

**C I N T R A F O R**

**Working Paper**

**89**

**Factors that Influenced the  
Export Success  
of  
Forest Products Companies in  
the Pacific Northwest  
during the 1997-1998  
Japanese Economic Downturn**

**Kyle H. Cunningham  
Ivan L. Eastin**

**August 2002**

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## EXECUTIVE SUMMARY

Japanese housing starts reached a high of 1.64 million in 1996 as homeowners rushed to beat the consumption tax increase scheduled for 1997. The Asian economic downturn and various other factors caused housing starts to fall to 1.2 million in 1998. The decline in housing starts, in conjunction with a Japanese recession, contributed to a dramatic decrease in imports of wooden building materials. Japan, the most important export destination for PNW solid wood products, accounts for almost 31% of PNW exports. During the economic downturn, Japanese imports of PNW primary wood products fell 30%, to \$670 million in 1998 while exports of secondary wood products fell 36%, to less than \$100 million.

Events that occurred before and during the recession have caused structural changes in the flow of wood products to Japan. During the downturn, the Japanese yen weakened against the US and Canadian dollar, effectively raising the price of US wood products in Japan. The consumption tax rate increase, strong US dollar, and the extended economic recession combined to heighten price sensitivity among Japanese consumers. These factors combined to reduce the competitiveness of US wood products in the Japanese market.

The majority of firms engaged in exporting wooden building materials to Japan were affected by the Japanese recession. While most firms reported a decline in export revenues from Japan, some firms experienced increases in their exports to Japan. This anomaly prompted an investigation into why some firms were successful in increasing their exports while other firms were not. The objectives of this study were to document the perceptions of PNW exporters and manufacturers on the importance of services offered to Japanese customer, to discover the key characteristics of successful exporters and to identify the impact of the marketing mix on export performance. A mail and fax survey was designed to elicit specific information on the demographic and operational characteristics of exporting firms in the Pacific Northwest.

The survey population included firms that exported or manufactured and exported wooden building materials to Japan. The survey was administered by fax with follow up faxes and letters. Of the 163 US and 71 Canadian firms, 44 US (27%) and 15 Canadian (21%) firms were judged to have gone out of business. Out of 173 viable firms, 72 returned completed surveys for a response rate of 41.6%. US firms returned 41 surveys from a population of 119 for a return rate of 34.5%; while 31 of the 54 Canadian firms returned surveys for a response rate of 57.4%.

An open-ended question prompted the respondents to identify the factor that had the greatest impact (positive or negative) on their business in Japan. The most frequently mentioned factors were the Japanese recession and the strong US dollar, while marketing factors, such as distribution and services were mentioned less frequently.

The survey data suggests that shorter channels were used more often than the traditional Japanese multi-layered channel. On average, 58% of the respondents export sales went directly to Japanese homebuilders, while an additional 7% went through a company sales office. Other distribution channels included Japanese distributors, Japanese wholesalers and other trade intermediaries. Respondents perceived a significant advantage to having a sales office and sales/technical representatives in Japan. They also perceived a significant advantage to using a Japanese distributor to take control of product distribution. Overall, the survey data suggests that distribution channels for wooden building materials to Japan are becoming shorter.

Softwood lumber was the most commonly exported product (22%), followed by wooden doors (17%) and wooden windows (16%). The remaining products exported included prefabricated housing components (10%), structural panels (8%), cabinets (8%), and glulam beams (3%), while other products accounted for 16% of the export mix.

Survey respondents were asked several questions related to the importance of the offering specific services to their Japanese customers. In general, the importance of providing these services was perceived to be significantly more important by the firms that provide them relative to the firms that do not provide them. The services included in the survey were: warehousing spare parts in Japan, offering a product warranty, providing translated product information, providing translated installation instructions and providing translated maintenance instructions. Of 68 respondents, 53% reported that they provided translated product information, 46% provided translated installation instructions, and 36% supply translated maintenance instructions. An analysis of the data suggests that as the product becomes more technically complex, there is a lower likelihood that the exporter will provide translated technical information.

Nearly all of the survey respondents reported that their Japanese customers had become more price sensitive. Most firms reported that this increased price sensitivity had a negative impact on their export performance. However, a small set of respondents indicated that their exports to Japan increased despite the increased price sensitivity of their Japanese customers.

A comparison of US and Canadian firms revealed some basic differences in the products and distribution channels used to service the Japanese market. Canadian firms shipped 71% of their total exports to Japan, while the US only shipped 53%, a significant difference. Canadian firms also tended to ship a larger volume of primary wood products through shorter channels than their US counterparts. US firms were more likely to ship value-added products through longer distribution channels. Finally, Canadian firms were more likely to know the segment of the residential construction industry in which their products were used.

The distribution channel and product mix of firms that successfully exported to Japan during the Asian downturn differs greatly from the unsuccessful exporters. The firms that did well had export product mixes containing high amounts of wooden prefabricated building components and other value added products. Unsuccessful exporters tended to focus more on lumber, structural panels and doors. Successful exporters tended to report a higher use of short distribution channels, often exporting directly to the homebuilder or to a company sales office. Finally, successful exporters tended to supply a higher percentage of their products to post and beam builders and into other (non 2x4) segments of the construction industry.

Market knowledge appeared to play a vital role in export success as unsuccessful firms were over three times more likely not to know how their products were used. This lack of market knowledge makes offering after market sales support difficult and successful promotion within those market segments almost impossible. This research suggests that the firms that were successful during the downturn exported more than twice the amount of products into other market segments (primarily post & beam, prefabricated homes and log homes) than did unsuccessful firms. These segments of the housing market may be less sensitive to changes in the overall economic conditions than are the larger post and beam and 2x4 housing segments.

Analysis of total sales by export success reveals some interesting patterns. The medium-sized firms (export sales revenues between \$1 million and \$5 million) appear to have done much better than both small firms (export sales revenues less than \$1 million) and large firms (export sales revenues above \$5 million) (Figure 5.5.7). It is interesting to note that a much higher percentage of the medium-sized firms reported an increase in export revenues. Fully two-thirds of the companies who reported an increase in export revenues were medium-sized firms. In contrast, the firms who reported a decline in export revenues were fairly evenly distributed, although almost forty percent of these firms were large firms while just 13% of the successful firms were large companies. As mentioned previously, exports tend to be a much higher percentage of the total sales revenue of the small- and medium-sized firms in contrast to the larger firms who tend to have a heavy focus on the domestic market with exports rarely comprising more than 10% of their total sales. Thus, we might conclude that the medium-sized firms are more committed to the export market and have developed a marketing strategy that provides them with a greater chance of succeeding in Japan even when the markets are poor. While smaller firms are also more focused on their export markets it would appear that they do not have the financial and marketing resources to withstand a significant decline in the export market, as indicated by the fact that 83.3% of the small firms reported declines in export sales revenues in Japan.

A factor analysis reduced the larger number of eleven marketing factors into just three factors. The average importance ratings for each factor clearly show that not all of the factors were perceived to be equally important in marketing wood products in Japan. The factor with the highest average importance rating was “Providing translated product information to Japanese customers” which received an average importance rating of 5.52. The second factor, “Providing customized in-country services”, was considered to be somewhat important with an average importance rating of 3.94. The third factor related to the use of specific distribution strategies in Japan, was perceived to be the least important of the three factors with an average importance rating of 3.42.

This study has documented structural changes in the trade of PNW wooden building materials with Japan. It has also provided quantitative and qualitative insights into the impacts of the Asian downturn on the performance of exporters in the PNW. The Asian downturn may have served to accelerate the changes occurring in the distribution channels, product mix, and services offered to the Japanese housing market. Changes in the demands of the Japanese consumers have opened new areas and created new opportunities for firms to develop or increase their competitiveness. These changes include shortening the distribution channel and shifting the export mix to include more value-added products. Also, providing more after-sales support, primarily translated product information was also perceived to be important. While some of these strategies may not be suitable for all firms, exporters should realize the need for increasing their competitiveness in the expanding global economy.





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## 1.0 INTRODUCTION

In 1996, Japanese housing starts peaked at 1.64 million units per year. This peak was reached in part by homeowners wishing to avoid a hike in the consumption tax rate that would become effective in 1997. This contributed to slowing housing starts the following year. However, in 1997 the many economies of Asia entered a recession period that severely impacted Asian countries and their trading partners. During the Asian downturn of 1997, the housing starts in Japan fell drastically to 1.20 million in 1998 and 1.21 million in 1999. The fall in housing starts was accompanied by a decline in the demand for imported wooden building materials.

The Asian downturn impacted more than just the demand for imported wooden building materials. The downturn stimulated changes in Japanese consumer behavior and trade patterns. The economic recession altered Japanese buying habits. The legendary demand for quality at any price was replaced with a more price conscious, value-oriented outlook on products. The Japanese became more sensitive to price, favoring value-added products over commodities. This has major implications for the imported wood housing market. However, this was not the only influence affecting the Japanese housing sector.

Regulatory changes in the Japanese building code allowed foreign construction methods and products to be used in Japanese construction. Once perceived as major non-tariff trade barriers, the relaxation of the regulations boosted imports of wooden building materials. In addition to the changes in regulations, Japanese consumers demand imported building materials for several reasons: 2x4 western-style construction offers the advantages of lower costs, superior seismic performance, and higher durability than traditional post and beam. Prefabricated housing is also popular due to the high quality of construction and warranties provided by manufacturers.

A major source of imported building materials is the Pacific Northwest (PNW). Japan is the most important destination for PNW value-added wood products. Firms in the Pacific Northwest (WA, OR) and British Columbia exporting wooden building materials were deeply impacted by the decline of the Japanese market. Most firms exporting to Japan experienced a decline in their export revenues with many firms going out of business. However, a small group of PNW exporters reported improvements in their export revenues to Japan.

While the Asian downturn was a major blow to PNW exporters, other factors were influencing the export performance of these firms as well. Increased competition from Canada has cut into the US market share of secondary wood products. Russia and Europe are making inroads in the primary wood products market in Japan. US producers are also facing a constricting timber supply, raising the price of the raw materials and making primary products less competitive internationally. Finally, strong housing starts in the US, coupled with reduced demand in Japan, have led many companies to increase their reliance on the domestic US market.

Given the importance of the Japanese market to PNW firms, and the losses suffered by most firms in the industry, a study was undertaken to understand why some firms remained successful at exporting wooden building materials to Japan during the economic downturn. The study will analyze the export performance using a marketing framework focusing on distribution channels, product mix, price sensitivity, and product promotion.



## 2.0 LITERATURE REVIEW

### 2.1 IMPORTANCE OF THE JAPANESE HOUSING MARKET TO THE PACIFIC NORTHWEST

Japan is the main export market for Pacific Northwest (PNW) solid wood products. Since 1989, Japan has accounted for an average of 31% of export value for all PNW solid wood export destinations. In 1996, exports of PNW forest products to Japan peaked at US\$1.62 billion before falling to US\$766 million in 1998. Despite the decline in 1997, Japan remains the most important export market for PNW primary and secondary forest products accounting for 27% of PNW total exports in 1998.

Japan is the single most important destination for PNW primary wood products (Figure 2.1.1). Between 1991 and 1996, exports of PNW logs and lumber to Japan grew. From 1996 to 1998, exports fell by 30% from US\$ 1.45 billion to US\$ 670 million. China was the only Asian market for PNW primary wood products to grow during the Asian downturn reaching US\$ 103 million in 1998.

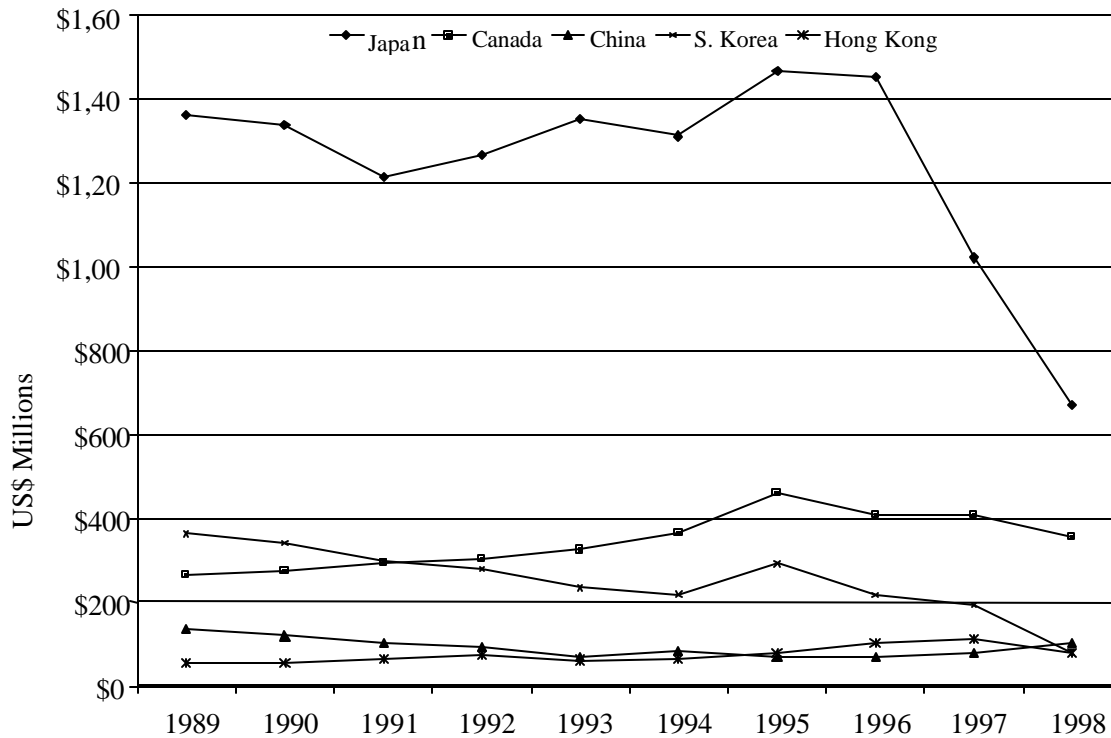
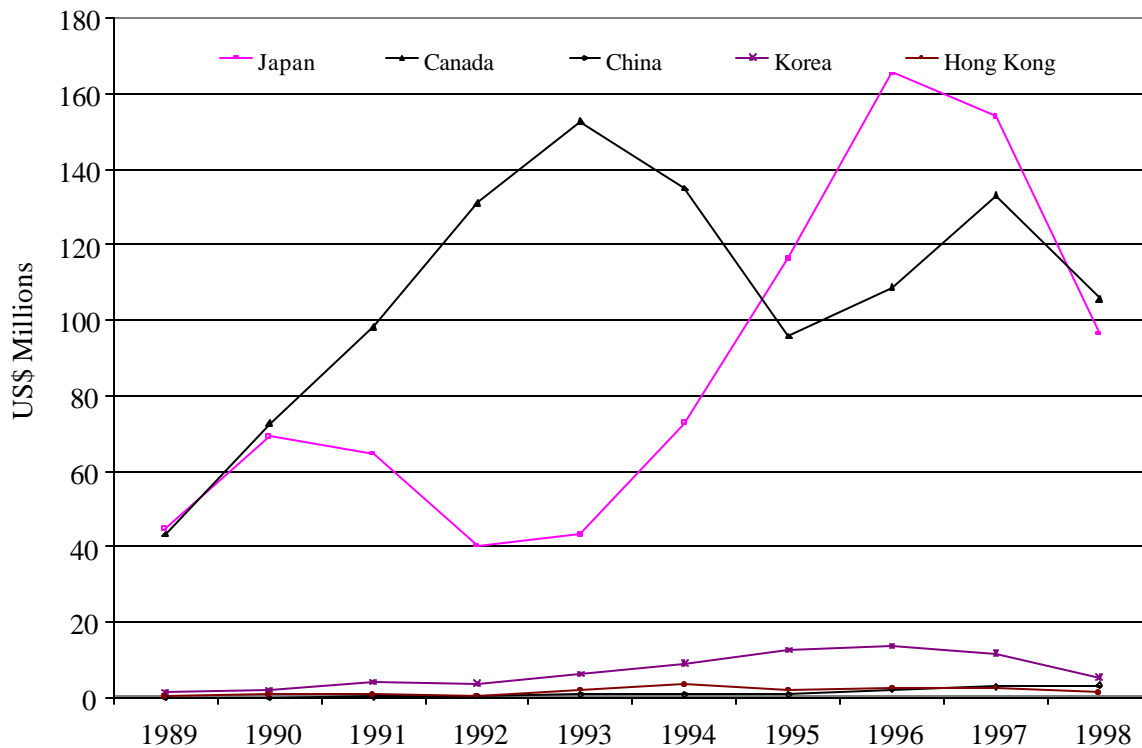


Figure 2.1.1. Top Five Export Destinations for Pacific Northwest Primary Wood Products.

However, primary wood products compose the bulk of exports to Japan. Secondary wood products present a different export pattern when examined separately. Between 1995 and 1997, Japan was the biggest market for PNW secondary wood products (Figure 2.1.2). From 1996 to 1998, Japanese imports of PNW secondary wood products fell 36%, to become the second most important export destination accounting for 27% of total PNW secondary wood exports in 1998.



**Figure 2.1.2. Top Five Destinations for PNW Secondary Wood Products.**

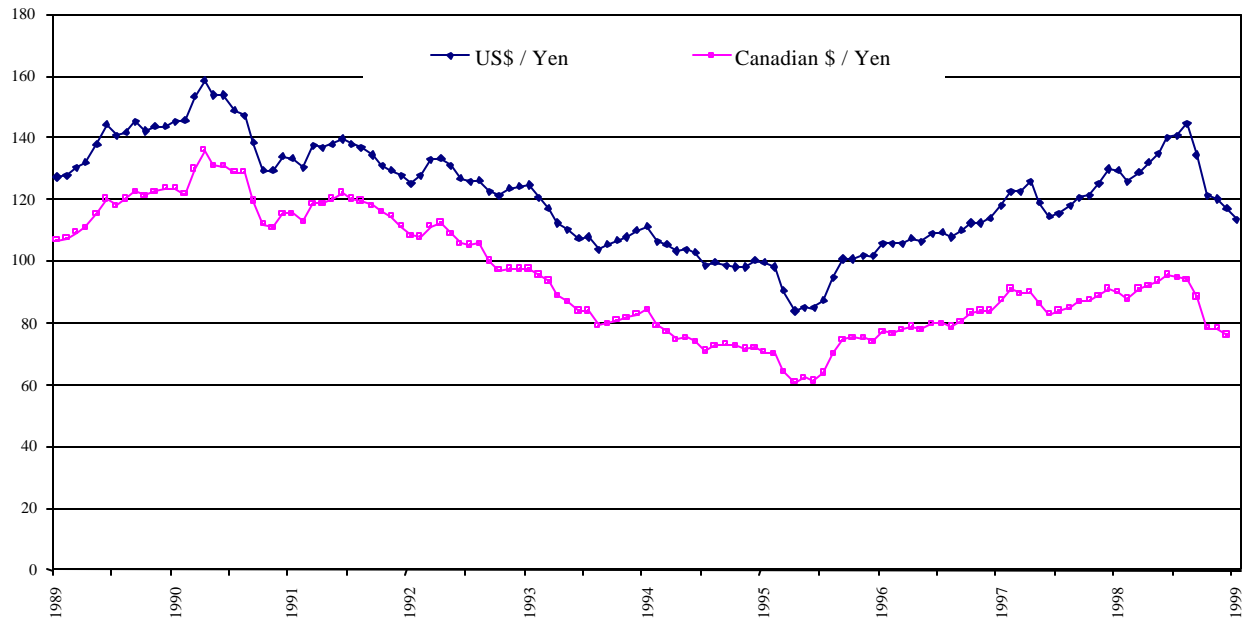
### 2.1.1 Impact of the Asian Downturn on PNW Firms

The Japanese housing market is extremely important to PNW solid wood producers and exporters. Because the Japanese market is very important, the effects of the Asian downturn, transmitted through the decline in demand of imported wooden building materials had severe impacts on PNW producers and exporters. The following changes in trade patterns between Japan and the PNW were, in part, a result of the economic recession and regulatory changes in Japan, supply constraint issues in the Pacific Northwest, and global competition.

