

Can Canada be a Global Competitor in the
Secondary Wood Manufacturing Sector?

A Current Assessment of the Canadian Secondary
Wood Products Sector in a Global Context

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Executive Summary

Introduction

- ✪ During 1990's, Canada increased value of its exports of secondary wood products, BUT new shift in 21st century with new raw material supply and new manufacturers
→ new global competitive environment with Canadian market share at home and in the US under direct attack by producers from newly emerging economies e.g. China.
- ✪ Three sections: 1) report on survey of Canadian secondary manufacturers, 2) global competitive analysis by sector, and 3) policy recommendations given new realities

Survey Results on Company Characteristics

- ✪ Good response of 618 (15%) from mailings to >4,000 firms across Canada
- ✪ Sectors included engineered building products, housing, furniture, millwork, finished building products, craft items, and other
- ✪ Most respondents were small or medium sized enterprises (SMEs) employing <25 employees and with annual revenues < \$5million
- ✪ 85% have made sig. investments in past 5 years, 72% plant to invest in next 10 & most investments in processing equipment
- ✪ 60% are members of industry associations
- ✪ Wood supply is Canadian and much of that is local supply.
- ✪ Markets are local followed by US with BC also targeting Asia
- ✪ Most important competition was local with rising awareness of US, but only a few are aware of Chinese
- ✪ Highest ranked limits to growth were lack of skilled labour and taxation (neutral), BUT the larger the firm the greater the concern with competition
- ✪ Most considered themselves part of manufacturing sector (not forest industry)
- ✪ Partnerships with customers (not raw suppliers) was important concern
- ✪ Not very familiar with emergent business terms (the larger the more familiar)

Survey Results on Competitive Factors

- ✦ Three clusters of respondents:
 - ✓ Cluster 1 most emphasis on non cost competitive factors (marketing, innovation & supply chain); Cluster 2 moderate emphasis on these; Cluster 3 solely concerned with cost competitiveness
- ✦ The greater the value added the greater the focus on non cost competitive factors
- ✦ The regions with higher wage rates have firms with more focus on non cost factors
- ✦ Profitability linked with membership in association, low prices, financing, good customer relations, quick delivery, & new product development.

Global Competitive Assessment by Sector

- ✦ Need to ID best opportunities for Canadian secondary wood products
- ✦ For this study
 - ✓ secondary (& not value added primary) products
 - ✓ US main export market
 - ✓ China main competitor in US (and other) markets
 - ✓ quantitative trade data & qualitative analysis combined
- ✦ After evaluating secondary manufacturing sectors the ratings were:

| | |
|--------------------------------|--|
| ✓ Prefabricated Buildings | 8/10 with 10 = best global opportunity |
| ✓ Wood Windows | 7/10 |
| ✓ Engineered Products & System | 7/10 |
| ✓ Wood Cabinets | 6/10 |
| ✓ Designer Furniture | 6/10 |
| ✓ Wood Doors | 3/10 |
| ✓ Commodity Wood Furniture | 2/10 |
| ✓ Wood Flooring | 2/10 |

- ✪ Regardless of the ranking, great leadership, excellent planning, strong operations, and superb marketing will create opportunities for well-managed companies. Niche opportunities exist in every sector for the focussed firm.

- ✪ Prefabricated Buildings
 - ✓ Canada global leader in export of prefab buildings, especially to US (67% of Can. exports) & Japan (21%)
 - ✓ key competitive factors are raw material supply, product innovation, and market orientation
 - ✓ competitive regions are Scandinavia (log house) and US (panelized housing).
 - ✓ need to expand product line for log & panelized housing
 - ✓ can be fed from engineered wood products and systems

- ✪ Windows
 - ✓ China challenging Canada in global exports with US as major battle ground BUT windows often do not travel well
 - ✓ key competitive factors are costs and value chain management
 - ✓ key competitive regions are China, EC and US
 - ✓ continue to focus on US markets emphasizing cost & value chain management
 - ✓ target mid and high end

- ✪ Engineered Products and Systems
 - ✓ engineered building products has grown rapidly in NA
 - ✓ Canada well positioned to “go global” with expertise
 - ✓ competition is key limiting factor
 - ✓ industry focuses on innovation, value chain and marketing strategies (with costs)

- ✪ Cabinets
 - ✓ Canada dominant supplier of cabinets to US but China increasing share

- ✓ China supply of high quality MDF limiting factor
- ✓ Value chain management, design, service, & customer relationships are key
- ✓ use lower cost areas (China) & assemble components for JIT delivery to US
- ✓ may shift from manufacturing to design, assembly and marketing

- ✧ Designer Furniture
 - ✓ good opportunity in custom furniture
 - ✓ focus on mass customization, design, innovation and marketing strategies
 - ✓ possible assembly of components manufactured offshore

- ✧ Doors
 - ✓ Canada being challenged in US market by China and Brazil
 - ✓ US firms now outsourcing production to China
 - ✓ Low cost Asian producers will dominate door sector

- ✧ Commodity Furniture
 - ✓ since NAFTA, Canada has increased exports to US but now challenged by China (and soon Vietnam)
 - ✓ in 2004 Chinese exports to US double Canadian exports
 - ✓ key competitive factors are costs and infrastructure
 - ✓ key competitive regions include China, Vietnam and Malaysia
 - ✓ supply chain knowledge, use of offshore components & market proximity can ease decline of Canadian sector

- ✧ Flooring (Solid)
 - ✓ US (& EC) firms outsourcing manufacturing to China
 - ✓ China dominating solid flooring sector with imported wood & low cost labour

- ✓ only flooring opportunity is laminate due to low labour component (currently heavily subsidized in China)

General Recommendations

- ✧ redirect export promotion programs with a greater emphasis on secondary manufactured products and the US market
- ✧ re-evaluate current policies based on the increased competitiveness of newly emerging economies such as China, Vietnam, Brazil, Malaysia, etc.
- ✧ go beyond production efficiencies and government sponsored marketing access programs and develop different policies for specific secondary manufacturing sectors that can be globally competitive and those that cannot

Recommendations for Sectors that Cannot Compete in New Reality

- ✧ outsource manufacturing and build skills in supply chain management, design, marketing, customer servicing, promotion and branding
 - ✓ this will require new measures of success other than sales
 - ✓ this may require educating a new type of corporate manager
 - ✓ Canada Wood could collect vital information on Chinese production of selected secondary products to identify potential markets for primary producers and identify potential component producers for Canadian secondary manufacturers.
- ✧ shift from product/process/manufacturing (engineering focus) to a design/service/market focus
 - ✓ add value by means other than lowering cost
 - ✓ allocate 25% of Value-to-Wood funding for post manufacturing research activities for the value-added sector
- ✧ broaden management knowledge of emerging business practices by supporting management education for small- and medium-sized entrepreneurs
 - ✓ support the management course targeted to SME manufacturers proposed by the Centre for Advanced Wood Processing (CAWP) currently under review by

HRD and the Wood Manufacturing Council. It would include information on supply chain management, vendor managed inventories (VMI), point of purchase displays (POP), etc.

