

C I N T R A F O R

Working Paper 71

[Back to Publications List](#)

An Assessment of the South Korean Market for Value-Added Wood Products

Rosemarie Braden and Bob Tichy. 1999

Executive Summary

The South Korean (Korea) market for wood frame housing and building materials has gained more attention from US manufacturers and exporters in recent years. From the end of the Korean War until the recent Asian economic crisis, the Korean economy demonstrated strong growth, making it the eleventh leading economy in the world. Rising consumer incomes have enabled more families to purchase single-family homes. Within this sector, wood frame homes are becoming more prevalent. The Korean government has almost reached its goal of providing a 100% housing supply. The Ministry of Construction and Transportation (MOCT) is redirecting its previous mission to focus more attention on building and promoting higher quality housing and more aesthetically pleasing living environments. As such, attention to wood frame housing as an alternative to high-rise concrete construction is increasing.

Despite the Korean government's activities to allow greater access to its consumer markets, US exporters still face many challenges. Some of these obstacles are specific to wood construction, such as inadequate building codes and lack of technical training. Other obstacles are more generic, including limited information about the import and distribution process, limited port facilities, and domination in the housing sector by concrete construction. Few market reports regarding the wood frame housing industry exist; many that exist are outdated. In order for US exporters to improve their competitiveness in this market they must develop a better understanding of the residential construction industry, business practices, and consumer and government perceptions regarding wood frame housing in Korea. The US wood products industry is also in need of information regarding building codes and safety and testing requirements for wooden building materials as a means to encourage the MOCT to modify Korean building codes to accept wood as a safe building material.

The Asian economic crisis has had a profound impact on consumption of luxury goods, particularly wood frame homes and building materials. The Korean economy suffered a loss in investor confidence as a series of corporate bankruptcies occurred and the accumulation of bad loans revealed unstable business practices among several of the country's largest corporations and lending organizations. Consequently, domestic production and consumption declined, unemployment increased, and the overall health of the economy declined. The Korean won devalued against the US dollar, causing the price of imported goods to double. Industry experts estimate that the economy will begin to recover within 2-4 years. Therefore, this report has been written in light of this assumption and describes the wood products industry for the most part during its growth phase, which immediately preceded the Asian economic crisis.

This report is the result of a market research project conducted in Korea from February 21-March 6, 1998. Two researchers traveled to Korea and interviewed builders, importers, and members of academia involved in the wood housing construction sector to learn about tariff and non-tariff barriers to wood frame housing and wood construction materials. The researchers also investigated the prevailing building codes related to wood frame housing and future market opportunities. This report offers background information about the Korean market for wood products, the building construction sector, and the environment for foreign businesses, in addition to suggestions for approaching this market.

Findings from this project indicate that the consumer perception of wood frame homes is generally positive. Korean people view wood homes and wood in general as healthy and aesthetically pleasing.

However, the high cost of building materials and restrictive financing limits single-family home ownership to the affluent.

Although a mortgage system exists, interest rates are approximately 20% and the terms are for only a few years. Korean mortgages require the consumer to pay 70-80% of the home cost at the time of purchase and pay the remaining debt within 5-20 years. Recently, some banks have started extending special loans of up to 70% of the home price. However, even though personal savings rates are high, the typical income of a potential buyer cannot support high monthly payments. Efforts to make wood frame homes and townhomes affordable could increase the expansion of wood frame housing.

Aside from the fact that many families cannot afford wood frame homes, there are several non-economic factors that affect the widespread adoption of wood frame housing in Korea. One issue that hinders the expansion of US wooden building materials in Korea is limited product promotion in print advertising and home shows. The American Forest and Paper Association (AF&PA) Korea office has been very active in promoting the US wood products industry in Korea through trade shows, trade missions, an annual carpenter training program, wood frame construction seminars, and technical and promotional publications. These activities have contributed to the perception that US manufacturers produce high quality building materials. However, there still appears to be a general lack of knowledge among Korean construction firms regarding what specific products and services are available and which US suppliers exist. Thus, many Korean housing companies use multiple suppliers from around the world. This indicates that there is a need for individual firms to place more emphasis on marketing their goods and services in this market as a means of developing name or brand recognition. In addition, homebuilders, architects, and homeowners lack understanding of the proper use, storage, and maintenance of wood products. It is important that US product literature be translated into Korean so Korean builders will understand proper material handling, storage, and product use. The AF&PA Korea office currently distributes technical information in Korean on the use of specific species and engineered wood products with information from The Western Wood Products Association, the Softwood Export Council, APA-The Engineered Wood Products Association, and the Southern Forest Products Association.