One effect of the economic recession in Japan was the weakening of the yen. Since 1990, the strength of the yen to the US dollar grew steadily, reaching a high of 83.69 yen/US\$ in April of 1995 (Figure 2.1.3). By August of 1998, the yen had declined 73% to 144.68/US\$. In contrast to the Canadian dollar, the yen went from a high of 60.8 yen/CA\$ in April of 1995 to 95.7 yen/CA\$ in June 1998, a decline in value of only 57%. While the declines in relative values are substantial, the yen weakened more against the US dollar making US export products relatively more expensive than Canadian products. The Canadian currency did not fluctuate as drastically as the US dollar, making it more attractive to Japanese customers worried about further declines in the yen relative to the US dollar.

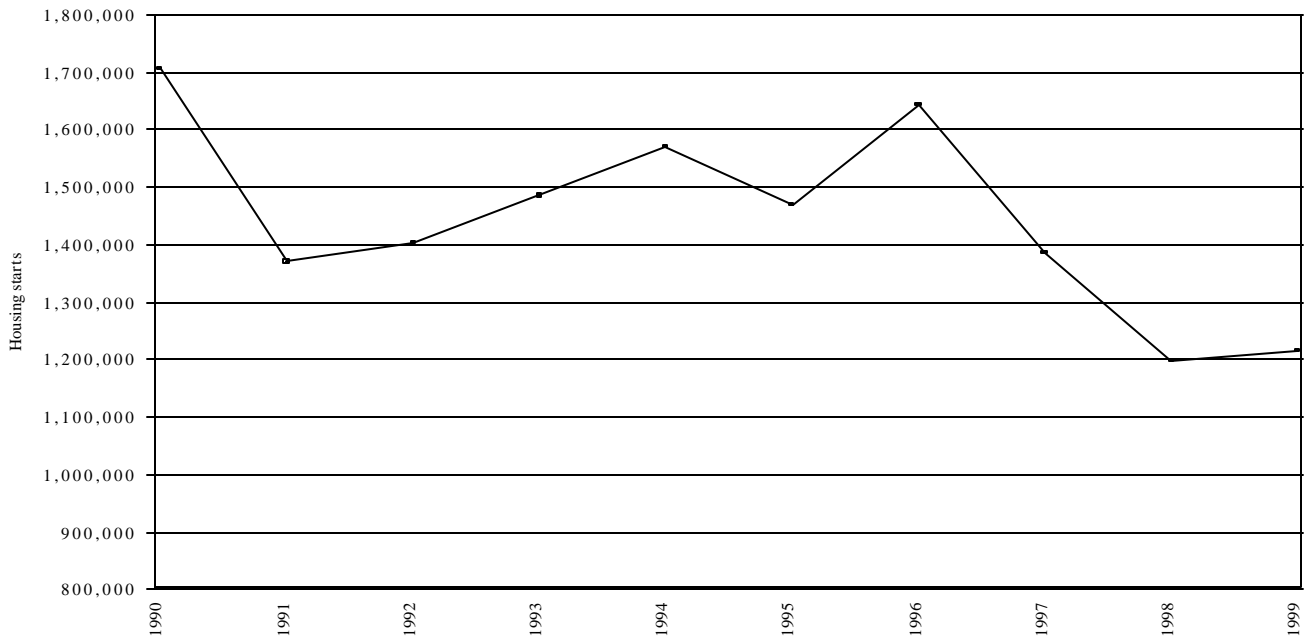
When the weak yen made US, and to a lesser extent Canadian, goods more costly in Japan, it also increased the anxiety of US and Canadian producers and exporters to negotiate any contracts. With shipment times of six weeks and payment due upon delivery, any foreign exchange reversals could erase the profit margins and impinge on the principal (*Columbian* 1998).



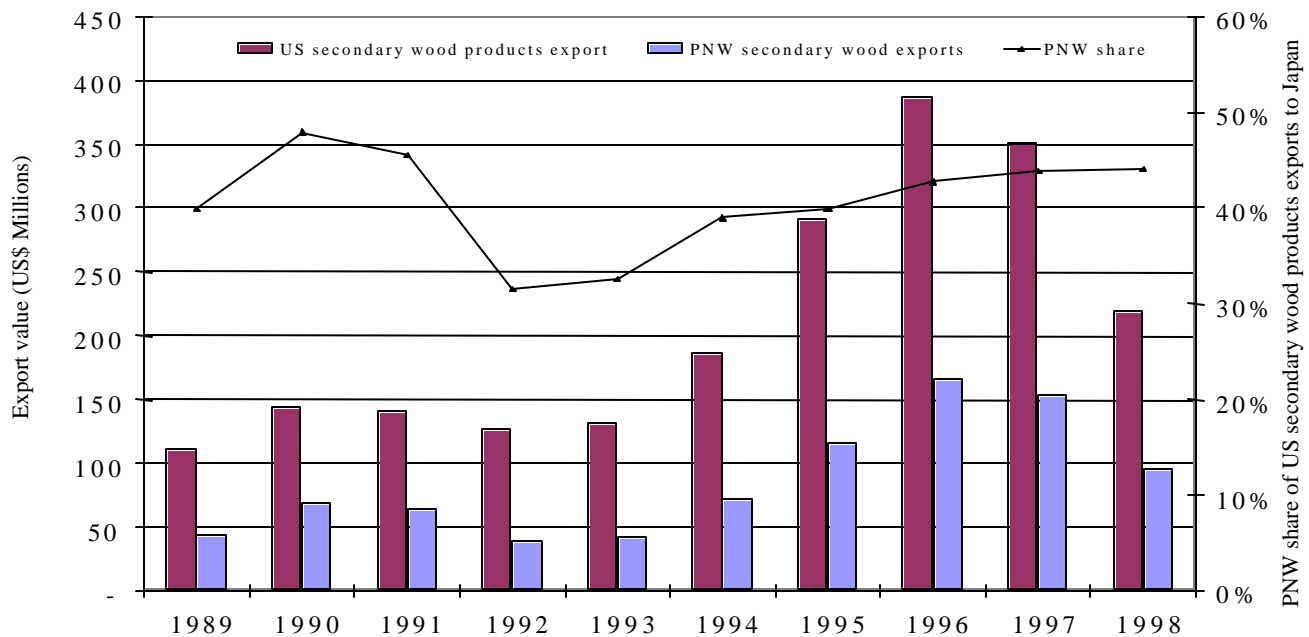


**Figure 2.1.3. Exchange Rate Trends for the US and Canadian Dollars.**

The weakened yen was not the only factor impacting the demand for imported wooden building materials. The Japanese housing market experienced great declines in the number of starts during this time (Figure 2.1.4). Prior to 1997, housing starts had been growing at an annual rate of 4% since 1992. In 1996, before enactment of a higher consumption tax rate, housing starts reached a high of 1.64 million (JAWIC). In 1997, housing starts plummeted to 1.38 million units to reach a low of 1.19 million units in 1998, a decline of 27% since 1996.



**Figure 2.1.4. Japanese Housing Starts**



**Figure 2.1.5. PNW Share of Total US Secondary Wood Exports to Japan.**

The product mix imported into Japan has undergone a change in recent years. However, PNW secondary wood exports have increased their market share of the total US secondary wood exports to Japan (Figure 2.1.5). In 1998, the PNW accounted for 44% of the total US secondary wood products exports. This region's high market share indicates the extent of the dependency upon foreign markets and the resulting sensitivity to economic fluctuations in those markets. The region's high market share and continued growth through the downturn may be the result of dedication to the Japanese market and substantial experience in exporting to Japan, giving the PNW an advantage in exporting during the Asian downturn.

However, even as the share of PNW secondary wood exports increases its market share, the overall US share of the Japanese secondary wood market has declined by 23%. The loss of market share can be attributed to the Canadian producers' development of their secondary wood processing capacity as encouraged by the Canadian government (Lippke et al 2000).

The Asian downturn had deep impacts on PNW exporters of wooden building materials, especially for the smaller exporters and exporter consolidators. In an interview with the *Seattle Post Intelligencer*, Mark Calhoon stated that 1997 was "a disappointment for about four out of every five forest products exporters in the state (Mathee 1998). While the Asian downturn has had substantial impacts on Washington and Oregon forest products companies, the booming US economy absorbed some of the production meant for exports. Many companies have proven that successful exporting often requires the ability to quickly shift to alternate foreign and or domestic markets (Read 1999, Rich 1981). Canadian firms were hit especially hard by the Asian downturn. 21 of 37 major sawmills in British Columbia slowed production due to the Asian downturn (Chipello 1997). Canadian sawmills are dependent upon the Japanese forest products market because they lack a large domestic economy and the US-Canadian Softwood Lumber Agreement limits their access to the US market while a ban on green lumber imports in Europe limits Canadian access to those markets as well.

While the Asian downturn had great impacts on PNW exporters and Japanese homebuilders, it is not the only factor influencing the Japanese market structure. New construction technologies and materials, new sources of forest products, changing consumer behavior, economic forces, and new housing regulations are recent developments that have impacted the PNW suppliers and Japanese consumers.

## **2.2 OVERVIEW OF THE JAPANESE HOUSING INDUSTRY**

### **2.2.1 Housing Stock**

A 1998 survey by the Japanese government on housing stock highlighted changes in family formation since a similar survey conducted in 1993. As of October 1998, there were 50,220,000 residential units of which, 43,480,000 were lived in by families (Bean 1999). Fireproof wood frame houses account for 33.3% of total Japanese housing stock, a rise of 5.5% since 1993. Steel or steel-reinforced concrete grew 21.1% to a market share of 32.6%. Generic wood framing comprised 31.1% and the remaining three-percent involved other construction methods.

### **2.2.2 Housing Regulations**

The Japanese building codes have undergone favorable changes since the mid 1990s. The previous codes were based on a prescriptive standard that specified what materials could be used in construction. The new code is based on performance standards, which allows for the use of building materials, irrespective of materials, if they meet the required criteria (Takabatake 1999b).

Furthermore, there has been deregulation that allows for the use of building materials that meet foreign standards, provided that these products have sufficient structural strength, are produced under strict quality control, and are similar to existing Japanese products. In other words, almost all of the building materials meeting these requirements in the US and Canada can be used in construction in Japan (Focus Japan 1997). It became more feasible to use North American-style 2x4 construction in Japan with these changes to the codes.

This has deep implications for the wooden building material sector. The new codes effectively remove many barriers to the export and use of wooden building materials. This reduces the costs of the exported materials and increases the attractiveness of 2x4 housing in Japan.

### **2.2.3 Wood and Non-Wood Housing Starts**

Wooden housing starts account for 46% of total Japanese housing starts. The remaining 54% is primarily multifamily units of concrete and steel. Wood has a strong aesthetic and cultural appeal to the Japanese homebuyer, although, however, there is a common perception that wood housing is not durable (Cohen 1998). As a result, the housing stock in Japan has a shorter life cycle as compared to housing in North America. This belief has boosted the market for steel and concrete housing, which may be perceived as more cost-effective and durable than wood.

### **2.2.4 Post and Beam**

The traditional method of building a house in Japan involved the cutting and notching of large wood beams and posts by skilled craftsmen at the construction site. This results in long construction times and high labor costs. In addition, the pool of skilled carpenters has been rapidly eroding as fewer young people take up house carpentry to replace retiring workers. Since 1992, post and beam construction has accounted for an average of 39% of the total housing starts in Japan (Figure 2.1.5). However, the starts for post and beam houses have been declining at the rate of 3.7% per year.

### **2.2.5 2x4**

Platform frame 2x4 construction consists of a stick-built frame sheathed with structural panels. There are two main types: the western-style 2x4 construction using a 4'x 8' structural panel and the Japanese-style using a 3'x 6' structural panel. The platform frame construction is colloquially known as 2x4 construction in Japan (Cohen *et al* 1993) and will be referred to as such throughout this paper.

2x4 construction represented 5.7% of the housing starts in 1998 and has grown at a rate of 5.4% since 1992 (Figure 2.1.5). While the number of 2x4 starts fell during the Asian downturn, it was the only construction type to grow since 1992. One reason for this is the strong appeal of safety that is inherent in 2x4 construction. This strong appeal is due in part to the superior resistance of 2x4 homes to seismic movements over traditional post and beam homes. A JETRO market report (1992) stated that 2x4 construction is superior to Japanese post and beam construction. Several superior attributes of 2x4 technology include a more efficient use of building materials and labor, superior acoustical insulation, and overall lower costs (Eastin and Rahikainen 1997).

### **2.2.6 Wood Prefabricated Housing**

Prefabricated housing can be defined as a house where the structural components are manufactured and machined in a manufacturing process into subassemblies that are shipped to and assembled on the construction site. This construction method includes both the post and beam and 2x4 construction technologies. Prefabricated housing starts accounted for an average of 2.5% of the total housing starts in 1998 (Figure 2.1.5). Since 1992 it has declined in market share at an annual rate of 3.2%.

The idea of prefabricated housing is readily accepted among the Japanese (Coaldrake 1990). The traditional and prefabricated approaches share strong similarities in the coordination of building and prefabrication. In addition, the prefabricated components are built in a factory where higher quality and accuracy can be achieved. The on-site construction time can be reduced to a few days using relatively unskilled labor. This can drastically reduce costs for the homebuyer.

### **2.2.7 Single Family Houses**

Single family detached dwellings represent 57.6% of the housing units occupied by families in Japan (Bean 1999). Single family housing starts have comprised 40% to 50% of the total housing starts since 1987 (Takabatake 1997). In 1996, 66% of the single family housing starts were post and beam, 17.8% were prefabricated housing, and 2x4 housing starts accounted for 5.7% of total single family housing starts. The remainder of the single family housing market was most likely steel and concrete or other non-wood construction methods (Takabatake 1997).

### **2.2.8 Multi Family Houses**

The size of the multi-family wooden housing market was US\$851.2 million in 1997. This market may shrink in overall housing starts, the number of wood multi-family housing starts from imported material will likely grow. The major Japanese housing companies are only recently trying to enter this market. The largest competitors for this market are the US and Canadian firms (Takabatake 1998)

The reason for this demand is the desire of the landowners to maximize their rents from property by building apartments at the lowest costs possible. Unfortunately the high quality of the US building components is often greater than that of low-end Japanese products.

### **2.2.9 Three Story Wooden Buildings**

One way to maximize rents is to build a three story building rather than a two story building. New changes in government regulations now allow for the construction of three story wooden buildings. The revised 2x4 construction regulations allow for buildings of three stories or less to be built outside the fire zones or quasi-fire zones (Takabatake 1998).

### 2.2.10 Resale

These types of structures will be used primarily for rental apartments rather than saleable condominiums due to the Japanese perception that wooden housing is not durable. The housing resale market in Japan is very small. The perception that wooden housing is not durable creates a strong preference for owning a new house over a used one. In addition the current tax and loan structures in Japan favors new housing over used housing through capital gains taxes and financing options (Kanemoto 1997). Property expenditures are the only losses that offset capital gains in the Japanese tax system. This creates strong pressures to build new homes rather than buy used homes. In addition, it is difficult to secure a mortgage for used houses as the Housing Loan Corporation has limits on the mortgages allowed for buying used homes.



Figure 2.2.1. Housing Starts by Construction Type

### 2.2.11 Remodeling

The remodeling sector of the Japanese housing industry is growing. In 1998 it was estimated to be \$7.9 billion (Takabatake 1999). Houses built after 1970 are of better quality and are expected to have a longer life span than the current average of 26 years. The higher quality of new housing makes them candidates for remodeling to further extend their life (Takabatake 1999). The deflationary economy has reduced the incentives to invest in buying a new home, which could lose value over time (Jenkins 2000). In addition, the rapid aging of Japan's citizens will require greater use of barrier free designs for the elderly and disabled, creating opportunities for remodeling of existing houses.

At the moment, very few imported products are being used in this market. Smaller homebuilders, who perform nearly 50% of the remodeling jobs, may not be familiar with foreign products and are hesitant to use them. The products most likely to succeed in this market include wood flooring, vinyl windows, doors, kitchen cabinets, and faucets (Takabatake 1999).

## **2.3 THE MARKETING MIX**

### **2.3.1 Price**

The Asian downturn has had significant impacts on the buying behavior of the Japanese consumer. The legendary Japanese demand for high quality at any price has been replaced by a product value orientation. There has been a notable increase in price sensitivity, and Japanese consumers are shopping more rationally and are less likely to pay premium prices, even to the extent of delaying purchases (Reid 1999). As Fahy and Taguchi (1995) observed, Japanese consumers have become more price conscious and are using price to evaluate products with less dependency on information from the manufacturers and retailers. And this change is not limited to a few economic classes. Even affluent customers can be price sensitive when there are large savings to be had (Johansson 1996).

The price sensitivity experienced by Japanese homebuyers was due to a combination of weakened yen and increased consumption tax. In addition to the increased cost of imported materials, taxes on these items were also increased, making imported building materials more expensive. This change in price sensitivity can have profound impacts on the building materials industry. During periods of recession, the demand for primary materials will fall more relative to the demand for more labor intensive finished products (Green and Larsen 1987). The performance of secondary wood products in relation to primary wood products supports this conclusion (Figure 2.3.1). The value-oriented behavior favors the consumption of value added products that offer quality at reasonable prices. Even though secondary products may cost more, the perceived value of their attributes can influence the consumers purchase decisions.

### **2.3.2 Distribution**

The role of distribution in the marketing and export of forest products has become increasingly important. Exporting channels can be classified as indirect and direct. However, the two options are not mutually exclusive. Dickerson and Stevens (1998), found that experienced and inexperienced exporters used a combination of domestic and foreign distributors in conjunction with direct sales.

Rich, in his 1981 article on the distribution channels in the wood products export market, stated that American products usually moved through indirect channels such as: exporter (shipper) – agent – merchant – end user. However, the dependence on large Japanese trading companies and distributors is lessening as more firms ship directly to the end user.

Direct exporting circumvents many layers of the Japanese distribution system reducing costs and the time required to develop working relationships with Japanese distributors (Cohen 1996). In many cases, the end-user has become the importer, creating ties directly with producers. To the extent that these trends bring the producer and final user into more immediate contact, they promise to increase understanding of each other's circumstance. (Oblander and Daniels 1997). The value of a direct distribution channel is immediately obvious. Direct exporting is suited for products with a high level of technology and allows for more control over the distribution process (Goodnow and Kosenko 1990). Ringe et al (1987) recognized that, among hardwood lumber producers of all sizes, there was a preference to maintain direct control over their export operations.

The drawbacks of direct exporting are the potential loss through nonpayment, loss of control over the product, and the experience needed in the mechanics of exporting. Also, overseas sales volumes and values must be high to cover the overhead costs of direct exporting (Guldin 1984). Indirect exporting avoids many of these problems by using additional parties in the distribution channel to assume these risks and responsibilities. Exporters can combine the products of several firms to achieve large volume discounts, which can lower exporting costs for small manufacturers. The export consolidator assumes the risk of nonpayment with the added benefit that it is a domestic transaction for the manufacturing company. It also saves time in developing the relationships and contacts in the foreign market.

The combined use of direct and indirect channels allows firms to gather benefits of each type while increasing market reach and exposure. Gottko and McMahon (1989) found among Oregon exporters a positive and significant relationship in the use of an independent overseas distributor and a firm's own domestically based sales staff to a change in export sales. More recently, Hammet and DeForest (1993) found that many southern hardwood lumber exporters use several export channels simultaneously. Of their respondents, 34% of the mills exported directly, 77% exported indirectly and 8% used a US based foreign trading company. Haas and Smith (1997) found that 60% of US firms' international sales were performed by an in-house sales force, 23% of the sales were handled by independent sales representatives and 17% by wholesalers.