- ✦ support educational and training that links design with manufacturing
 - ✓ existing co-operative education programs may be a fast and low cost means
 - ✓ support proposals that would increase design education and skills in the secondary wood sector

Recommendations for Globally Competitive Sectors

- ✦ Recognize the importance of the US market and support the five sectors identified in educational and promotional activities in the US
 - ✓ travel to trade shows to understand design trends, develop relationships and link with distributors with associations to playing a strong role
 - ✓ expand Canada Wood office concept to major US cities but devoted to secondary sector only and link regional secondary associations to create a national federation of associations for promotion of Canadian products in the US.
 - ✓ target support to the five sectors that can be globally competitive

Prefabricated Buildings – Log

- ✦ assist access to log raw materials by providing incentives for quota holders to transfer logs to higher value use
 - ✓ could use some of current Federal funds allocated for transition in rural communities due to beetle and US trade situation.
- ✦ explore Canada First Nations brand for log buildings (particularly recreational buildings)
 - ✓ this would build on new allocations of forest resources in BC to First Nations

Prefabricated Buildings – Prefabricated & Panelized

- ✦ put out a RFP to interview the largest producers and exporters to determine the most useful forms of support for this sector

- ✓ due to the competitive nature of this sector, a group meeting would NOT be suitable but individual interviews with key players such as Hank Staro from the Manufactured House Association would provide the most useful information

Windows and Cabinets

- ✦ it is important to facilitate the outsourcing of some manufacturing for these sectors to remain globally competitive
- ✓ this is a great leap for government funded programs but will provide a more globally competitive industry in the long run

Engineered Products and Systems

- ✦ support efforts to develop a cluster that combines engineering and architectural input into the development of new engineered products as well as systems that incorporate existing products.
- ✦ expand market into non residential sector using market intelligence, promotion and market based product development

Designer Furniture

- ✦ create design clusters and “Made in Canada” design movements modeled on previous Canadian initiatives and European models

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Foreword

There has been a dramatic shift in the supply and flow of secondary wood products in global trade. During the nineties, Canada was a major player in these shifts and increased the value of its exports of secondary manufactured wood products from 1994 – 2000 to almost Canadian \$ 4.5 billion – an increase of a factor of 3.5 during a six year period.¹ However, the recent entry of rapidly developing economies into the manufacture and export of secondary wood products is changing the global supply and demand of many manufactured wood products. It is also having an impact on trade flows of primary wood products, particularly hardwoods, as they are now heading to Asia as raw material supply for many of these growing industries.

The marketplace for wood products, and producing regions, are in the midst of important changes on a global scale. Many of these changes are very recent and are just starting to show up in trade databases. Given these new realities, it is an opportune time to review the Canadian secondary wood processing sector in terms of its global competitiveness. Canadian market share is now under direct threat from the growing wood secondary industry in China and other rapidly developing countries.

This report follows “The Canadian Secondary Wood Products Sector: Competitive Success Factors and Current Status”² delivered to the Canadian Forest Service in March 2004 and updated for March 2005...

The report contains three sections. The first section presents results from the Canada-wide survey of secondary wood manufacturing firms that gauged the relative importance of the competitive success factors explored in the previous report. The second section examines specific sectors of the secondary wood manufacturing industry of Canada and assesses their global competitive position given the dramatic supply changes occurring in the twenty first century. The third section proposes recommendations and direction to maintain and grow a globally competitive secondary wood manufacturing sector.

New Supply +
New Producers +
Global Markets
→ Changing
Competitive
Environment

1. Results from
Canadian Survey
2. Sector
Assessment
3. Recommendations
and Policy
Suggestions

¹ Data is from Strategis Web site and includes furniture, windows, doors, prefabricated buildings, cabinets and millwork. Value added at primary processing facilities are not discussed in this report.

² Delivered to the CFS on March 31, 2004 by D.L. DeLong, D.H. Cohen, and R. Kozak.

Section 1: Survey Results on Competitive Factors

1.1 Introduction

The results of a nation-wide survey conducted at the end of 2004 are summarized below. The database developed for secondary manufacturers in Canada is the most comprehensive of its kind and was compiled with the cooperation of industry associations and Forintek Canada Corp. If maintained and updated, it can serve as a useful tool for continued research and monitoring of this important sector.

1.2 Responses

Of the 4,700 surveys sent out in October 2004, 656 either were not secondary wood manufacturers or were recently closed / relocated. This left 4,044 potential survey respondents. Of these, 618 surveys were returned resulting in an acceptable response rate of 15%. Geographic distribution of responses is shown in Figure 1.

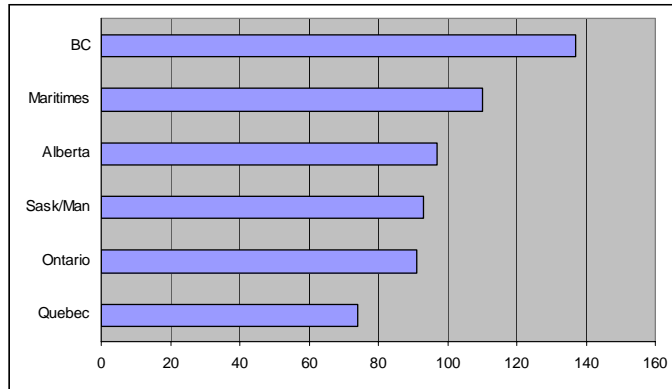


Figure 1: Number of Responses by Region

Respondents categorized the products they produced according to the following categories: engineered building products, housing, furniture, millwork, finished building products, craft items, and other. The 'other' segment consists of builders of boats, caskets, and signs. The cabinet segment represented the highest proportion of respondents. When smaller firms (3 FTEs or less) were removed, the relative proportions of respondents by segment remained similar, with the exception of musical instrument and crafts, which decreased (Figure 2).

Good response rate
(15%) from across
Canada → 618
responses

Can infer to
population

Engineered building
products, housing,
furniture, millwork,
finished building
products, craft
items, and other

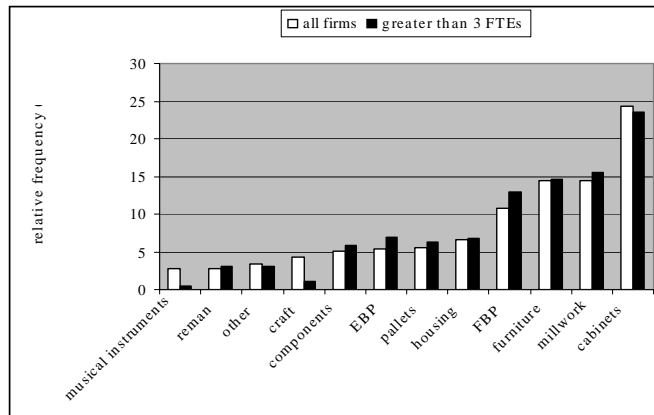


Figure 2: Relative frequencies of respondents by product segment

1.3 Respondents' Profile

Respondents indicated their gross revenues and a total of 30% (185) of the respondents reported revenues of less than \$500,000 (Figure 3). They reported the number of full time employees (FTEs) directly and 65% (400) of the respondents were firms of 25 employees or less (Figure 4).

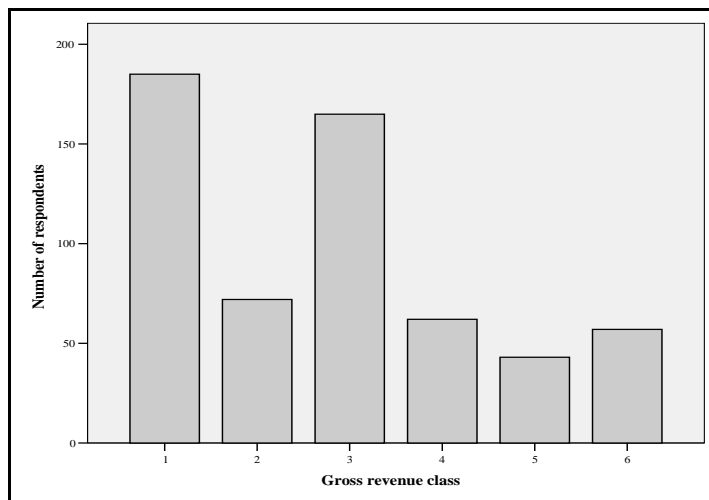


Figure 3: Respondents by Revenue Class

1 = <\$500,000; 2 = \$500,000 - \$1million; 3 = \$1million - \$5million; 4 = \$5million - \$10million; 5 = \$10million - \$20million; 6 = >20million

