods, but it was also more difficult for Korean manufacturers to purchase raw materials in order to manufacture goods for export and, in turn, stimulate the domestic economy. Declining production created a trade surplus of US $3.3 billion during the fourth quarter of 1997 and US $3.1 billion by January 1998 (Bank of Korea 1998). Higher raw material costs caused the price of Korean goods to increase sharply in early December 1997. Producer prices increased 8.3% during December 1997 and 4.9% during January 1998. From 1997 to 1998, consumer prices increased from 4.5% to 7.5%, yet by April 1999 increased only 0.4% (Bank of Korea 1998, Korean Embassy 1999). Despite the economic crisis, Korean consumers generally have a considerable personal savings rate. Since the interest rate on certificates of deposit and savings accounts reached approximately 15-20%, individuals earned a very strong return on their savings. However, consumer confidence was shaken and spending declined.

While the economic crisis sharply curtailed prior financial growth in Korea, it appears that the current economic crisis may have positive long-term impacts on future foreign investment and trade. President Kim Dae Jung and his cabinet launched one of the most aggressive economic restructuring campaigns in Asia. Many of the Korean government's reforms are supplementary to reforms required by the International Monetary Fund (IMF). In an effort to stimulate the domestic economy by attracting foreign capital, the Ministry of Finance and Economy (MOFE) instituted several economic reform policies that will relax real estate and foreign investment laws to attract foreign capital. First, the MOFE instituted a policy to increase the maximum allowable foreign ownership of domestic companies from 55% to 100%. The limit on government-run companies has been expanded from 25% to 30%. Second, new legislation called the "Law on Land Acquisition by Foreigners," adopted in May 1998, allows foreign companies to purchase and develop land in Korea. Residential land development, which was strictly confined to government and public land development, is now open to both domestic and foreign private sector development and all land ownership restrictions imposed on foreigners have been removed. Fourth, administrative procedures for foreign investment in real estate are being streamlined. To facilitate land transactions of government-held debt properties, a series of asset-backed securities was issued starting in July 1998, after approval from industry experts and foreign investment banks. Fifth, the Korea Trade Investment Promotion Agency (KOTRA) was established as a one-stop office for processing and facilitating real estate transactions for foreign investors (Construction and Economy Research Institute of Korea (CERIK) 1998a). Finally, hostile mergers and acquisitions by foreign corporations of domestic firms are now allowed (Korea Trade and Investment 1998).

While the Korean economy has not been restored to pre-recession conditions, economic reform measures are causing the economy to recover at a faster rate than projected. Economic recovery is in part a result of US $58.35 billion in relief funds from the IMF, the World Bank, and the Asian Development Bank. In an effort to restructure the banking system, the MOFE also announced that unstable banks will be merged with relatively healthy banks or will be obliged to transfer their assets and liabilities to viable banks. Financial institutions and large corporations were also required to establish cost accounting systems as a means of making their business operations more transparent (Korea Trade and Investment 1998a).

The combination of foreign financial aid and domestic restructuring in the financial sectors has resulted in tangible changes in Korea's economy. Since first quarter 1998, the Korean government converted US $21.8 billion of outstanding foreign short-term debt to medium-term debt (AF&PA 1998b). By May 1999, the Korean stock market reached 842 points, or 1.4 million won, the highest point in almost three years. The purchasing power of the won has also rebounded. The won-US dollar exchange rate increased from low of 1,960 won per US dollar in December 1997, to 1,184 won per US dollar in June 1999, Korea's strongest exchange rate since November 1997 (US Federal Reserve Board 1999). Market interest rates also dropped from a peak of 40% to 10-12% in July 1998. Projections for further economic recovery are also promising. The Organization for Economic Cooperation and Development (OECD) raised its growth forecast for the Korean economy from a 0.5% to 4.5%, while other official and private researchers also agreed on a 4% range of growth for Korea in 1999 (Korea Times 1999). J.P. Morgan, a US-based investment firm, forecasts 4% growth for the Korean economy for 1999, and 4.5% growth for 2000 (Korean Trade and Investment 1999).

Foreign investment has also surged. According to Korean Ministry of Commerce, Industry, and Energy analysts, foreign investment is expected to reach US $15 billion by the end of 1999 after reaching a record US $8 million in 1998 (Korea Trade and Investment 1999).

The consumer market is also starting to improve. Consumer prices increased 8.6% during first quarter 1998 compared to first quarter 1997. However, by March 1998 consumer price increases decelerated slightly due to the decline in domestic consumer demand and a gradual improvement in the stability of the won (Bank of Korea 1999). Despite a 0.05% decrease in the monthly average income per household, average urban household consumption rose 8.9% during the first three months of 1999 compared to 1998, according to the National Statistical Office. This was the first time since the onset of the economic crisis in late 1997 that urban household consumption recorded positive growth (MOFE 1999a). Imports have also increased. By the end of 1998, total imports had declined almost 36% and imports of wood products almost 60%. During the first quarter 1999, however, imports of wood products increased from 30% to 200% (depending upon product) from year-end 1998 levels. Forecasts for housing starts predict that 460,000-500,000 will be constructed during 1999, an 80% increase from 1997. Industry analysts expect the demand for wood products from the US to follow the upward trend in the housing sector (AF&PA 1999).

Despite improvement in consumer prices and spending, the unemployment rate continues to increase. Unemployment reached 1.88 million or 8.6% by first quarter 1999, the highest since July 1982 when Korea started to record employment statistics (MOFE 1999). Analysts state that the increase is the result of the aftermath of the economic slump combined with impacts of business restructuring (Digital Chosun 1999). Government officials expect that the unemployment rate will begin to contract following the overall strengthening of the economy starting during the second quarter 1999 (MOFE 1999a).

Financial analysts predict a minimum of two years for the Korean economy to fully recover, with a three to five year time range more likely. Recovery will be stimulated by restructuring in the financial sector, which should result in a broader availability of credit throughout the economy. The construction sector in Korea is heavily dependent upon the availability of credit and has the highest debt/asset ration and the highest rate of bankruptcies among all Korean industries (Foreign Agriculture Service 1998).

Opportunities Created by Korea's Economic Reform Program

In addition to relaxed real estate and foreign investment laws detailed above, several new programs are stimulating domestic spending. Given the recent oversupply of approximately 100,000 unsold new apartments, the Korean government established a US $23.5 million (~27.8 billion won; US $1= 1184 won) loan fund. The fund will provide individual buyers with loans up to US $21,200 (25.1 million won) to purchase already completed new apartments. Loans up to US $25,340 (30 million won) will be available to consumers to purchase apartments that are either planned or under construction (AF&PA 1998b). As of June 1999, The National Housing Fund (NHF) has also been increased by 1.7 trillion won so that the planned housing construction for this year can be increased from 400,000 units to 500,000 (MOFE 1999a). The NHF also allows individuals who want to buy new houses to borrow approximately 70% of the purchase price in long term loans (AF&PA 1999a).

Restructuring the tax system may particularly benefit the wood frame housing and interior wood product market. Prior to the recent economic restructuring, multiple taxes were associated with purchasing a home including ownership, registration, property, and transfer taxes. As of July 1998, the transfer tax, which is applied to owners of multiple homes, was removed (AF&PA 1998c). Abolishing the transfer tax may make multiple homeownership easier and may potentially make more funds available for more expensive homes constructed with high-quality wood materials. Since owners of wood frame homes commonly use non-structural wood details on the interiors as well, policies that make wood homeownership more accessible by removing some of the financial barriers could have a positive effect on the non-structural interior wood market in Korea.

Land Supply

In order to increase the supply of available housing after the Korean War, the Korean government imposed strict land-use laws to encourage construction of concrete high-rise apartments rather than single-family residences. Since

Korea's rapid industrialization and urbanization in the late 1970's, land prices, particularly in urban areas, have been at a premium. Land prices stabilized during the late 1980's when the MOCT adopted several land development and supply policies to convert more land to residential use (MOCT 1997). Since 1992, these policies helped start a trend of stable land prices, which continued until recently when prices declined significantly (Figure 1). More recently, the government reduced the number of land classifications from ten categories to five, making it easier to develop available land. The Quasi-agricultural and Forestry Area Plans increased the availability of land for development from 15% to 42% of Korea's total land area (MOCT 1997).

Land prices declined 0.18% in 1997 and 9.49% during the second quarter of 1998. Prior to the Asian economic crisis, many individuals and large business conglomerates placed their money in speculative land investment. Since the crisis, conglomerates have sold large volumes of land to raise cash to solve their liquidity problems, which drove the average price down (CERIK 1998a).

Apartment prices in Seoul declined 11.6% during the first quarter of 1998 with higher-priced units experiencing the most significant price drop. However, the liberalization package instituted by the Korean government that includes tax incentives and deregulation of property transactions is expected to help boost the real estate market during the second half of 1998 (CERIK 1998a). By the third quarter 1998, average apartment and home prices declined 11.7% and Seoul home prices declined 12.8% from December 1997, which may provide a buying opportunity for those with available funds (MOFE 1999a).

Low market prices have many experts stating that there has never been a better time to invest in land. The Korea Land Corporation estimates shortages in the long-term supply of industrial and residential land. While speculative investment always has a degree of risk, current depressed land prices coupled with tax reforms and removal of previous restrictions on foreign land owners have increased the amount of land in Korea owned by foreign interests. During the two months after the real estate market was opened to foreign investment, foreign investors purchased 4.4 million m^2 of real estate valued at US $350 million. These land transfers occurred in 483 transactions, double the number of transactions in July, when the Law on Land Acquisition by Foreigners was passed (CERIK 1998b). More recently, from the end of June 1998 to the end of March 1999, foreign real estate investment totaled an estimated at US $1.7 billion (17 million square meters), a 450% increase over the previous nine months (KOTRA 1999b).

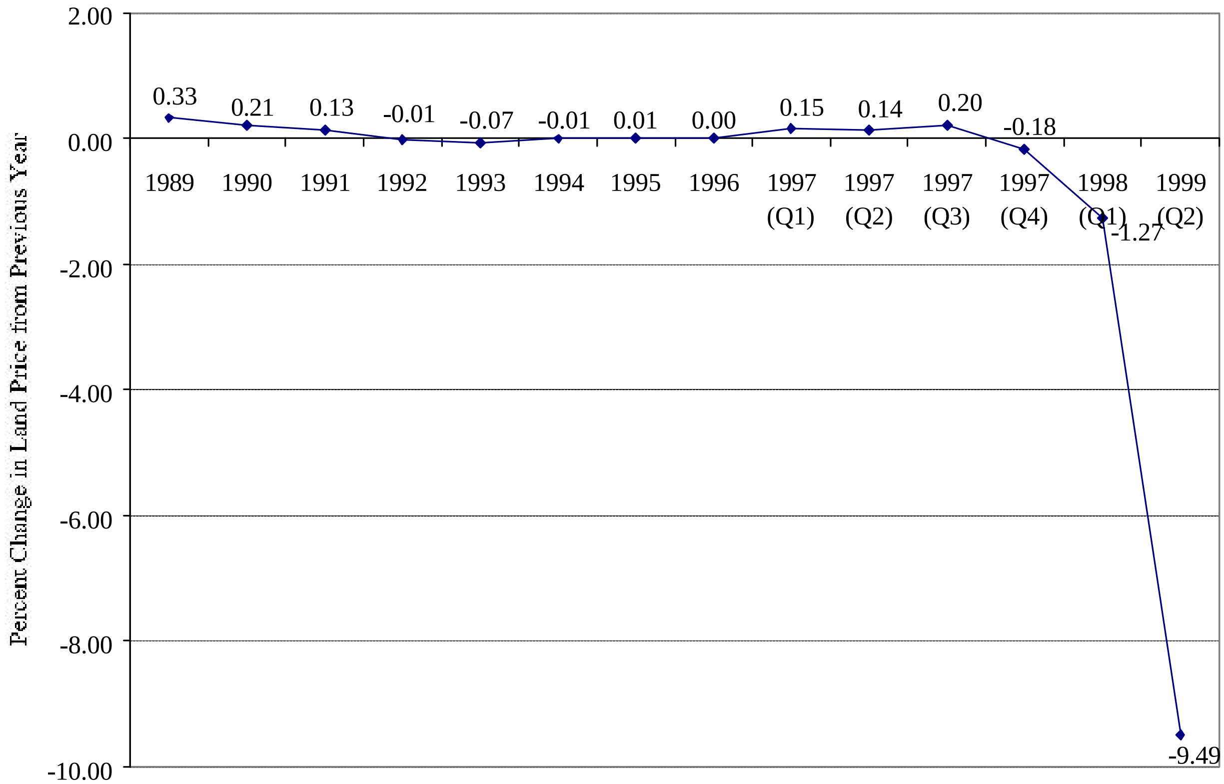

Figure 1. Land price fluctuations 1989-1999 (MOCT and CERIK 1998b).

Domestic Forest Resources: Demand and Supply.

With a land size slightly larger than the state of Indiana (38,031mi^2), Korea is populated by almost 46 million people. The country is primarily mountainous, with approximately 80% of the country's population concentrated in lowland urban areas (Encyclopedia Britannica 1996). Migration to urban areas has increased in recent years and by 1998 Korea's population density reached 1,185 people per square mile in urban centers, making Korea one of the most densely populated countries in Asia (World Almanac 1998). Korea's largest cities include Seoul (10.9 million), Pusan (3.8 million), Taegu (2.2 million), Inchon (2.1 million), and Kwangju (2.0 million) (US Department of State 1997).

Almost two-thirds of the country is covered by forestland, yet forestland totals only 1,594,324 acres, or 0.37 acres per capita, one-quarter of the world's average (Korea Overseas Information Service 1997). Much of Korea's timber resource was depleted as a result of the Korean War, increasing demand for fuel wood, and population growth. Since the 1960's, the Korean Forestry Administration has embarked on a replanting effort. The Korean Forestry Administration initiated the National Forest Extension Policy with the long-term goal to increase the size of national forests from 30% to 40% of total forestland in Korea (Yoo 1997).

Public forests comprise approximately one-third of Korea's forestland, an amount deemed insufficient to achieve the government's reforestation goal. Not only is the total volume of publicly owned forestland low, much of the public forestland is subdivided into many small plots in inaccessible areas. Private forests occupy approximately 70% of total forestland, most of which is owned primarily by private individuals and cooperative groups. Ninety-six percent of private owners own less than 25 acres (10 ha) of land, used primarily for burial plots and personal property, and this trend is increasing (Yoo 1997).

Approximately 46% of Korea's forests are coniferous, predominately Korean white pine, red pine, larch, and Japanese cedar. The majority of the timber supply is low quality due to forests comprised of slow-growing, immature timber and earlier overharvesting. Since most of Korea's timber resources were destroyed during the Korean War, most of the domestic growing stock is under 30 years old with the greatest proportion made up of coniferous trees 11-30 years old (Table 2). Small diameter logs (below 30 cm) represent 97% of total log production. Because the timber resource quality is low and the majority of trees are small diameter, domestic roundwood is primarily processed into pulp. A governmentimposed cutting restriction limits harvest to a maximum of 11% of the annual timber volume increase, which also limits domestic timber production. The timber that is harvested equals only 20-30% of total timber volume, much of which is low quality. Inferior and pest damaged trees equal more than 50% of total harvested timber volume (Yoo 1997).

Table 2. 1996 Growing stock by age of trees (1,000 m^3)**.**

Growing Stock Type	11-20 years	21-30 years	31-40 years	41-50 years	51 years +	Total
Conifers	57,956	57,042	20,212,	3,506	1,925	140,641
Non-conifers	16,129	37,083	18,474	11,431	2,557	85,674
Mixed	32,072	33,551	11,936	3,494	1,457	82,510
Total	106,157	127,676	50,622	19,431	5,939	308,825
Percent of total	34.3%	41.3%	16.4%	6.3%	1.9%	--

Source: Korea Forestry Administration 1997

Prior to the economic crisis, the Korea Forestry Administration predicted that increases in population and annual income would increase demand for total "timber," which includes all wood products such as chips, pulp, logs, and lumber to 26.42 million m^3 by 2000 (Table 3; Korea Forestry Administration 1997). These projections estimate that only 10% of Korea's demand for timber will be available domestically. Table 3 also indicates that while self-sufficiency is projected to increase, domestic demand is expected to outpace that growth. Projections indicate that by 2040, over one-third of Korea's demand for timber will be grown domestically. Since the replanting effort started in the 1960's, timber volume per acre has steadily increased. While the goal of the National Forest Extension Policy has not been accomplished, there has been an increase in the volume of standing timber. Table 4 shows that between 1960 and 1996, the volume of all available forestland declined 4% from 16.56 million acres (6.7 million ha) to 15.93 million acres (6.4 million ha). However, during the same time, timber volume per acre increased 426% from 3.86 m^3 per acre in 1960 to over 20 m^3 per acre in 1996. Figure 2 shows the steady increase in timber volume in comparison to the decline in growing area. Allowable harvest area on public lands also declined dramatically between 1984 and 1994, with a gradual increase between 1994 and 1996. Timber harvest volume removed from public lands has been erratic during the 1984-1996 period. Between 1984 and 1992 timber harvest volume from public lands declined 22% from over one million m^3 to 986,000 m^3. Since 1992, timber harvest on public lands increased 28%, yet it remains low at only 986,000 m^3. (Figure 3).