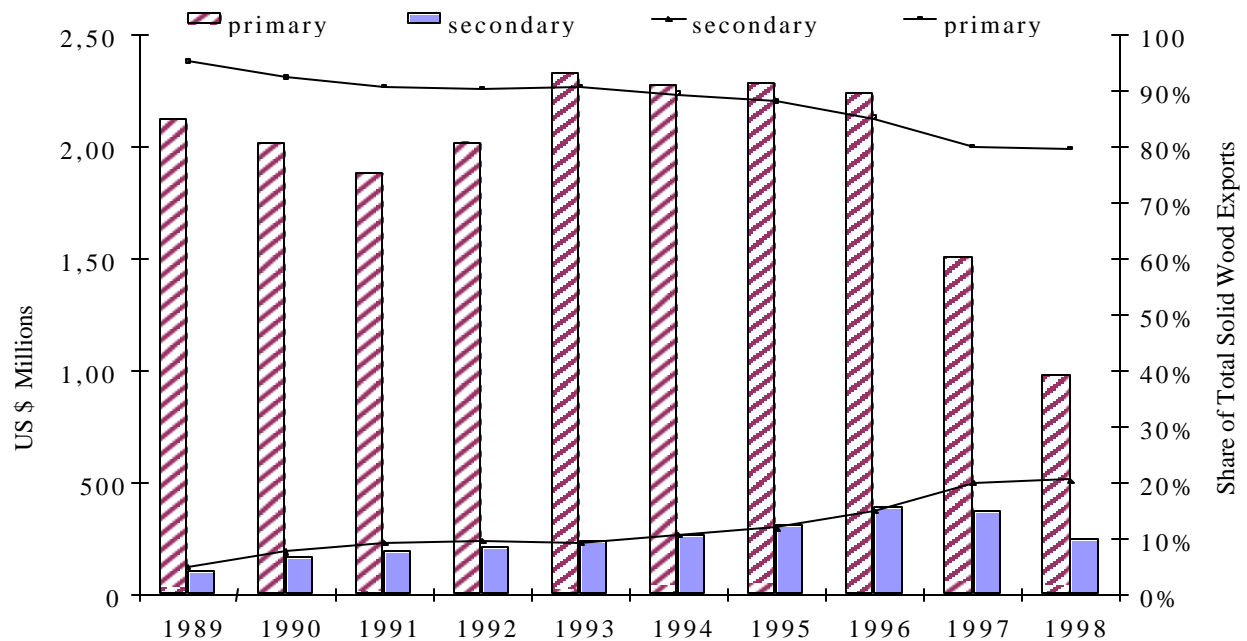
Distribution channels for PNW exports of wooden building materials to Japan appear to be shortening. In a study of export strategies for prefabricated wooden housing materials, Eastin and Rahikainen (1997) found that over half of the firms exported directly to the Japanese homebuilder or homebuyer. However, 40% of the firms did use Japanese trading companies or Japanese wholesalers to distribute their products to the Japanese market.

### **2.3.3 Product**

While the value of secondary wood exports declined during the Asian downturn, they have actually increased as a percent of total solid wood exports from PNW to Japan (Figure 2.3.1). Primary wood product exports declined substantially more than secondary wood product exports. During the Asian downturn, secondary wood products continued to capture more of the solid wood export market. In 1997 alone, primary wood product exports declined 26% in value while secondary products were down just 4%. While demand for primary wood products dropped during the downturn, supply constraints in the US production of primary wood products and the weakened yen served to further depress primary product sales to Japan. Secondary wood product exports from the PNW were favored by deregulation of the Japanese building codes allowing for new products and techniques to be used in the Japanese home building industry.

Increased customer demand has also boosted the imported building material market in Japan. JETRO Housing Materials Center Osaka (JHMCO) conducted a survey of the imported housing materials market in November 1999 (Takabatake 2000). 82% of the homebuilders that responded have used imported housing materials and nearly 56% of the respondents used them in imported housing. The most commonly cited reason for using imported materials was customer requests. The primary reasons for the selection of imported wood building materials are design, cost, uniqueness and function.

The Asian downturn caused massive declines in the demand for wooden building materials. Each product category displayed a different sensitivity to the downturn. In 1996, Washington exports of mouldings, cabinets, finished building materials, windows and doors to Japan were 200% of their 1989 level (Focus Japan 1997). Certain products may be linked with certain construction types. For instance, most wood windows are installed in imported or 2x4 houses. While other products such as flooring, kitchen cabinets, and structural panels may have widespread use in multiple construction types.



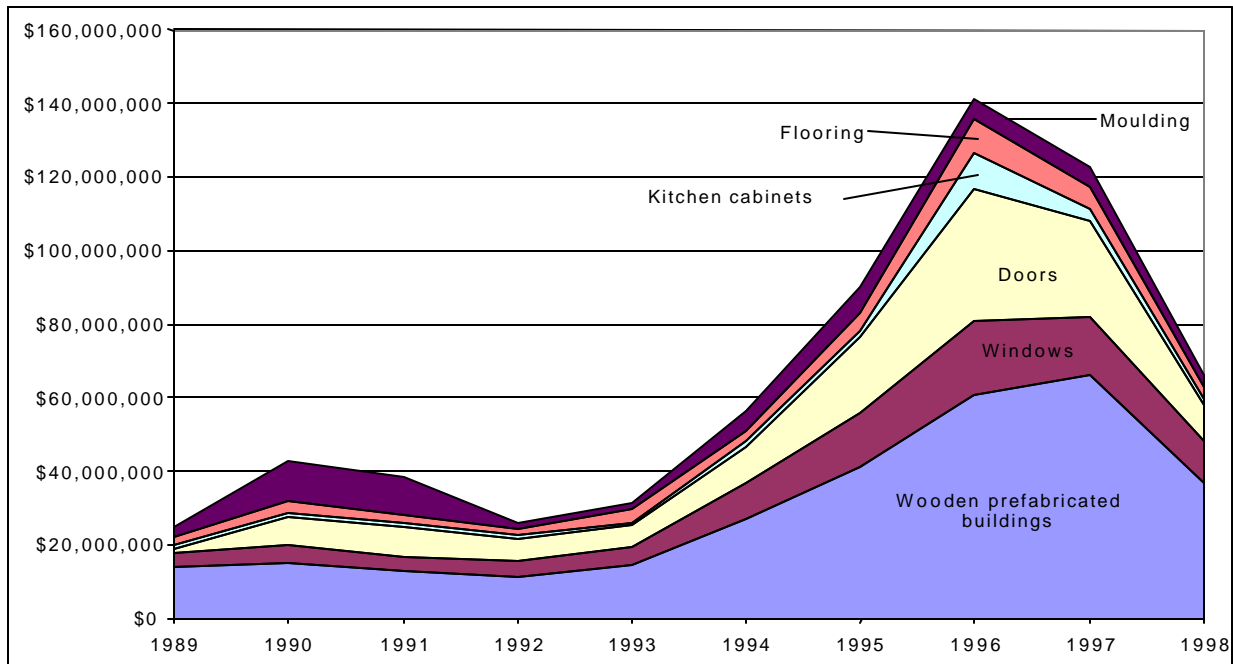
**Figure 2.3.1. PNW Primary and Secondary Wood Products Exports to Japan**

Prefabricated housing grew an average of 55% per year from 1993 to 1996 (Figure 2.3.2). Prefabricated housing has played a major role in the exports of secondary wood products accounting for 32% of the US secondary wood exports during 1998. Not surprisingly, Japan is the most important market for wooden prefabricated housing manufacturers and exporter located in the Pacific Northwest (Eastin and Rihikainen 1997). Exports of wooden prefabricated materials did not decline at the same time as other product. Growth continued into 1997 before declining in 1998 by 45% (Lippke et al 2000).

It is perhaps most interesting to note that wooden doors had a high growth rate from 1993 to 1996 (Figure 2.3.2). As the number of Japanese style rooms declines, the need for custom made doors also declines as the market moves towards standardized doors (Focus Japan 1998). However, exports of doors from PNW firms fell as price sensitive Japanese customers turned to lower cost producers. Windows declined less than many other secondary wood products. This could be attributed to the integrated distribution channel required to market, sell, and service windows as result of their complexity (Lippke et al 2000).

The markets for kitchen cabinets is expected to grow as remodeling increases and consumers are offered the options of installing complete kitchen systems in their homes, provided manufacturers make modifications to meet Japanese specifications (Takabatake 1998). Despite rapid growth prior to 1996, exports of cabinets fell off during the downturn.





**Figure 2.3.2. Pacific Northwest Secondary Wood Products Export to Japan.**

### 2.3.4 Promotion and Service

Effectively promoting imported products in Japan can be a challenging endeavor. Builders and contractors in Japan insist on having detailed technical and cost information for every product and supplying this information is important for successful entry into the Japanese market (Coaldrake 1990). Most successful US housing suppliers exporting to Japan have Japanese speaking employees familiar with Japanese regulations, business practices, and customer needs (Jenkins [www.fas.usda.gov](http://www.fas.usda.gov))

Japanese customers are known to be very demanding about quality and service. This places difficult demands on foreign producers of building products to supply support for their products. Services can include a Japanese speaking sales force, a sales office in Japan, offering a warranty, warehousing inventory in Japan, and service technicians in Japan to aid in the installation, repair, and replacement of products.

Offering a warranty may be an effective promotional tool. A warranty on a product can be viewed as a form of insurance and after-market support. This can be especially important when the product is foreign made and buyers are wary of difficulties of making claims (Lee et al 1992). Once offered, warranty and service claims must be handled quickly and to the customer's satisfaction. This may be difficult if there is not a local service technician or spare parts available. In many cases, products damaged during shipment must be replaced at exorbitant air freight expense to avoid costly delays in construction schedules.

Maintaining inventory in Japan allows for quick service of product damage and warranty claims. However, warehousing in Japan can be twice as costly as in the US. Many domestic consolidators who inventory products in Japan and who have been faced with large warehouse bills and unpaid lines of credit from Japanese customers, have perceived warehousing to be costly to their operations (Johnson 1998).

## **2.4 RELATIONSHIPS**

The Japanese place a high value on business relationships. Tomes have been written describing the importance of establishing and maintaining a business relationship with the Japanese. The Japanese often believe that US firms are only interested in short term profits instead of a long-term sustained business (Oblander and Daniels 1997). To alter this perception, it is important for Western firms to show their commitment towards their Japanese customers and for the Japanese market through some form of interaction. For example, Hammet and DeForest (1993), found that a substantial percent of mills engaging in overseas sales trips or organized sales missions perceived an increase in export sales.

The Canadian firms appear to have an advantage over the US firms in this matter. Oblander and Daniels (1997) observed that the Canadians were more interested in long-term relationships and more willing to stabilize prices during volatile times. The Canadian dependence on the Japanese markets creates the need for closer working relationships between the producer and end user. As a result, Canadian firms have catered more closely to the Japanese markets and demands. For instance, Canadian mills machined wood products to dimensions required by the Japanese several years ahead of the US producers. One of the Japanese expectations of the business relationship is maintaining product prices during periods of economic instability. US firms are less interested in maintaining product prices during volatile markets. The large domestic US market can absorb the excess production meant for the export market, buffering US manufacturers from foreign market fluctuations.

## **2.5 FIRM SIZE AND EXPORT STRATEGIES**

There is little agreement in the literature on the relationship between firm size and export success. Two of the characteristics of successful exporting firms are management commitment to export and knowledge of the market. While this applies to firms that export wooden building materials and firms that manufacture and export these products, greater attention is given to the manufacturing firms since their primary business is not totally focused on exporting and they may lack several key elements to export success. For example, a study of export strategies US prefabricated wooden building materials (Eastin and Rahikainen 1997), reported that all of the manufacturing firms did not have a sales office or employ a sales representative in Japan. However, 11% of the export consolidators had established a sales office in Japan, and 19% maintained a sales representative in Japan.

Small firms often view exporting as a risky expenditure of capital and labor. A study by Ifju and Bush (1993) found that nonexporting manufacturers see themselves as too small to export even though, on average, they are no smaller than exporting firms. While overall firm size may not be important in ability to export, there may be a relationship between the size of the firm, the number of salespeople on staff and levels of export activity. It should be recognized that larger firms may be able to accumulate export experience and possibly develop their own export manager (Dickerson and Stevens 1998). In addition to the perception of being too small, Edmunds and Khoury (1986) developed a list of specific reasons small firms have for not exporting. The list includes: (1) lack of knowledge about overseas markets for their products, (2) lack of interest, (3) perceived complexity of exporting, (4) lack of awareness of government assistance, and (5) financing difficulties.

Rich (1981a, 1981b, 1981c) observed that the knowledge of the market and careful planning was more of a determinant of export success than the size of the mill. In many cases, mill operators do not know of potential markets for their products. In a study of southern hardwood exporters, Hammet and DeForest (1993) found the most common problem encountered by exporting mills was the lack of knowledge about overseas market opportunities. Knowledge of customer needs and characteristics are vital to success when entering a foreign market.

Some firms do not want to make the additional effort to commit themselves to exporting (Ringe et al 1987). Mill operators may feel that domestic markets are sufficient for their strategic plans and may not perceive any advantage in entering a foreign market. In addition, exported forest products may be required to meet different quality and product codes than those required in the domestic market, increasing the exporting costs and reducing the potential profits from exporting.

The steps involved in exporting can be involved and tedious. As a result, many smaller firms may turn to an export agent to develop contacts and complete the paperwork required for export transactions. The transaction is now considered to be domestic and abides by regulations and conventional business practices familiar to the manufacturing firm (Guldin 1984).

Export assistance is offered through many federal and some state agencies. The assistance ranges from seminars on exporting to programs that can guarantee payment from foreign buyers (Ifju and Bush 1994). However, many small firms in the forest products industry are not aware of the spectrum of programs available to them. As a result, firms may choose not to export, or increase their exports or commitment to the export markets, or use these programs to optimize the benefits possible from interaction with a foreign market.

Small firms often lack the capital to pay the overhead costs of initial export market penetration (Guldin 1984). The risk of nonpayment and the different styles of payment terms may be unappealing to companies that lack financial resources to endure hardship during the transaction period. Also, the profits from products being exported are vulnerable to unfavorable changes in the exchange rate between the time of shipment and payment (Ringe et al. 1987).

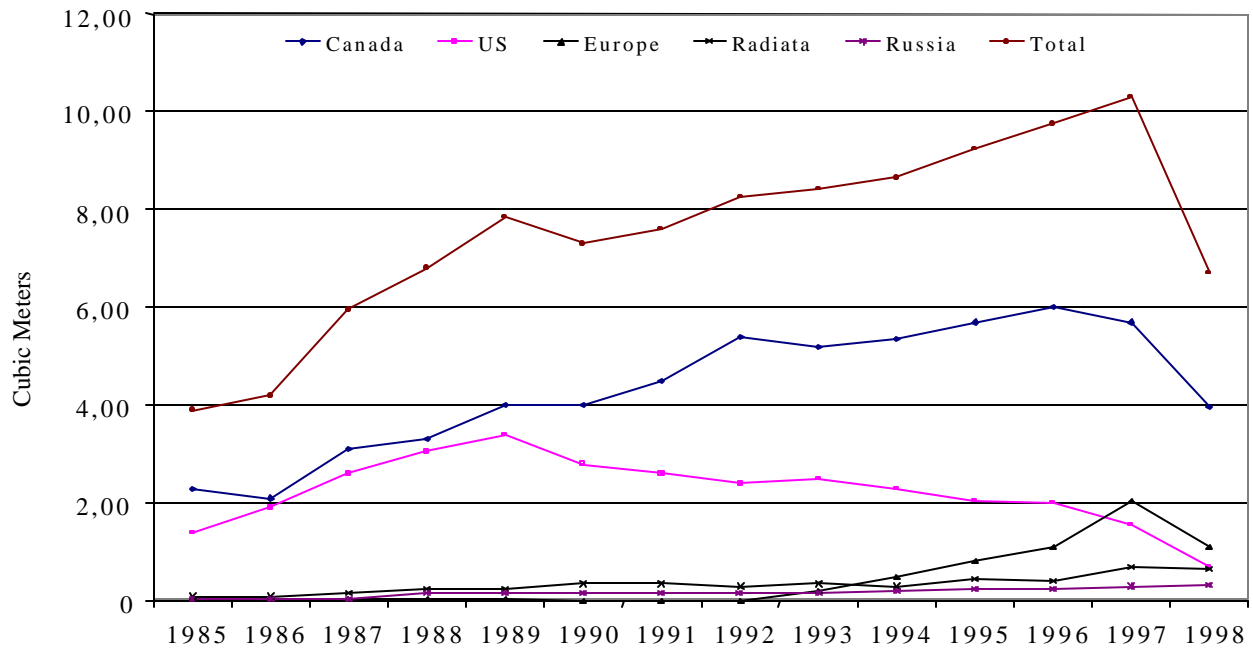
However, there are certain advantages to being a small firm in the export market. The bureaucracy found in the management of larger firms and conservative management adverse to risk taking might preclude larger firms from exploiting opportunities in overseas markets. In addition, many large producers in the forest product industry often consider exporting as a marginal business or a safety net for a poor US economy (Llinitch et al 1994). Small manufacturers can offer Japanese customers greater flexibility in customizing products to suit customer demands. Small firms may also be more responsive to the needs and requests of their customers in the areas of service and price. Small exporters may also be more willing to form a stable working relationship with Japanese customers.

Niche markets and markets with a limited product demand may not be suitable for larger firms to pursue. The limits to growth and overall low product volume may erase the advantages of economies of scale that larger firms may use to dominate a market. These economies of scale of larger firms may create an incentive for smaller firms to seek alternative markets to avoid competing with the larger firms (Llinitch et al. 1994).

## **2.6 COMPETITION**

Competing in Japan's wooden building materials market is influenced by factors such as; access to the market, price competitiveness, and product quality. In recent years, all three factors have undergone rapid changes leading to increased competition in the Japanese wooden building materials market.

The lumber market is a good example of the recent changes in the Japanese market. The increased competition has resulted in a loss of US market share to Canada, European countries, and the radiata producing countries of New Zealand and Chile (Figure 2.6.1). Scandinavian precision-cut, kiln-dried lumber has steadily increased its market share to become the second largest supplier of lumber at the expense of green lumber and US lumber. Russian whitewood is entering the market as currency-strapped Russia is looking for sources of revenue. Radiata pine may lack the performance characteristics of Douglas-fir, but it is gaining increasing market share in the lumber market.



**Figure 2.6.1. Japanese Imports of Lumber by Source.**

Access to the Japanese wooden building material markets was restricted by strict building codes and product standards. Lumber imported into Japan had to be re-graded according to JAS standards. The additional labor of re-grading the lumber as well as disputes over the quality of the lumber impeded the ability of foreign producers to compete in the Japanese markets. In 1997, the Ministry of Construction recognized foreign standards for structural materials, allowing most materials that meet code requirements in the US and Canada to be used in 2x4 construction (Focus Japan 1997).

Building codes used in Japan prior to 1998 were prescriptive, requiring use of specific materials for specific purposes. This restricted the imports of wooden building materials and the transfer of new building technology (Focus Japan 1999). In 1998, new building codes were implemented. These codes used a performance-based system that had deep implications for the building industry. The codes allow for the substitution of building materials providing they meet the performance requirements.

Japan's regional domination of the Asian economies caused many Asian currencies to follow the sinking yen. The weakness of the yen to the US dollar made US products expensive for the Japanese. The economic decline and price-sensitive behavior created new opportunities for lower cost producers to enter or increase their market share. The yen did not lose as much strength against the Canadian dollar, so Canadian products had a price advantage over US products. However, during the downturn, companies in Europe and Latin America increased their exports, undercutting Canadian share of the Japanese market (Berman 1999). The general decline in Asia made Asian products more attractive than the relatively higher priced North American products.

### **3.0 RESEARCH OBJECTIVES**

This study was motivated by the observation that different product categories and different exporters experienced very different impacts during the Asian downturn. The first research objective was to document the differences between exporters and manufacturers in their perceptions of services offered to Japanese customers. The second objective was to discover the key characteristics and attributes of companies who successfully exported secondary wooden building materials to Japan during the economic crisis compared to those who did not. And the third objective was to identify the impact of the marketing mix on export performance.

### **4.0 PACIFIC NORTHWEST EXPORTERS SURVEY**

#### **4.1 SURVEY INSTRUMENT AND METHODOLOGY**

Given the size and geographic distribution of the survey population, a combination mail/fax survey was judged to be the most appropriate method for collecting data. The survey was pretested by two academic pretesters and several exporters for grammar and readability. The survey totaled four pages and was designed to solicit basic demographic information and information on export performance characteristics. The export performance questions focused on the types of distribution channels, products, pricing, promotion, and services offered in Japan. The demographic questions were designed to collect information on the operating characteristics of the respondents.