Most respondents
SME's employing
<25 employees with
some larger firms

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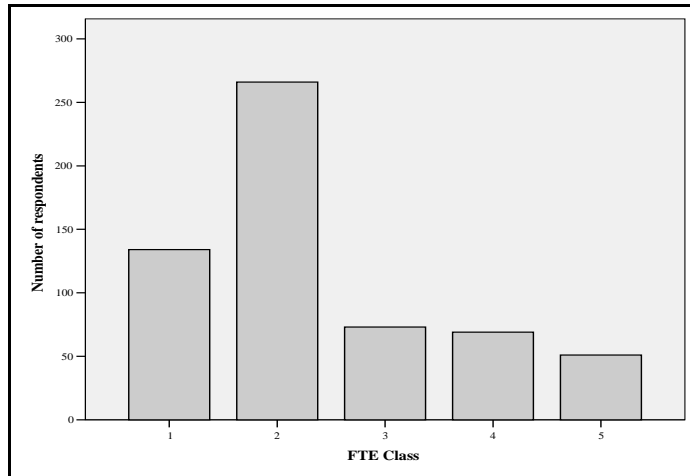


Figure 4: Respondents by FTE

(1 = 1-3 FTE, 2 = 4-25, 3 = 26-50, 4 = 51-100, 5 = >100)

Firms located in Ontario are older than firms located in the rest of Canada (Figure 5). The majority of companies (85%) indicated that they have made substantial investments in the last five years, the most common of which are for upgrading equipment, tools and machinery. Most firms (72%) are also planning to make substantial investments in the next five years. Their future investments tend to be upgrades to equipment and machinery, although some firms indicated that they would invest more in research and development, software, and human resources. The majority of respondents (60%) are members of at least one industry association.

- ✓ 85% have made sig. investments in past 5 years
- ✓ 72% plant to invest in next 10
- ✓ Most in processing equipment
- ✓ 60% are members of industry associations

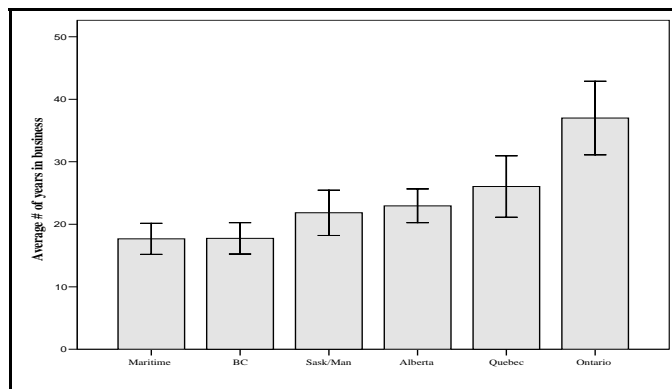


Figure 5: Avg. no. of years in business by region (error bars=95% Confidence Interval)

1.4 Wood Supply

The majority of respondents had their wood supplied to them locally. However, the musical instrument segment had the widest variety of suppliers including the US, Europe, Asia, and South America. The location of suppliers changed slightly when the smaller firms (3 or less FTEs) are removed from the analysis, with lower proportions of local supplies and increased supplies from other parts of Canada and the US. (Figure 6)³

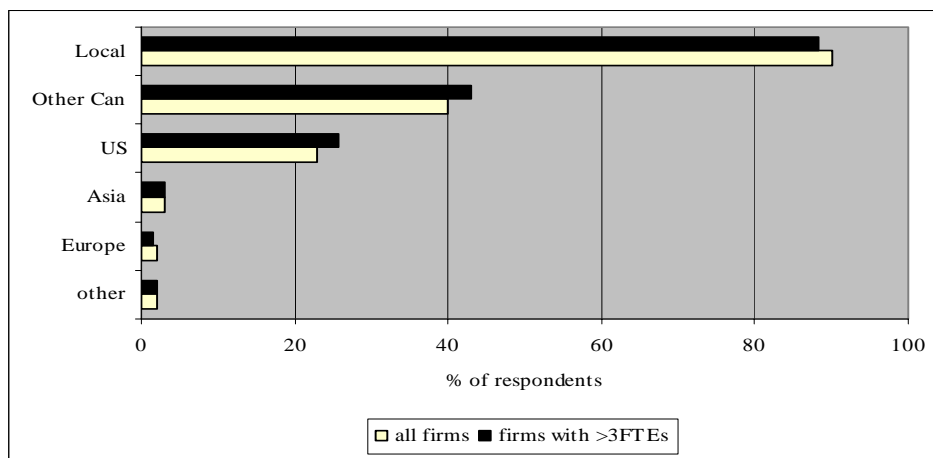


Figure 6: Wood Supply⁴

Most wood supply
Canadian and much
of that is local

Most markets are
local followed by
US.

BC also targets
Asia

1.5 Markets

Local markets were the most important for over 90% of responding companies (Figure 7), with the exception of musical instrument manufacturers where the US market is larger than the local or other Canadian markets. The US market was the second most important market for housing, engineered building products, finished building

³ Firms with 3 or less employees were removed from some analysis to remove the cottage industries from the database in order to concentrate on production facilities with opportunities for manufacturing growth.

⁴ Results are based on responses to the following question "Where are your main suppliers of wood located? (check all that apply)"

products, furniture and remanufacturers. The European market consisted mainly of the UK and the western continent. The Asian market consists of mainly of Japan and Korea. The majority of companies that sell to Asia are located in BC.

When small firms (3 or less FTEs) are removed from the analysis, local markets were still the most important, with over 90% of firms so indicating. However, other Canadian and US markets become slightly more important with proportionally more firms having markets in other parts of Canada and the US (Figure 7).

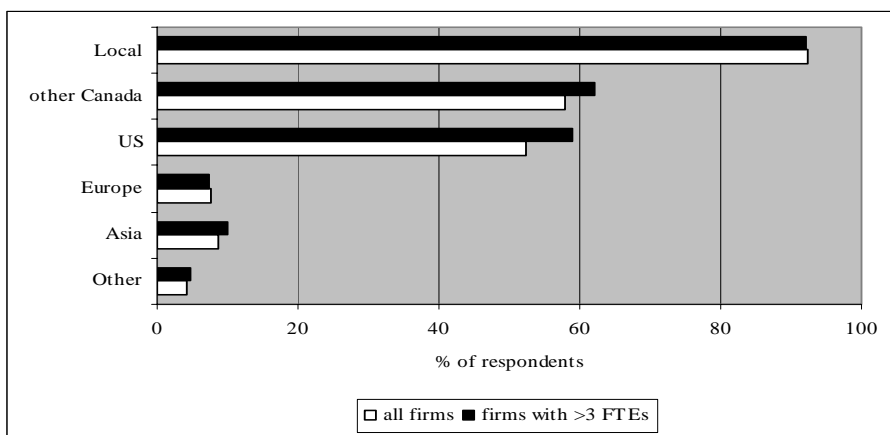


Figure 7: Markets for Responding Firms⁵

1.6 Competitors

Most respondents believed that their main competitors were local. However, the furniture and the component segments believed China to be an important competitor. The musical instrument segment is the only segment that believes their main competition is in the US as opposed to being local. Of the larger firms, the furniture and finished building

Most consider local competition with rising awareness of US competition.

Few are aware of Chinese competition.

⁵ Results are based on responses to the following question “Where do you sell your products? (please show as % of gross revenues)”

products segments believed that the US was an important competitor (Figure 8).