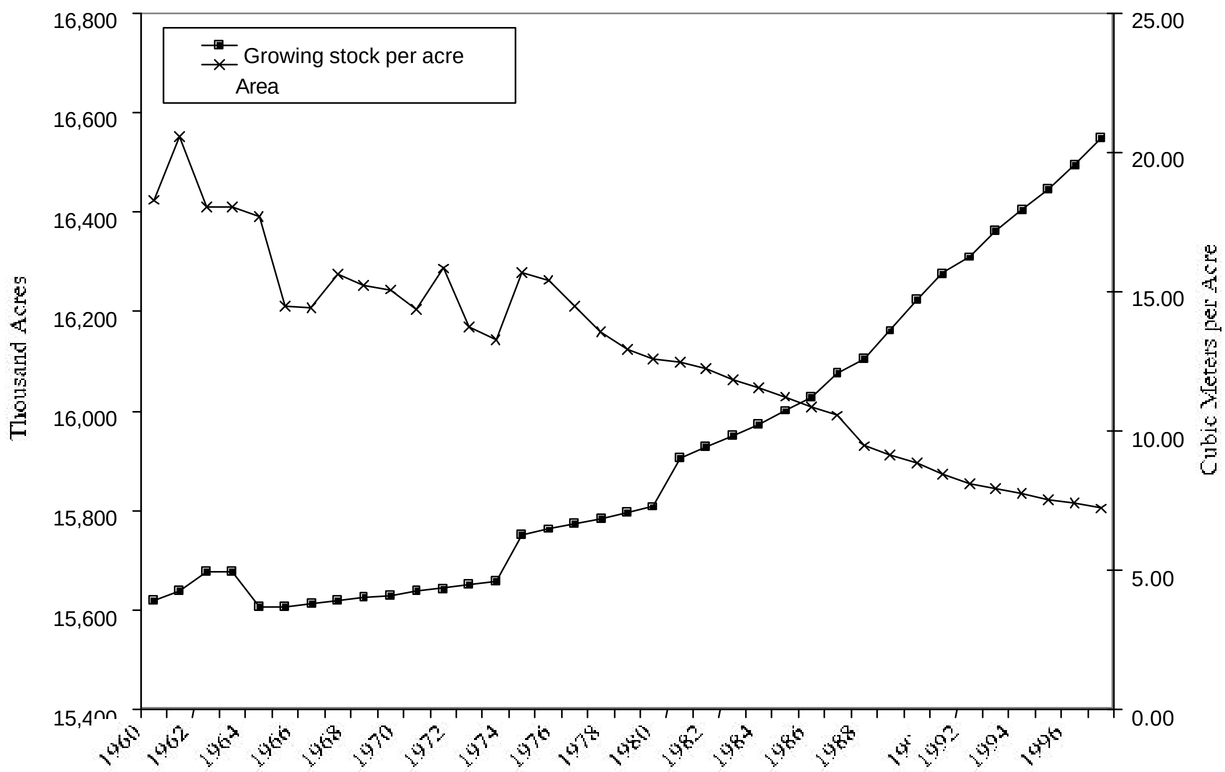

Figure 2. Growing stock and timber volume per acre, 1960-1996 (Korea Forestry Administration 1997).

Table 3. Projected demand and supply for timber, 1992-2040 (million m^3).

Classification	1992	2000	2010	2020	2030	2040
Demand	22.28	26.42	30.74	34.56	37.39	38.80
Supply	22.28	26.42	30.74	34.56	37.39	38.80
Domestic supply	1.12	2.54	4.79	7.53	10.85	13.80
Import	21.15	23.88	25.95	27.03	26.54	25.00
Self-sufficiency	5%	9.6%	15.6%	21.8%	29.0%	35.6%

Source: Yoo 1997

Table 4. Change of forest area and inventory, 1910-1996.

Classification	Unit	1910	1945	1960	1970	1980	1990	1996	% Change 1960-96
Area	mill. acre	38.80	40.77	16.56	16.34	16.23	16.00	15.93	-3.8%
Volume	mill. m^3	71.00	21.90	6.40	6.88	14.57	24.84	32.38	405.9%
Vol. per acre	m^3	18.30	5.37	3.86	4.21	8.98	15.52	20.32	426.4%

Source: Korea Forestry Administration 1997

Table 5. Projected forest resource change, 1992-2040.

Agency	Forecasting units		1992	2000	2010	2020	2030	2040
FA	Area	mill. acres	15.97	15.83	15.72	15.65	15.63	15.63
	Volume	mill. m^3	272.00	413.00	563.00	686.00	781.00	854.00
	Vol. per acre	m^3	17.00	26.00	36.00	44.00	50.00	55.00
KFEI	Area	mill. acres	15.97	15.88	15.79	15.71	15.64	15.58
	Volume	mill. m^3	272.00	405.00	524.00	642.00	714.00	830.00
	Vol. per acre	m^3	17.00	25.00	33.00	41.00	46.00	53.00

Source: Yoo 1997

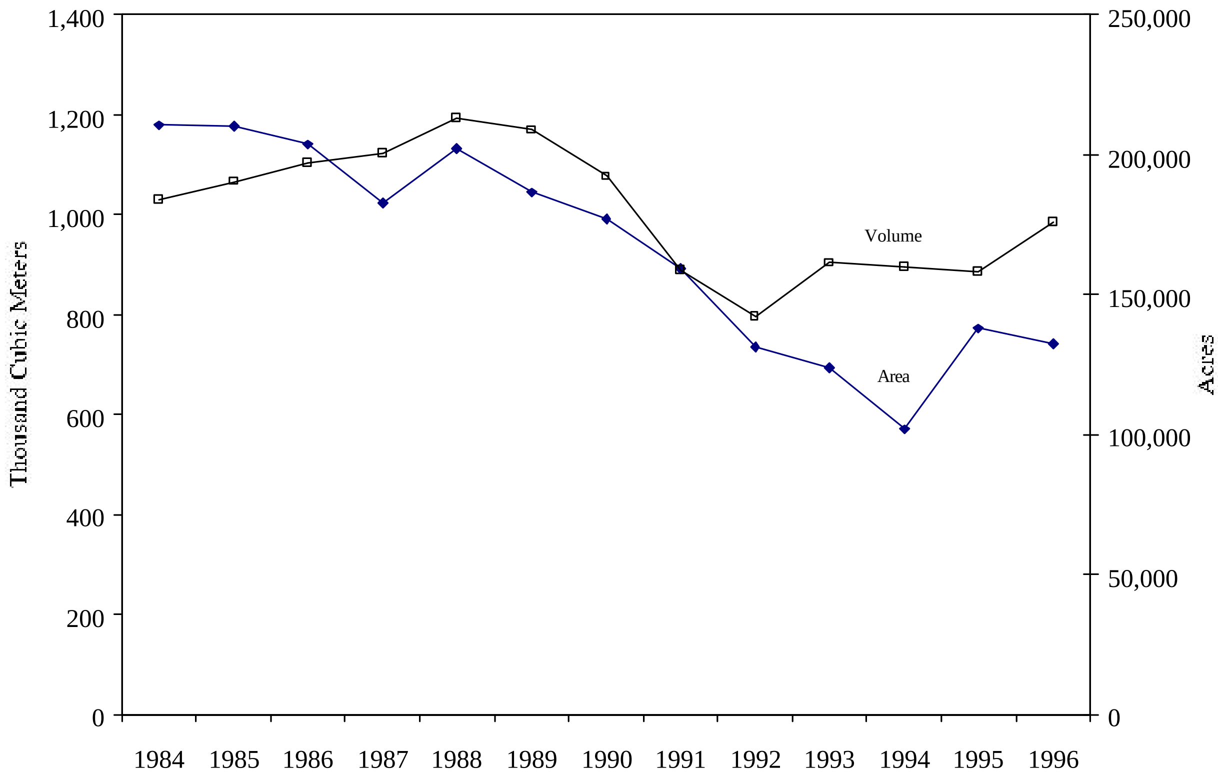

Figure 3. Permits of annual timber cutting, 1984-1996 (Korea Forestry Administration 1997).

Table 5 illustrates projections of domestic timber resources to the year 2040 by the Forestry Administration and the Korean Rural Economic Institute (Yoo 1997). Because the two agencies used different assumptions their forecasts are not identical, but both predict that forest area will decline approximately 173,000-247,100 acres by 2040. At the same time, domestic timber volume will increase approximately 220% compared to 1992, and average volume will be approximately 53-55 m^3 per acre (Yoo 1997). Even with Korea's advances in the forestry sector, a 64% supply gap between demand and domestic production is expected. Korea's wood recycling program is also considered inefficient. Less than 30% of waste wood is re-utilized (Dongwha 1998). Therefore, while domestic timber resources will increase, Korea's domestic timber availability remains lower than demand and Korea will continue to rely heavily on imported logs and processed wood.

Despite Korea's limited domestic timber resource it has been one of the world's leading producers of plywood and veneer. Consequently, it is also one of the world's leading consumers of timber. As shown in Figure 4, the demand for logs and the domestic log supply increased between 1982 and 1991, yet declined thereafter (Korea Forestry Administration 1997). Korea's rate of self-sufficiency declined during the 1990's, and reached 13% in 1996. One explanation for the decline in demand for logs is that increasing domestic wage and capital costs have forced many sawmills out of operation.

Korea imports 90-95% of the wood it consumes. In 1997, Korea imported 7.0 m^3 of softwood logs, 231,864 m^3 of temperate hardwood logs, 1.1 million m^3 of tropical hardwood logs, 352,000 m^3 of softwood lumber, and 402,000 m^3 of hardwood lumber (FAS 1998). Already historically low, total domestic timber production declined 15% 1982-1997 to less than 1.1 million m^3, making Korean manufacturers increasingly reliant on foreign suppliers (Figure 4).

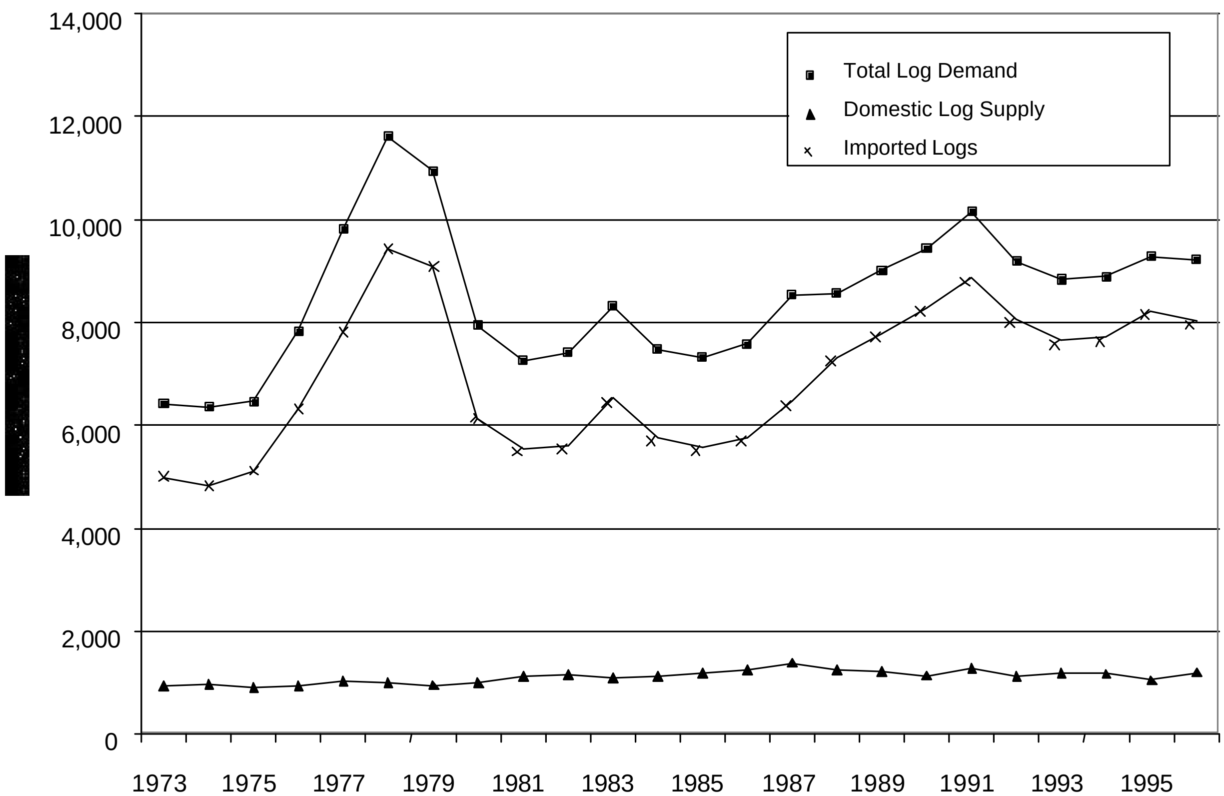

Figure 4. Domestic log demand, supply, and imports, 1973-1996 (Korea Forestry Administration, 1997).

Domestic Production, Supply, and Imports of Wood Products

Domestic manufacturers, largely dependent on imported raw materials, have found themselves increasingly less competitive as the price of logs rises and lower-cost producers enter the market. They therefore are beginning to focus on producing higher-value wood products. This may signal a significant source of competition for foreign manufacturers of value-added wood products such as furniture, cabinets, flooring, windows, and doors. Tariffs on plywood were lowered in 1988, which severely curtailed the domestic primary processing sector. Then in 1994, the Uruguay Round Agreement eliminated tariffs on plywood, which further stimulated plywood imports into Korea. Between 1991 and 1995, primary wood product production increased 14% to keep up with a 23% annual increase in

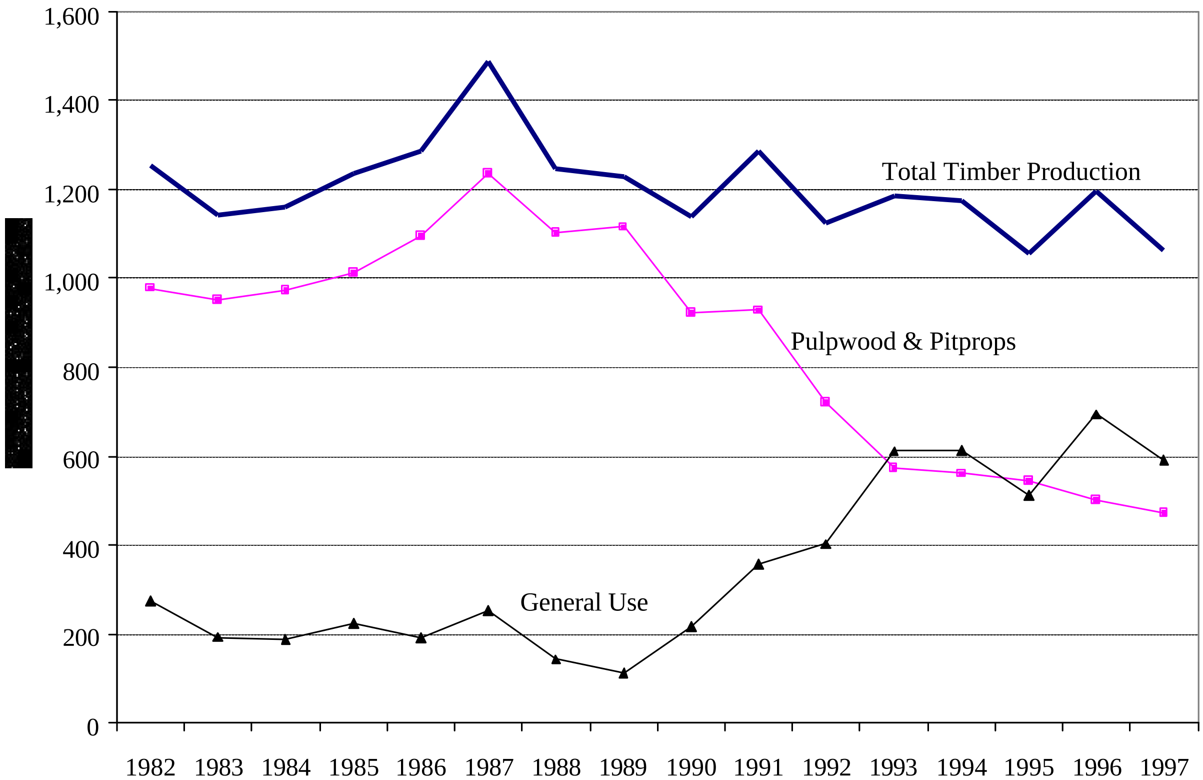

Figure 5. Total domestic timber production by use 1982-1997 (Korea Forestry Administration 1997).

the domestic construction market (Kim 1997). However, increased competition from lower-cost Southeast Asian producers coupled with higher domestic wage and capital rates and tariff reductions resulted in a 32% increased in the volume of processed wood imports (Table 6).

Table 6. Trends in manufacturing and supply of wood products in Korea, 1991-1997 (1,000 m^3).

	1991	**1992**	**1993**	**1994**	**1995**
Total (A)	22,285	22,275	24,648	24,178	25,325
Domestic logs (B)	1,286	1,123	1,184	1,173	1,055
Import logs (C)	8,861	8,059	7,648	7,710	8,229
Imported processed wood (D)	12,138	13,093	15,816	15,295	16,041
Share of processed wood (%) [D/C+D)]	58%	62%	67%	66%	66%
Self-supply rate of logs (%) [B/(B+C)]	13%	12%	13%	13%	11%

Source: Korea Forestry Administration 1997

In an attempt to retain competitiveness in the international wood market and to supply the domestic demand for processed wood products, domestic manufacturers are producing less low-value raw materials and more high-value processed materials. For example, as shown in Figure 5, production of pulpwood and pitprops declined 84% between 1982 and 1997, whereas during the same time period, timber for general use increased 116%. Logs for general use are processed domestically into products including flooring, cabinets, MDF, and composite furniture. Imported and domestic plywood is predominately used for concrete forms, furniture, and, to a much lesser extent, interior applications (Hutton and Bethel 1986).

Restructuring in the domestic manufacturing sector is also apparent in timber imports by end use. As shown in Table 7, imported plywood log volume declined 57% between 1975 and 1996. While logs for plywood manufacturing made up almost 70% of total log imports in 1975, they totaled only 18% in 1996. During the same time period however, logs for general use increased from less than one-third of total log import volume in 1975 to over 80% in 1996 (Korea Forestry Administration 1997).

Table 7. Timber imports by end use, 1975-1996.

Classification		Unit	1975	1980	1985	1990	1995	1996
Total	Quantity	1,000 m^3	5,119	6,141	5,578	8,285	8,229	8,030
	Value	mill. US$	269	858	479	990	1047	962
Plywood logs	Quantity	1,000 m^3	3,576	3,328	2,028	2,092	1,483	1,407
	Value	mill. US$	179	474	172	246	218	197
General use logs	Quantity	1,000 m^3	1,543	2,813	3,550	5,964	6,546	6,623
	Value	mill. US$	90	384	307	716	786	688

Note: Figures on plywood log imports are estimated from plywood production
Source: Korea Forestry Administration 1997, Korea Plywood Industries Association 1998.