#### **4.2 SURVEY POPULATION AND RESPONSE RATE**

The study was a census of firms involved in the export of wooden building materials to Japan from the Pacific Northwest (Washington, Oregon, and British Columbia). The survey was administered during the winter of 1999. The mailing list was provided by CINTRAFOR from a previous study of 2x4-technology transfer to Japan. Using an old list proved useful because it provided information on the number of firms that had gone out of business during or after the Asian downturn. Firms were judged to be out of business when repeated attempts to contact them via fax, email, and telephone failed and newer contact information could not be found. Of the 163 US and 71 Canadian firms, 44 US (27%) and 15 Canadian (21%) firms were determined to have gone out of business. Two Canadian firms no longer export and were removed from the survey population resulting in an effective population of 173 firms.

The cover letter and survey (appendix A) were administered by fax in January of 1999. Concurrently, follow-up letters including a fact sheet from the previous 2x4-study were mailed to the survey population as an incentive to participate. A second faxing of the survey, including a new cover letter, was conducted 10 days following the first faxing. A third fax of the survey and cover letter was subsequently sent out 5 days after the second mailing. Due to the low response from the Canadian firms, a fourth fax was sent to the Canadian firms in the survey population. To bolster Canadian responses, the second mailing including a cover letter, survey, return envelope and a US\$1 incentive was sent to the Canadian firms that had not previously responded.

#### **4.3 RESPONSE RATES AND NON-RESPONSE BIAS**

Out of 173 viable firms, 72 returned completed surveys for an overall response rate of 41.6%, three of which were unidentified but usable surveys. The US firms returned 41 completed surveys (out of a population of 119 firms) for a response rate of 34.5% while the Canadian firms returned 31 surveys (out of a population of 54 firms) for a response rate of 57.4%.

In order to determine if non-response bias might affect the validity of our survey results, the Armstrong-Overton test was conducted. For further discussion of non-response bias, please see Appendix B. The survey responses were tested as a whole and separately by country. Special attention was paid to the effect of export performance on non-response bias, but no relationship was apparent. Statistical tests of demographic and dependent variables for non-response bias were not significant.

## 5.0 RESULTS AND DISCUSSION

### 5.1 DEMOGRAPHIC DESCRIPTION OF SURVEY RESPONDENTS

This section summarizes the demographic data obtained from the questionnaire. Respondents were asked several questions concerning their export operations, including the importance of the Japanese market, their primary line of business, sales and export revenues, number of employees, the number of employees in Japan, and the number of Japanese speaking employees.

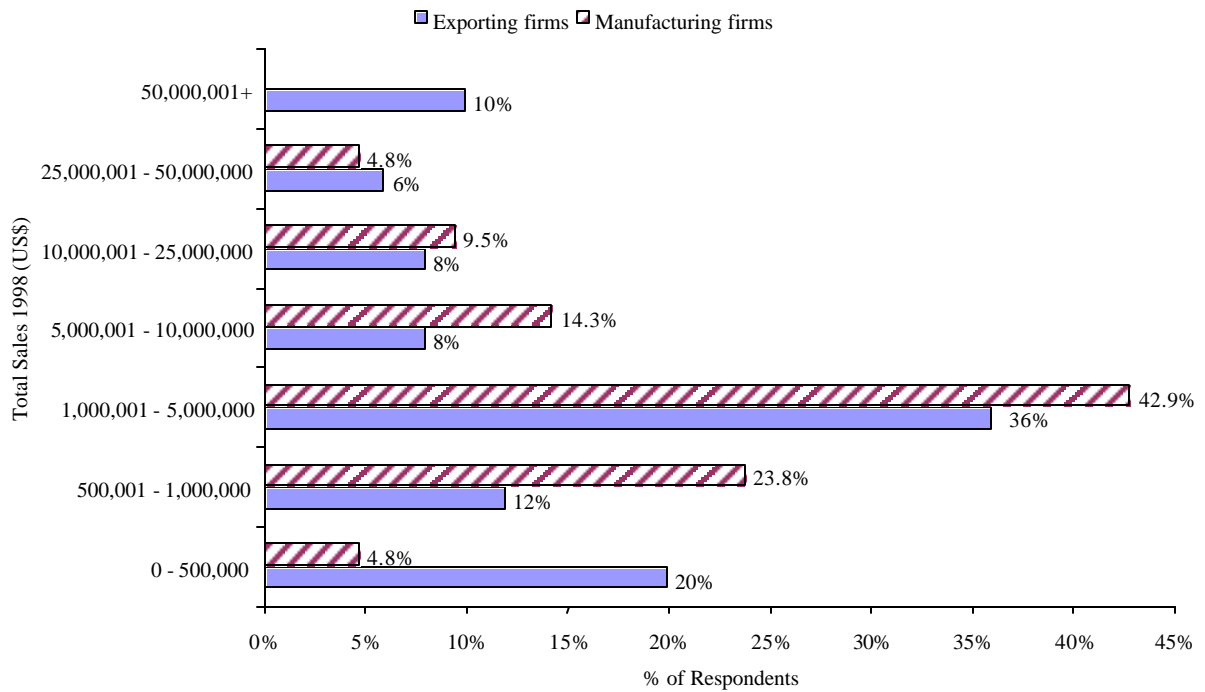
The respondents were asked to describe their primary line of business. The most common response was export consolidator (31%), manufacturer (24%), and export trading company (22%). The remaining types of businesses included construction companies (4%), general contractors (1%), wholesalers (8%), and other industries such as export consortiums, architects, and building system providers (10%).

The average number of workers employed by the responding firms was skewed by a few large companies. After excluding the five firms with over 500 employees, the average number of workers employed was 21, with a median of eight. Twenty-one firms reported an average of 4.3 employees in Japan with a median of two. Fifty-three respondents reported an average of 4.6 Japanese-speaking employees with a median of three.

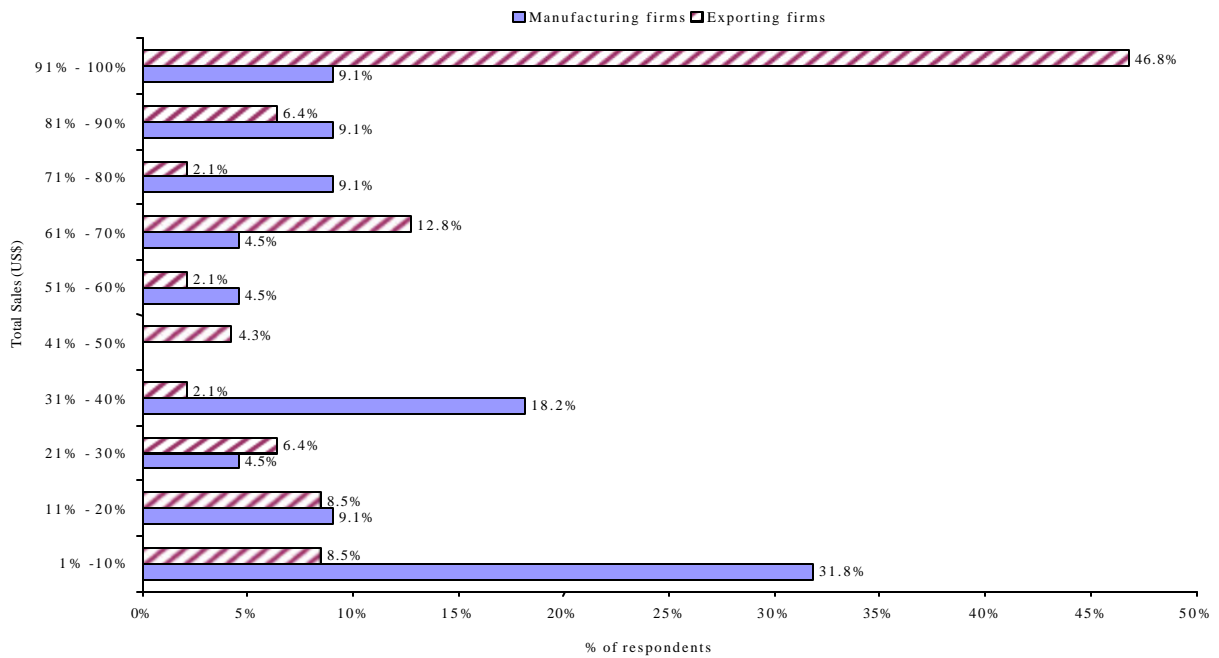
The survey asked respondents to describe their position in the firm. Fifty five percent of the respondents were the president/owner of the firm, 7% were vice-presidents, and 11% were export managers. The remaining respondents described their position as general manager (6%), sales manager (7%), marketing manager (4%), office/clerical staff (3%), and other positions (7%).

The survey asked respondents to estimate their firm's total sales revenue for 1998 (Figure 5.1.1). For the purpose of comparison, the construction firms, general contractors and manufacturers were combined into a manufacturer category while consolidators, export trading companies, wholesalers, and other business types were aggregated into an exporter category. Of the manufacturing firms, 28.6% had sales below \$1 million. The majority of the manufacturers (42.9%) had sales between \$1 and \$5 million dollars and 28.6% had sales over \$5 million. The non-manufacturing exporting firms were more evenly distributed among the categories. Twenty-two percent of the firms had total sales of less than \$1 million, 36% had sales between \$1 and \$5 million, and 32% had sales over \$5million. A few of the exporting firms had sales over \$50 million and these may be branch offices of Japanese export trading companies based in the PNW. Overall, the majority of exporting and manufacturing firms had sales under \$5 million.

Respondents were asked to estimate the percentage of their total 1998 sales revenue that was derived from exports to Japan (Figure 5.1.2). Over 63% of the manufacturing firms receive less than 40% of total sales revenues from exports to Japan. However, over 68% of the exporters received 60% or more of their total sales revenues from exports to Japan. For the most part, the manufacturers appear to be less dependent on the Japanese market than the exporting firms.

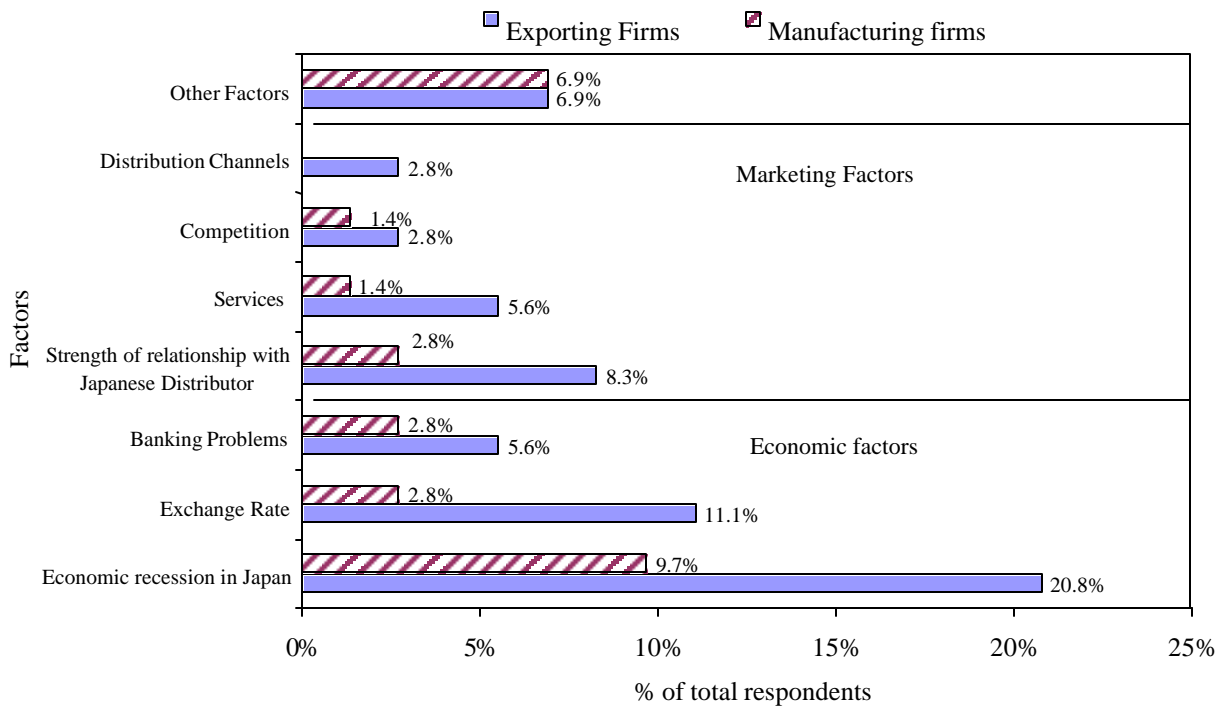


**Figure 5.1.1. Total Annual Sales of Survey Respondents in 1998.**



**Figure 5.1.2. Percent of Sales Revenues Derived from Exports To Japan.**





**Figure 5.1.3. Factors that were perceived to Impact Export Success during the Asian Downturn.**

**5.1.1 Factors Perceived to Impact Export Success**

The respondents were presented with an open ended question dealing with the single most influential factor that had the greatest impact (positive or negative) on their business in Japan in 1998. Given the open-ended format of the question, the responses have been categorized by key words or phrases allowing for multiple responses (Figure 5.1.3).

The most common response was the economic recession in Japan followed by the unfavorable exchange rate. Other factors included the strength of relationship with the Japanese distributor/customer, the Japanese banking crisis, the range of services the North American firms offered, international competition, and distribution channels. Manufacturers appear to be more sensitive to the factors listed than the exporting firms. This is not surprising since the exporting firms are more dependent upon the Japanese market for sales revenues. The exporting firms were much more aware of the impacts of the economic recession and the unfavorable exchange rate than the manufacturing firms were. The most common marketing factor mentioned was the strength of the relationship with the Japanese distributors, followed by the range of services offered overseas.

**5.2 ROLE OF STRONG BUSINESS RELATIONSHIPS**

The respondents were asked if they maintained a strong relationship with their Japanese customers and what impact this has on their business. On a seven point Likert scale (where a ranking of 1 represents a negative impact, 4 is neutral, and 7 represents a positive impact), the firms that maintained a strong business relationship reported a significantly positive ranking of 6.4 (Table 5.2.1). Those firms that did report maintaining a strong relationship with their Japanese customers reported a slightly negative impact of 3.6. Of the eight firms that did not maintain a strong relationship with the Japanese, six reported declines in export revenues of over 25%.

**Table 5.2.1. Perceived Impacts of Maintaining a Strong Relationship with Customers in Japan.**

		Yes	No
Maintain a strong business relationship with Japanese Customers	N	61	8
	Average impact of relationship	6.36	3.63

Survey respondents were then asked how many times per year they meet with their Japanese customers. Of the 65 respondents, 18 (28%) meet with their customers more than three times a year. Seventeen (26%) meet with their customers three times a year, 21 respondents (32%) meet twice a year, and nine (14%) meet only once a year. 54% of the responding firms meet with their Japanese customers more than twice a year. The relative frequency of meetings with their Japanese customers, and the perceived importance of maintaining a strong business relationship, highlights the importance of these two factors to success in doing business in Japan.

### 5.3 ROLE OF THE MARKETING MIX ON EXPORT SUCCESS

The marketing mix is composed of five variables: distribution, product, price, promotion, and service. These attributes encompass the range of marketing activities that firms can undertake. They also provide a framework for the analysis of the importance of each marketing function at the firm and industry levels. The marketing mix of firms engaged in exporting wooden building materials to Japan has unique characteristics. These characteristics were influenced by the Asian downturn and, as result, it is possible to discriminate within and between the variables on the marketing characteristics of successful and unsuccessful exporting firms.

#### 5.3.1 Type of Distribution Channel

Survey respondents were asked to report their use of various export channels to Japan. In general, the respondents tended to favor two different export channels. Overall, 78% of the respondents utilized an export channel consisting of just one or two intermediaries (Table 5.3.1). Across all respondents, the favored export channel was direct to the homebuilder. An average of 58% of the respondents export sales went directly to a Japanese homebuilding company while an additional 7% was exported through a company sales office in Japan (Table 5.3.5). Eighteen percent of total export sales went through a Japanese distributor/wholesaler, 10% went through a Japanese trading company, 4% of the total products exported went through exclusive Japanese distributors/wholesalers, and three percent of respondents exported through an alternative channel. Considering direct exports and sales offices in Japan, nearly two thirds of the entire export volume is going through shorter, more direct channels.

**Table 5.3.1. Average Number of Intermediaries in the Export Channel.**

Number of intermediaries in export channel	Number of respondents	% of respondents
1	23	32%
2	33	46%
3	11	15%
4	4	6%
<b>Total</b>	<b>71</b>	<b>100%</b>

Manufacturers of value-added products reported that they exported 41% of their products directly to Japanese homebuilders, with an additional 13% going through a company sales office. Primary product manufacturers export a greater amount directly to the homebuilder (46.9%) and a lesser amount through a company sales office. For both primary and secondary manufacturers, a little over half of their exports go through the shortened channels direct to homebuilder and through a company sales office. This will likely grow as manufacturers continue to realize the benefits of support, product marketing control, and reduced costs that come from using shortened channels.

The primary export channel reported by export consolidators/wholesalers was direct to Japanese homebuilders. This channel accounted for 69% of the total export sales by the consolidators (Table 5.3.5). This is the largest percent of sales exported through any channel for all business types. Consolidators/wholesalers were the least dependent upon Japanese distributors and wholesalers. This is not surprising since their main function of overseas distribution benefits from excluding other trade intermediaries to minimize distribution costs and thereby increase their overall competitiveness.

Respondents with export trading companies also reported that they export the majority of their products directly to homebuilders in Japan, although they make greater use of wholesalers, Japanese trading companies and company sales offices than do other types of survey respondents (Table 5.3.5). The greater use of intermediaries may be due to the greater number of products that trading companies distribute. The width and depth of the product lines may require greater integration into several industries and markets than the export trading company can handle, thereby requiring the use of intermediaries.

In general, firms that are involved in other activities not related to exporting, such as construction firms and manufacturers, use indirect channels more than do firms primarily focused on international trade activities. This is not unexpected, as firms engaged in non-export activities may lack the interest, capital, and expertise to export channel to the end-user despite the potential benefits of direct exporting.

The survey also asked respondents about the impacts of using specific distribution channels and customer services on their export performance. The questions focused on: sales offices, warehousing products in Japan, selling through a Japanese distributor, and maintaining a sales/technical representative in Japan. These impacts were measured on a seven point Likert scale (where a ranking of 1 represents a negative impact, 4 is neutral, and 7 represents a positive impact).

There was a significant positive impact associated with having a sales office in Japan. Firms with a sales office in Japan reported that it had a positive impact of 5.52 while firms without a sales office in Japan reported that it had a slightly negative impact of 3.32 (Table 5.3.2). Firms that sold their products through a Japanese distributor perceived a significant positive impact of 5.00, firms that did not sell through a Japanese distributor perceived a negative impact of 3.89. There was a significant impact in having sales and technical representatives in Japan. On average, firms with a sales/technical representative reported an impact of 5.74 while those without had an average impact of 3.33 (Table 5.3.2). The majority of the respondents (59%) have a representative in Japan compared to only 38% of respondents with a company sales office in Japan. Small firms may find it less cost prohibitive to maintain a traveling or permanent representative in Japan over a sales office in Japan.

The results of these questions indicate the obvious advantages of direct involvement in the distribution of products within Japan. A company presence in Japan or the use of a Japanese distributor affords a higher level of service to customers and more control over how products are distributed and marketed. Firms without some part of their export distribution channel in Japan are less responsive to customer needs and claims and may not be able to develop marketing strategies to their full potential.

**Table 5.3.2. Perceived Impacts of Different Distribution Channel Strategies in Japan.**

		Yes	No
Have sales office in Japan	N	23	37
	Average impact of sales office	5.52 <sup>a, b</sup>	3.32 <sup>a, b</sup>
Sell products through a Japanese distributor	N	24	35
	Average impact of Japanese distributor	5.00 <sup>a, b</sup>	3.89 <sup>a, b</sup>
Have a sales/technical representative in Japan	N	35	24
	Average impact of sales/tech representative	5.74 <sup>a, b</sup>	3.33 <sup>a, b</sup>

a: a ranking of 1 represents a negative impact, 4 is neutral, and 7 represents a positive impact on export performance  
b: statistically significant at .05 level.