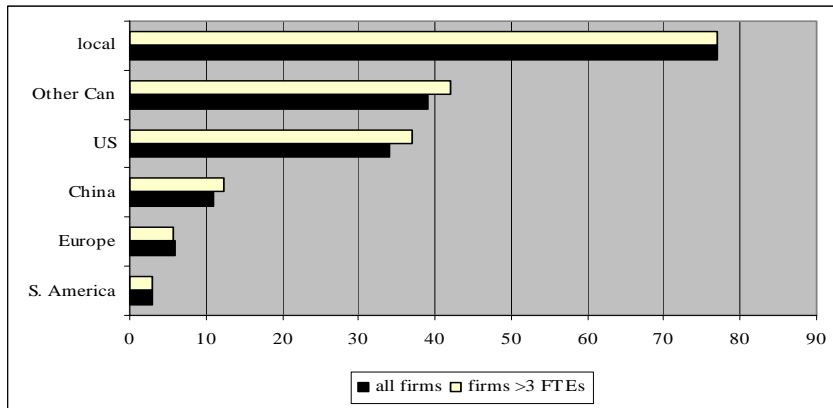


Figure 8: Location of Perceived Competitors⁶

1.7 Limits to Growth

While respondents rated taxation policy as the most important factor limiting their growth (Figure 9), the mean level of importance was near a neutral value of 3 (3.09). All other factors had a mean of less than 3, indicating that these factors are not very important in limiting the growth of firms. Respondents were also asked if other factors limited their ability to grow as a company. Twenty-one percent of respondents indicated other factors, and 97% of those indicated that the shortage of skilled labour was extremely important (4.6) in limiting their ability to grow as a company.

When the factors were looked at by segment, raw material supply and forest policy were generally more important for segments that used the rawest form of lumber inputs such as the pallet, housing and remanufacturing segments.

Lack of skilled labour and taxation were highest ranked "limits to growth".

⁶ Results are based on responses to the following question "Where do you consider your main competitors to be located? (check all that apply)"

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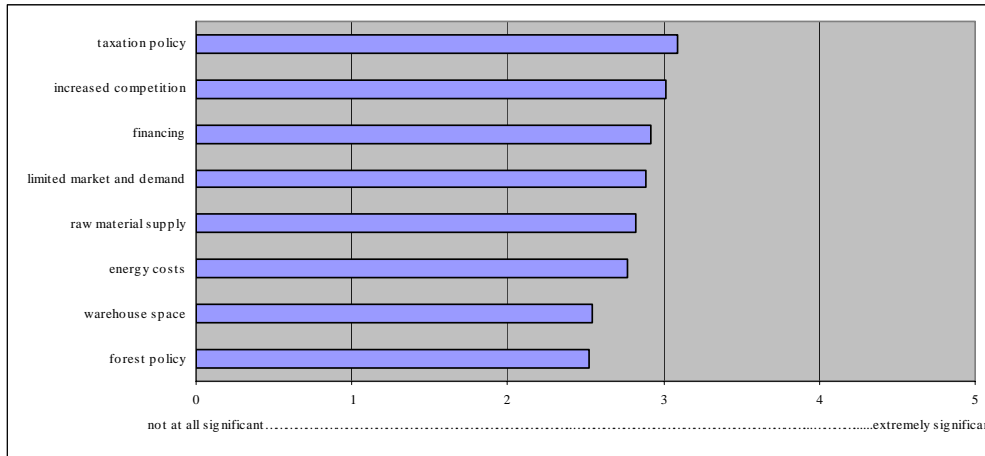
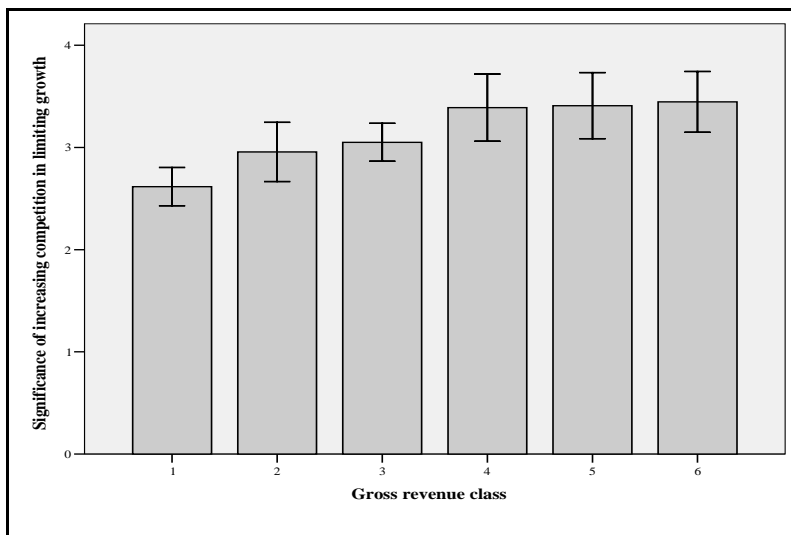


Figure 9: Average for Factors Limiting Growth⁷

Respondents from larger firms with higher gross revenues tended to be more concerned that increased competition was limiting their ability to grow. Smaller firms with the lowest gross revenues were importantly less concerned about increased competition (Figure 10).



The larger the firm, the greater the concern with competition.

Figure 10: Importance of Competition Limiting Growth by Revenue Class

1. ⁷ Results are based on responses to the following question “How significant are the following factors in limiting your ability to grow as a company? With responses ranging from 1 = not at all significant to 5 = extremely significant.

1.8 Business Strategies

Respondents were asked about their level of agreement on statements reflecting various business strategies. These included strategic partnerships, geographic location, and business relationships. In general, respondents were in strong agreement that all of the business strategies are important. However, the importance of having strategic partnerships with customers was the most important. Respondents were also in more agreement that they are part of the manufacturing industry than the forest industry (Figure 11).

Most respondents considered themselves part of manufacturing sector (not forest industry) & valued partnerships with customers

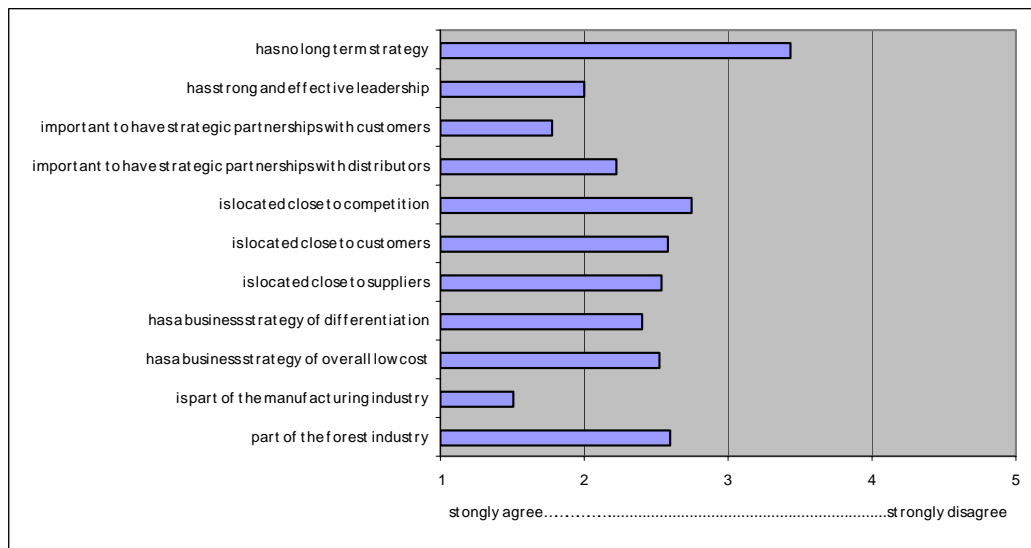


Figure 11: Level of Agreement with Strategic Statements

Respondents were also asked about their level of familiarity with a set of emergent business terms; e-commerce, industry clusters, supply chain management, supply chain mapping and vendor-managed inventories (VMI). Overall, respondents were not very familiar with these business terms (Figure 12). However, larger firms (by gross revenues) were more knowledgeable about these business terms (Table 1). The craft and musical instrument segments tended to be the least familiar with the

Not very familiar with emergent business terms.