Domestic producer prices have also played an important role in determining the types of products made and in encouraging expansion in domestic secondary manufacturing. As shown in Figure 6, producer prices for all wood products increased sharply in 1992. Since 1992, the producer price index has been highest for less processed products such as lumber and plywood, meaning that tariff reductions, domestic labor costs, and raw material costs are making it more costly for Korean manufacturers to produce primary wood products. Since 1992, producer prices for lumber and plywood, the two commodities with the highest production costs, have increased 55% and 45%, respectively. However, producer prices for underlaid plywood and non-specified wood products increased 18% and 19%, respectively, since 1992.

Domestic Plywood Production

Between the late 1960's and the early 1980's, Korea was one of the world's leading plywood suppliers. The Korean government promoted the domestic plywood processing industry to be a major export sector utilizing Southeast Asian logs. The US purchased approximately 80% of Korean production as door skins and interior paneling. Due to limited domestic timber resources, domestic plywood processors relied entirely on imported logs (Leo Tak and Associates 1999). During the Korean plywood industry's heyday, almost 70% of imported logs were processed into plywood. During the 1980's however, domestic plywood production declined sharply in light of rising international log prices, rising domestic wages, and competition from lower-cost Southeast Asian producers such as Malaysia and Indonesia (Kim 1997).

In 1995, the domestic plywood industry began to recover and become less reliant on imports. In response to losses in competitiveness, domestic plywood processors have invested in new facilities to process small-diameter softwood logs (Kim 1997). Facilities utilizing raw materials previously rejected as inferior have been successful. Between 1993 and 1997, domestic output increased 28% and import volume declined 18%. By 1997, domestic production comprised more than half of total domestic supply (Table 8).

Table 8. Domestic production and imports of plywood, 1993-1997 (1,000 m^3).

	1993	1994	1995	1996	1997
Domestic	795	798	861	869	1,014
Imports	1,153	1,003	1,307	1,079	949
Total	1,948	1,801	2,168	1,975	1,963

Source: Korea Plywood Industries Association 1997

Domestic Particleboard, Hardboard and MDF Production

While domestic plywood production has started to recover since the industry's low in 1994, particleboard and MDF used in manufacturing of composite wood flooring and furniture are increasing at a rapid rate, posing a significant source of competition for Korean plywood manufacturers. As shown in Figure 7, during 1997, Korea's four local particleboard manufacturers produced 721,000 m^3, a 38% increase between 1994 and 1997. MDF, used primarily for shelving and moulding, has had the most dramatic rise and has increased from 1,158 m^3 during its first year of

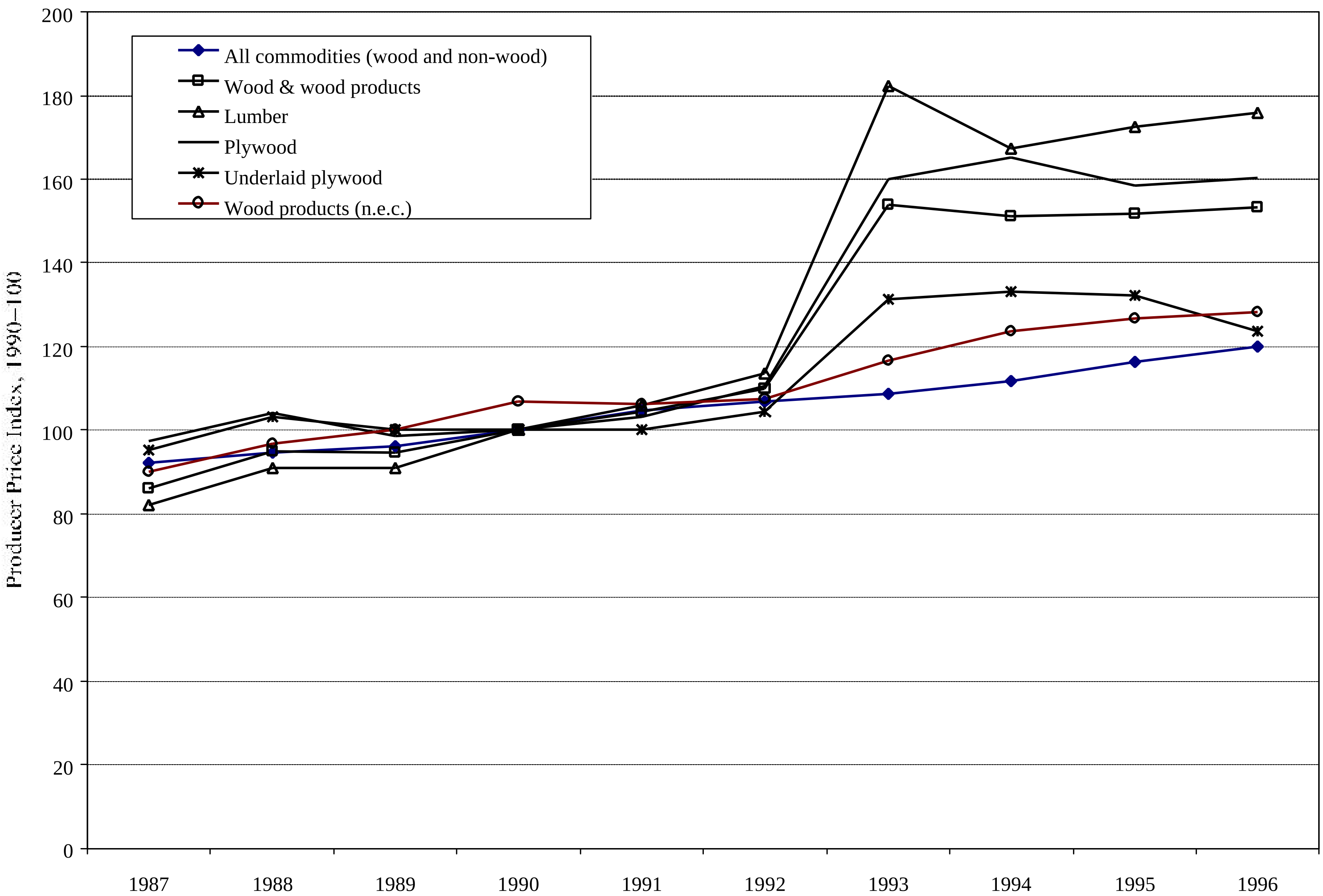

Figure 6. Producer price indices, 1987-1996 (Korea Forestry Administration 1997).

production in Korea to 750,000 m^3 in 1997. MDF production volume almost doubled between 1994 and 1997 (Korea Plywood Industries Association 1998).

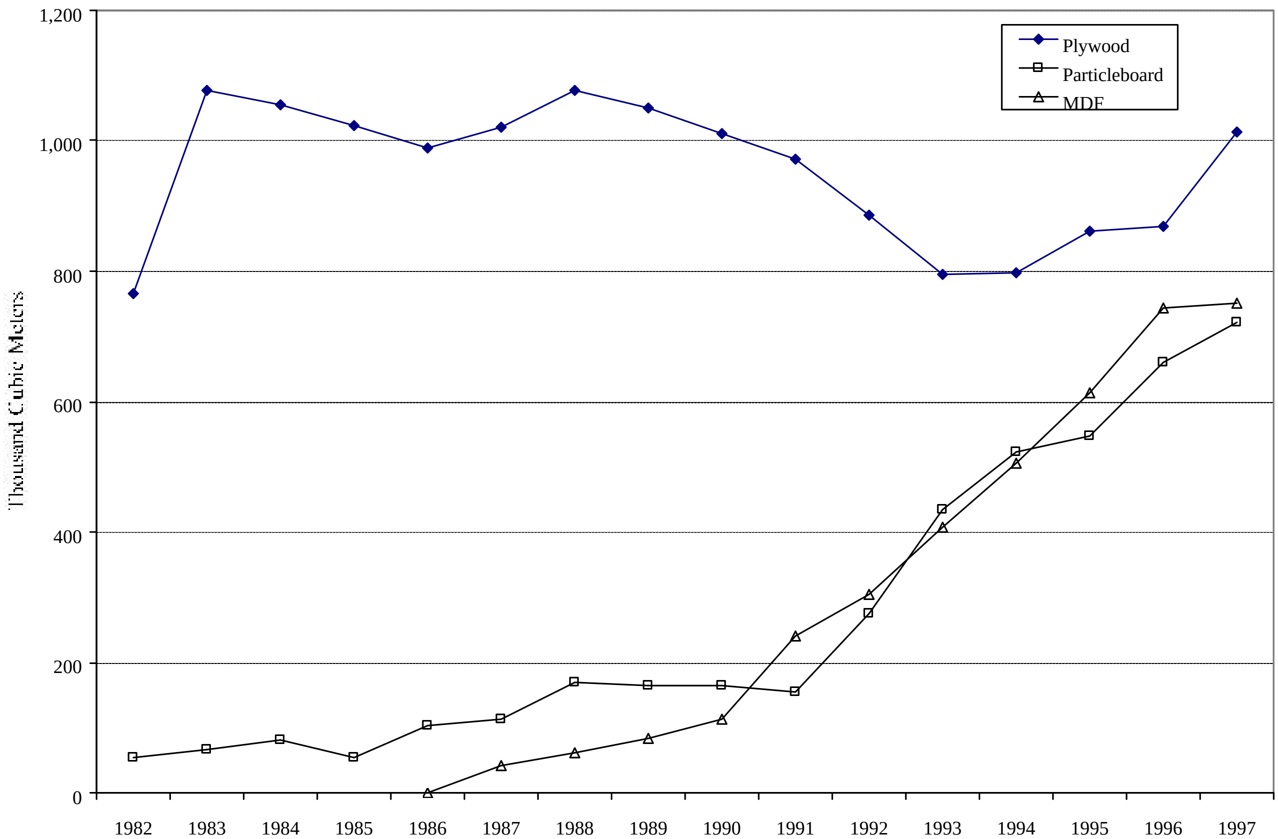

Figure 7. Domestic production of processed materials, 1993-1997 (Korea Plywood Industries Association 1997).

Increased MDF, particleboard, and plywood production not only indicates an increase in competition among domestic manufactured board producers, but also indicates that Korean manufacturers are attempting to become more competitive with foreign producers of manufactured boards and value-added products that utilize composite materials.

Composite board mills in Korea have taken advantage of the ability to use low quality and small diameter timber, which has enabled them to compete with plywood and sawn lumber in the primary wood products market. The ability to utilize lower-cost, abundant raw material contributed to a substantial increase in production capacity. Wastewood accounts for 80% of the raw materials used by Korean composite board mills. Further, as shown in Table 9, while composite board mills have higher capital costs than plywood mills and sawmills, labor and overhead costs are lower (Kim 1997). Since many domestic furniture mills use more low-cost, domestically-produced composite boards, their raw material costs are also much lower than Korean plywood mills and sawmills, which depend primarily on imported materials. This is a good indicator of the competitive advantage that Korean furniture mills have over imported furniture and kitchen cabinet suppliers.

A low cost structure has helped the composite board industry withstand supply restrictions resulting from the 1992 Forest Principles Plan adopted by the United Nations Commission for Economic Development, that instituted international rules for environmental conservation. As shown in Table 10, after 1992, prices for composite boards increased 9% compared to 49% for plywood and 82% for hardwood lumber (Kim 1997).

Domestic production of particleboard, used to make kitchen cabinets, office furniture and composite flooring, increased 66% between 1993 and 1997 while import volume was cut in half during the same time period (Table 11). Korean manufacturers have increased their share of the domestic particleboard by one-third in only four years and now maintain almost 75% of the domestic market (Korea Plywood Industries Association 1998).

Production volumes of MDF, used in kitchen cabinets and composite furniture, have also increased. As shown in Table 12, in 1997 domestic production of MDF constituted 91% of domestic consumption, a 85% increase between 1993-1997 (Korea Plywood Industries Association 1998).

Table 9. Cost distribution of Korean manufacturing operations.

Cost	Sawmill	Plywood	MDF	Furniture	Non-wood Manufacturing
Materials	66%	68%	52%	53%	66%
Labor	16%	14%	10%	18%	12%
Overhead	18%	18%	38%	29%	22%

Source: Forestry Research Institute 1996

Table 10. Wholesale price index for wood products in Korea, 1990-1994 (1990=100).

Year	Composite board	Plywood	Tropical hardwood lumber
1990	100	100	100
1991	100	103	120
1992	100	111	134
1993	109	160	276
1994	109	165	244

Source: The Bank of Korea 1996

Table 11. Domestic production and imports of particleboard 1993-1997 (1,000 m^3).

	1993	1994	1995	1996	1997
Domestic	435	524	548	659	721
Imports	516	401	434	355	253
Total	951	925	982	1014	974

Source: Korea Plywood Industries Association 1997

Table 12. Domestic production and imports of MDF, 1993-1997 (1,000 m^3).

	1993	1994	1995	1996	1997
Domestic	407	506	614	744	750
Imports	144	152	96	68	74
Total	551	658	710	832	824

Source: Korea Plywood Industries Association 1997

The Role of Interior Wood Applications in Korean Housing

Korea has a long tradition of using wood in home construction and interior applications. In traditional Korean homes wood was a sign of affluence, yet wood detailing was also used in homes owned by the working class (Hutton and Bethel 1986). As individuals migrate to urban areas, the cultural appreciation for wood still continues with a strong desire for wood flooring, doors, window frames, and furniture. In the Korean culture in general, items that are viewed as beneficial to personal health are very popular. Wood is considered both aesthetically pleasing and healthy. In addition, since a majority of the population lives in concrete high-rises, interior wood detailing is highly sought as a way to give individual's homes a more natural appearance.

Wood has always been a popular decorative material; however, the trend to use wood in homes boomed after the 1988 Seoul Olympics. The Olympics brought international products and designs to Korea through new construction projects built to accommodate Olympic activities. During the late 1980's and early 1990's, dark wood mouldings and furnishings were popular and the interior wood products industry was supplied primarily by tropical wood producers in Malaysia and Indonesia. More recently, the fashion trend in interior design is rapidly moving away from dark wood in favor of natural looking décors that use light colored wood with minimal grain appearance. Beech, oak, cherry, and maple are particularly popular.

Approximately 99% of the population reside in apartment buildings, almost 92% of which are privately owned (CERIK 1998c). Since the majority of apartment dwellers are in the moderate to low-income range, they are more likely to use lower-cost wood products, wood composites, or non-wood components initially. However, there may be a market for higher-grade wood products in apartment remodeling. Since the mortgage system requires approximately 80% of the home price to be paid up front with the remaining loan to be paid within 5-20 years, many homeowners do not have enough cash available to buy high-quality interior products at the same time they purchase their apartments. However, a US kitchen cabinet manufacturer stated that his company found that prior to the Asian economic recession, consumers were dissatisfied with the quality and durability of some domestically produced materials and were remodeling their apartments with US products. For example, Hanssem, Korea's largest kitchen cabinet manufacturer reportedly expects its kitchen cabinets to last only 3-5 years, yet Hanssem's highest quality cabinets are reportedly comparable to some US supplier's moderate quality cabinets. Often, homeowners buy domestically produced cabinets initially and upgrade in a few years, using higher quality materials. The number of individuals residing in apartments who will use higher cost solid wood interior applications may also increase since the ceiling on the purchase price of apartments has been lifted. A point to remember is that not all individuals live in apartments out of economic necessity and they may have the means to purchase higher priced imported components.

The most promising sector for interior solid wood applications appears to be the single-family home market and the low-rise multi-family or *villa* market. Prior to the Asian economic crisis, the number of wood frame homes was rapidly increasing. The number of western-style wooden housing starts increased from 97 units in 1994 to approximately 800 units in 1996 and an estimated 1,100 homes in 1997 (AF&PA 1998d). Many importer/wholesalers and industry analysts in Korea expected the number of wood frame homes in 1998 to have reached 1,500 had Korea not entered a recession.

Growth in the wooden home sector is apparent from statistics shown in Table 13. While concrete high-rises dominate the housing market, wooden construction totaled 179,000 m^2 in 1997, a 79% increase since 1989. Single-family homes and townhomes are also becoming increasingly common, representing almost one-quarter of new housing starts in 1997. American-style housing dominates the single-family home market. More than 90% of detached suburban homes are American-style-wood frame houses (Lah 1998).

Table 13. Floor area of building permits by construction material, 1989-1997 (1,000 m^2).

	Construction Material				
Year	**Total**	**Concrete**	**Brick & Stone**	**Wooden**	**Other**
1989	88,600	70,800	17,100	100	500
1990	116,400	92,900	22,200	100	1,200
1991	105,200	88,700	14,100	200	2,200
1992	94,700	80,100	11,400	200	3,000
1993	117,800	99,000	12,200	200	6,400
1994	116,211	102,727	8,527	123	4,854
1995	117,327	103,134	9,086	89	5,022
1996	113,820	101,940	7,193	131	4,557
1997	113,374	104,214	5,105	179	3,881
% Change	28%	47%	-70%	79%	676%

Source: Foreign Agricultural Service 1998

While no statistics regarding the volume of interior wood consumption exist, it is apparent from interviews of industry analysts and construction companies that consumers in both wood and non-wood single-family and low rise multi-family homes are the largest end-market for solid wood products from North America. The most natural and most easily accessible market for American-made interior products appears to be the North American-style 2x4 wood frame home sector. Single-family homeowners base their purchase decisions less on price and more on style, appearance, and quality. They are likely to seek interior and exterior designs that suit their taste as opposed to the lowest price available. Wood frame homeowners also make the decision to purchase 2x4 wood frame homes

Table 14. Housing unit construction by type, 1992-1996

	Housing Type			
Year	**Total**	**Detached**	**Apartments**	**Row houses**
1992	575,492	53,276	496,551	52,665
1993	695,319	52,004	540,006	103,309
1994	622,854	42,380	521,322	59,152
1995	619,057	55,710	497,273	66,074
1996	592,132	61,263	462,548	68,321
% Change	3%	15%	-7%	30%

Source: National Statistical Office (Korea) 1997

Table 15. Imports of wood frame housing by country, 1992-1997 (US $1,000).