As stated earlier, most of the respondents may lack the financial resources to support a sales office overseas. However, the large percent of total export sales that the Japanese market represents for many firms, may justify the cost of a company sales office or representative in Japan for the firms that can afford one. To examine this, the percent of total export sales that went to Japan was recoded into firms that had less than 50% and firms that had more than 50% of their total sales revenue from exports to Japan. Chi-square analysis did not reveal any significant relationships between the two factors. However, it is interesting to note the difference between the firms receiving less than 50% and firms receiving more than 50% of total sales from Japan. In both cases, the firms receiving the greater amount of revenue from Japan had substantially more sales offices and representatives than those receiving less than 50% sales revenue from Japan (Table 5.3.3). In addition, there were more sales representatives used than sales offices. This could be due to the high costs of establishing a sales office relative to the costs of supporting a sales representative in Japan.

**Table 5.3.3. Relationship between Export Sales and the Number of Respondents who have a Sales Office or a Sales Representative in Japan.**

Ratio of Japan exports/total sales	Sales office	Sales representative
Less than 50%	3	8
More than 50%	12	18

### 5.3.2 Type of Product Mix Exported

For this study, the secondary wooden building materials included were; wooden windows, wooden doors, cabinets, wood prefabricated housing components, flooring, moulding, builders joinery and fabricated structural wood members. Primary products such as lumber and structural panels were also included. The respondents were asked to break their export product mix into specific product categories. The survey results were averaged to establish what the primary export products were for the respondents (Table 5.3.4).

The number of product categories exported by respondents indicates that nearly 25% of the respondents exported five products and another 22% exported four products (Table 5.3.4). The majority of the survey respondents (59%) exported 5 or more products. Of the five respondents who reported that they only exported a single product, four were exporting prefabricated housing components while the fifth firm exported only softwood lumber.

**Table 5.3.4. Number of Products in the Export Mix of Survey Respondents.**

Number of products categories	% of respondents	Cumulative % of respondents
1	7.2	7.2
2	4.3	11.5
3	7.2	18.7
4	21.7	40.4
5	24.6	65.0
6	17.4	82.4
7	17.4	99.8
Total	100	

For all respondents, lumber was the most commonly exported product (22%), followed by doors (17%) and windows (16%). The remaining categories included prefabricated housing components (10%), structural panels (8%), cabinets (8%), and glulam beams (3%) (Table 5.3.6). Respondents were asked to identify any other products that they exported but which were not specifically identified in the survey. A total of 40 respondents exported other types of building materials, comprising an average 16% of their export mix. These products include stairs and stair parts, roof and floor trusses, exterior siding products, roofing materials, moulding and millwork. A statistical analysis of the data found that nearly 71% of the primary manufacturers' exports were in lumber and structural panels (Table 5.3.6). Primary manufacturers export a significantly greater proportion of structural panels than every other type of business. Prefabricated housing components accounted for a significantly greater proportion (59%) of secondary manufacturers' exports than any other business type.

The majority of the building materials exported (71.6%) were used in 2x4 houses while 13.4% of the building material exports were used in traditional post and beam style houses. The remaining amounts exported were used in other styles (9%) and five percent of the material was utilized in an unknown fashion (Table 5.3.7). The PNW firms primarily focused on exporting products used in 2x4 construction. Interestingly, almost 30% of the exports of primary manufacturers were directed towards the post and beam segment of the construction industry.

A greater amount of the secondary manufacturers exports were used in other construction methods than any other business type. The secondary manufacturers appear to be much more diversified in their market focus and often are involved in several segments of the construction market. While the alternate construction types may not have the high number of starts as post and beam and 2x4, they may be less volatile than the dominant construction types.

**Table 5.3.5. Breakdown of Distribution Channel Usage by Primary Line of Business.**

Distribution channel	Average export sales (%)						
	Construction Companies	Primary Manufacturers	Secondary Manufacturers	Consolidator/ Wholesaler	Export Trading Company	Other	All Respondents
Japanese home builders	33.8	46.9	40.8	68.9	62.3	50.7	57.6
Japanese Distributor/Wholesalers	25.0	16.9	19.9	16.9	17.8	20.7	18.3
Exclusive Japanese Distributors/Wholesalers	0.0	17.5	12.0	0.4	0.9	0.0	3.8
Company Sales Office	0.0	3.8	13.3	5.4	12.2	0.0	6.9
Japanese Trading Company	22.5	15.0	13.4	5.2	5.5	21.4	10.0
Other	18.8	0.0	0.6	3.3	1.3	7.1	3.4

**Table 5.3.6. Breakdown of Export Product Mix by Primary Line of Business.**

Product mix	Average export sales (%)						
	Construction Companies	Primary Manufacturers	Secondary Manufacturers	Consolidators/ Wholesalers	Export Trading Companies	Other	All Respondents
Lumber	23.8	40.0	13.7	20.6	21.6	15.0	22.0
Structural Panels	2.5	30.9	4.6	4.4	2.9	4.3	7.0
Glulam	3.8	3.5	1.1	2.4	1.4	9.7	3.0
Doors	10.0	3.3	5.4	20.4	27.1	14.3	17.1
Windows	21.3	7.3	5.6	18.8	21.3	9.3	15.8
Cabinets	10.0	1.9	0.6	11.8	7.8	10.3	8.4
Wood prefab	25.0	0.0	58.9	3.6	2.3	2.9	9.7
Other	3.8	13.3	10.1	18.0	15.5	34.3	16.9

**Table 5.3.7. Breakdown of End-Use Market Segment by Primary Line of Business.**

Construction type	Average export sales (%)						
	Construction Companies	Primary Manufacturers	Secondary Manufacturers	Consolidator/ Wholesaler	Export Trading Company	Other	All Respondents
Post and Beam	13.8	28.6	15.7	11.1	8.7	15.0	13.4
2x4	61.3	71.4	57.1	79.5	64.0	81.4	71.6
Unknown type	25.0	0.0	0.0	1.8	15.0	0.0	5.4
Other type	0.0	0.0	27.2	7.7	12.3	3.6	9.6

**Table 5.3.8. Impact of Selected Services Offered in Japan.**

		Yes	No
Warehouse spare parts in Japan	N	5	43
	Average impact of warehousing parts	6.00 <sup>a, b</sup>	3.19 <sup>a, b</sup>
Offer a warranty on your product	N	14	43
	Average impact of warranty	6.07 <sup>a, b</sup>	4.72 <sup>a, b</sup>

a: a ranking of 1 represents a negative impact, 4 is neutral, and 7 represents a positive impact on export performance

b: statistically significant at .05 level.

### 5.3.3 Types of Promotion and Service Offered

Several questions were asked about the support and services supplied by respondents to their Japanese customers. The firms that maintain an inventory of products in Japan did not report a significant impact over firms that do not maintain a product inventory in Japan. However, the relatively few firms that warehouse spare parts in Japan perceived a significant benefit in doing so (Table 5.3.8). Maintaining a warehouse in Japan is a sign of strong commitment to the market and allows faster responses to orders and customer claims. However, some firms may consider renting warehouse space to be cost prohibitive. While this may be true with product inventory (given the relatively short shipping times from the PNW to Japan), it may not hold true with spare parts. Oftentimes suppliers are asked to provide spare parts to a Japanese customer on a very short timeline. Since the cost of air shipping these parts can be quite high, it may be cost effective to maintain a spare parts inventory in Japan for manufacturers of value added wood products such as doors and windows.

The companies that offered a warranty on their products perceived that this service provided a significant positive impact relative to companies that did not offer a warranty (Table 5.3.8). This sign of after-market support may be an influential factor in the purchase decisions of Japanese customers. This could be especially important when the product is expensive, complicated and foreign made. A warranty can serve as proxy for the quality of the product and indicates a company's belief that the product will function at a certain level of performance.

Additional questions were asked about the importance of offering specific services to Japanese customers. The firms that provided translated product information, translated installation and maintenance instructions all perceived these services as significantly more important than the firms that did not provide this information (Table 5.3.9). Out of 68 respondents, 53% provided some form of translated product information. The most likely materials to be provided were promotional materials for potential customers. These materials would likely contain product attributes and quantitative performance information. Forty-six percent of the respondents provided translated installation information. Manufacturers and exporters may not feel the need to supply translated installation information if the product requires installation methods similar to Japanese products, or if the products do not require information, such as panels and lumber. In addition, lines of highly specialized products may make translations of installation instructions cost prohibitive if each product requires different installation methods. Only 20 respondents (36%) supply translated maintenance information (Table 5.3.9). The products may have the same, if any, maintenance requirements of similar Japanese products. A general conclusion that might be drawn from Table 5.3.9 is that as the translated materials become more complex in subject matter, the tendency to supply these materials decreases.

**Table 5.3.9. Importance of Offering Translated Materials to the Japanese Customer.**

		Yes	No
Provide translated product information	N	36	32
	Avg. importance of translated materials	6.11 <sup>a, b</sup>	5.19 <sup>a, b</sup>
Provide translated installation instructions <sup>b</sup>	N	29	34
	Avg. importance of translated installation instructions	6.00 <sup>a, b</sup>	5.26 <sup>a, b</sup>
Provide translated maintenance instructions	N	20	35
	Avg. importance of translated maintenance instructions	5.80 <sup>a, b</sup>	4.89 <sup>a, b</sup>

a: a ranking of 1 represents a negative impact, 4 is neutral, and 7 represents a positive impact on export performance

b: statistically significant at .05 level.

### 5.3.4 Impact of Increased Price Sensitivity

Sixty-two firms reported a perceived increase in the price sensitivity of their Japanese customers while nine reported no change in price sensitivity. The firms were asked to estimate the increase, if any, in the price sensitivity of their customers on a five point Likert scale was used, one being no increase, three a moderate increase and five being a major increase. Those firms that indicated an increase of price sensitivity reported a significant increase of 4.15 (Table 5.3.10). The firms that did not observe any increase had a score of 1.63 indicating little to no change in price sensitivity.

The questionnaire then asked the respondents to estimate the impact of the increased price sensitivity on their business. The firms reporting a noticeable price sensitivity increase reported a strong negative impact of 2.74 (Table 5.3.10). Firms that did not experience substantial changes in price sensitivity actually reported a slightly positive impact of 4.63. One possible explanation could be that these firms were exporting products that had greater appeal within the newly price sensitive Japanese market and for which there were relatively few substitute product choices (e.g., high thermal performance wood windows).

**Table 5.3.10. Respondents Perception of Japanese Price Sensitivity and its Impact on Export Performance.**

		Yes	No
Price Sensitivity Increase	N	59	8
	Avg increase of sensitivity	4.15 <sup>a, b</sup>	1.63 <sup>a, b</sup>
Impact of Price Sensitivity	N	62	8
	Avg impact of sensitivity	2.74 <sup>a, b</sup>	4.63 <sup>a, b</sup>

a: a ranking of 1 represents a negative impact, 4 is neutral, and 7 represents a positive impact on export performance

b: statistically significant at .05 level.



**Table 5.3.11. Comparison of Total Revenue Derived from Exports for US and Canadian Firms.**

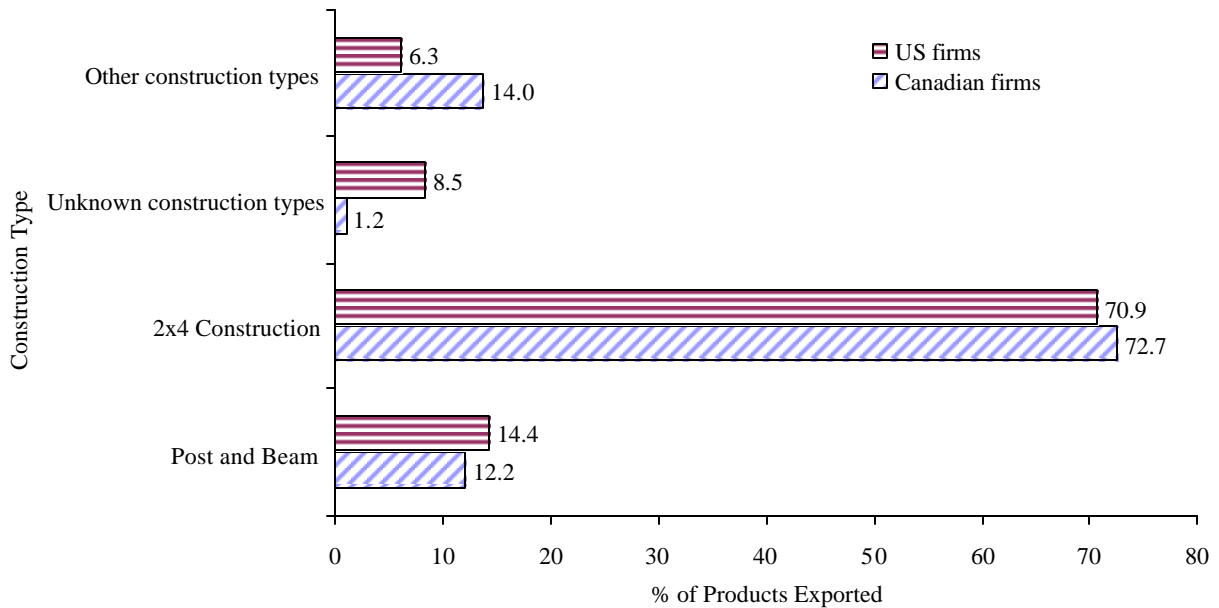
	Nation of operation	Number of respondents	Avg. % of total export sales
Percent of total revenue derived from exports to Japan	Canada	29	70.62 <sup>a</sup>
	US	23	52.80 <sup>a</sup>

a: statistically significant at .05 level.

**5.4 IMPACT OF NATION OF OPERATION (US VERSUS CANADA)**

Thirty-one of the respondents were from Canada and 41 were from the United States. A t-test was performed to see if there was a difference in the percent of total export sales to Japan by nation of operation. The results indicate that Canadian respondents export a significantly larger proportion (70.62%) of their total overseas sales to Japan than the US firms whose exports to Japan account for 52.80% of their total overseas sales (Table 5.3.11). The Canadian dependency on the Japanese market is not surprising because Canada lacks a large domestic market and the Softwood Lumber Agreement limits access to the US market.

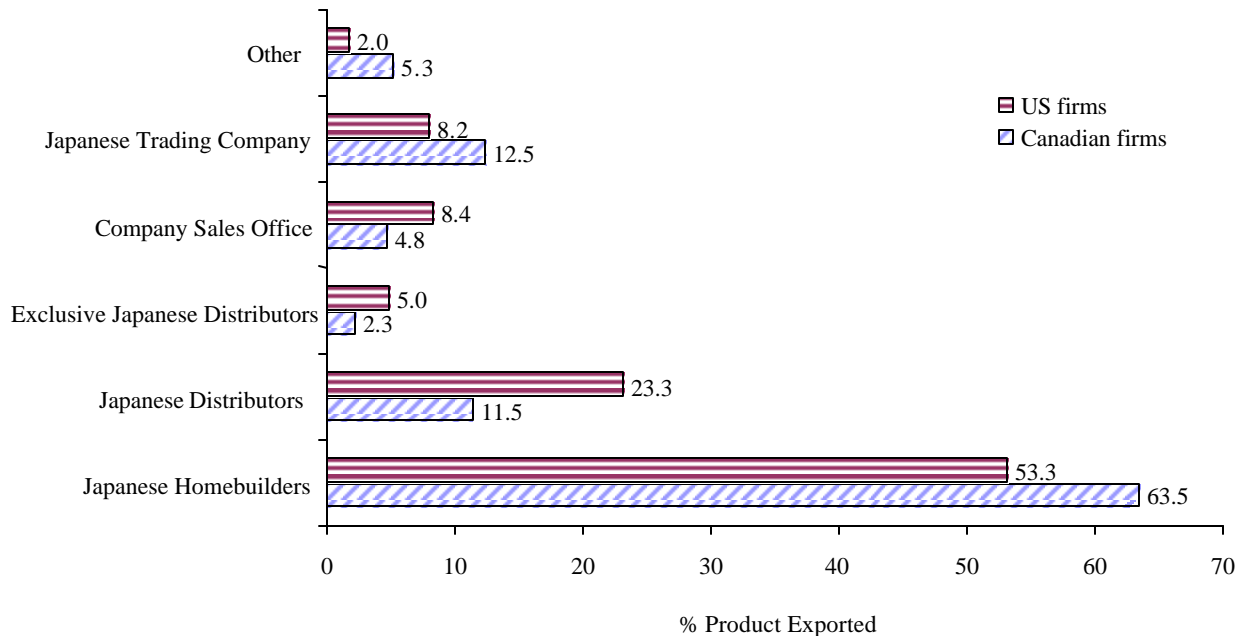
Canadian and US firms shipped similar amount of materials utilized in 2x4 and post and beam construction (Figure 5.4.1). The greatest difference in the construction use of exports came in the two remaining categories. Canadian firms exported more materials used in other construction types than US firms. The Canadian firms were also somewhat more likely to know within which segment of the construction industry that their products exports were used.



**Figure 5.4.1. Segments of the Construction Markets Targeted by US and Canadian Exporters.**

A country based comparison of the distribution channels revealed that on average, Canadian firms shipped nearly two thirds of their products direct to the Japanese homebuilder which was significantly higher than the 53.3% that US firms shipped direct to homebuilders in Japan (Figure 5.4.2). US firms also exported 23% of their products through Japanese distributors while the Canadian firms only exported 12%, a significant difference. US firms also exported more heavily through company sales offices in Japan than the Canadian firms. Canadian firms, on the other hand, exported 13% of their products through Japanese trading companies compared to 8% for US firms.

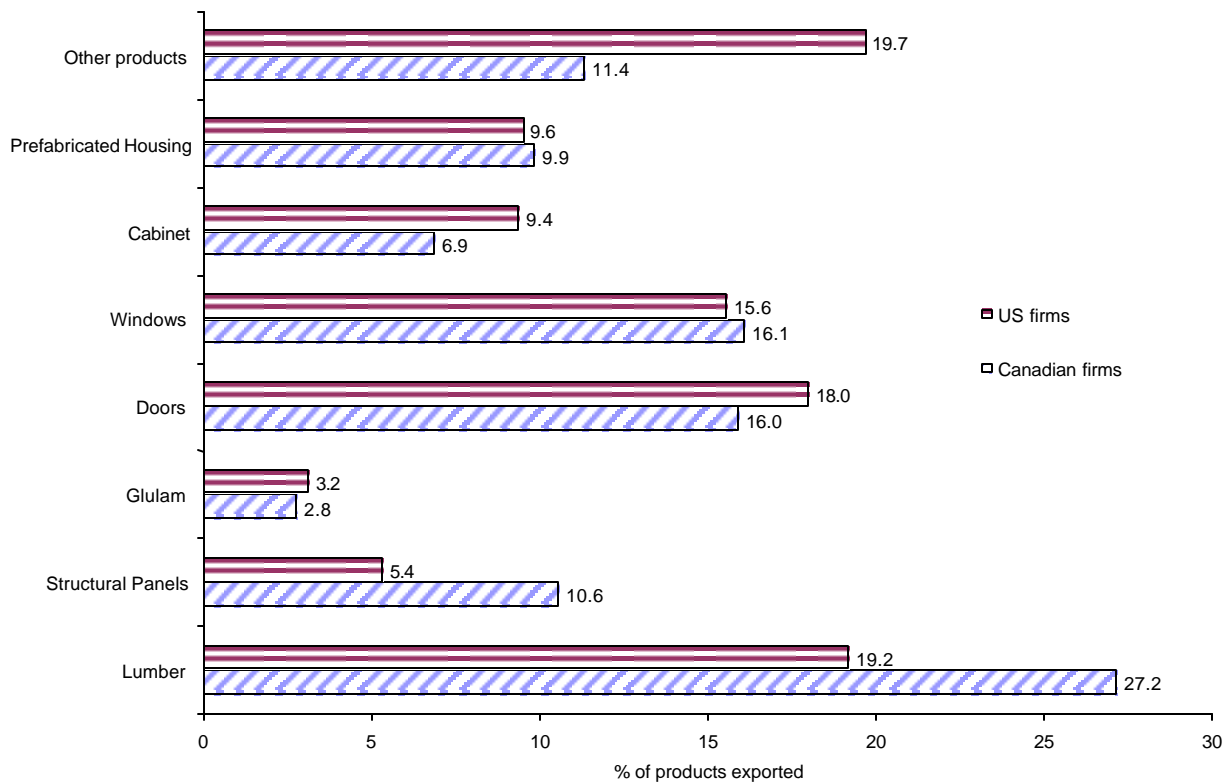
The shorter distribution channels used by more of the Canadian firms appears to suggest that the Canadian firms are tied more closely with the final end user of wooden building materials, Japanese homebuilders. The longer channels that the US firms typically use, while more costly, tend to reduce the need for export expertise as well as the risks associated with exporting. The use of Japanese distributors is more of a “hands off” approach to exporting that appears to allow US firms to participate in the Japanese market while allowing them to maintain their primary focus on the domestic US market.