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terms. However, the musical instruments segment was more familiar with e-commerce than all other segments.

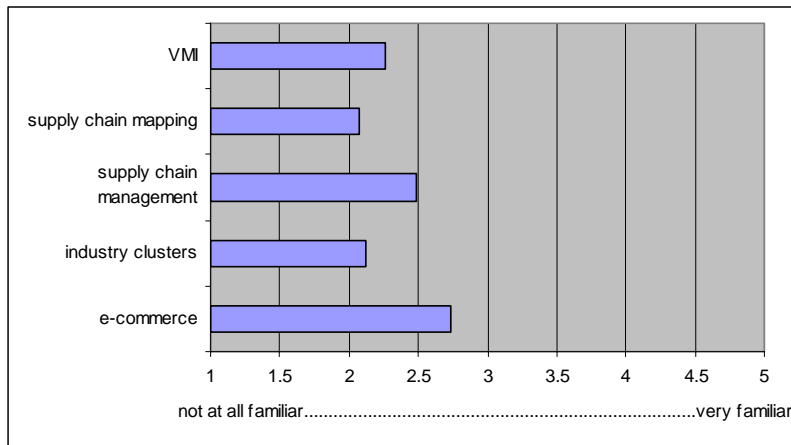


Figure 12: Familiarity with Business Terms

Table 1: Mean levels of familiarity with business terminology by gross revenue class (1 = not at all familiar; 5 = very familiar)

| Gross Revenue Class | e-commerce | Industry clusters | Supply chain management | Supply chain mapping | Vendor managed inventories (VMI) |
|----------------------|--------------------|--------------------|-------------------------|----------------------|----------------------------------|
| 1 <\$500,000 | 2.47 ^a | 1.73 ^a | 1.94 ^a | 1.63 ^a | 1.61 ^a |
| 2 \$500,000-1million | 2.46 ^a | 1.94 ^{ab} | 2.08 ^{ab} | 1.82 ^{ab} | 1.99 ^b |
| 3 \$1-5million | 2.68 ^a | 2.11 ^{ab} | 2.43 ^{bc} | 2.01 ^{bc} | 2.4 ^b |
| 4 \$5-10million | 2.97 ^a | 2.22 ^{ab} | 3.0 ^c | 2.38 ^{bc} | 2.52 ^b |
| 5 \$10-20million | 3.12 ^{ab} | 2.53 ^{bc} | 2.91 ^c | 2.51 ^{cd} | 2.63 ^b |
| 6 >\$20million | 3.35 ^b | 2.96 ^c | 3.81 ^d | 3.07 ^d | 3.54 ^c |

^{a,b,c,d} denotes statistically significant differences at alpha=.05 level using Scheffe's test between gross revenue classes. For example, for e-commerce revenue, classes 1 through 5 form a similar group which is different from the group with revenue classes 5 and 6.

Respondents indicated their relative emphasis on a variety of business strategies within their current operations. They were asked to rate each strategy on a five point scale ranging from 1 = not at all emphasized to 5 = emphasized to a very great extent. Sixteen strategies were grouped into the following four categories which are shown in Table 2.

The larger the firm, the greater the familiarity with the emergent business terms.

Using the multivariate statistical technique of clustering, respondents were classified into three groups based on similarities of strategic activities. This process enables an investigation into similarities of responding companies with similar strategic activities. Firms in Cluster 1 had a higher emphasis on innovation, market orientation, and supply chain strategies, those in Cluster 2 had moderate emphasis on these strategies, and firms in Cluster 3 had a low emphasis. Cost strategies were emphasized equally across all 3 clusters. For this report, only the results of the clusters are presented and details are omitted.

Three clusters formed:

1. innovation & market
2. some innovation & market
3. purely cost strategy

Table 2: Strategic Activities

Cost Strategies:

- ✓ efficient operation of production facilities
- ✓ competitive pricing
- ✓ cost of raw materials

Supply Chain Management Strategies:

- ✓ maintaining low levels of inventory
- ✓ controlling channels of distribution
- ✓ quick delivery and immediate response to customer orders

Market Orientation Strategies:

- ✓ developing brand identification
- ✓ promotion and advertising
- ✓ market research
- ✓ serving special geographic markets
- ✓ customer service (including after-sales support)
- ✓ designing or producing to order for individual customers
- ✓ innovation in marketing techniques

Innovation Strategies:

- ✓ developing new products
- ✓ investing in R&D
- ✓ innovation in production processes
- ✓ emphasize products for high-price markets
- ✓ ability to manufacture specialty products
- ✓ employing highly skilled personnel

Smaller companies (by revenue and number of employees) were more heavily represented in Cluster 3 and focused mostly on cost strategies.

This could be due to the lack of human resource available for high-level business planning such as strategic planning in smaller firms. Firms in higher value-added segments such as furniture, finished building products, and musical instruments were more represented in Cluster 1 (with a higher strategic emphasis). As the products become more sophisticated and valuable, strategic efforts are required to ensure success with customers that are also more sophisticated.

The higher the value added → cluster 1

BC → cluster 1

Firms located in the Maritimes and Saskatchewan/Manitoba had the highest proportion in Cluster 3 (low strategic emphasis). BC had the highest proportion in Cluster 1 which had a high strategic emphasis. Both these results may be attributable to wage rates. The Maritimes, with relatively low wage rates, can afford to focus on a pure cost strategy while the higher wage rates in BC may force the firms to add additional strategic emphasis in order to compete.

Mar. + Sask/Man → cluster 3

1.9 Profitability

A logistic regression was used to assess the impact of 49 variables used in this survey on firm profitability. The statistical analysis, details and full results will be available in future academic publications and only the results are summarized in this report.

Profitability linked with membership in association, low prices, financing, good customer relations, quick delivery, & new product development.

The most important factor in this model predicting profitability was whether or not a firm was a member of an industry association. This bodes well for secondary manufacturing associations. Other factors that contributed to profitability were whether financing was a limiting factor for growth, an emphasis on low competitive pricing and an emphasis on developing new products. In addition, younger firms tended to be slightly more profitable. An emphasis on quick delivery of customer orders had a negative effect on profitability.

If the same statistical procedure was used with the small firms (3 or less FTEs) removed then there were seven variables that affected profitability (i.e. were statistically significant). Results were similar except being a

member of an association became even more important. Also important in determining company profitability were financing as a limiting factor for growth, importance in having relationships with customers, competitive pricing, new product development and a focus on quick delivery to customers, as part of competitive strategy. Competition as a limiting growth factor had a negative effect on profitability.

1.10 Summary

The survey of secondary manufacturers required developing a new database to ensure adequate sampling to infer to the Canadian population of secondary wood producers. This was accomplished and a highly robust and graphically driven database, which will require updating and maintenance on a continuous basis, now exists. This data base will be turned over to Forintek Canada Corp. to maintain as part of their value-added wood Industry Advisor group.

The survey assessed the relative importance of a variety of strategic and competitive factors which have been summarized in this section. The next section will determine which specific sectors provide the best opportunity for Canada to maintain or develop a globally competitive industry. The third section will present results from the survey for those sectors identified with the greatest potential.

Section 2: A Current Assessment of the Canadian Secondary Wood Products Sector in a Global Context

2.0 Introduction

The dramatic shift in the supply and export of secondary wood products will continue to impact Canadian exports of secondary manufactured wood products. The increased competition from rapidly developing economies, particularly China, into the manufacture and export of secondary wood products will have a profound impact on Canadian firms right across Canada. This section assesses the various segments of the Canadian secondary sector in terms of its global competitiveness given today's global trends.