	1992	**1993**	**1994**	**1995**	**1996**	**1997**
US	2,181	1,227	2,282	7,665	14,440	17,152
Canada	131	171	434	1,138	5,305	8,627
Finland	284	453	1,058	724	1,148	1,424
Sweden	-	-	320	45	44	98
New Zealand	-	-	-	304	121	345
Australia	-	-	-	106	443	515
Russia	-	-	-	10	218	189
EU	-	-	-	744	478	473
Others	3	7	72	307	503	470
Total	2,599	1,858	4,166	11,043	22,660	29,193

Source: Foreign Agricultural Service 1998.

because they like American design. Therefore, they are likely to purchase interior products made by the same country that produced their home in order to achieve a consistent appearance throughout the house. Further, 2x4 wood frame homes are often sold as a complete package where the consumer can select all of the interior finishes at the time they chose the home they will have built. Since it is difficult for North American producers to compete with Southeast Asian producers on the basis of price it appears best to target high-income segments of the population who place a lower priority on price and greater emphasis on quality and specific appearance.

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If *chaebol* decide to enter the 2x4 wood home and solid wood interior products market they could pose a significant source of competition for small import companies. Competition in the imported log and lumber market between large importers and *chaebol* is intense. In addition to acting as an importer/wholesaler, *chaebol* often own overseas timber holdings and/or processing facilities, which often allows them to reduce costs and therefore offer lower prices than direct import companies. However, *chaebol* believe that the 2x4 wood home market and associated solid-wood interior products market is too small for them to enter at this time.

Interior Wood Products Market

Few statistics exist regarding the size of the domestic market for non-structural wood products such as flooring, moulding, windows, doors, and kitchen cabinets. This is most likely because the market for non-structural wood products is very small, estimated at 1% of the total interior products market (AF&PA 1998e). Industry analysts estimate that approximately 70-80% of interior wood products are used in residential projects and 20-30% are used in commercial buildings such as office buildings, hotels, restaurants, and retail stores (Foreign Agriculture Service (FAS) 1998c). The type of wood used also varies depending upon the project. Since commercial buildings are renovated approximately every three years, contractors typically use composite materials such as core doors with veneer overlays and veneer panels. Construction companies that build large residential buildings commonly source their materials from lower-cost suppliers in Southeast Asia. However, some construction companies that were interviewed for this report stated that they import logs from the US for domestic processing. Price is a secondary consideration since *chaebol*-owned construction companies may have the facilities to produce the finished products domestically.

Prior to the Asian economic crisis, the demand for interior wood materials was increasing and the repair and remodel industry was growing as consumers upgraded from vinyl to wood materials. According to the FAS, in terms of sales revenue, kitchen cabinets are the most common improvement, followed by doors, mouldings, and flooring (FAS 1998c). Prior to the recession, declining prices made wood products attainable for apartment owners. For example, pine panels cost approximately $900/m^3 during the 1980's but prior to the Asian economic crisis they dropped to approximately $500/m^3 (Hana Corporation 1998).

Market Barriers

In addition to economic barriers, structural barriers also make it difficult for US goods to be used in the Korean apartment sector, making the single-family home market more promising for foreign manufacturers and distributors. For example, American-made windows are not constructed to withstand wind loads above 5-6 stories. Above six stories North American wood windows must be used as interior windows with aluminum or vinyl windows as exterior reinforcements. Conversely, German and Korean-made wood windows are built to withstand higher wind loads and can be used in both single-family homes and concrete high-rise apartment buildings (Jeld-wen 1998). Further, Korean window manufacturers can replicate the design of North American or European-made windows at a lower cost.

It also appears that it is very difficult for new businesses, both domestic and foreign, to enter the Korean construction market. The MOCT is heavily involved in regulating the industry and reportedly limits access to new businesses. The complex organizational structure of the MOCT, multiple laws regarding new businesses, and numerous government standards, makes it difficult for small companies to become licensed. However, in an effort to stimulate the economy, the Korean government is restructuring the licensing process to minimize the number of regulations and government offices and to simplify licensing procedures for domestic and foreign companies (CERIK 1998c).

Product Distribution and Payment

The system of awarding contracts to supply materials to construction projects in Korea can make it very difficult for small, particularly foreign, companies to succeed. Approximately 70% of apartments are built by about 30 large construction firms. Small companies hired by condominium associations build the remaining apartments (CERIK 1998c). Large construction companies purchase not only products, but also product installation from the same company. In high-rise apartments, approximately half of all construction work is subcontracted in this manner. In addition, the subcontractor or supplier provides financing to the construction company. The key to winning a contract may not be subcontractor ability or low price, but the ability to extend financing. If a company is too small to be able to provide financing, they may partner with a product manufacturer. US companies generally insist on a letter of credit or cash on delivery and therefore lose contracts to suppliers that will extend a shipper's issuance or a 180-day credit (Sezter 1998).

Problems may arise when subcontractors cannot purchase materials for upcoming jobs because they have not received payment from past contracts they financed. It is common for large construction companies to obtain financing from multiple companies, then pre-sell the apartment units and use the funds received from the financing for other construction projects or financial ventures. Many large corporations used financing from smaller suppliers to leverage other investments and business ventures. When these investments failed in the recent financial crisis, many large firms declared bankruptcy and defaulted on debts, forcing many smaller companies which had provided financing into bankruptcy as well.

While US companies may lose contracts to companies from other countries that extend financing to their customers, several interview respondents stated that being selective in extending financing is a good business approach. It is prudent to make sure that the Korean customer has a letter of credit from a Korean bank that ensures that the company purchasing goods has sufficient financial assets to pay creditors. However, a letter of credit is not always an adequate guarantee that the customer will pay. US suppliers reported both positive and negative experiences in getting paid for delivered goods. One leading supplier stated that the Korean market has "proved over the years to be a substantial credit risk" and added that his company would only extend credit if there was a long business history between the US supplier and Korean company seeking a credit payment plan. Other companies reported no problems if the customer is backed by a letter of credit.

Another respondent stated that in light of how Korea entered the recent financial recession, the practice of financing may gradually disappear, resulting in a more competitive market. Recent government legislation to open Korea to foreign investment may make the financing system less favorable to *chaebol* and other domestic companies.

Aside from financing, the distribution system can become extremely complicated. Businessmen in Korea have stated that the distribution system in Korea is one of the most complex aspects of doing business. The exact route that products can take is often confusing for even local business people and can be a significant obstacle to penetrating the Korean market and in particular, supplying the residential high-rise apartment industry. Much more investigation into the distribution system in Korea is necessary, however there are a few simple routes that can be explained. According to a lumber agent, 40% of end users import raw materials directly. Other large and small end users purchase materials through importers and wholesalers (Delta 1998). Construction companies may import materials directly or work with a wholesaler, depending upon the size of the company and the size of the project. As shown in Figure 8, raw materials may be imported by a domestic manufacturer, processed into the finished goods, at

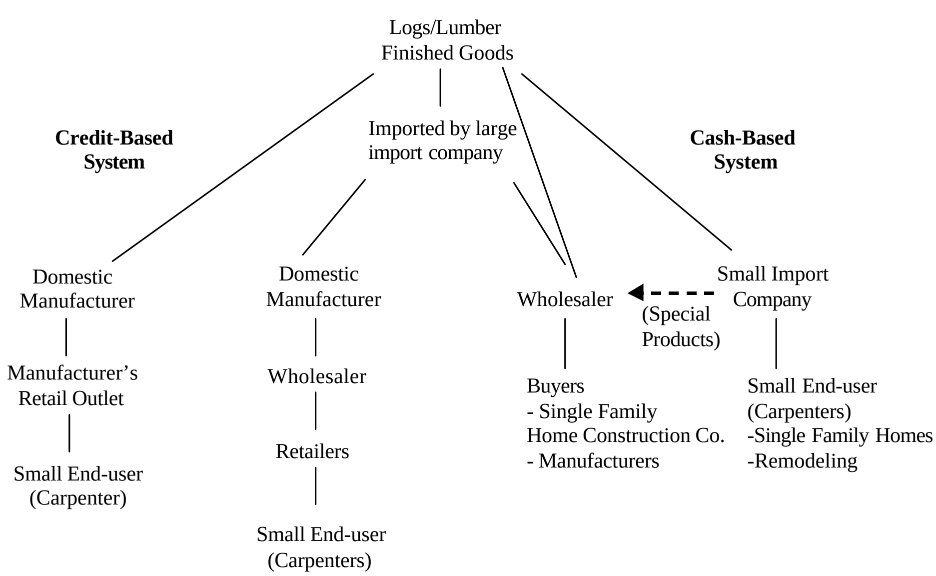


Figure 8. Distribution system for wood products in Korea.

which point products are either sold to a wholesaler, a large end-user, or sold through the manufacturer's own retail outlet to small subcontractors. Finished goods may be imported either by a large import company or directly by a wholesaler. Second, wholesalers may either import materials directly or purchase from large importers. Goods are then sold to retail outlets or directly to contractors. Third, small importers who specialize in the wood frame construction and remodel market import materials and sell directly to builders. Small importers may also sell more specialized products to wholesalers for special orders. Finally, foreign manufacturers may have product representatives in Korea who import products directly from the manufacturer and supply Korean contracts.

Another outlet for structural and non-structural wood products is an area in Seoul called Ulchiro, which is a popular location for retailers and wholesalers of all types of building materials ranging from lighting and plumbing to a wide variety of primary and secondary processed wood products. Figure 9 shows an example of a retail/wholesale store in Ulchiro that sells moulding and millwork. Many small millwork outlets mill products on-site. Small contractors regularly buy their materials in this area. Ulchiro can be considered the Korean counterpart to the Home Depot in the US. Small showrooms are also beginning to appear around Seoul in an area called Non Hyun. One small retail center that opened in July 1998 contains a total of 2,400 ft^2 of showroom floor space dedicated to kitchen cabinets, windows, bathroom fixtures, siding, and structural building materials including lumber, structural panels, and I-joists. Others feature both wood and non-wood fixtures such as flooring, fireplaces, stair systems, and bathroom and kitchen fixtures.

Figure 9. Example of a building materials store in Ulchiro, a building supply retail and wholesale area in Seoul.

According to an importer/wholesaler, more small importers are beginning to import materials for direct sale to end-users. Small import companies who do not have adequate collateral to secure a letter of credit enter financing agreements with large trading companies. Small importers use the financing to import materials directly and pay a fee to the trading company based on the total value of the shipment (Andromeda 1998).

When small construction companies purchase materials directly, they reportedly tend to purchase materials from domestic manufacturers because they can buy a wide variety products in small volumes as opposed to purchasing from foreign suppliers who require large volume orders (Gutchess 1998).

The distribution route that materials take is based both on the volume required and on whether the customer can pay cash or whether the transaction is credit-based. The distribution system for small companies in the wood materials industry is understandably reliant on cash transactions and fast inventory turnover. Small importers may sell directly to small construction companies, retailers, or less often to multiple product wholesalers. Wholesalers are not preferred customers because they generally require small import companies to extend credit. Wholesalers generally only purchase goods from small import companies if they need a special product that a small import company carries. The wholesaler must then pay for the goods in full. Small import companies may also sell products directly to large construction companies if the importer acts as a subcontractor as well (SK Global Co. 1998).

While large importers have a scale advantage that enables them to import and sell products at a lower price, small import companies provide customers with personal attention and technical advice. The small size of these companies requires salespeople to be very knowledgeable about wood frame construction and appropriate uses for the products they sell. Since 2x4 construction is relatively new to Korea, many construction companies rely upon their suppliers for information about product use, a feature many large companies do not have the time or expertise to provide. Relationship building is a key component of doing business in Korea, particularly in the 2x4 wood frame construction industry. Interview respondents highlighted the importance of relationships by stating that contracts can be decided literally on whether the two parties involved attended the same university or grew up in the same town. Interview respondents stated that prior to the Asian economic crisis, it was also common for companies to help ensure that their company would be selected for a contract by paying bribes. However, it was reported that this is less common since companies have been required by the Korean government to adopt detailed cost accounting practices.

The most common method for obtaining financing in Korea is by obtaining a bank draft or an *eoeum*. There are no qualifications to obtain an *eoeum*, there is no cash limit, and the bank takes no financial responsibility for the draft. The *eoeum* is similar to a second or third party check. For example, a construction company may use an *eoeum* to pay a contractor, who can sign the *eoeum* over to a retailer, who can sign it over to the wholesaler. The *eoeum* can be signed to multiple parties so if the first party declares bankruptcy, successive creditors are not paid. When several large conglomerates in Korea defaulted on their debts, many smaller companies that accepted an *eoeum* as payment were forced into bankruptcy.

A multiple product retailer reported that his company primarily supplies small construction companies that build single-family homes and low-rise multi-family homes in order to ensure invoices would be paid. While there may be a demand for interior wood detailing in apartments, this manufacturer is reluctant to sell materials to large apartment contractors because contractors use the *eoeum* form of payment, which is not a secure payment method.

Tariffs

Most interview respondents reported that tariffs do not represent a barrier to importing and using non-structural wood products. The tariff for imported wood products ranges from 1-8% with an additional 12% for other import taxes and fees that are applied to most imports (FAS 1998a). Finished goods such as kitchen cabinets, windows, doors, flooring and moulding have a tariff of 8% applied. Since many consumers who purchase solid wood products are in medium to high-income brackets, they are not influenced by the higher cost of these products. Other respondents stated that the tariff was excessive considering that cars, a much more value-added product are also charged an 8% tariff.

In an effort to increase international free trade, the Asian-Pacific Economic Cooperative (APEC) is attempting to get members to agree to Early Voluntary Sector Liberalization (EVSL), a plan to eliminate tariffs on imported forest products. APEC proposes that members with Uruguay Round commitments eliminate tariffs on paper by January 1, 2004, and all other members eliminate tariffs on wood products by January 1, 2000, with flexibility to delay final removal until January 1, 2002 or 2004. The Korean government has opposed this proposal, fearing that eliminating tariffs could destroy domestic wood processing industries such as lumber, plywood, furniture, particleboard, and MDF mills. The Korean government believes that if these industries fail, the collapse would eventually extend to the country's domestic forest resource. The government has continuously tried to reforest since the end of the Korean War. It hopes to encourage forest growers to continue by rejecting tariff elimination (FAS 1998b).

Consumer Perceptions

US manufacturers must continue to eliminate the perception among Korean carpenters and consumers that products produced from American softwood species are inferior quality. This perception started as the Korean government instituted price ceilings as a means to increase the supply of affordable housing. As a result, contractors used the lowest priced material they could find in order to maximize their profits. Due to the housing shortage, units sold regardless of quality. When purchasing softwood logs from the US, Korean lumber mills, seeking the lowest priced material commonly imported low-grade k-sorts. Now, many Korean manufacturers and builders associate all North American softwoods with lower quality k-sorts (Setzer 1998). The perception that US wood is either high or low quality varies greatly from business to business, which indicates that there is a need to continue to educate Korean end-users about the quality and cost benefits that users can derive from US wood and wood products.

Builders also perceive that American-made wood products are more expensive than those from other countries because Korean carpenters tend to overuse materials. For example, it is common for Korean carpenters to use 1 9/16" thick door frames (40 mm), where the US standard is 1 1/4". Therefore, when construction companies calculate costs on a volume basis, US products appear expensive. Importers and distributors report that it is easier to sell US products to construction companies that build single-family homes or low-rise multi-family apartments, single-family homes, and villas as opposed to large apartment buildings because many construction companies base their purchase decision on total cost. Construction companies do not appear to mind spending more on interior products for 20-30 units, but they tend to experience "sticker shock" when purchasing materials for buildings with many units. Aversion to spending more on high-quality materials may change however, as the removal of caps on the selling price of apartments allows construction companies to recoup their investment in expensive interior finishes.

Imports

Although logs, lumber, and chips are leading imports, the general trend in import revenue from 1992 to 1997 indicates a decline in primary products such as logs, and an increase in secondary products such as windows, doors, kitchen furniture and cabinets, and prefabricated homes. Revenue from logs, lumber, veneer, and plywood remain much greater than secondary manufactured products; however, secondary processed goods exhibit strong growth. According to FAS statistics, expenditures on logs, particleboard, and fiberboard have steadily declined, whereas expenditures on lumber, veneer, plywood, wooden doors and windows, and wood frame homes have increased. Wood frame homes display the most significant growth of all the products tracked, with a 2800% increase since 1994, and expenditures totaling $29.2 million in 1997 (Table 16). Growth in the wood frame home market directly relates to sales of non-structural wood products since owners of wood homes commonly use solid wood interior detailing as well.

Table 16. Total forest product imports, 1992-1997 (US $ millions).

Product	1992	1993	1994	1995	1996	1997	% Change 1992-1997
Logs	919	1,183	1012	1,047	963	877	-0.05%
Lumber	250	452	373	409	465	453	81%
Veneer	30	37	55	46	64	112	270%
Particleboard	72	91	72	91	77	54	-25%
Fiberboard	28	56	69	40	26	25	-9%
Plywood	351	552	536	594	531	449	28%
Windows	n/a	n/a	13	17	22	24	88%
Doors	n/a	n/a	27	34	49	54	99%
Wooden homes	2.6	1.9	1.2	11.0	22.6	29.2	1023%
Total	1,790	2,599	2,413	2,605	2,568	2,375	33%

Source: Foreign Agriculture Service 1998

Statistics also show that Korea has become an increasingly important market for the US. The US exported $43.8 million in secondary processed products in 1997, a 178% increase since 1989. The Asian economic crisis severely curtailed export revenue from sales to Korea, resulting in an almost 70% decline in one year. By 1998, exports of secondary processed wood products totaled $13.6 million. However, the economy is already starting to show signs of stabilizing, and as the economy recovers, US exports to Korea are expected to be restored. Since it is important to understand which products were in highest demand prior to the economic crisis in order to plan marketing and business activity after consumer demand is restored, this discussion will focus on pre-economic crisis trends.