**Figure 5.4.2. A Comparison of Distribution Strategies for US and Canadian Firms.**

Only two of the Canadian and three of the US respondents reported that they maintain a warehouse for product inventory in Japan. The US firms perceived more benefits from warehousing products in Japan than did their Canadian counterparts. However, both the US and Canadian respondents perceived a negative impact from not warehousing in Japan (Table 5.4.1).

The firms with a sales office in Japan perceived a positive impact, while firms without a sales office reported a negative impact (Table 5.4.1). Nearly twice as many US firms have a sales office in Japan relative to Canadian firms. The US firms reported a highly positive average rating of 5.93 whereas Canadian firms provided a slightly positive average rating of 4.75. The higher rating by US firms can be explained by the amount of product shipped through the company sales office. As shown in Figure 5.4.2, US firms ship nearly twice as much through a company sales office as do Canadian firms. US firms move a greater percentage of their exports through Japanese distributors and exclusive Japanese distributors and perceive a greater benefit associated with having a sales office in Japan. In addition, the export product mix of US firms tends to be skewed towards value-added wood products while a substantially higher percentage of Canadian exports are primary wood products (both lumber and structural panels (Figure 5.4.3)).



**Figure 5.4.3. A Comparison of the Export Product Mix from US and Canadian Firms.**

Respondents from both countries who have a sales or technical representative in Japan perceived a strong positive benefit associate with providing that service for their customers, while firms without a representative in Japan perceived that having a representative provided no tangible benefits to them (Table 5.4.1). One possible explanation for this disparity is that firms without a representative in Japan may rely on the distributor in Japan to provide this function or they may be mainly exporting primary wood products that require less reliance on technical support.

**Table 5.4.1. Perceived Impact of Different Services on Export Performance**

		Canadian firms		US firms	
		Yes	No	Yes	No
Currently warehouse products in Japan	N	2	26	3	25
	Avg. impact of warehousing products	4.50 <sup>a, b</sup>	3.44 <sup>a, b</sup>	5.67 <sup>a, b</sup>	3.72 <sup>a, b</sup>
Sales office in Japan	N	8	18	15	19
	Avg. impact of sales office	4.75 <sup>a, b</sup>	3.56 <sup>a, b</sup>	5.93 <sup>a, b</sup>	3.11 <sup>a, b</sup>
Sell products through a Japanese distributor	N	10	18	14	17
	Avg. impact of Japanese distributor	4.90 <sup>a, b</sup>	3.89 <sup>a, b</sup>	5.07 <sup>a, b</sup>	3.88 <sup>a, b</sup>
Sales/Technical representative in Japan	N	15	13	20	11
	Avg. impact of sales/tech representative	5.80 <sup>a, b</sup>	3.31 <sup>a, b</sup>	5.70 <sup>a, b</sup>	3.36 <sup>a, b</sup>

a: a ranking of 1 represents a negative impact, 4 is neutral, and 7 represents a positive impact on export performance

b: statistically significant at .05 level.

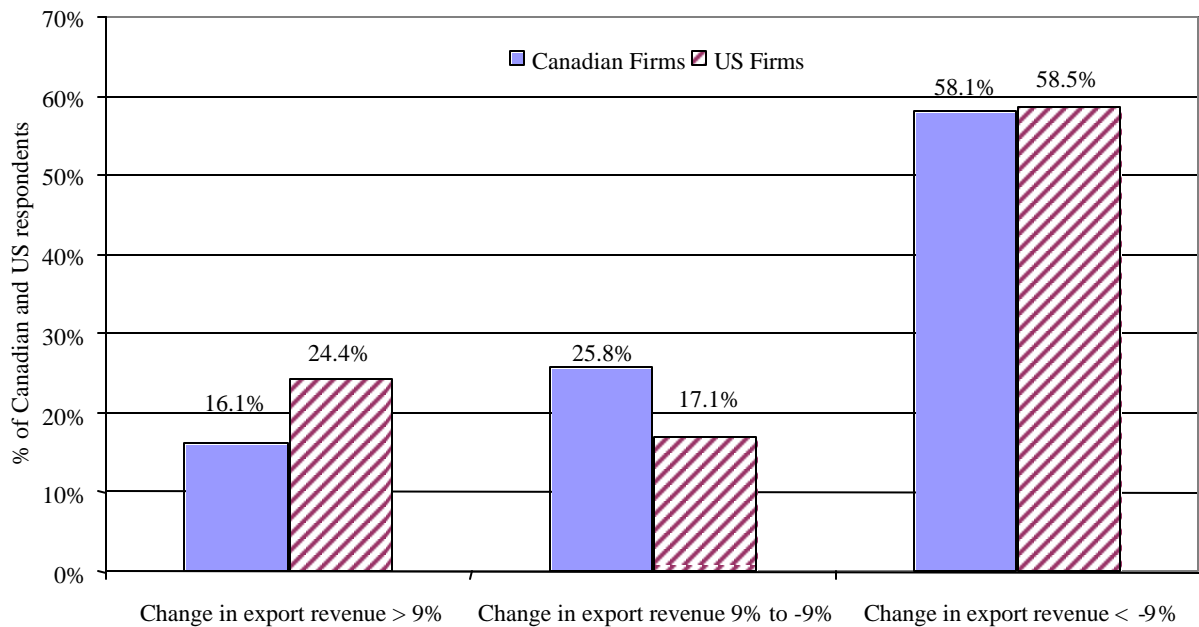
The difference in the mix of products being exported by respondents in the two countries is substantial, although not statistically significant. It is interesting to note that approximately 37.8% of the Canadian firms export mix was comprised of structural panels and lumber compared to 24.6% for US firms (Figure 5.4.2). Despite the increases made in Canadian secondary processing capacity, the export focus is still on commodity products. US firms appeared to focus on exporting value-added products such as doors, cabinets, and other goods such as flooring, siding, moulding and millwork. While there are many factors that contribute to this pattern, one important factor is that the Canadian dollar remained substantially weaker than the US dollar during the Japanese economic downturn, thereby making Canadian commodity products more attractive to price-sensitive Japanese homebuilders. This may be one reason why Canadian firms remain heavily reliant on the export of primary wood building materials instead of value added wood products.

## **5.5 EXPORT SUCCESS**

Survey respondents were asked to estimate the percent change in their exports sales from 1997 to 1998. Nine categories using percentage change in export sales from 1997 to 1998 were used to establish the firms performance during the Asian downturn (refer to survey question 3a in Appendix A). These results were then recoded into 3 categories to facilitate analysis of the data. The first group, including 15 respondents, reported that their 1998 export sales increased by more than 9% over their 1997 export sales. The second group, including 15 respondents, reported that their change in export sales was between a 9% increase and a 9% decrease. Finally, the third group, which contained 42 respondents, reported that their export sales had declined by more than 9% (Figure 5.5.1).

One of the primary objectives of this research project was to identify the attributes of those firms that had been able to maintain or increase their exports to Japan during the 1997-1998 period of severe economic turmoil in Japan relative to those firms whose exports decreased. The responses of firms in the first and third groups were used to test for differences in marketing practices and basic demographic characteristics that might help differentiate between the two groups of firms. For this analysis, the marketing mix was examined first for general patterns. The demographic data was then used to identify additional differentiating characteristics.

Obviously, the product mix is very important in determining the export success of a firm. Value added wood products, including prefabricated housing and, to a lesser extent cabinets, and other products (primarily builders joinery, prefabricated wooden members, and moulding and millwork) were key elements in the export mix of successful firms (Figure 5.5.2). On average these three product categories accounted for 53.1% of the successful exporters product mix. While housing starts have declined they still remain at approximately 1.2 million and there has been an increase in remodeling activity that likely has helped to maintain demand for value-added wood products. In addition, exports of prefabricated housing remained relatively stable throughout the economic decline, providing a consistent demand for a wide variety of wooden building materials from lumber to flooring and cabinets. In contrast, the firms that did poorly tended to focus on lumber and structural panels, glulam, doors, and windows (Figure 5.5.2). During the economic decline structural lumber and structural panels exports fell as price sensitive Japanese homebuilders found lower cost suppliers. In addition, reduced demand for doors and windows declined as housing starts fell from 1.66 million to 1.18 million.

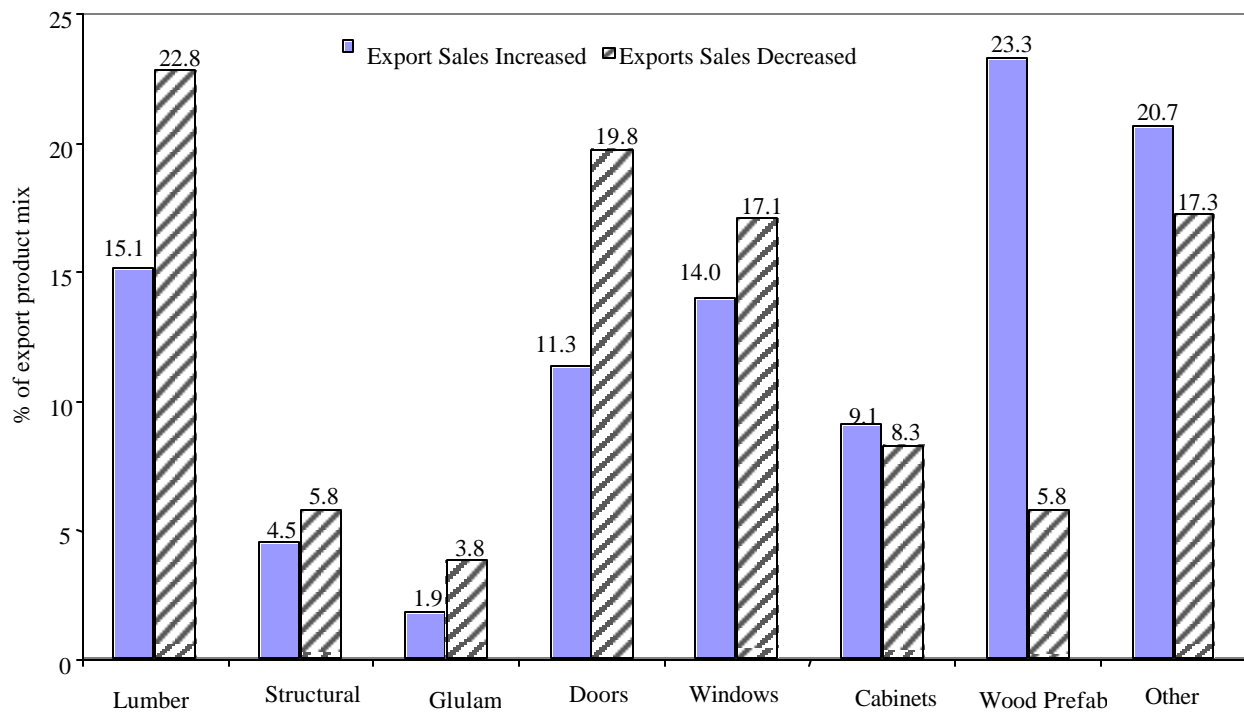


**Figure 5.5.1. Comparison of Changes in Export Sales between 1997 and 1998 for US and Canadian Firms.**

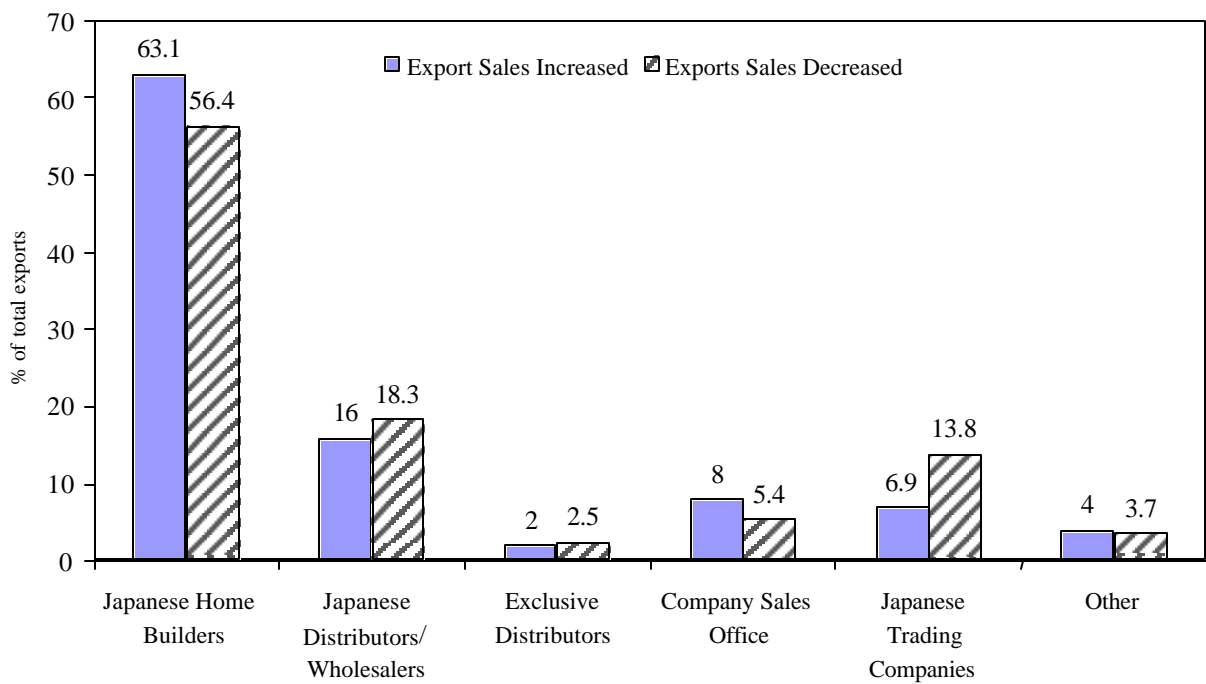
The relationship between window exports and export success offers an interesting insight into the dynamics of the Japanese market. While the survey data would tend to suggest that there is an inverse relationship between window exports and export success, this is not entirely correct. In contrast to lumber, the use and specification of wooden windows is restricted by a number of regulations including fire codes and durability requirements. In addition, wooden windows are perceived to be technically challenging products in terms of installation, maintenance and product warranty. As a result, Japanese customers tend to favor the products offered by the larger, better known national window manufacturers (e.g., Anderson, Marvin, Pella, Weathershield, Jeld-Wen and others).

During the period of time covered by this survey (1996-1999) the distribution channels for wooden windows were undergoing a period of transition. Prior to 1996, most US wooden windows were exported by building material consolidators and exporters located in the Pacific Northwest. Although this distribution strategy was effective in moving product to Japan, it was less effective in terms of providing the technical and warranty support desired by Japanese homebuilders. US window manufacturers soon recognized that the inability or reluctance of building material consolidators and exporters to provide product support to their Japanese customers could restrict the sales growth of their products in the Japanese market. As a result, several large US window manufacturers opted to discontinue their use of export consolidators, preferring to establish their sales offices in Japan that would be staffed by their own sales and technical representatives. While these Japanese sales offices tended to focus on establishing a network of Japanese distributors, they also served as a product showroom, maintained some spare parts inventory, and responded to technical problems concerning installation and post-installation problems.

As a result of this strategic change, most building material consolidators and exporters were forced to carry less well known brands of windows. However, their Japanese customers, concerned about the performance of these other window brands in the Japanese climate, were loath to switch from the well known window brands. As a result, the demand for these other windows never really took off, adversely affecting the export performance of the consolidators and exporters who made up the population of interest for this export survey.



**Figure 5.5.2. A Comparison of the Export Product Mix between Successful and Unsuccessful Firms.**

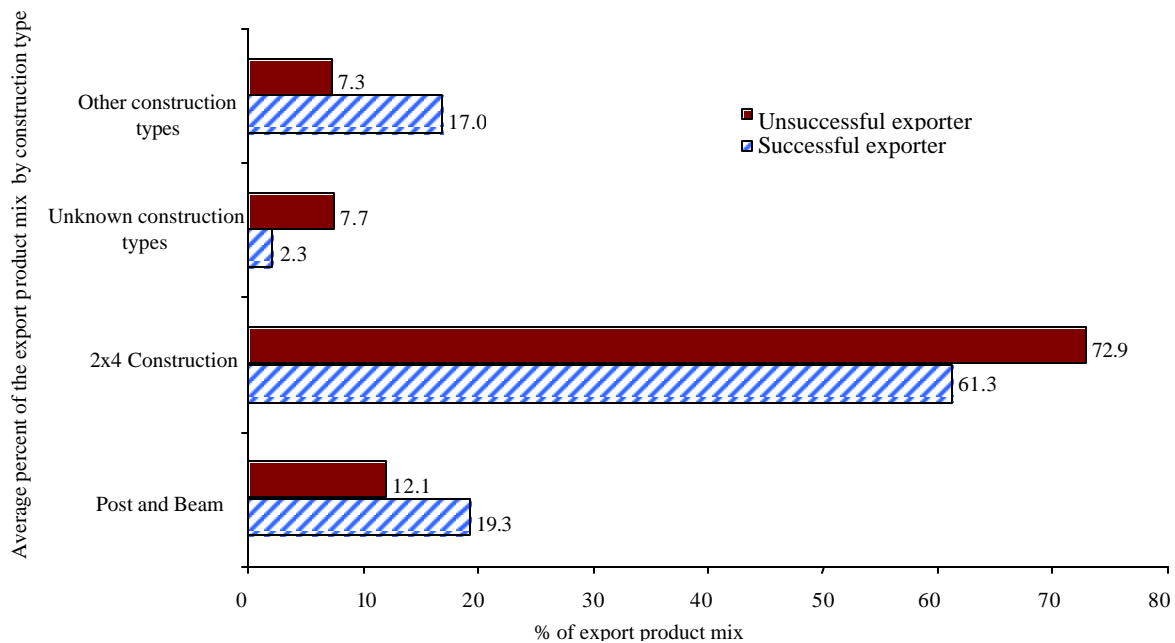


**Figure 5.5.3. A Comparison of the Distribution Strategies of Successful and Unsuccessful Firms.**

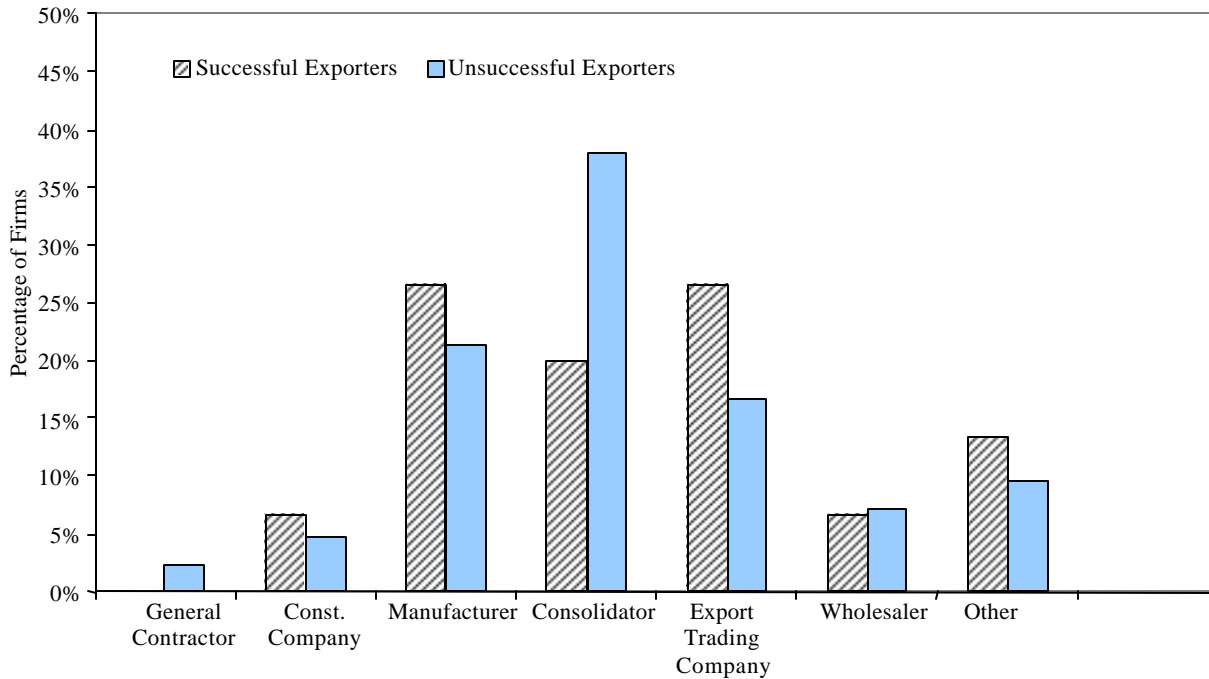
Distribution channels also appear to have been an important contributor to export success during the downturn. The successful firms exported over 70% of their products through shorter channels (direct to homebuilders and through a company sales office) (Figure 5.5.3). In contrast, the products of firms that rely on indirect channels (through a Japanese export trading company or a Japanese wholesaler/distributor) are exposed to higher prices through distributor mark-ups, which is a severe disadvantage in a price sensitive market. In addition, firms that rely on indirect channels to distribute their products or acquire market information would be severely disadvantaged should the Japanese distributor go out of business. While demand for the product may exist, the firm's ability to meet that demand is severely weakened. Firms exporting directly can avoid many of these risks and can work closely with the end user to develop a long-term business relationship.