This assessment combines quantitative and qualitative analysis to evaluate the potential for various sectors of the Canadian secondary wood manufacturing industry to compete in the new, business environment. Prior to presenting the results of this analysis, several boundaries were developed to prevent a spiralling complex analysis that would have resulted in elegant, and potentially not very useful, results. These boundaries enabled a clear focus on identifying those segments with the best opportunities for Canada to become, or remain, globally competitive in production, export and profitable sales.

This section examines the Canadian wood manufacturing sectors based on their overall global competitiveness. ***However, great leadership, excellent planning, strong operations and superb marketing will create opportunities for the well-managed company in any of these sectors, regardless of its opportunity ranking. In addition, there will always be niche opportunities in every sector for the focussed firm.***

This report first outlines these boundaries, and then briefly discusses the methodology followed by a presentation of results. A brief discussion and set of recommendations follow. Accompanying the final report is a PowerPoint presentation that summarizes key points.

New Supply +
New Producers +
Global Markets
→ Changing
competitive
environment

Need to ID best
opportunities for
Canadian secondary
wood products.

2.1 Boundaries

The report focuses on secondary manufactured wood products as initially outlined in “The Canadian Secondary Wood Products Sector: Competitive Success Factors and Current Status”⁸. Many value added primary products were not included to maintain the focus on the secondary manufacturing sector. The product categories summarized in that report were modified and expanded for this report. They are windows, doors, cabinets, furniture (commodity and custom), cabinets, flooring, prefabricated housing (including log, panelized and timber frame) and engineered building products and systems.

While there are many global markets for Canadian producers of secondary wood products, the US market is the primary export market. The US is the dominant export market for most Canadian exports of secondary manufactured wood products and is responsible for:

- 97% of all door exports (by value),
- 95% of all furniture exports,
- 69% of all wood prefabricated buildings, and,
- 91% of all kitchen cabinet exports⁹.

While developing additional and alternative markets for Canadian secondary wood products is important, the US has been, and will remain, **the** key export market for value added wood products. For this reason, this report will focus on the US as the key market where Canadian secondary wood products must be competitive, given changing global competitive regimes.

There has been an explosion of newly developing economies (NDE) committed to developing secondary wood manufacturing industries. Some of these include Malaysia and Vietnam (furniture), Poland and

BOUNDARIES

- ✓ Secondary (& not value added primary) products
- ✓ US main export market
- ✓ China main competitor in US (and other) markets

⁸ Delivered to the Canadian Forest Service on March 31, 2004 by D.L. DeLong, D.H. Cohen, and R. Kozak.

⁹ Unless otherwise stipulated, all data is from the Global Trade Atlas and is from either 2003 or 2004, depending on which year has the most current complete data set.

Hungary (wood windows), Brazil (doors and furniture), and South Korea (doors). However, no single country or region has exhibited growth in both the production and exports of secondary wood products that compares to China. According to the FAO, China has been the largest importer of logs since 2001 and now (2003) ranks second (behind only the US) in total value of imports of wood products. A substantial proportion of the wood imported into China is re-manufactured and then re-exported — estimates range from 35 to 60%, China has increased its exports of a wide variety of secondary wood products to become a major global supplier of laminated and edge-glued lumber, wood doors, furniture, flooring and more. Manufacturers in China are continuously exploring new wood products to manufacture from continuously increasing imports of both hardwood and softwood logs, lumber and wood waste (see Table 3).

**Table 3: Annual increase of imports from China 2000-05
compounded annually**

| Item | EC (15) | USA |
|-----------|---------|------|
| doors | 30% | 105% |
| moulding | 46% | 41% |
| furniture | 34% | 28% |
| flooring | 46% | 61% |

Sources: World Trade Atlas

✓ Report will focus on Canadian competitiveness in US given increased competition from China.

For this report, the main evaluation will be on assessing the current and future competitiveness of the Canadian secondary wood sector in terms of exports to the US given the increased competition from China. However, the results can be extrapolated to other markets and other emerging competitors.

✓ Assessment by trade data and qualitative evaluation for each product category

Product groups are examined based on a quantitative assessment of trends in US imports (and Canadian exports) relative to Chinese competitors. The focus is on the past five years using the most current data since increased competition from China is a phenomenon of the twenty-first century. In some sectors, dramatic increases in exports from China to the US have only occurred since 2003.

A qualitative assessment follows based on the critical success factors presented in “The Canadian Secondary Wood Products Sector: Competitive Success Factors and Current Status”. These include the following six business factors: labour and operating costs, cost of capital, raw material supply, infrastructure, stability, and government influence. The nine success factors from the previous report were summarized under the following categories: process innovation, product innovation, technology adoption, value chain management, degree of clustering, managerial expertise, worker skills, core competencies and market orientation.

Canada’s competitiveness on these 15 factors was evaluated based on a qualitative assessment which was discussed with a panel of experts. This assessment rated the Canadian secondary sector for each factor as either “–”, “0”, or “+” based on whether that sector was considered to be lower, equal or better than global competitors. For each product category, the most critical factors were identified as well as the key competing regions.

An overall ranking of the Canadian opportunity for that product category in terms of global competitiveness was derived on a scale of 0-10 with 0 = to no opportunity and 10 = a global competitive advantage is assured. This ranking considered all 15 factors but with a much greater emphasis on the most critical factors.

Thus, this assessment is bounded as follows;

- limited to secondary manufactured wood products,
- focused on export potential to US market,
- keyed in on competition from Chinese producers,
- used quantitative and qualitative assessment.

- ✓ secondary only
- ✓ US market
- ✓ China as competition
- ✓ quantitative & qualitative

2.3 Results

Results are presented for each of the following categories of secondary manufactured wood products; Wood Windows, Wood Doors, Wood Furniture Commodity (office, bedroom, kitchen & other), Wood Custom Furniture, Wood Cabinets, Wood Flooring, Prefabricated Housing

(including log, panelized, timber frame etc.), and Engineered Building Products (EWP & systems).

2.3.1 Wood Windows

2.3.1.1 Exports and Trade

If trade between European countries is not included, then Canada is the largest exporter of wood windows in the world. Canada's exports have increased steadily through the past five years; however, China's has increased at a greater rate (see Figure 13).

Over 98% of Canadian exports go to the United States and Canada currently provides 83% of all wood windows imported into the US. Other countries that have some minor market share of this market include Germany, Italy, Mexico, Poland, China and France. However, China has been targeting the US and this market accounts for almost 50% of its exports. Most Chinese exports are due to US suppliers outsourcing manufacturing to Chinese plants and not due to the introduction of a new branded Chinese window available in North America.

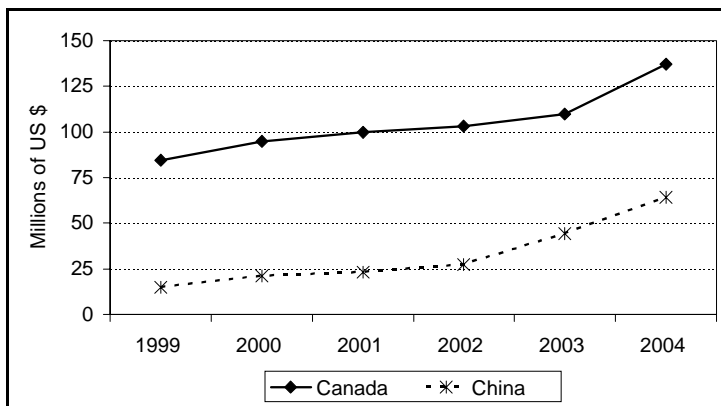


Figure 13: Canadian and Chinese Exports of Windows 1999 – 2004

Currently windows do not travel well (i.e. ocean freight and changing humidity can cause problems in wood windows). However new technologies and tight quality control can often overcome the difficulties inherent in the transport of windows by water freight.