As shown in Figure 10, in 1997 the ten leading products constituted 94% of total secondary product exports (US Department of Commerce 1999). According to US Department of Commerce statistics, secondary processed products such as windows, doors, and prefabricated homes continued to increase during the eight-year period. Total primary product revenues, however, were more volatile during the same time period and declined from $344.7 million in 1989 to $256 million in 1997. By 1998, revenue from primary processed wood product exports dropped to $72.6 million, a greater than a 70% decline in one year (Figure 11). Primary product export may not recover the way that secondary processed wood products are predicted. Prior to the Asian economic crisis, lower-cost suppliers of softwood lumber, such as New Zealand, supplied approximately three times more lumber to Korea than the US suppliers. Since commodity products are much more price sensitive than secondary processed products, and Korea is a highly price-driven market, it is likely that even after the economy recovers low cost leaders will continue to gain market share in the primary product sector. The opportunity to gain market share in markets where product attributes and quality can be highlighted appear more promising for US manufacturers.

Competition

While North America dominates the prepackaged wood frame home industry, North American suppliers must compete with many low-cost producers in the non-structural wood products market, which makes the market much more price sensitive. Lower-cost Southeast Asian producers dominate non-structural product imports. For example, in 1997, Indonesia and Malaysia supplied 80% of the $54 million imported wooden door market and almost 90% of wooden windows. In 1997, the US supplied 5% of the imported wood door market and 7% of imported wood windows.

The market for interior wood products is primarily based on price, and the inability of US manufacturers to compete on the basis of price is reflected by its low market share growth for US doors relative to its share of the prefabricated home market. US producers have lost 12% of the Korean door market since 1992. Individuals who live in apartments often use products made of low cost Southeast Asian hardwoods, wood composites, or non-wood materials. However, single-family homeowners who are often less restricted by price, frequently select products solely on quality and appearance. Owners of single-family homes are more likely to purchase interior products made by the same country that produced their home. For example, Scandinavian homes are often used as cabins or recreational homes. As such, the homeowner often uses Scandinavian interior finish work, windows, and doors as a way to maintain a consistent appearance. Appearance and quality are the leading factors that influence purchases of consumers of wood home. They are likely to seek interior and exterior designs that suit their taste as opposed to the lowest price available. Therefore, while no market statistics exist regarding the proportion of US products used in wooden homes, it is estimated that the US share of the interior and building components used in prefabricated homes is similar to the US share the wooden home market in Korea.

The US has been able to remain one of the leading suppliers of wood to Korea because it offers high-quality products. Given the recent trend favoring light colored woods, the market for US made products could be promising. However, the US is less competitive in product markets where competitors offer lower priced substitutes, such as moulding and skin doors. Even though light color wood is popular, competition in the hardwood market may be more intense now that the price of tropical timber has declined. The majority of the public is looking for low price when selecting interior wood details while a smaller segment has the luxury to select products based on appearance.

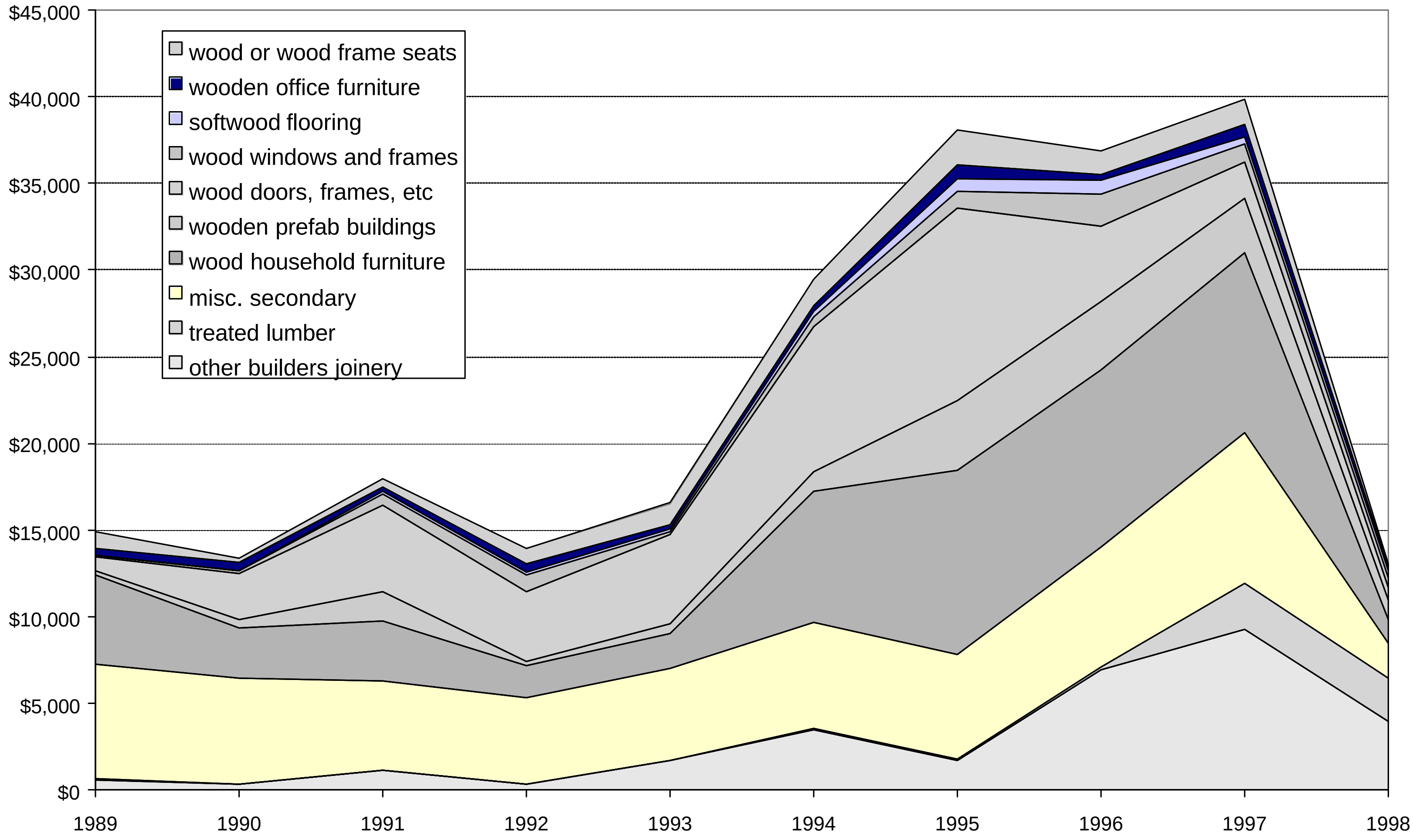


Figure 10. Ten leading US secondary product exports to Korea, 1989-1997 (US Department of Commerce 1999).

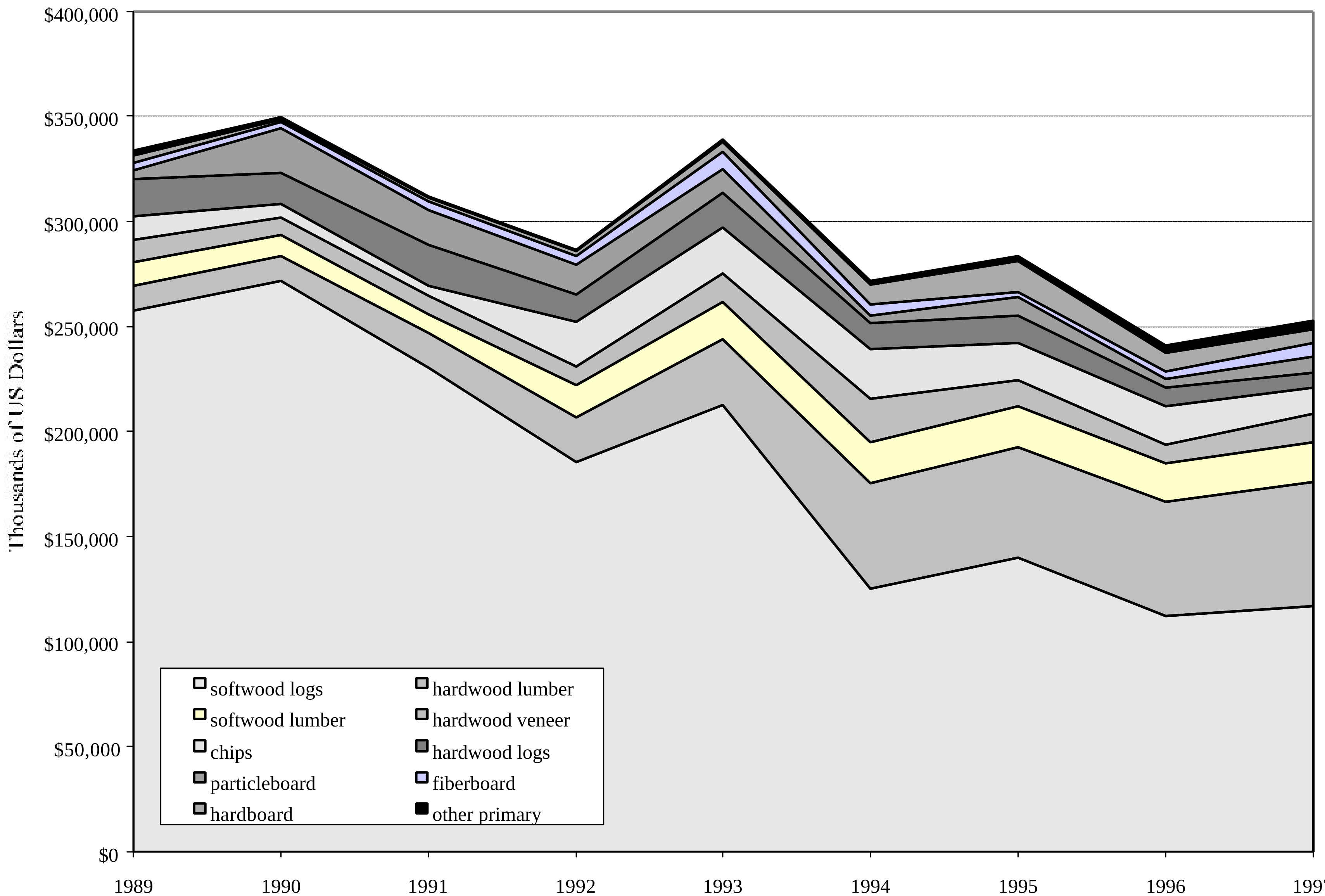


Figure 11. Ten leading primary wood product exports to Korea, 1989-1997 (US Department of Commerce 1999).

Aside from competition from Southeast Asian producers, New Zealand, Chile, and European countries are leading suppliers. Respondents report that since the US has a strong domestic market, they do not place a high priority on marketing their products in Korea or accommodating the Korean market. For example, one respondent stated that Canadian manufacturers are increasing sales through two methods. First, they price their products lower than competitors as a means of increasing future market share. Second, Canadian suppliers manufacture products that are specific to the end market, such as products made to fit metric grid systems. For example, Korean kitchens are laid out on a 150 mm grid, so cabinet units are build in increments that fit this system as opposed to US cabinets, which are constructed on three inch increments. The answer is not simply to list measurements in metric units, but to build components in sizes that fit Korean kitchen layouts. As Korea is the world's leading consumer of radiata pine, Chile and New Zealand also have a significant market share. While their price is not the lowest, Chile for example, focuses some of its production exclusively on supplying the Korean market. Finally, Scandinavia countries focus on producing specialty products such as custom sizes or products, which are not as price dependent as commodity products.

US products are promoted in Korea through the AF&PA Korea office, the Softwood Export Council (formerly the foreign markets division of the Western Wood Products Association), the American Plywood Association, and the American Hardwood Export Council. These organizations distribute promotional literature, technical literature, sponsor trade show booths, and organize and contribute materials and expertise to an annual AF&PA 2x4 construction training program. The AF&PA Korea office also sponsors a trade mission to bring Korean architects and builders to US trade shows and manufacturing facilities. Other foreign suppliers, governments, and industry organizations are also attempting to promote their goods in Korea however. The Canadian government and industry associations sponsor trade missions that bring Canadian manufacturers to Korea and Korean architects and builders to Canada. The Canadian government has also sponsored delegations to meet with Korean government officials and industry leaders to promote Canadian lumber and 2x4 wood homes. Canadian industry also organizes technical seminars about 2x4 wood frame construction for Korean builders and developers. Wood frame home exporters from New Zealand are also using technical seminars to improve sales of radiata pine lumber for structural use in 2x4 wood frame homes (AF&PA 1997). Finally, governments in Canada and Europe reportedly help pay registration fees for manufacturers to display their products at international trade shows.

Another important factor that limits US suppliers' ability to expand their market share is their inability to supply customer orders quickly. It is common practice for US manufacturers to avoid stocking large product inventories. As a result, once an order is placed it takes 4-5 weeks to manufacture the products then a few weeks for shipping (Setzer 1998). Other countries that primarily supply foreign markets are able to fill customer order more quickly than US firms.

According to a survey of 35 architects, contractors, and interior designers, fast delivery ranked 2.5 in importance on a 5 point scale (Figure 12). Product quality was rated as most important (3.8), followed by price (3.2). A copy of the survey that was administered is included as Appendix F. Statistical results from the survey are included as Appendix G.

Developing good supplier-customer relationships can help avert customer frustrations. As a way to alleviate the frustrations many customers have, several suppliers stated that they continually educate builders about appropriate lead-time to factor into their construction jobs when using imported materials. Setzer and AF&PA Korea also promote US products in Korea through trade missions that bring Korean carpenters and manufacturers to US production facilities. Setzer also teaches carpenters how to use materials properly and cut overall construction costs as a way to encourage them to use US products. Several interview respondents stated that developing a close relationship with their supplier was important, some even equated their relationship with their supplier to a friendship.

Domestic Competition

There are several price points within the interior wood products market that make wood based interior products available to individuals of almost all income levels. Tropical hardwoods from Southeast Asia can be less expensive than softwood and hardwood products from North America or Europe, and therefore, they can represent a formidable source of competition. Many Korean firms also own timber resources and production facilities in tropical timber producing countries, which eliminates the cost of working with an intermediary and simplifies the distribution process, in turn making the products more cost competitive. Another source of competition for North American products is domestically produced solid wood or wood composites. Domestic manufacturers often replicate styles produced in North America or Europe at a lower cost. The fact that a product is made by an internationally recognized company of high-quality material appears to be important only to high-income consumers. Many moderate-income consumers appear satisfied with lower-cost products that look good but may not be the highest quality.

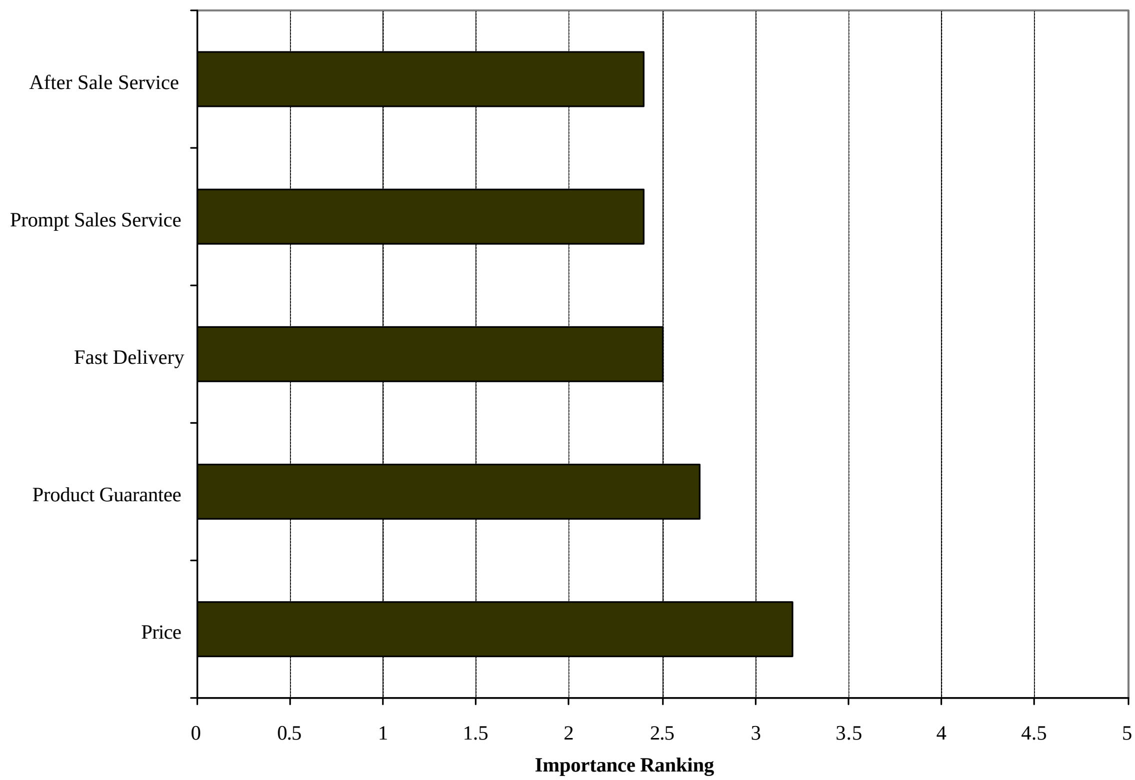


Figure 12. Ranking of importance for service factors (1=least important, 5=most important).

Product Assessment

Windows

Korean Window Contractors estimate that in 1997, the Korean market for wood and non-wood windows totaled US $831.5 million, but expected the market to shrink to US $344 million in 1998 (Lah 1998). While no formal data exists, the Korea Specialty Contractors Association, Door and Window Contractors Committee (DWCC), estimates that only a small portion of the doors and windows installed are wooden. According to the DWCC, the number of wooden windows and doors in apartments is declining, while windows made of vinyl and aluminum are becoming more common (DWCC 1998).

According to the Foreign Commercial Service (FCS), in 1997, 1,427 small and medium sized domestic window manufacturers in Korea produced US $756 million (1 trillion won) of windows. Approximately half of the domestically produced windows are made of aluminum, approximately 22% are PVC or vinyl, and approximately 22% are wood. Production declined 50% since 1997 in response to diminished demand for new housing following the Asian economic recession (Lah 1998).