Technical transfer is another important issue. Korean carpenters are either good at concrete work (very rough carpentry) or good at finish work (very fine carpentry); they are less skilled with framing. Framing training, in addition to instruction regarding proper handling and storage of materials is critical to the long-term success of wood frame construction in Korea. One way to disseminate information about proper construction techniques within Korea is to train architects, professors, and construction workers in the US. Training should include architectural design, engineering design, framing techniques, and maintenance. For the past three years the AF&PA Korea office has organized an annual two-week long 2x4 construction training program near Seoul in cooperation with the Korean Wood Frame Construction Institute and the Home Builders Institute. The program trains approximately 40 to 50 students about US wood frame construction techniques through classroom and hands-on instruction. Carpenter training is also being taught by a private architect who owns and operates a wood frame design studio in Seoul. However, there are still many carpenters who do not understand the engineering and construction principles associated with properly building a 2x4 wood frame home. It is important for technical transfer to be an integral part of promoting wood frame construction in Korea.

The Korean building code represents another challenge to the widespread adoption of high-quality wood frame housing in Korea. The existing building code places restrictions on the accepted height and total floor area of the building, yet it does not include detailed requirements for structural aspects such as proper engineering principles, material use, and foundations (Appendix A). The lack of a detailed building code leaves room for the possibility that construction companies that do not have a complete understanding of wood frame housing may build substandard homes. The impact of poorly built homes may be compounded by the absence of building inspectors for wood frame housing. Instead, Korean law mandates that the builder or architect is liable for any damages resulting from substandard construction. While builders who construct dangerous homes can be criminally charged for any gross injuries, it may be that building codes are enforced only after major damages are incurred. A more likely scenario associated with poor construction is a dissatisfied customer. Given the small size of the wood frame home industry and the

reliance on word of mouth advertising, the reputation of a few poorly constructed homes can be widespread.

Discussions with MOCT engineers indicate that there may be genuine interest in developing a more complete wood frame building code. The Ministry of Finance has asked the director of the Architecture and Housing Bureau of the MOCT to identify problems associated with accepting a wood frame building code. It must be understood that the MOCT is not staffed to undertake such an effort. Therefore, it is incumbent upon those interested in such a project to push it forward by demonstrating the safety aspects of wood-frame construction through fire and stress tests first applied in the US then again for MOCT in Korea. Encouraging MOCT to expand its wood frame construction building code would be greatly aided by support either from a large construction company or the industry as a whole. There appears little willingness for the MOCT to act unless there is a request from an influential Korean company or organization for such action. MOCT engineers and the division director made it clear that political pressure from non-Korean sources to change the building code would not be effective.

The Korean-based Wood Frame Construction Association (WFCA) is working with the AF&PA to promote proper 2x4 wood frame construction in Korea and to help develop a more comprehensive wood frame building code. The committee has drafted a proposed wood frame building code and submitted it to the MOCT for review and approval.

In addition to developing working relationships with Korean 2x4 wood frame construction advocates such as the WFCA, the US should begin fire and structural testing in the US, in order to be prepared to replicate these tests in Korea. Such tests would demonstrate to the MOCT that wood construction can be fire and earthquake resistant. Fire tests of wall and floor assemblies using the Korean fire standard should be implemented. The Korean fire standard differs from the US standard, and it is imperative that American engineers understand the performance of US systems under the Korean test procedure. These tests may be initially conducted in the US, where researchers can design a system to meet the Korean code. However, final fire testing must be conducted at a Korean testing facility.

In the meantime, trade missions that bring members of Korea's wooden home industry to the US should continue. There is a need to educate Korean experts, particularly those proposing to write Korean building codes. It may also be an opportune time to introduce large construction firms (e.g., Samsung, Daewoo) to wood frame housing as opposed to steel frame construction. Support from large Korean conglomerates may help influence the MOCT to focus more attention on modifying existing building codes to accept multi-story wood frame housing.

Four recommendations for US industry in the Korean market are made. First, the US should initiate fire and earthquake testing of wooden wall systems using Korean testing standards to take place in the US. These findings can be replicated later in Korea to demonstrate to the MOCT the safety of wood frame homes. Second, additional housing demographic surveys should be completed in order to assess Korean consumer preferences. There is still a gap of knowledge between what consumers report they want and their actual spending behavior regarding wood homes. Third, cooperative training programs should be established to educate Korean professors, architects, and carpenters at technical schools in the US. Finally, US manufacturing companies should focus on marketing their products in Korea through print ads and trade-shows even in light of the Asian economic crisis. Korean consumers are greatly influenced by advertising, yet there is limited advertising featuring US wood products. While economic recovery is not predicted to begin for at least two years, US producers may use this time to increase awareness of US products in Korea.

Full Report \$20.00: [To Ordering Instructions](#)

Back to [Publications List](#)