- ✓ China is challenging Canada in global exports of windows.
- ✓ US major battle ground BUT
- ✓ windows often do not travel well

2.3.1.2 Competitive Position

The qualitative ratings for the competitive factors for Canadian wood window sector are shown in Table 4. The key competitive factors for wood windows are costs and value chain management. Key competitive regions for Canada are China, the European Community and the US.

Table 4: Competitive Ratings for the Canadian Wood Window Sector

| | | | | |
|----------------------------|---------------------------|-------------------------|-------------------------------|-----------------------------|
| labour/operating cost - | government influence + | stability + | raw material 0 | capital cost 0 |
| infrastructure + | process innovation + | product innovation + | technology develop & use 0 | value chain management + |
| business clusters 0 | managerial expertise 0 | worker skills 0 | market orientation + | knowledge 0 |

2.3.1.3 Competitive Assessment

- ⊛ increasing competition for components and complete windows from China
 - ⊛ could decrease costs by importing components (e.g. doors and/or hardware) for low end windows and producing mid/high end in Canada
 - ⊛ Canada has strong mid/higher end sector
 - ⊛ continue to target US market for export
 - ⊛ strengthen and utilize supply chain expertise to maintain competitive edge
 - ⊛ continue to keep up with fashion changes in US market and adapt design and finish accordingly
- ✓ continued focus on US markets emphasizing cost control and value chain management
 - ✓ target mid and high end
 - ✓ Canada CAN compete globally in window markets

CANADIAN OPPORTUNITY → 7/10

2.3.2 Wood Doors

2.3.2.1 Exports and Trade

Canada has increased its exports of wood doors by 13% annually since 1999 surpassing \$US 300 million in 2004. Most of these doors (97%) go to the US market where Canada provides 47% of all wooden door imports. The two greatest competitors for Canada are China and Brazil (Figure 14). China has increased its exports 22% annually since 1999 mainly targeting the US which imports over half of all Chinese exports. However, Chinese exports have increased most dramatically since 2002. Brazil has increased its exports by 17% annually since 1999. In addition, Chile, South Africa and Lithuania have all increased exports during the past five years.

Currently, several US firms that manufacture wood doors have outsourced manufacturing to China or are looking to do so. Doors are standard sizes, pack flat, and are easily transportable making many of them standardized commodities that compete primarily on price. Raw materials, including MDF (medium density fibreboard), veneers and lumber, are readily available either in producing countries or as an easily importable raw material.

- ✓ Canada being challenged in US market by China and Brazil
- ✓ China will surpass Canada in 2005/6
- ✓ US firms outsourcing production to China

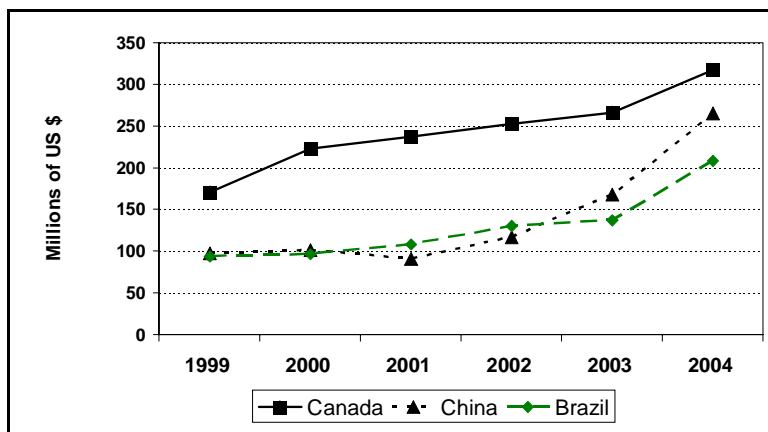


Figure 14: China, Brazil and Canadian Exports of Wood Doors 1999-2004

2.3.2.2 Competitive Position

The qualitative ratings for the competitive factors for Canadian wood door sector are shown in Table 5. The key competitive factors for wood doors are costs and supply Chain management. The key competitive regions for Canada are China, Vietnam, and Malaysia.

Table 5 Competitive Ratings for the Canadian Wood Door Sector

| | | | | |
|----------------------------|---------------------------|-------------------------|-------------------------------|-----------------------------|
| labour/operating cost - | government influence 0 | stability 0 | raw material 0 | capital cost 0 |
| infrastructure + | process innovation 0 | product innovation 0 | technology develop & use 0 | value chain management + |
| business clusters 0 | managerial expertise 0 | worker skills 0 | market orientation 0 | knowledge 0 |

2.3.2.3 Competitive Assessment

- ⊗ China & Brazil production facilities and exports growing rapidly and capacity increasing dramatically each year
- ⊗ many US firms looking to outsource production to China (e.g. Jenn Weld)
- ⊗ low labour cost and abundant inexpensive Asian hardwood and Russian softwood provide operational advantage to Chinese producers for the next five years

- ✓ Low cost Asian producers will dominate door sector
- ✓ Canada will have difficulty competing globally

CANADIAN OPPORTUNITY → 3/10

2.3.3 Wood Furniture

This section reports on standard wood furniture. High end, designer furniture will be discussed separately in the assessment; however; there are few trade statistics for this customized product.

2.3.3.1 Exports and Trade

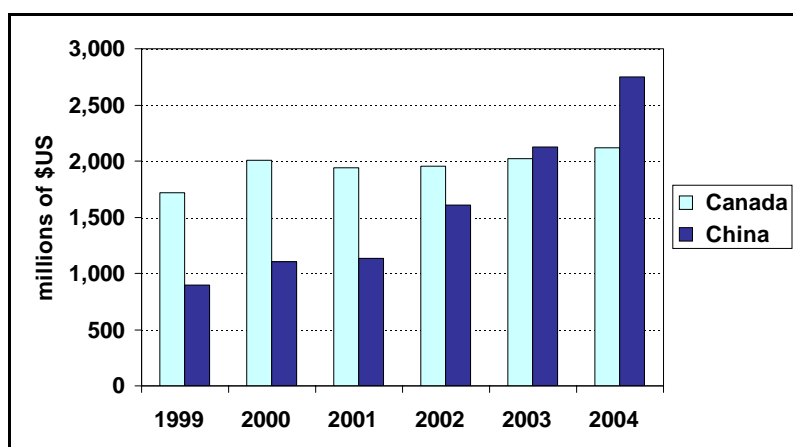
- ✓ Wood furniture trade is reported for the following types of furniture; office, bedroom, kitchen, and other. Canada is the largest exporter of wood office furniture, responsible for over 20% of world exports and an export value of almost \$US 420 million in 2004. However, China is closing in quickly with an export value of over \$US 218 million representing an increase of 100% in just two years.

Canada exported \$US 395 million of bedroom furniture in 2004. This represents a small annual decline from 2001. China exported \$US 1.15 billion or almost three times as much as Canada in 2004. This represents a five-fold increase in just five years for Chinese exports of wood bedroom furniture and led to actions to place tariffs on these to protect the US industry.

Canada has continuously increased its annual exports of wood kitchen furniture each year for the past five years. Exports in 2004 totaled \$US 630 million representing 63% of world exports. China, while exporting only \$US 162 million in 2004 has increased its exports by a factor of 5.5 in the past five years.

In 2004 Canada exported \$US 657 million worth of wood furniture designated as “other”. However, China exported almost \$US 2 billion in the same period representing a doubling in just three years. Exports for all four sectors are summarized in Figure 15.