As consumers seek more high-quality components, system windows are becoming more popular, yet the market is still small. System windows are used most often in expensive condominiums and single-family homes. The term "system window" signifies high-quality windows that include more features than standard domestically produced windows. Features include: air/water resistance; wind load durability; energy efficiency; noise resistance; glass thickness exceeding 16 mm; multiple functions that allow tilting, sliding, turning, and lifting; and high-quality hardware including metal fittings, gaskets, hinges, and rollers. In 1997, sales estimates of system windows totaled US $57.8 million, or approximately 5-7% of total window sales. The system window market is expected to depend heavily on advanced processing technologies of foreign firms. The Korean window sector lags behind other industries in both new technology and productivity, making it a potentially promising market for foreign suppliers (Lah 1998).

Low price and durability appear to be primary factors in consumer decisions to use non-wood windows and doors. Also, as previously mentioned, US-made wooden windows must be used with non-wood exterior windows in apartments above six stories high in order to withstand high wind loads. On the other hand, wood windows and doors are becoming more popular among affluent residents of single-family wood homes and low-rise, non-wood villas where price and wind loads are not primary issues. Respondents noted that Marvin and Anderson windows are among the most popular brands of imported wooden window in Korea among owners of family and villa homes.

Another important factor in the window market is product styling. Most Korean consumers prefer the modern look of European style interiors and furniture. While the DWCC reports that the price of European windows and doors may be the same or higher than US made windows and doors, demand for products made in Europe is increasing. According to the DWCC, even though US and European manufacturers use the same hardware, homeowners believe these European products look stronger and have more interior details (DWCC 1998). Since the largest end market for wood windows and doors is high-end single-family homes or villas, price is not a foremost consideration.

According to data from the Korean Customs Service, Indonesia and Malaysia dominate the imported window market, primarily because they offer low prices. Together, Malaysia and Indonesia supplied 88% of Korea's imported wood windows during 1997. As shown in Table 16, Indonesia dominates the market, but Malaysia has had the most notable increase in market share. Between 1994 and 1997, Malaysian producers increased their share of the Korean window market from 5% to 25% and revenues increased 876% (Table 17). While these two countries dominate the imported wood window market, firms from Indonesia and Malaysia primarily supply half-finished frames that are not considered competitive in the system window market (Lah 1998). The US is the third leading supplier with 7% of the imported window market. However, the US share of the Korean market has declined and China is becoming an increasingly important supplier. Korean distributors explained that Chinese manufacturers do not provide the best quality or design, yet Chinese products are low price leaders.

While data was not available at the time of this report, window imports were expected to decline 55% from 1997 to 1998 due to the economic crisis (Lah 1998). US Department of Commerce statistics show a 50% decline in wooden window export revenue from sales to Korea from 1997 to 1998. US producers export substantially more non-wood windows to Korea. During 1997, the US exported US $106 million in wood and non-wood windows to Korea, with wood windows representing less than 2%.

According to a market report from the FCS, US products are perceived to be higher quality than Korean windows and are priced more affordably than German windows. An existing joint venture between a Korean firm and a German firm has established a reputation for producing high-quality windows, but the price of these windows is very high. One of the main reasons that Korean consumers favor German system windows is related to the noise- and dust-reducing features of the windows. Since most Koreans live in urban areas with few trees surrounding their apartments or homes, the features associated with system windows are a strong selling point among those who can afford them. There appear to be two inroads for US firms to expand their share of the Korean window market beyond the wood frame home sector. First, they could start producing system windows that include the same noise and wind resistant features as German windows. Second, Korean industry experts believe that US manufacturers may increase their sales in Korea by developing promotional campaigns and by partnering with Korean firms to introduce cost competitive wood-based system windows (Lah 1998).

Table 17. Korea wooden window imports by country of origin, 1994-1997 (HS 4418.10) (US $ thousands).

Country of Origin	1994	1995	1996	1997	% Change 1994-1997
Indonesia	$10,819	$14,677	$14,830	$15,040	39%
Malaysia	$631	$574	$4,317	$6,159	876%
US	$1,087	$1,716	$2,063	$1,707	57%
China	n/a	$8	$113	$202	n/a
Austria	n/a	n/a	$446	$131	n/a
Chile	$52	$65	n/a	$40	-23%
Canada	n/a	$45	$150	$13	n/a
Total	$12,637	$17,146	$22,193	$23,739	88%

Source: Korea Customs Service 1998

Doors

Wooden doors were one of the most popular wood products prior to the Asian economic crisis. Solid-wood exterior doors are used predominately in single-family homes and represent approximately 10% of the Korean wood door market, MDF/skin doors represent approximately 45% of the market, and plywood/skin doors comprise the remaining 45% of sales (Dongwha 1998). Oak, beech, maple, and cherry is used predominately in villas and single-family homes, whereas domestically produced wood and non-wood composites and Southeast Asian woods such as lauan are more commonly used in apartments. Some popular designs in solid wood doors are shown in Figure 13.

Indonesia is consistently the leading supplier of wood doors to Korea. By 1997, two-thirds of the imported door market were produced by Indonesian suppliers, an 11% market share increase since 1994. As shown in Table 18, Indonesia, Malaysia, and China, all low cost suppliers, have consistently increased import revenues. While the US had a greater share of the wood door market than Malaysia in 1994, imports from the US declined 50% between 1994 and 1997.

Table 18. Korea wooden door imports by country of origin, 1994-1997 (HS 4418.20) (US $ thousands).

Country of Origin	1994	1995	1996	1997	% Change 1994-1997
Indonesia	$15,104	$19,952	$30,441	$35,752	137%
Malaysia	$4,719	$5,031	$8,343	$6,872	46%
China	$137	$323	$1,723	$3,906	2751%
US	$4,812	$5,715	$3,723	$2,494	-48%
Italy	$1,522	$1,209	$1,810	$1,350	-11%
Chile	$309	$407	$129	$690	123%
Total	$27,233	$33,488	$49,118	$54,281	99%

Source: Korea Customs Service 1998

Flooring

The wood flooring market in Korea began to gain attention during the early 1990's, and experienced a huge boom 1993-1996 as a result of word of mouth and print and television advertising. Consumers have responded positively to advertising that portrays wood flooring as an environmentally beneficial product that is good for personal health. Between 1993 and 1994, the number of apartments and homes upgraded with wood flooring increased 30-40%. During 1997, 994,000 pyong (116 million ft^2) (1 pyong = 3.3 m^2 = 35.4 ft^2) of solid and composite wood flooring was sold in Korea (Figure 14) (*Flooring Magazine* 1998). No formal government data exists regarding the size of the wood flooring market; however, the editors of *Flooring Magazine*, a Korean trade publication, stated that wood flooring is the most popular home improvement and has demonstrated the highest rate of growth among all other

Figure 13. Solid wood door display.

interior wood applications during recent years. Further, because only 5-10% of apartment units are laid with wood flooring, the market growth potential is great. Consumers appear to be drawn to wood flooring because they associate it with traditional Korean wood homes. Traditional homes were common prior to the Korean War, so many people have positive, first-hand memories of wood homes that belonged to their parents or grandparents and want this look for their own homes (*Flooring Magazine* 1998). Figure 15 shows an example of wood laminate flooring used in a model apartment unit.

Prior to the economic crisis, price was not a central consideration for high-income consumers. Since the economic decline, consumers still want wood flooring, but price is a more important. This is particularly the case for construction companies and subcontractors who build single-family homes and low-rise apartments. In an attempt to increase profit margins, companies select the lowest priced material or supplier. Based on past popularity of wood flooring, the market potential appears promising. The editors of *Flooring Magazine* predict that as the economy recovers the demand for wood flooring will follow.

Korean heating systems inherently restrict the type of wood flooring that can be installed. Korean apartments and homes are heated with radiant floor or *ondol* heating systems. There are two problems associated with using solid wood flooring with radiant floor heating systems. First, moisture released by this system and the constant heating and cooling that occurs can warp solid wood flooring. Second, solid wood flooring cut at a standard thickness used in the US does not efficiently transfer heat from the heating elements into the room. Fore these reasons, new flooring materials introduced for residential applications take time to obtain acceptance by contractors and consumers. Only after the product has been used in homes with *ondol* heating systems and performs well under seasonal changes in a homes' moisture content, do contractors and consumers feel comfortable using the product. It has been reported that there have been many cases where expensive imported wooden flooring has not held up well when used with *ondol* heating systems after one or two winters (Tak 1999).

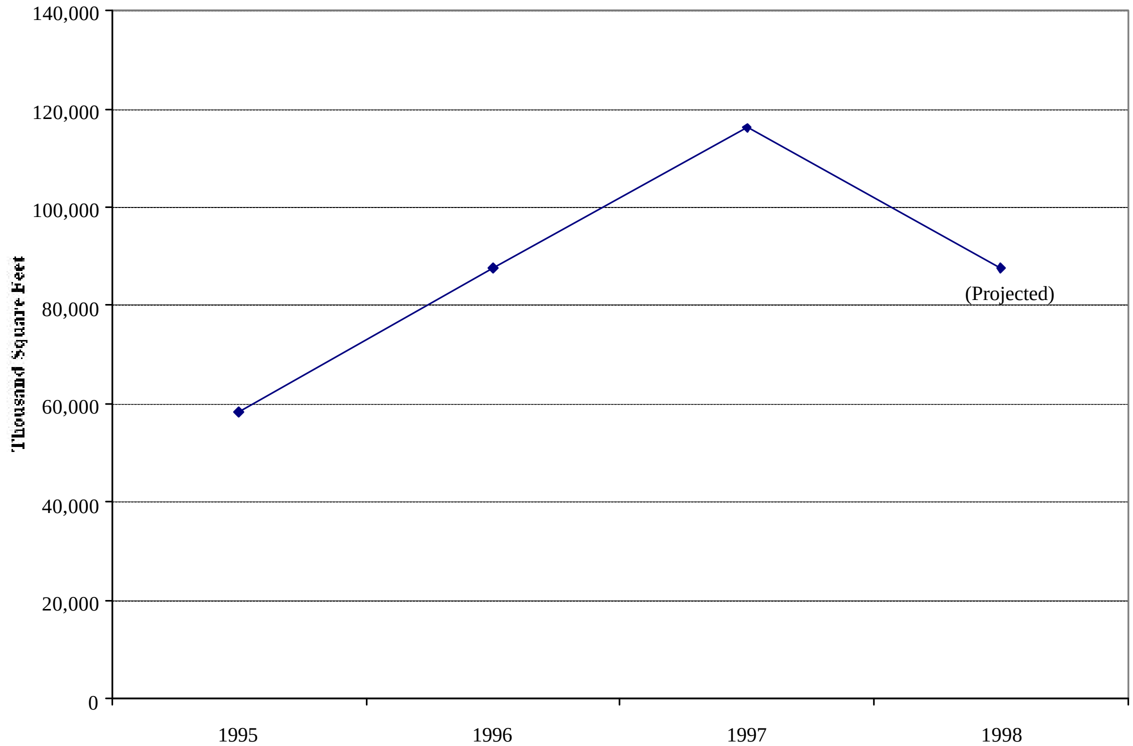


Figure 14. Korea wood-based flooring sales, 1995-1998 (Flooring Magazine 1998).

Figure 15. An example of laminate wood flooring used in a Korean model apartment.

Composite wood flooring made of layers of plywood and veneer or non-wood laminate material is much more common. Consumers are also attracted to composite flooring because it is considerably less expensive than solid wood flooring and it is easy to install. Composite flooring for residential use is typically made of 8mm to 12mm thick plywood overlaid with 2-6 mm veneer and sold in tongue and groove sheets 4 flooring planks wide. Flooring made of 18mm plywood is common as well. Non-wood laminate flooring is also popular. There is a strong market among middle-income consumers in Korea for Japanese-made non-wood laminate flooring primarily because it is low priced.

According to a representative from a large design and construction firm that specializes in public buildings, flooring from the US and Korea costs approximately $\$35/m^2$ and Japanese made flooring costs approximately $\$45/m^2$. Therefore, the company sources most of its wood flooring from US suppliers. For durability reasons, flooring used in public buildings is either solid or made of parquet panels of plywood with 18-20 mm veneer overlay (Ridge Co. 1998).

During 1997, plywood/veneer overlay flooring dominated solid and composite wood flooring sales with 54% market share (79.9 million ft^2, 684,000 pyong). Solid wood flooring comprised 19% (22.4 million ft^2, 192,000 pyong) (Flooring Magazine 1998). Approximately two-thirds of total wood flooring is used in apartments. The remainder is used in small businesses and single-family homes (Flooring Magazine 1998). Middle-income consumers purchase more low-priced domestically produced composite wood flooring. One of the most popular domestic brands is Sung Chang. Sung Chang has a production capacity of 600 m^3 per month. The company has developed a thermal conductive laminate flooring called Ondol Maru™, which now makes up 70% of the Korean laminated flooring market (Sung Chang 1998).

Korean consumers are heavily influenced by television and print media, especially ads that appear in major daily newspapers, and home shows, yet flooring manufacturers do not appear to be tapping the market to its fullest potential. Advertising for wood flooring is mainly limited to print media. Companies can also clearly gain competitive advantages using agents in Korea. For example, Pergo, a Swedish composite-flooring manufacturer has helped gain a substantial market presence in Korea through a combination competitive pricing and product promotion that involves both print advertising and sales agents. Conversely, the editors of *Flooring Magazine* are not aware of any US flooring representatives in Korea. Since there are no large retail home centers (comparable to Home Depot in the US), contractors commonly purchase building materials from wholesalers.

Flooring imports have fluctuated widely during the past four years and declined two-thirds from 1996, a record year for flooring imports, to 1997 (Table 19). This may be the result of increased domestic production. Import data for parquet panels is used here as a general indicator of supplier trends in wood flooring and should not be considered total flooring imports. The Korean Customs Service also includes wood flooring as part of HS 9403.40.9000 (siding, flooring, and moulding). The Korea Customs Service does not include a separate listing for wood flooring. Japan consistently supplies the majority of the parquet panel market although imports from Germany are increasing

Table 19. Parquet panels of wood by country of origin, 1994-1997 (Wood flooring) (HS 4418.30) (US $ thousands).

Country of Origin	1994	1995	1996	1997	% Change 1994-1997
Germany	$200	$542	$1,639	$1,184	492%
Japan	$1,721	$1,102	$1,603	n/a	n/a
Switzerland	$640	$1,267	$1,740	$656	2%
Sweden	n/a	$286	$68	$42	n/a
US	$100	$243	$150	$25	-75%
China	n/a	$71	$88	$93	n/a
Italy	n/a	$154	$1,810	$69	n/a
Norway	$137	$241	$230	N/A	n/a
Total imports	$3,655	$4,486	$7,332	$2,285	-37%

Source: Korea Customs Service 1998

considerably. Between 1994 and 1997, import revenue from flooring shipped from Germany increased almost 500%. German-made parquet panels have reportedly been successfully introduced into the commercial construction sector, which would explain their large share of the total parquet panel market (Tak 1999). Since 1995, a high point in Korean flooring imports from the US, imports declined 90% and totaled only $25,000 in 1997.

Moulding

Crown mouldings are common interior details in homes and apartments but much of the moulding is made from either inexpensive hardwoods from Southeast Asia or of a wood composite. It is difficult for US manufacturers to compete in commodity markets where less-expensive substitutes can be used. One supplier noted that most moulding used in apartments is a 60% wood, 40% melamine composite. Large and small domestic suppliers also commonly import lumber and mill it into moulding.

Much of the moulding used in Korea is domestically produced. Numerous small retail outlets mill moulding from lumber on site, making it impossible to estimate domestic moulding production.

Total imports of softwood siding, flooring and moulding increased steadily between 1994 and 1996, but declined in 1997. As one of the world's low-cost softwood lumber producers, it is not surprising that Canada is Korea's leading supplier. As shown in Table 20, Canada supplied almost one-quarter of the Korean softwood siding, flooring, and moulding market in 1997. Sweden, the second leading supplier, increased its share of the market 10% since 1994 and now supplies 15% of the market. US suppliers have increased export revenues since 1994, but US revenues have not been as consistent as revenues from other countries. Exports from the US increased more that $770,000 during 1994-1996 but declined in 1997. One reason for the decline may be Pacific Northwest harvest restrictions, which have caused the price of wood to increase. Chile has become a considerable source of competition. In 1994, Chile supplied only 3% of total imports; by 1996, it supplied one-quarter of the market, although imports from Chile declined in 1997.

Table 20. Korea softwood siding, flooring and moulding by country of origin, 1994-1997 (HS 4409.10.0000) (US $ thousands).

Country of Origin	1994	1995	1996	1997	% Change 1994-1997
Canada	$574	$439	$1,126	$1,146	100%
Sweden	$112	$51	$234	$756	575%
US	$216	$805	$988	$726	236%
Chile	$69	$487	$1,606	$653	846%
Finland	$18	$20	$25	$422	2244%
Indonesia	$90	$222	$366	$218	142%
Taiwan	$99	$674	$554	$204	106%
Total	$2,359	$3,716	6,422	$4,927	109%

Source: Korea Customs Service 1998

The market for low-cost hardwood moulding, flooring, and siding is substantially larger than the softwood flooring and moulding market. As shown in Table 21, demand for hardwood flooring and moulding, indicated by import expenditures, increased steadily until 1997. While Indonesia is by far the leading supplier, it has consistently lost market share to other suppliers. In 1994, Indonesia supplied 85% of the Korean market for imported flooring, siding, and moulding. By 1997, Indonesia's market share declined to 71%. Although Malaysia, China, and Denmark still supply a small amount of the market, suppliers in these countries have gradually increased their sales. Based on interviews with suppliers, architects, and designers, growing consumer preferences for light-colored wood interiors should increase the demand for moulding and flooring made of oak, beech, and maple.

Kitchen Cabinets

In 1997, kitchen cabinets and kitchen furniture sales were estimated at almost US $6.8 billion (*Gagu Guide Magazine* 1998). According to furniture industry analysts, the kitchen cabinet market is the most promising for US

Table 21. Korea hardwood siding, flooring and moulding by country of origin, 1994-1997 (HS 4409.10.0000) (US $ thousands).