There were substantial differences between successful and unsuccessful exporters regarding the segment of the residential construction industry towards which their products were targeted (Figure 5.5.4). Interpretation of this chart must be made with respect to housing starts in Japan during this period. It is interesting to note that post and beam construction was associated with export success. While the decline in post and beam housing starts relative to other construction types (including 2x4) contradicts export success, the relatively small market share of PNW wood products in this market segment suggests that increased marketing into this segment could lead to export success, even in a down market. This is particularly true given the fact that post and beam housing starts in 1998 totaled 477,210 compared to just 67,923 for 2x4 homes and 29,923 for wooden prefabricated homes. Given this, it is not surprising that exported products used in 2x4 construction were associated with a decline in export sales.

Market knowledge appeared to play a vital role in export success as unsuccessful firms were over three times more likely not to know how their products were used. This lack of market knowledge makes offering after market sales support difficult and successful promotion within those market segments almost impossible. As discussed earlier, supplying products into other market segments may contribute to export success. This research suggests that the firms that were successful during the downturn exported more than twice the amount of products into other market segments (primarily prefabricated homes and log homes) than did unsuccessful firms. These segments of the housing market may be less sensitive to changes in the overall economic conditions than are the larger post and beam and 2x4 housing segments.



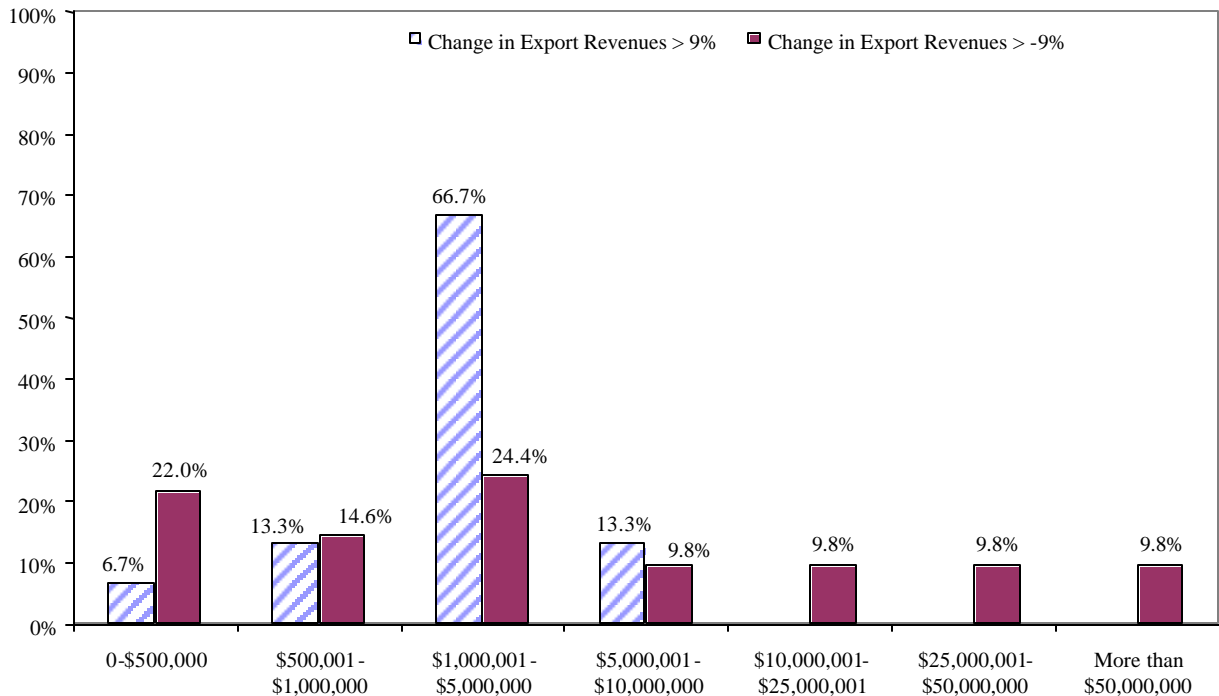
**Figure 5.5.4. A Comparison of Target Market Segments between Successful and Unsuccessful Firms.**



**Figure 5.5.5. A Comparison of Exporters Primary Business Type between Successful and Unsuccessful Firms.**

The primary line of business of the successful and unsuccessful survey respondents was evaluated to determine if the line of business had any influence on export performance (Figure 5.5.5). An analysis of the survey data suggests no clear relationship between type of business and export success. Manufacturers, consolidators and export trading companies were most likely to see their exports increase during the Japanese business downturn. However, this is offset by the fact that these three types of businesses were also the most likely to see their exports decline during the downturn. With reference to specific business types, it can be seen that manufacturers and export trading companies were more likely to see their exports increase, although the difference between the number of firms that were successful relative to those that were unsuccessful is not significant. Similarly, consolidators were much more likely to report declines in export sales, although this difference was also not significant.



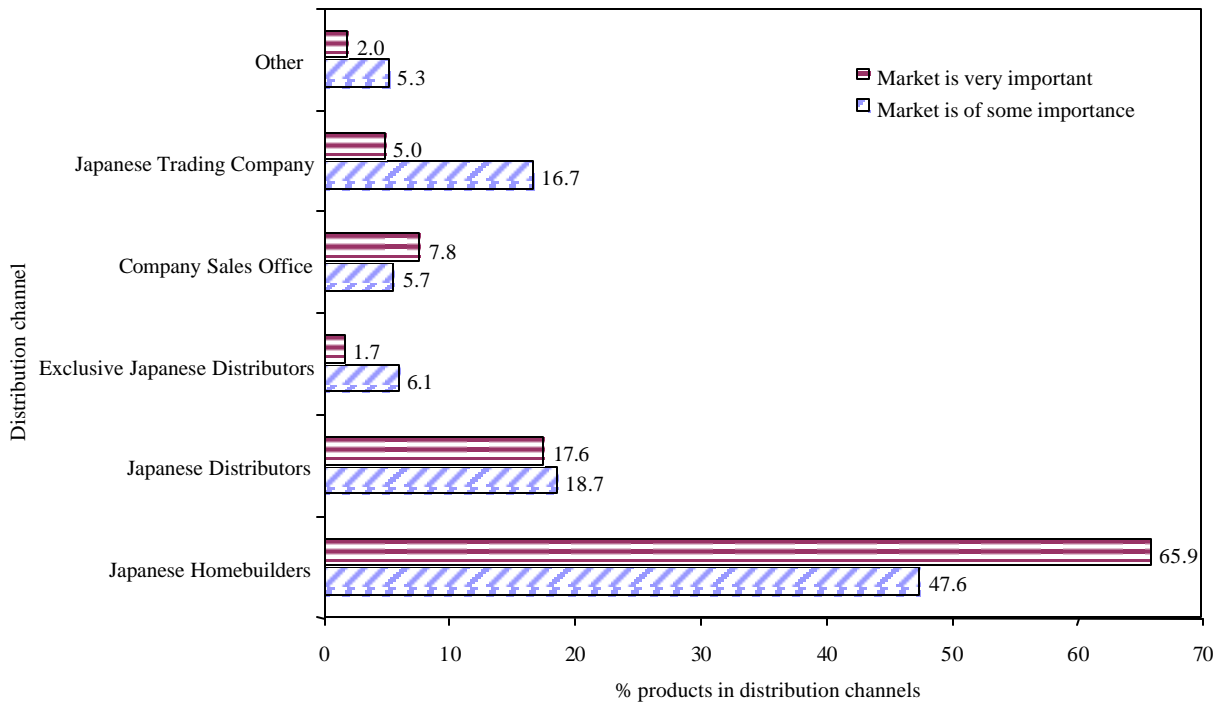


**Figure 5.5.6. A Comparison of Firm Size between Successful and Unsuccessful Firms.**

Analysis of total sales by export success reveals some interesting patterns. The medium-sized firms (export sales revenues between \$1 million and \$5 million) appear to have done much better than both small firms (export sales revenues less than \$1 million) and large firms (export sales revenues above \$5 million) (Figure 5.5.6). It is interesting to note that a much higher percentage of the medium-sized firms reported an increase in export revenues. Fully two-thirds of the companies who reported an increase in export revenues were medium-sized firms. In contrast, the firms who reported a decline in export revenues were fairly evenly distributed, although almost forty percent of these firms were large firms while just 13% of the successful firms were large companies. As mentioned previously, exports tend to be a much higher percentage of the total sales revenue of the small- and medium-sized firms in contrast to the larger firms who tend to have a heavy focus on the domestic market with exports rarely comprising more than 10% of their total sales. Thus, we might conclude that the medium-sized firms are more committed to the export market and have developed a marketing strategy that provides them with a greater chance of succeeding in Japan even when the markets are poor. While smaller firms are also more focused on their export markets it would appear that they do not have the financial and marketing resources to withstand a significant decline in the export market, as indicated by the fact that 83.3% of the small firms reported declines in export sales revenues in Japan.

## 5.6 IMPORTANCE OF THE JAPANESE MARKET

The respondents were asked to rank the importance of the Japanese market to their overall business strategy using a five point Likert scale (where a rating of 1 indicated that the Japanese market was not very important and a rating of 5 indicated that it was very important). Thirty-nine companies ranked the Japanese market as being very important to their business while 16 companies gave a rank of 4 indicating that the Japanese market was moderately important to their marketing plans (Figure 5.6.1). The remaining 17 firms provided a rating of 3 or less, suggesting that the Japanese market is a less important component of their marketing strategy (at least relative to the firms that provided a rating of 5).



**Figure 5.6.1. Relationship of Perceived Importance of the Japanese Market and Type of Distribution Channel Used.**

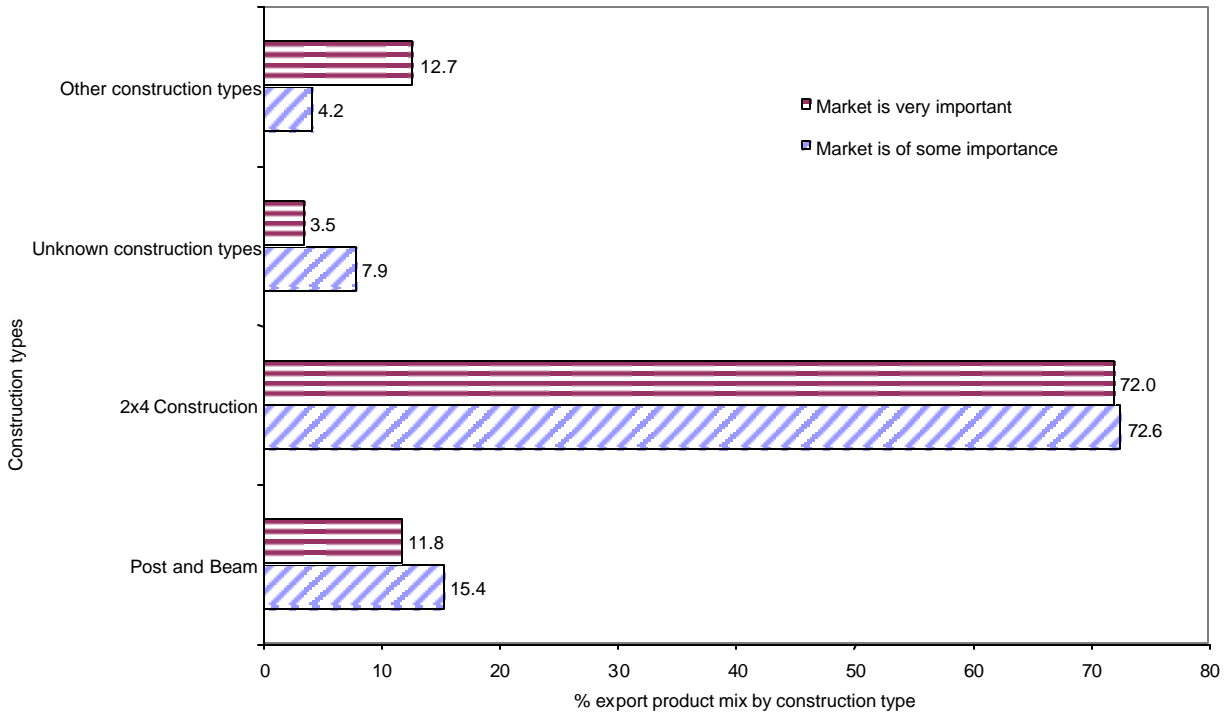
The importance rankings were then used to recode the respondents into 2 groups. The Group 2 included those firms that indicated the Japanese market was of varying importance to their business (ranking of one to four), while Group 1 consisted of those firms who indicated that Japan was extremely important to their business (a ranking of five). This reclassification was done to see if there were any important differences between those firms who clearly were heavily focused on the Japanese market relative to the other firms. This analysis was also likely to reduce any ambiguity that might exist in the data. This segmentation strategy revealed several interesting differences in the types of distribution channels, construction types, and product mix employed by the two groups.

Not surprisingly there was a significant difference between the two groups regarding the amount of sales revenue derived from exports to Japan. Group 1, which rated the Japanese market as being very important, received an average of 83% of their total export revenue from Japan, more than twice that of Group 2.

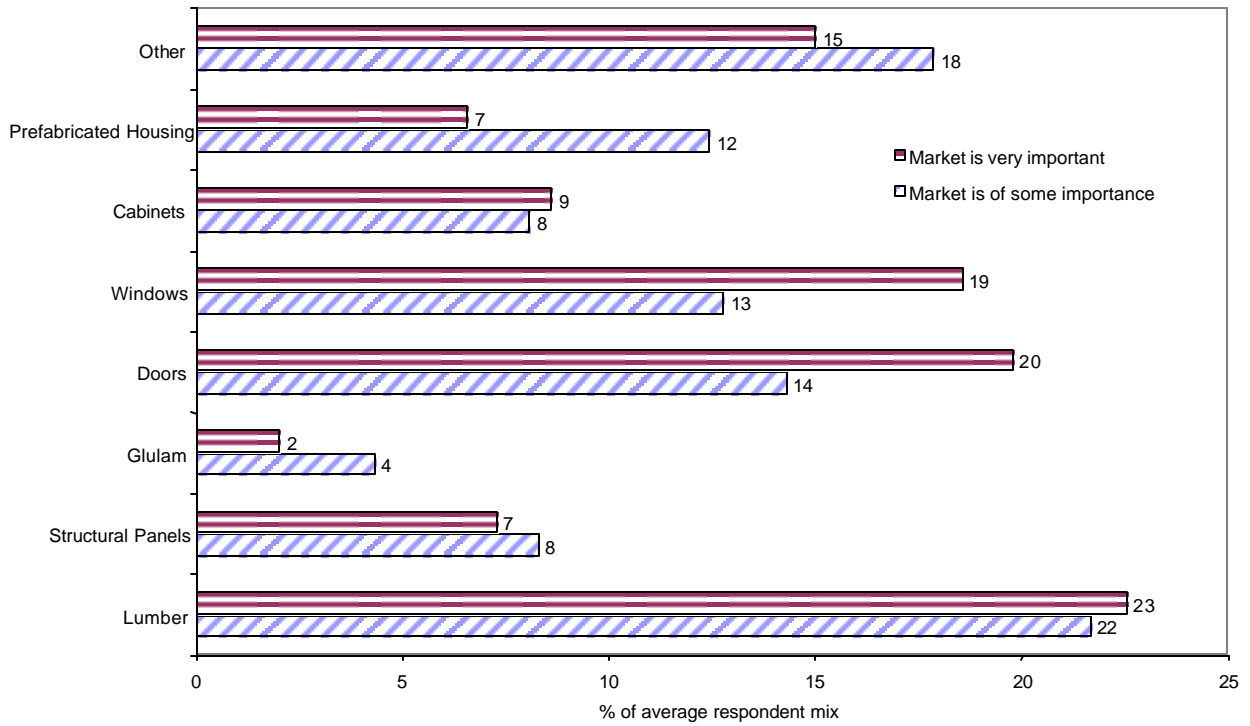
In addition, Group 1 shipped an average of 65.9% of their total exports directly to Japanese homebuilders (Figure 5.6.1). Those that held the market to be of lesser importance (Group 2), only shipped approximately 48% of their total exports direct to the Japanese homebuilders, a statistically significant difference. Also statistically significant was the use of Japanese trading companies by Group 2 firms.

The 2x4 residential construction market represented the dominant construction type for both groups, representing approximately 72% of their exports (Figure 5.6.2). While Group 2 firms were twice as likely to not know which segment of the market used their products, this result was not significant. The greatest difference in construction type was observed with other construction methods. This might suggest that Group 1 exporters are supplying products that can be used in a wide variety of construction types. For example, non-structural value-added wood products could be incorporated in virtually every type of construction method in Japan.

Finally, an analysis of the export mix did not lead to conclusive results. The only significant difference between the two groups was found in the volume of windows exported to Japan (Figure 5.6.3).



**Figure 5.6.2. Relationship between the Perceived Importance of the Japanese Market and the Segment of the Residential Construction Industry Targeted.**



**Figure 5.6.3. Market Performance and Export Mix**

## **5.7 FACTORS THAT CONTRIBUTE TO EXPORT SUCCESS**

To determine if the use of specific distribution channels and services were related to export success during the Asian downturn, a series of tests were performed on successful and unsuccessful exporters. Due to the small sample size, Chi-squares were used to test for independence between services offered and export performance. Logistic regression was used to detect significant factors to export success.

Maintaining a sales office in Japan was found to be statistically significant at the .05 level. Offering this service to Japanese customers was an important characteristic of firms that exported successfully during the Asian downturn. While using a sales/technical representative in Japan may not have been significant, it may be an excellent way to offer some of the services associated with a sales office without incurring the high cost of a sales office in Japan.

### **5.7.1 Factor Analysis**

A factor analysis using the statistical package SPSS was performed on 11 marketing variables in an attempt to reduce them into more explicit subgroups. One variable was dropped due to multiple factor loadings. Three factors were generated through the analysis using a Varimax rotation. The final factor solution reduced the number of variables from 11 to 3 while still explaining 73% of the variance in the original data. The variables grouped into each of the three factors were examined to see what type of commonality existed and could be used to develop a factor name that described this commonality. The results of the factor analysis are summarized in Table 5.7.1. The first factor relates to the use of translated product information. The second factor, in-country services, included variables that represent strategic investments in the Japanese market while the third factor focused on distribution strategies.

Respondents were asked to evaluate the importance of specific marketing functions on their export performance in Japan. These evaluations were rated using a Likert scale consisting of seven intervals, where a rating of 1 indicated that the variable being evaluated was not considered to be important, a rating of 4 indicated that the variable was considered to be somewhat important, and a rating of 7 indicated that the variable was considered to be extremely important. Following the completion of the factor analysis, the importance ratings for each variable contained within the three factors were averaged to produce an overall average importance rating for each of the factors.

The average importance ratings are summarized in Table 5.7.1 and clearly show that not all of the factors were perceived to be equally important in marketing wood products in Japan. The factor with the highest average importance rating was providing translated product information to Japanese customers, which received an average importance rating of 5.52. The second factor, providing customized in-country services, was considered to be somewhat important with an average importance rating of 3.94. The third factor related to the use of specific distribution strategies in Japan, was perceived to be the least important of the three factors with an average importance rating of 3.42.