Country of Origin	1994	1995	1996	1997	% Change 1994-1997
Indonesia	$74,123	$86,834	$97,970	$82,435	11
Malaysia	$7,136	$12,221	$18,442	$10,594	48
China	$1,325	$1,352	$2,832	$5,620	324
Denmark	$78	$2,289	$4,571	$4,082	5133
Taiwan	$1,259	$1,654	$2,604	$2,594	106
US	$1,495	$1,696	$3,144	$2,639	77
France	$145	$170	$535	$1,918	1223
Total	$87,436	$110,440	$136,048	$114,813	31

Source: Korean Customs Service

manufacturers. Industry analysts also expect that solid wood kitchen cabinet sales will grow substantially after the economy recovers. Presently, natural products and appearances are popular in Korean interior design and in kitchen design in particular. Consumers relate country-style interior design with the United States (*Gagu Guide Magazine* 1998). Figures 16 and 17 show two kitchens in single-family homes and illustrate a popular style of wood cabinets.

Consumer groups can be broken down into roughly three categories: upper, middle, and lower income. Upper-income consumers are brand conscious and select products based on quality and appearance rather than country of origin. The recent economic downturn has impacted middle-income consumers the hardest; many are reportedly falling into the lower-income bracket. Lower income consumers make up the largest category. This group is influenced by European style trends and has preconceived ideas about European versus US interior design. They perceive that US-made interior furnishings and accessories are large, bulky, and have a traditional appearance, whereas European-made furniture and cabinets are sleek and modern. Since the economic crisis, moderate-income consumers are purchasing more cabinets made of composite materials and fewer solid wood cabinets.

Kitchen cabinet sales have declined since the economic crisis began, although sales of functional furniture such as sofas, beds, and dining room sets have not declined as dramatically. Products that feature innovations, particularly those marketed as health benefits, continue to sell (FCS 1998).

Gagu Guide Magazine, a trade magazine for the kitchen cabinet and furniture industry, draws much of the information for its feature articles from advertising literature received from manufacturers. The magazine editor reports that the magazine receives product literature from European manufacturers or their Korean agents and uses this literature in the magazine. Therefore, European and particularly Italian companies dominate the advertising and feature article space in the magazine. International interior design magazines influence *Gagu Guide* editors' choices of what styles and products to feature in their magazine. Conversely, the editor of *Gagu Guide* reports that he receives limited literature from US manufacturers.

Italian products are particularly popular because Italian designs in general have the reputation of being cutting edge. Italian furniture and cabinet manufacturers operate in much the same way as clothing manufacturers. They produce new designs on a regular basis, whereas North American manufacturers typically produce more traditional designs and are slower to change. Korean consumers are heavily influence by European fashion designs so it naturally follows that they follow European home designs as well. However, Korean consumers are becoming more familiar with American products as more Americans move to Korea.

Among upper-income consumers who can afford imported solid wood products, North American style kitchen cabinets are very popular. White and red oak are the most popular. Recently cherry, maple, birch, beech, and alder are becoming more popular. Currently, oak cabinets make up half of solid wood cabinet sales. US manufacturers may face some competition problems with Korean and European kitchen cabinet manufacturers, however. Aside from specific size and appearance preferences, the manner in which goods are bundled and sold is different in Korea than in the US. High-end kitchens in Korea are commonly sold as packages that include cabinets, appliances, a dining set, flooring, and even in some cases, lighting fixtures. North American kitchen cabinet companies may

Figure 16. Example of kitchen cabinets used in a 2x4 wood frame house.

Figure 17. Solid oak kitchen cabinets used in a 2x4 wood frame home.

therefore be inherently less competitive than European and Korean manufacturers for four reasons. First, appliances used in Korean kitchens are often domestically produced or imported from Europe and fit smaller space requirements. Second, as mentioned earlier, the majority of US manufacturers do not build their cabinet modules in increments to fit the 150 mm grid layout that Korean kitchen designers use, so US cabinets are more difficult to use. Third, almost all US kitchen cabinet manufacturers sell only cabinets and not complete kitchens. Finally, Korean manufacturers often import raw logs from the US and reproduce US style cabinets in order to be able to provide consumers with the look of US cabinets at a lower price. While US manufacturers may not be as competitive in the complete kitchen market, Korean consumers purchase kitchens as components as well, although this practice is more common among middle-income consumers who may not be the most appropriate target market for high-priced solid wood cabinets.

Domestic manufacturers dominate the Korean wood and non-wood kitchen cabinet and kitchen furniture market. Approximately 1,000 domestic firms supply 90% of the Korean kitchen cabinet and kitchen furniture market. Sales revenue from domestic production totaled $6.8 billion in 1997. Solid wood kitchen cabinets and furniture sales in 1997 totaled $2 million or 40% of total sales. The leading domestic firms in order of sales revenue are Hanssem, Enex, BIF, Livart, and Family. Name brand manufacturers, which are generally more expensive, supply approximately 70% of domestic demand, and less expensive small independent cabinet manufacturers supply the remaining 30% (Gagu Guide Magazine internal statistics 1998).

According to a representative from Hanssem, the largest Korean kitchen cabinet manufacturer, the company sold 260,000 kitchen sets during 1997. Of these kitchens, 20% of the company's 45,000 solid wood sets were imported. Membrane doors made of MDF with a veneer overlay constituted over half of Hanssem's sales, and non-wood melamine cabinets represented almost one-third. A representatitive from Hanssem stated that the company sources most of this cabinet parts from Italy because Hanssem believes Italian manufactures offer a competitive price, high-quality products, and the "world's best" design (Hanssem 1998). Hanssem sources lower-quality oak cabinets from China. While the quality and design of Chinese-made cabinets is not the best, they offer a very low price. Hanssem used to import cabinets from an American company named Conestoga, but stopped six years ago when the price became too high (Hanssem 1998).

According to the Korean Customs Service, imports of kitchen cabinets and kitchen furniture totaled $18 million in 1997, a 132% increase since 1994. The popularity of European designs is evident in the import statistics. Together, German and Italian manufacturers supply almost half of the imported cabinet market, a 17% increase in market share during 1994-1997 (Table 22). At the same time lower-cost Southeast Asian suppliers are losing market share. Southeast Asian (Indonesia, China, Thailand, and Malaysia) supplier's share of the imported cabinet industry declined from 49% in 1994 to 37% in 1997. According to a representative from Hanssem, Italian furniture manufacturers are becoming more cost competitive, which helps them increase their share of the Korean market. Not only are wages in Italy lower than wages in many other developed nations, but Italian manufacturers are willing to lower their prices to undercut both domestic and international competitors (Hanssem 1998).

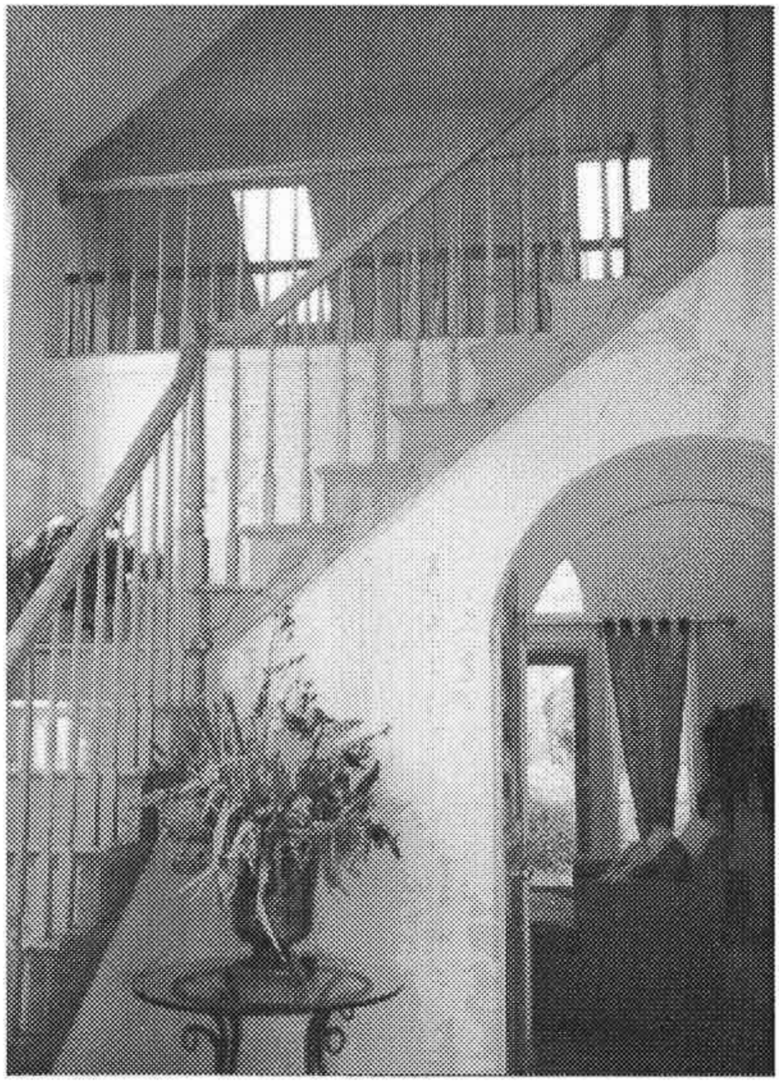
Table 22. Korean kitchen furniture and kitchen cabinet imports by country of origin, 1994-1997 (HS 9403.40.9000) (US $ thousands).

Country of Origin	1994	1995	1996	1997	% Change 1994-1997
Germany	$942	$1,495	$5,062	$5,208	453
Italy	$1,396	$2,045	$2,980	$3,199	129
Indonesia	$1,834	$2,031	$3,238	$2,766	51
China	$315	$977	$1,011	$1,102	250
Thailand	$704	$2,090	$1,522	$1,506	114
Malaysia	$945	$470	$2,095	$1,379	46
US	$512	$770	$669	$407	-21
Total	$7,755	$11,436	$18,543	$18,013	132

Source: Korea Customs Service 1998

The US has clearly not been competitive in this market. In 1997, imports from the US totaled $407,000, a 20% decline since 1994. US share of the Korean kitchen market declined from 7% to 5% during 1994-1997. US manufacturers may be able to capitalize on the recent popularity of American-style oak kitchen cabinets; however, domestic competitors make this a difficult market to enter. Since high-income consumers are most able to afford solid wood cabinets, they may purchase complete kitchen packages that are produced by domestic manufacturers as opposed to purchasing kitchen components from US suppliers. The most promising end market for US cabinets appears to be the 2x4 wood frame home market. Wood frame homeowners already view American-style homes and interiors positively and US-made kitchen cabinet components easily fit into western style homes, both in terms of appearance and size.

According to a representative from a US kitchen cabinet manufacturer, prior to the economic crisis his company's sales to Korea for remodeling projects were increasing. His company sold kitchen cabinets to consumers who were dissatisfied with the quality of domestically produced cabinets. Reportedly, Hanssem's highest quality cabinets are equivalent to this US manufacturer's medium quality cabinets, which are sold at half the price of the Korean manufacturer's cabinets. The challenge is overcoming the perception that US cabinets are naturally higher priced than domestically produced cabinets and making imported cabinets easy for Korean consumers use with Korean fixtures and appliances.



Other Non-structural Products

Natural-finish wood, turned-spindle staircases were used in every wood frame home visited (Figure 18). US producers dominate this market. While no import statistics exist regarding stair system imports, a representative from a leading US supplier to Korea stated that during 1996, the company sold $350,000-$400,000 to Korea, all to the 2x4 wood frame home sector. Since the Asian economic crisis, sales have dropped to approximately $180,000. The company's leading competitors are other US firms with little competition from other foreign or Korean suppliers. Beams and columns made of laminated wood were also viewed in some of the homes visited and wood mantels on fireplaces appear to be very common in wood frame homes (Figures 19 and 20).

Figure 18. US made stair system used in a Korean model home.

Figure 19. Example of US made laminated columns and beams in a 2x4 wood frame house.

Figure 20. Wood fireplace mantels are popular in single frame homes.

Do-it-Yourself Home Repair

The do-it-yourself (DIY) market in Korea is almost non-existent. Some respondents reported that many homeowners believe that home repair is laborer work that is somewhat beneath them. It is more likely that they do not have time to make home repairs and upgrades. A couple of companies tried to enter the DIY market, but these businesses quickly failed. Even as a means to save money the average consumer thinks that home repair and remodeling is too difficult. Many Korean sales include installation or assembly, so DIY is a difficult concept culturlaly for people to accept. The subcontracted repair and remodel industry however, is growing. According to Mr. Choi of the FAS, in terms of sales revenue kitchen cabinets are the most common improvement, followed by doors, mouldings, and flooring.

A wholesale building materials company reported that it owns two building supply centers, a 5,000 m^2 outlet in north Seoul and a 1,500 m^2 outlet in south Seoul. Currently, contractors are the only customers, however, the company plans to attempt to increase sales to the DIY market. Last year the company sold US $3.2 million to contractors through their retail outlets. Representatives from the company believe sales will increase 10-20% within five years and 20-30% within ten years as it becomes too expensive for consumers to hire independent contractors.

Future of Market

The government initiative to remove the price cap on apartments may create a new market for interior wood products. With builder education about species attributes, product attributes, and proper product use, sales of US interior wood products could increase. There is misinformation that *chaebol* only build middle class high-rise apartments. Instead, these companies also build high-priced, 15-20 unit villas. Large construction firms are becoming increasingly interested in using high-quality materials as a means to sell the units for a higher price. In Korea, apartments typically fall into two categories, high-income and low-income. Now that the price ceiling on middle class apartments has been lifted, the potential for these companies to use more interior products in this type of housing is also greater. In the past large construction companies have not used much wood because they were primarily building lower priced apartments constructed with tropical woods and non-wood composites. Now is the time to start educating builders about the cost and engineering advantages that can come from using North American wood and wood products. As mentioned earlier, however, selling materials to large construction firms can be difficult in terms of distribution, financing, and reliable payment.

A representative from Young Lim Lumber, one of Korea's largest wholesale distributors predicts that the market for interior wood products has a promising future in Korea. In fact, prior to the economic crisis, Young Lim was focusing more marketing on the growing number of luxury apartments that use wood products throughout the unit. The wood market is closely tied to other markets, the real estate and construction markets in particular. As the exchange rate improves there will be greater market opportunities for wood products. The improved exchange rate coupled with government instituted banking reforms should restore consumer confidence, and thus spending on luxury goods. Government reforms that allow the market to determine apartment prices and facilitate foreign businesses will also create a more promising environment for wood products. In the meantime, wood product importers and manufacturers should advertise their products in Korea as a means to increase consumer awareness when the exchange rate does improve (Young Lim Lumber 1998).

Even as the economy improves and consumer confidence is restored, price will continue to be a primary consideration when substitute products are readily available and quality is not a primary concern. For example, Young Lim Lumber purchases all of the doors it imports from Malaysia and Indonesia because they offer the lowest price. However, the company imports most of its hardwood materials from the US because US suppliers offer the best quality (Young Lim Lumber 1998).

Conclusion

Korea's economy is undergoing a dramatic transition that promises to restructure the financial system, construction sector, and business environment comprehensively. Banks and *chaebol*, large Korean conglomerates, are being required to make their accounting systems more transparent. *Chaebol* are also being forced to raise capital by divesting some of their business holdings. The government has also lifted limits on foreign investment and business partnerships. The result will likely be an open business market where consumers are given more products to choose from, and where international products will be more competitive with Korean-made products. This is an opportune time to begin educating consumers and advertising the benefits that consumers can get by using wood products. When housing was in short supply, construction companies were able to use low- to moderate-quality building materials and still sell units. Now that there is an oversupply of housing, consumers realize they have a choice and they expect higher quality alternatives.

An open market is likely to have significant implications for product marketing. Korean consumers are very fashion conscious and are influenced by popular trends in advertising. Consumers tend to purchase products they see on television shows, in print advertising, or endorsed by celebrities. Journalists from major daily newspapers are also very influential in guiding consumer preferences. Therefore, newspapers can be very effective in terms of educating Korean consumers about products. After the Korean market is open, product literature, articles, and advertising should focus on the benefits that can be derived from using US products in general or a particular company's product. Advertising that highlights innovations is directly related to product success. Since individuals did not have a wide range of high-quality affordable products prior to the market restructuring, special features and benefits derived from the product should be highlighted. Since US suppliers cannot compete with many domestic and Southeast Asian producers on the basis of price, product marketing should focus on quality, durability, and design attributes.

In general, US companies can increase sales if they market their products in Korea more aggressively. The market for solid wood interior products is far larger than the US market share. For example, according to Korean respondents, US manufacturers have not aggressively marketed kitchen cabinets. In 1997, US companies supplied only 0.02% of the $118,000 imported kitchen cabinet market. On the other hand, US manufacturers have actively marketed wood frame homes through advertising and trade shows. They maintain 60% of the imported wood frame housing market and an estimated 60% of the interior products used in wood frame homes. US companies can take advantage of the recent economic downturn to educate Korean consumers and builders about the benefits of using US wood products. If US companies establish brand recognition in Korea now, when the economy fully recovers Korean consumers may be primed to purchase US goods.

Both Korean and US respondents agree that European companies, and Italian manufacturers in particular, are more aggressive in their approach to the Korean market, which has translated directly into greater market share. Many trade magazine editors derive the content of the magazines from product literature and promotional articles from manufacturers. US manufacturers do not appear to be capitalizing on trade magazines as a means of advertising. The importance of architects in selling products also appears to be overlooked by US manufacturers. Architects most frequently specify materials. As high-income apartments become more prevalent, architects may be the best route to enter the apartment sector. They rely upon trade magazines, product literature, and trade shows to learn about products, yet based on interview response, US firms do not appear to be reaching this segment. According to architects interviewed, they find most information on US products by attending trade shows in the US.

Foreign companies must also invest time and resources to learn about Korean consumer preferences and product needs. For example, Korean consumers do not like do-it-yourself projects. Instead, retailers provide full service with the goods they sell, often assembling break-down furniture as part of after-sales service.