The factor analysis suggests that while services and distribution channels are only somewhat important in Japan, providing translated information was perceived as being very important. Each of the variables contained within this factor received high importance ratings, suggesting that all of these variables are important. In contrast, virtually all of the other variables included in the other two factors received relatively low importance ratings, generally below 4. The single exception to this was providing a product warranty, which was perceived to be very important with an importance rating of 5.05. The lowest importance ratings were registered for using an exclusive Japanese distributor (2.16), warehousing products in Japan (3.17), and warehousing spare parts in Japan (3.43).

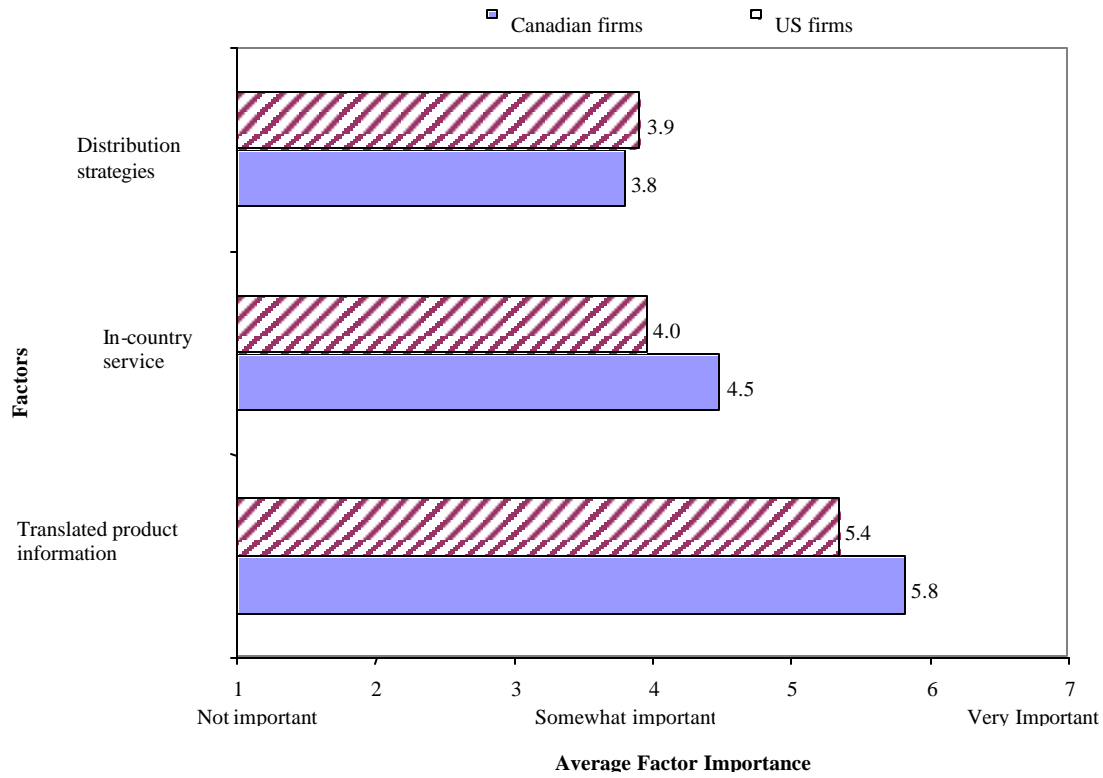
**Table 5.7.1. Results of the Factor Analysis on the Perceived Importance of the Marketing Variables.**

<b>Rotated Component Matrix</b>					
<b>Marketing Mix Variables</b>	<b>Importance Rating</b>	<b>Average importance rating</b>	<b>Factor 1</b>	<b>Factor 2</b>	<b>Factor 3</b>
			<b>Translate Product Information</b>	<b>In-Country Services</b>	<b>Distribution Strategy</b>
Translate product information	5.68	5.52	<b>.931</b>	.118	.007
Translate installation instructions	5.60		<b>.963</b>	.006	-.006
Translate maintenance instructions	5.22		<b>.954</b>	.007	-.105
Warehouse product in Japan	3.17	3.94	.177	<b>.819</b>	.167
Warehouse spare parts in Japan	3.43		.007	<b>.888</b>	.139
Service technicians in Japan	3.90		.366	<b>.672</b>	.417
Provide product warranty	5.05		-.009	<b>.684</b>	.005
Company sales office in Japan	3.96	3.42	-.145	.327	<b>.664</b>
Use a single Japanese distributor	2.16		-.319	.207	<b>.569</b>
Use multiple Japanese distributors	3.96		.227	-.008	<b>.825</b>

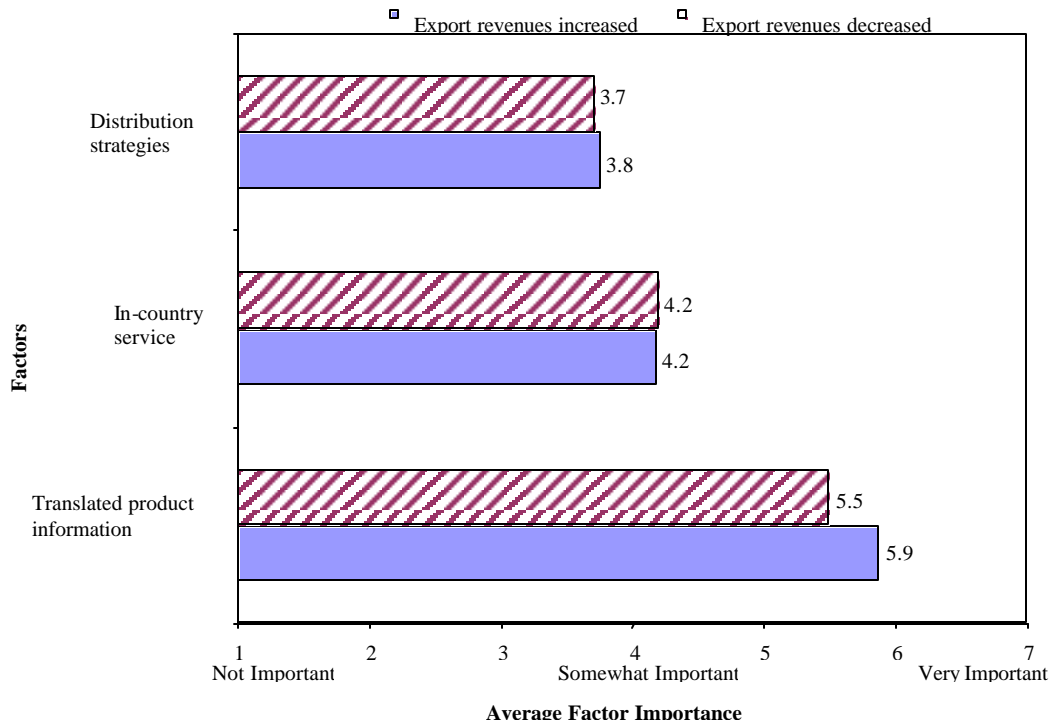
The results of the factor analysis were analyzed further to determine if there were any obvious differences in the importance that US and Canadian respondents attach to the various marketing variables (Figure 5.7.1). The Canadian firms rated factors one and two as being more important than did the US firms while both groups of firms rated the third factor about the same. While there were some differences observed between the US and Canadian firms, none of these differences were found to be statistically significant.

Similarly, a comparison was conducted on the factor analysis results to determine if there were any differences in the importance that successful exporters (defined as having their export revenues increase by 10% or more) and unsuccessful exporters (export revenues declined by 10% or more) (Figure 5.7.2). Again, this analysis showed slight but insignificant differences between the two groups of firms.

Thus, while the factor analysis was useful in helping us reduce the larger set of marketing variables from 10 to 3, it was not particularly helpful in identifying differences between US and Canadian exporters or successful and unsuccessful exporters. However, it must be kept in mind that this was not the motivating reason for conducting the factor analysis. Rather, the factor analysis was performed to simplify our understanding of the importance of a range of marketing variables as perceived by the survey respondents. The useful thing here is that there was general agreement among all exporters on the relative importance that they attached to each marketing variable described in the survey.



**Figure 5.7.1. A Comparison of US and Canadian Firms Importance Ratings for the Three Factors.**



**Figure 5.7.2. A Comparison of Successful and Unsuccessful Exporters Importance Ratings for the Three Factors.**

## 6.0 CONCLUSIONS

The Asian downturn had major impacts on PNW exporters of wooden building materials. The number of firms that have gone out of business attest to the severity of the downturn. Most of the remaining firms reported a decline in their export sales. A few firms reported increased sales revenue from exports to Japan even though Japan was in the midst of an extended economic recession. A study was initiated to explain this difference in export performance through an analysis of marketing variables, demographic characteristics and factors influencing export performance during the downturn.

Events that occurred before and during the Japanese recession have caused structural changes in the flow of wood products to Japan. During the downturn, the Japanese yen weakened against the US and Canadian dollar, effectively raising the price of US wood products in Japan. The consumption tax rate increase, strong US dollar, and the extended economic recession combined to heighten price sensitivity among Japanese consumers. These factors combined to reduce the competitiveness of US wood products in the Japanese market.

The export product mix and distribution channels were strongly related to export success. During the downturn, the Japanese market for imported wooden building materials shrank, making market coverage and product mix specification competitive issues for PNW exporters. The general trend in exporting wooden building materials has been the shortening distribution channels by shipping direct to the Japanese homebuilder. This was strongly associated with export success during the downturn. Firms not solely focused on trade activities, such as general contractors, manufacturers, and construction companies are more dependent upon trade intermediaries than firms focused on trade.

There was a significant relationship between having a sales representative in Japan and export success. More firms had overseas sales representatives than overseas sales offices. This may be a more economical option for small companies looking to extend their distribution channels overseas as well as provide prompt service to customers.

The product mix also was closely associated with export success. Recent changes in the global competitive environment and domestic timber supplies have created a new focus on secondary wood product manufacturing and exporting in the Pacific Northwest. Demand for primary wood products proved to be more sensitive to the downturn than secondary wood products. The secondary wood products, particularly prefabricated housing components, were strongly related to export success. Certain value-added products, such as cabinets, flooring, stairs, moulding and millwork accounted for a large percentage of the export product mix of successful firms.

There was no strong relationship between the nation of operation and export success. Canadian firms tended to focus on exporting primary products, but that is rapidly changing as programs aimed at developing the Canadian secondary processing capacity have been put in place. Overall, Canadian firms reported exporting a large amount of primary wood products through shorter, more direct distribution channels. Their dependency on commodity products meant that Canadian firms were hit hard by the downturn in Asia. It is suggested that Canadian manufacturing firms may wish to diversify their product lines or increase the amount of value-added products exported.

US firms shipped a large amount of secondary wood products through direct channels. However, there was substantially greater use of export intermediaries. This is perhaps an indication of a lack of a strong Japan focus given the strong domestic market at the time or perhaps it is an indication of a higher dependency upon outside firms for export and market expertise. If US firms want to improve their export competitiveness, a strong commitment to the export process and gaining experience in the Japanese markets would be beneficial.





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# **APPENDICES**





**APPENDIX A.**

**SURVEY ON RECENT TRENDS IN SECONDARY WOOD PRODUCT EXPORTS TO JAPAN**

1. Does your firm export secondary wood products to Japan?  
 Yes Please continue to Question 2 and complete the survey  
 No Please return the cover letter to us or fax it to (206) 685-3091

2. How important is the Japanese market to your overall business strategy?

*Please circle the appropriate rating*

	1	2	3	4	5
	Not important				Very important

- 3a. How did your company's 1998 export sales to Japan compare to 1997?

- |  |  |
|--|--|
| <input type="checkbox"/> Increased more than 50% | <input type="checkbox"/> Decreased 1% - 9%       |
| <input type="checkbox"/> Increased 25% - 50%     | <input type="checkbox"/> Decreased 10% - 24%     |
| <input type="checkbox"/> Increased 10% - 24%     | <input type="checkbox"/> Decreased 25% - 50%     |
| <input type="checkbox"/> Increased 1% - 9%       | <input type="checkbox"/> Decreased more than 50% |
| <input type="checkbox"/> Approximately the same  |  |

- 3b. In your opinion, what single factor had the greatest impact (positive or negative) on your business in Japan relative to other North American companies in 1998?

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4. Approximately what percentage of your exports to Japan are through the following distribution channels

Direct to Japanese homebuilders	_____	%
Japanese Distributors/Wholesalers	_____	%
Exclusive Japanese Distributors	_____	%
Company Sales Office	_____	%
Japanese Trading Company	_____	%
Other (Please specify)_____	_____	%
Total = 100		%

- 5a. Do you currently warehouse product inventory in Japan?  Yes  No

- 5b. What impact has this had on your business in Japan?

*Please circle the appropriate rating*

	-3	-2	-1	0	1	2	3
	Negative Impact			No Impact			Positive Impact

6a. Do you have a sales office in Japan?  Yes  No

6b. What impact has this had on your business in Japan?

*Please circle the appropriate rating*

-3	-2	-1	0	1	2	3
Negative Impact			No Impact			Positive Impact

7a. Do you sell your product through a Japanese distributor?  Yes  No

7b. What impact has this had on your business in Japan?

*Please circle the appropriate rating*

-3	-2	-1	0	1	2	3
Negative Impact			No Impact			Positive Impact

8a. Do you have a sales/technical representative in Japan?  Yes  No

8b. What impact has this had on your business in Japan?

*Please circle the appropriate rating*

-3	-2	-1	0	1	2	3
Negative Impact			No Impact			Positive Impact

9a. Do you maintain a strong business relationship with your major customers in Japan?  Yes  No

9b. What impact has this had on your business in Japan?

*Please circle the appropriate rating*

-3	-2	-1	0	1	2	3
Negative Impact			No Impact			Positive Impact

10. Approximately how often do you meet with your major Japanese customers? \_\_\_\_\_ times/year

11a. In general, have your Japanese customers become more price sensitive in the past year?  Yes  No

*Please circle the appropriate rating*

1	2	3	4	5
No change				Much more

11b. What impact has this had on your business in Japan?

*Please circle the appropriate rating*

-3	-2	-1	0	1	2	3
Negative Impact			No Impact			Positive Impact

12 In your opinion, how important is it to provide the following support services in Japan? (Please check the box next to each service if your company provides this service)

Do You Provide?	Not Important			Somewhat Important		Very Important	
	1	2	3	4	5	6	7
<input type="checkbox"/> Translated product information							
<input type="checkbox"/> Translated installation instructions							
<input type="checkbox"/> Translated maintenance instructions							
<input type="checkbox"/> Warehouse products in Japan							
<input type="checkbox"/> Warehouse spare parts in Japan							
<input type="checkbox"/> Sell through a company sales office							
<input type="checkbox"/> Sell through a single Japanese distributor							
<input type="checkbox"/> Sell through multiple Japanese distributor							
<input type="checkbox"/> Have service technicians in Japan							
<input type="checkbox"/> Provide credit to Japanese customers							
<input type="checkbox"/> Provide a product warranty							

13 Approximately what percentage of your total exports to Japan was derived from the following products?

Lumber	_____%
Structural Panels	_____%
Glulam beams	_____%
Doors	_____%
Windows	_____%
Cabinets	_____%
Other (please specify) _____	_____%
	100 %

14. Approximately what percentage of your building material exports to Japan were used in the following construction types?

Post and Beam	_____%
2x4	_____%
Don't know	_____%
Other _____	_____%
	100 %

15. What is your company's primary line of business? (Please check only one box)

- |   |  |
|---|--|
| <input type="checkbox"/> General Contractor   | <input type="checkbox"/> Consolidator                  |
| <input type="checkbox"/> Construction Company | <input type="checkbox"/> Export Trading Company        |
| <input type="checkbox"/> Manufacturer         | <input type="checkbox"/> Wholesaler                    |
|   | <input type="checkbox"/> Other ( Please specify) _____ |

16. Please estimate your company's total sales revenue in 1998.

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> 0 - \$500,000           | <input type="checkbox"/> \$5,000,001 - \$10,000,000  | <input type="checkbox"/> More than \$50,000,000 |
| <input type="checkbox"/> \$500,001 - \$1,000,000 | <input type="checkbox"/> \$10,000,001 - \$25,000,000 |   |
| <input type="checkbox"/> 1,000,001 - \$5,000,000 | <input type="checkbox"/> \$25,000,001 - \$50,000,000 |   |

17. Approximately what percentage of your total 1998 sales revenue was derived from exports to Japan?

\_\_\_\_\_ %

18. How many people does your company employ? \_\_\_\_\_ Total  
\_\_\_\_\_ In Japan  
\_\_\_\_\_ Japanese Speaking

19. What is your job title (or position) within your company? \_\_\_\_\_

Thank you very much for participation in this CINTRAFOR research study. Please fax completed survey to (206) 685-3091. If you would like to receive a summary of the research results, please check the box below and include your name and address on the completed survey.

PLEASE SEND ME A COPY OF THE RESEARCH RESULTS

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

## APPENDIX B. SURVEY NON-RESPONSE BIAS

Non-response error in survey research is the absence of information from respondents that should be included in the calculation of a sample statistic but is not (Wilcox 1977). The non-response error becomes a bias if the non-response is systematic with regards to some parameter of the sample. Non-response bias arises because the sample is heterogeneous, that is composed of subgroups that will each have their own response rate on almost every criterion. In turn, each of these criteria may impact one or more of the dependent variables to be measured (Mandell 1974). However, since bias is systematic, the sample parameters will vary from the population parameters by the difference in the bias proportionate to the nonresponders in the sample.

Non-response bias can spring from multiple sources; lack of access, lack of interest, evaluation anxiety and refusal to respond are a few sources. The biggest problem in mail surveys is the inability to establish clear-cut categories of reached and unreached respondents (Sosdian and Sharp 1980). It is not always clear if the recipient had the opportunity to decide to participate or not and making conclusions about non-response bias difficult. Lack of compliance in the study is also a source of non-response. Even when successfully contacted, a respondent may refuse to participate in the study. The willingness of respondents to answer substantive survey questions often depends on the salience of the research topic to them (Van Goor and Stuijver 1998).

Non-response can also be related to the performance of the respondent on certain variables or attributes in the instrument. Van Goor and Stuijver (1998) studied the influence of policy performance on survey response. A general conclusion drawn from their study is that better performing individuals are higher in achievement motivation, less anxious, and expect to be evaluated favorably. In consequence, they are more cooperative and tend to respond earlier.

The simplest method for detecting non-response bias is to compare the sample characteristics with known population values. If non-response bias is found to exist, it may be possible to estimate the direction and magnitude of the bias. Direction refers to whether the bias is above or below the true sample parameter of interest. Magnitude is the size of the difference between the sample containing the bias and the true sample measures.

The Armstrong and Overton (1977) method of estimating direction and magnitude of non-response bias compares early and late responders using late responders as a proxy for nonresponders. Armstrong and Overton suggest that estimation of the bias can be made from information gathered from successive "waves" of follow up surveys. A statistical test can be used to divide the survey questions into three categories depending on whether the second wave responses were significantly more or less or not significantly different than the responses from the first wave. Each successive wave provides a more accurate representation and characteristics of the nonrespondents. Variations on the wave method use extrapolation and need a minimum of three waves, two to form a trend, and the third as the criteria. Comparing the results from extrapolation on two of the waves with the actual results on the third wave allows for evaluation of the trend in predicting the magnitude of the non-response bias. Linear regression can be used for predicting the magnitude of the non-response bias. The estimates provided by linear regression over cumulated successive response waves for two known sample characteristics seemed reasonably precise (Armstrong and Overton 1977).

Correcting for non-response bias has typically been weighting by known socio-demographic population parameters. If the purpose of the survey is to make estimates of amounts or distributions or proportions, then weighting is necessary if the non-responses are different from the responses on which the items are to be estimated (Lansing and Morgan 1971). However, weighting treats non-response as a function of social and demographic variables instead of a reaction to the substantive questions or dependent variables. In addition, weighting mainly uses independent variables, any non-response bias introduced by the dependent variable is unaccounted for. If non-response on the dependent variable creates differences in response values within categories of the independent variables, then these categories are not homogeneous (Van Goor and Stuijver 1998).