While the majority of consumers live in high-rise concrete apartments, this may not be the most viable sector for US solid wood products. It can be both complicated to understand the distribution system and to establish a contract with large companies. It can also be financially risky to try to sell materials to these firms. More viable markets include 2x4 wood frame homes, wood townhomes, non-wood single-family and low-rise multi-family homes, and the remodeling sector.

While North American interior wood products dominate the single family 2x4 wood frame home market, a limited number of individuals are capable of affording single family homes and the larger lot size required. The desire to own a wood frame home, however, is widespread, particularly among younger Korean population. According to a survey conducted by the *KyungHuan Daily Newspaper* and LG Advertising, many young people indicate that they prefer wooden homes in a suburban setting even if it means a long commute to their jobs (AF&PA 1999). Therefore, the market for American-made interior wood products may increase if policy makers and builders are able to increase the number of affordable townhomes. The current building code in Korea places height and construction restrictions on wood frame housing, which requires builders to modify their building plans to include more fire protection measures. However, a new building code that more closely resembles the US code is currently being reviewed by the MOCT (AF&PA 1999a). The Korean government has already made land available in outlying areas around Seoul to encourage the development of "Satellite Cities." Builders might look to these areas for sites for townhome developments. The benefits of making wood frame housing affordable are two-fold. By building and marketing townhomes as an affordable alternative for wood frame homes, builders may not only reach a larger segment of the population, but since Korean consumers are heavily influenced by fashion trends and word of mouth advertising, townhomes may catch on as a popular new trend.

Another aspect that should be considered is product presentation. Many US companies that sell products to Korea commonly sell materials to US exporters and consolidators who supply the wood frame home market. One US company found that exporters were not packaging their products with complementary goods, therefore, only components were being supplied to the Korean market, which added one more obstacle to winning Korean customers. Consumers who want to use US made materials may go through the extra work required to locate, purchase, and make them fit with Korean appliances. However, most consumers select their flooring, kitchen cabinets, moulding, appliances, and other home products from retail outlets that carry all of these goods in one place.

US companies may stimulate local sales by using multiple product showrooms. Product showrooms offer a way to reach consumers, contractors and builders. Since architects specify materials used, and contractors make recommendations to customers, it is important to focus on reaching these individuals. Showrooms and trade shows allow these important customers to see products first hand. Showrooms may also help companies develop brand recognition. If consumers see products at showrooms they may be more likely to specify US products to their contractor when upgrading their homes. It may be useful for US firms to partner with Korean firms to open a showroom featuring products from the US and Korea that work together. For example, if a US kitchen cabinet manufacturer partnered with a Korean appliance and fixture supplier, customers could pair a variety of cabinet styles with appliances. A drawback of showrooms is capital investment. A stair manufacturer estimated a showroom would require approximately $80,000 in inventory for its product alone. The opportunity to realize far larger returns is great however. During 1996, the stair manufacturer sold $350,000-$400,000 without a showroom. Since product showrooms help manufacturers reach more consumers, the potential to increase sales could is high.

Further research is also needed to understand how North American building components such as doors and windows can be used in traditional post and beam construction. This research would require a greater understanding of the structural aspects of post and beam construction, the distribution system, and the selection process for materials within this sector. This type of endeavor would also require more interaction between US wood industry promotional associations and Korean architects in order to encourage architects to incorporate US products into homes of traditional design.

There is a definite need to educate consumers and builders about US products and product attributes. As income has increased, the public knows that it wants wood homes and interiors. However, consumers base their decisions about quality primarily on appearance and are unaware of species differences. US firms should market their products to trade magazines, architects, builders, and consumers based on cost competitiveness, product innovations and benefits derived from using a particular brand or species.

US products are not generally cost competitive with Southeast Asian products on a volume basis, yet less wood can be used to deliver equivalent durability. Therefore, suppliers and manufacturers need to teach builders how to use US products efficiently. For example, instead of using a 1 9/16" thick door frame (40 mm), US suppliers and agents can teach Korean builders that 1 1/4" door jambs are structurally sound and cost competitive.

The reluctance to extend credit also appears to hinder use of US products in Korea. Korean importers reported that it is easy to source a wide variety of wood products, but they are constrained by the fact that invoices must be paid in full upon delivery. Several Korean respondents stated that suppliers in other countries extended 90-180 day payment invoices, which has helped introduce their products to the Korean market. However, there can be significant risks involved with extending credit to firms that do not have an established credit history with the supplier. US suppliers reported both positive and negative experiences with extending financing to Korean firms. Some stated that it had "proved over the years to be a credit risk," and that some Korean companies tried to re-negotiate the price of goods after they were received. Other companies reported that they had not had problems receiving payment. Most US firms were willing to extend credit to firms with which they had a long working relationship. In light of the Asian economic crisis and its impact on the construction industry, the risk of extending credit in hope of expanding sales may be excessive.

It appears that the decision to select a particular country as a supplier depends heavily upon the agent that the Korean company interacts with. It appears that some Korean builders base their opinions about finished products from the US on past experiences with lower grades of lumber that have been common in Korea. Therefore, opinions about the quality of US products vary greatly from company to company. While most importers reported that the producers in the US and Canada provide the highest quality temperate hardwood and softwood products, others noted other countries such as Switzerland, Germany, and Russia. These varying opinions may be a case of a supplier or agent failing to provide materials that are appropriate for the intended final use. Therefore, it is important in an emerging market such as Korea where reputation is highly dependent upon word of mouth advertising, that agents and sales people take the time to understand what their customers' product needs are before supplying the product. Attentive after sales service is also vital. It is important to understand if and why a customer is not satisfied with the product received. Without an active customer satisfaction evaluation, customers are more likely to switch suppliers than voluntarily explain product problems.

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Appendix A

Korean Interior Wood Products Publications

Title	Address	Telephone	Fax
Window and Door Magazine (Monthly)	Room 701, Yangji Building 464-4, Jangan-Dong, Dongdaemoon-Ku Seoul	82-2-215-5635	82-2-215-5634
Monthly Journal of Window and Door Technology	613-1, Kuro Bon-Dong, Kuro-Ku Seoul	82-2-675-4227	82-2-676-2983
Modern Homes (Monthly)	72-1, 3-Ka, Dangsan-Dong, Yungdeungpo-Ku Seoul	82-2-671-3201	82-2-671-3218
Housing Information (Monthly)	Younglim Building 52-17, Samsung Dong, Kangnam-Ku Seoul	82-2-547-1835 (for advertising)	n/a
New Homes (bi-monthly)	Suite 701, Plaza Building, 654-3, Yuksam-Dong, Samsung-Dong Kangnam-Ku Seoul	n/a	n/a
The Monthly Housing Magazine	Second Floor, Korea Business Center 1338-21, Seocho-Dong, Seocho-Ku Seoul	82-2-538-9095	82-2-672-4280
Monthly Korean Architects	Suite 502, Sinsung Building 283, 6-Ka, Dangsan-Dong,Yungdeungpo-Ku Seoul	82-2-632-2811	82-2-672-4280
Monthly Architecture	273-23, 2-Ka, Sungsoo-Dong, Sungdong-Ku Seoul	82-2-469-4701	82-2-469-7925
The Monthly Magazine for Flooring	112-4 Bomun Dong, Sungbok-Ku, Seoul, Korea	82-2-925-2070	82-2-925-2071
Gagu Guide (furniture magazine including kitchen cabinets)	3rd floor, Sam hwa B/D 85-13 Chungdam-dong, Kangnam-Ku, Seoul, Korea 135-100	82-2-543-0904	82-2-518-1627

Appendix B

Korea Interior Products Organizations

Organization	Address	Telephone	Fax
Korea Institute of Registered Architects	1603-55, Seocho-Dong, Seocho-Ku Seoul	822-581-5711	82-2-586-8823
Korea Federation of Furniture Industry Cooperatives (includes kitchen cabinets)	374-2, Jangan-Dong, Dongdaemoon-Ku Seoul, Korea 131-100	82-2-215-8838	82-2-215-9729
Construction & Economy Research Institute of Korea	70-13 Nonhyun-dong Kangnam-Ku, Bo Jun BD 12F, Seoul, Korea 135-010	82-3-441-0770	82-3-441-0606
Korean Institute of Interior Design	#602 Daegyung Building, 983-10 Daechi-Dong Kangnam-Ku Seuol, Korea 135-280	82-2-564-2598	82-2-564-2599

Appendix C

Web Sites: Korean Economy and Construction Sector

Site Name	Address	Information
Construction and Economy Research Institute of Korea	Www.cerik.org	Research papers on the construction sector in Korea.
Governments on the WWW: Korea	Http://inetsp1.jri.co.jp/research/asia/links/korea.html	Links to Korean Government and Education websites.
Korea's Economic Reform Update	Www.kiep.go.kr/IMF/hot.html	Reports regarding policy changes following the IMF.
Korean Embassy	http://korea.emb.washington.dc.us	Population and economy statistics, cultural information.
Korea Ministry of Finance and Economy	Www.mofe.go.kr	Statistical and narrative information on the economy.
Korea National Statistical Office	Www.nso.go.kr	Statistical information on population and economy
Korea Overseas Culture and Information Service	Www.kocis.go.kr	Cultural and Business information.
Korea's Pool of International Economists	http://kiep.kiep.go.kr/ENGLISH/ebro1.html	Links to financial institutions, reports and statistical information.
Korea Web Weekly	Www.kimsoft.com/korea.htm	Recent articles about Korean news events and economy with links to other news sources.
Ministry of Construction and Transportation	Www.moct.go.kr/e-frame1.html	Official Ministry site including Housing Plans and programs.
Site by Site Global and Domestic Investment: Korea	Www.site-by-site.com/asia/korea/astock.htm#stats	Links to statistical bureaus, economic reports, and banks.
Tradecompass: Korea	Www.tradecompass.com/library/books/com_guide/Korea.toc.html	Statistics, and information on trade, investment, and political climate.

Appendix D

Trade Fair Opportunities

Fair	Dates
Kyung Hyang Housing Fair	February 23-26 (annual)
Seoul Living Design Fair	March 21-26 (annual)
Country Style Housing Fair	July 2-5 (annual)

Contact the AF&PA Korea office for help reserving booth space.

Mr. Kyung-Ho. Ahn
Director, Korea Office
AF&PA
ATO Compound, American Embassy
Third Floor, Leema Bldg. 146-1, Susong-Dong
Chongro-gu, Seoul

Tel: 82-2-722-3685
Fax: 82-2-720-1989

Appendix E

Map of South Korea

Appendix F

Non-Structural Wood Products Questionnaire
Administered at the Design Studio Wood Frame Construction Training Seminar

Korea Interior Wood Products Market Survey

Company Name: ______________ Your job title: ____________

What is your company's primary business? (*please check only one box)*:

____ Architect ____ Contractor/Builder ____ Other (*please specify*)

Number of Years in business: ___ How many employees are at your company?: __

Number of years your company has used or specified interior wood products ________

1. In **1997**, how many remodel or construction projects was your company involved in? _____________
2. In **1998**, how many remodel or construction projects do you expect to do? _______
3. What is the total value of a typical project (*in dollars or won*)? _________
4. What percentage of the total project cost is interior wood products?
   ________ Wood frame homes
   ________ Concrete homes
   ________ Apartments
5. Who specifies the use of interior wood products (*circle one in each category)*

	Never		Usually		Always
Architect	1	2	3	4	5
Builder	1	2	3	4	5
Homeowner	1	2	3	4	5
Other (*please specify*)	1	2	3	4	5

6. Please rank what types of interior home improvement projects are most common?
   (*1 = least common, 5 = most common*)

   Installation of:

	Least Common				Most Common
Wood flooring	1	2	3	4	5
Moulding	1	2	3	4	5
Windows	1	2	3	4	5
Doors	1	2	3	4	5
Paneling	1	2	3	4	5
Kitchen cabinets	1	2	3	4	5
Other (*please specify*)	1	2	3	4	5

7. Please rank the following factors in order of importance when selecting a wood products supplier. (*1 = least important, 5 = most important*)

	Least Important				Most Important
Price	1	2	3	4	5
Product quality	1	2	3	4	5
Prompt sales service	1	2	3	4	5
Products guarantee	1	2	3	4	5
Fast delivery	1	2	3	4	5
After-sale service	1	2	3	4	5
Other (*please specify*)	1	2	3	4	5

8. Please rank (from 1 to 5) the level of ease in finding skilled workers to install interior wood products. (*1 = Difficult to find, 5 = Easy to find*) _____________

9. Please list three factors that make using interior wood products difficult?

____

____

____

10. Please list three factors that make using interior wood products easy?

____

____

____

11. Please rank (from 1 to 5) how often homeowners do their own home imporvement/remodeling work? (for example: install moulding, flooring, doors, etc.?) (*1 = Not Often, 5 = Very Often*). ___

12. In your opinion, how well do Korean homebuilders/contractors understand the following ocmponents of North American wood frame construction? (*please circle only one number for each component*)

	No Understanding		Some Understanding		Full Understanding
Foundations	1	2	3	4	5
Lumber Framing	1	2	3	4	5
Insulation	1	2	3	4	5
Drywall (gypsum wallboard)	1	2	3	4	5
Doors	1	2	3	4	5
Windows	1	2	3	4	5
Stairs	1	2	3	4	5
Wood flooring	1	2	3	4	5
Moulding	1	2	3	4	5
Exterior siding	1	2	3	4	5
Roofing	1	2	3	4	5
Roof ventilation	1	2	3	4	5
Architectural Design	1	2	3	4	5
Construction Drawings	1	2	3	4	5
Other (*please specify*)	1	2	3	4	5

Appendix G.

Non-Structural Wood Products Questionnaire - Wood Design Studio Statistical Findings

Percent of respondents:

Architects	Contractors	Interior Design	Government	Unknown
71.4%	17.1%	5.7%	2.9%	2.9%

Most common interior projects:

Doors	Moulding	Windows	Flooring	Paneling	Cabinets
4.1	3.9	3.1	3.7	2.5	2.9

Product supplier factors

Product Quality	Price	Product Guarantee	Prompt Sales Service	Fast Delivery	After Sale Service
3.9	3.9	2.7	2.4	2.5	2.4

What aspect of construction do Korean builders understand the best?

Flooring	Doors	Moulding	Windows	Roofing	Framing	Architectural Design
3.5	3.4	3.4	3.3	3.0	2.8	2.8

Siding	Insulation	Stairs	Wallboard	Foundations	Construction Drawings	Ventilation
2.8	2.7	2.7	2.6	2.4	2.3	1.8

Appendix H.

Non-Structural Wood Products Questionnaire - Field Interviews

Company Name:

1. What types of wood products do you import?

_____ Softwood lumber	__ Paneling	____ Softwood moulding
_____ Hardwood lumber	____ Kitchen cabinets	____ Hardwood moulding
_____ Wood flooring	____ Stair systems	____ Engineered products (glulam beams, I-Joists)
_____ Wood windows	____ Wood doors	____ Other (*please specify*): ________

2. What percent of your sales volume is made up of the following products? (*total should add up to 100%*)

______ % Softwood lumber
______ % Hardwood lumber
______ % Wood flooring
______ % Wood windows
______ % Paneling
______ % Stair systems
______ % Wood doors
______ % Softwood moulding
______ % Hardwood moulding
______ % Engineered products
______ % Other (*please specify*): ____
100 % Total

3. What wood species do you import and sell the most of?

____

4. Approximately what percentage of the volume of your interior building materials are imported from the following countries? (*total should add up to 100%*)

______ % United States
______ % Canada
______ % Sweden
______ % Finland
______ % Germany
______ % New Zealand
______ % Australia
______ % Malaysia
______ % Indonesia
______ % Other (*please specify*): ____
100 % Total

5. Using the scale below, how do the following factors affect your building materials purchase decision? *(1=least important, 7=most important)*

Price	1 2 3 4 5 6 7
Quality of product	1 2 3 4 5 6 7
Selection	1 2 3 4 5 6 7
Fast delivery	1 2 3 4 5 6 7
Service	1 2 3 4 5 6 7
Other (*please specify*): ____________________	1 2 3 4 5 6 7

6. Approximately what percentage of your sales volume goes to the following sources? (*total should add up to 100%*)

______ % Directly to home-owner
______ % To wholesaler(s)
______ % To retail lumberyards
______ % To retail home improvement centers
______ % To contractors of new construction
______ % To contractors for repair and remodel projects
______ % Other (*please specify*): ____
100 % Total

7. Through what channels do you distribute your interior wood products? (*total should add up to 100%*)

______ % Send products directly to home site
______ % Send products to home improvement center or retail builder's supply center
______ % Sold through your own company's retail business
______ % Sold to large home building corporations
______ % Sold to government organizations
______ % Other (*please specify*): ____
100 % Total

8. Please describe how you expect your interior wood business to grow during the next five years?

______ Expect business to be steady
______ Expect business to increase
______ Expect business will decline
______ Other (*please specify*): ____

9. Estimate the percentage of home remodeling or improvement projects that are done by homeowners rather than contractors?

______ %

10. Do you expect the do-it-yourself market to increase?

11. Do you think there is a market for retail home centers that focus on selling building materials to homeowners?

____

12. Do you experience any barriers to selling or using imported building materials? (tariff, non-tariff, building codes, consumer acceptance) If so, please describe

____

13. What impacts does the distribution system in Korea have on the purchase and use of imported building materials?

____

14. Please estimate what portion of total imported interior building products each of the following organizations imports? (*total should add up to 100%*)

______ % Chaebol
______ % Small and medium sized importers
______ % Government building organizations
______ % Large retail lumberyards and stores
______ % Other (*please specify*): ______________________________
100 % Total

Company Demographics (used for statistical purposes only)

16. What is your job title (or position) within your company? ______________________

17. What is your company's primary line of business? (*please check only one box*)

☐ Construction company	☐ Manufacturer	☐ Wholesaler
☐ General contractor	☐ Building products consolidator	☐ Other (*please specify*):
☐ Architect	☐ Export trading company	______________________

18. How long has your company been involved in importing construction materials? ________ Years

19. How many employees are at your company? ________ Total