- ✓ Since NAFTA Canada has increased exports to US
- ✓ Recently losing position to China (and soon Vietnam)



**Figure 15: Total Exports of Wood Furniture for Canada and China
1999 – 2004**

The US accounts for over 95% of all Canadian furniture exports. Canada has greatly increased its furniture exports to the US since major restructuring after the implementation of NAFTA. However, this growth has stagnated during the past five years as China has greatly increased its production and exports of wood furniture to the US (Figure 16). While total exports of wood furniture reported by China exceeded the value of imports reported by the US it could be stated that the vast majority of furniture exports from China are to the US¹⁰.

✓ US imports of furniture from China have increased dramatically (ignore China export data)

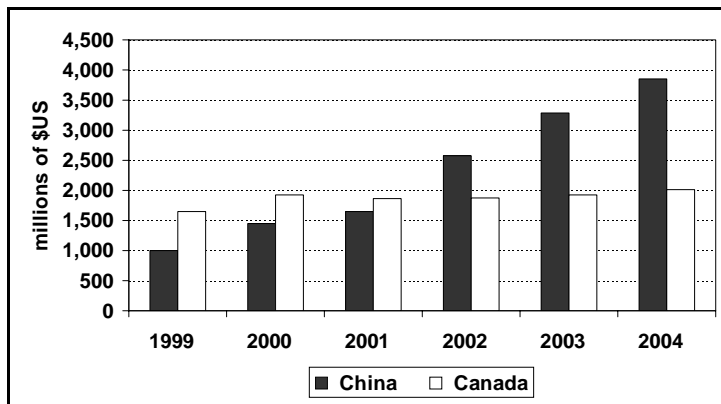


Figure 16: US Imports of Wood Furniture 1999 – 2004

2.3.3.2 Competitive Position

The qualitative ratings for the competitive factors for Canadian wood furniture sector are shown in Table 6. The key competitive factors for commodity furniture are costs and infrastructure. Key competitive regions include China, Vietnam and Malaysia.

¹⁰ Reports of Chinese exports are often unreliable but are improving with time. The US data is considered more reliable.

Table 6: Competitive Ratings for the Canadian Wood Furniture Sector (Commodity)

| | | | | |
|----------------------------|---------------------------|-------------------------|-------------------------------|-----------------------------|
| labour/operating cost – | Government influence 0 | stability + | raw material 0 | capital cost 0 |
| infrastructure + | process innovation – | product innovation – | technology develop & use – | value chain management + |
| business clusters – | managerial expertise – | worker skills 0 | market orientation + | knowledge 0 |

2.3.3.3 Competitive Assessment

- ✳ China dominates bedroom, other furniture categories
- ✳ Canada is a major player in office furniture but China closing fast
- ✳ Canada and China battling for kitchen sector
- ✳ Potential to compete in office
- ✳ Vietnam developing production capacity and infrastructure to follow China
- ✳ Canada can only compete in specific segments, rear guard action necessary to slow erosion of market share using geographical proximity, supply chain knowledge and offshore components

- ✓ Will continue to lose share to China & others
- ✓ In some segments Canada can compete: office & kitchen
- ✓ Must use supply chain knowledge, offshore components, market proximity
- ✓ Overall poor opportunity

CANADIAN OPPORTUNITY → 2/10

2.3.4 Designer Furniture

While the opportunity for Canadian commodity furniture exports seems bleak, the opportunity for designer high-end furniture remains bright. This custom crafted furniture sector relies on product design and innovation, worker and management skills and a market orientation for success. Costs have a much smaller impact on the success compared to the

commodity sector. While trade data does not exist, anecdotal evidence indicates that Canada is gaining share in the US. Key competitors are other high cost regions such as Italy and Denmark, countries with a long design history. Competitive ratings are shown in Table 7.

Table 7: Competitive Ratings for the Custom Canadian Wood Furniture Sector

| | | | | |
|----------------------------|---------------------------|-------------------------|-------------------------------|-----------------------------|
| labour/operating cost – | Government influence 0 | stability – | raw material – | capital cost – |
| infrastructure 0 | process innovation – | product innovation 0 | technology develop & use 0 | value chain management + |
| business clusters 0 | managerial expertise 0 | worker skills + | market orientation + | knowledge 0 |

The competitive assessment includes:

- ✦ opportunity for custom designed, high end wood furniture
- ✦ focus on design, uniqueness, best wood,
- ✦ assembly of components manufactured offshore (China) for JIT delivery to US market
- ✦ potential for mass customization

- ✓ Good opportunity in custom furniture
- ✓ Focus on mass customization, design, innovation and marketing strategies

CANADIAN OPPORTUNITY → 6/10

2.3.5 Wood Cabinets

2.3.5.1 Exports and Trade

Canada exported over \$US 584 million worth of wood cabinets in 2004. Canadian exports have increased in value 11% each year on average for the past five years. Exports to the US represent 73% of global trade in

cabinets and Canada supplies 78% of their import needs. China, with exports to the US of only \$US 89 million has had annual growth of over 46% for the past two years. Therefore, while Canada still dominates it is losing ground to suppliers from China (Figure 17). In addition, some North American producers are importing doors manufactured in China from hardwood materials imported from the US, Canada and other regions.

One of the key constraints for increased Chinese production of cabinets is a long-term supply of high quality MDF. The current rapid increase in MDF capacity in China is not matched by a long-term supply of raw material for MDF. Continued growth is dependent on increases in log imports that will result in additional waste materials or technology breakthroughs to facilitate the use of agricultural waste.

- ✓ Canada dominant supplier of cabinets to US but China increasing share.
- ✓ China supply of high quality MDF limiting factor

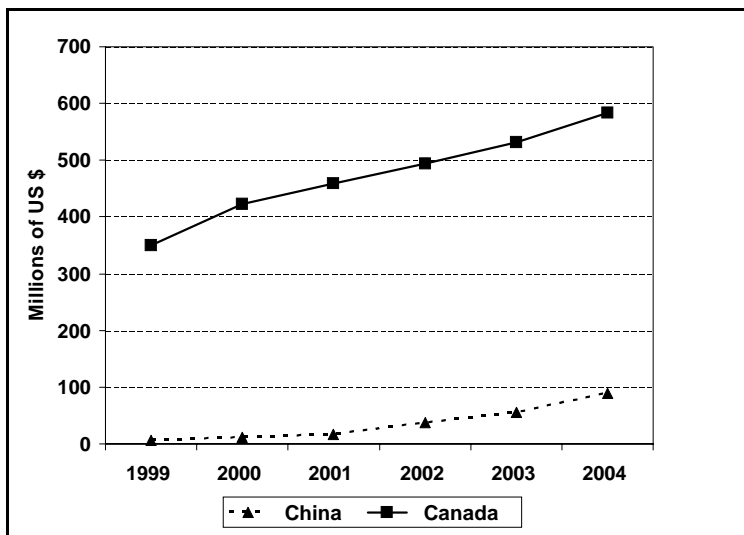


Figure 17: US Imports of Wood Cabinets 1999 – 2004

2.3.5.2 Competitive Position

The qualitative ratings for the competitive factors for Canadian wood cabinet sector are shown in Table 8. The key competitive factors for wood cabinets are process innovation, value chain management and market orientation. Customer responsiveness and custom design (manufactured using mass production efficiencies) are also very important. The key competitive regions for Canada are the US, China, and the European Community (higher end cabinets).

Table 8: Competitive Ratings for the Canadian Wood Cabinet Sector

| | | | | |
|----------------------------|---------------------------|-------------------------|-------------------------------|-----------------------------|
| labour/operating cost - | government influence 0 | stability + | raw material + | capital cost 0 |
| infrastructure + | process innovation 0 | product innovation + | technology develop & use 0 | value chain management + |
| business clusters 0 | managerial expertise 0 | worker skills 0 | market orientation 0 | knowledge + |

2.3.5.3 Competitive Assessment

- ⊗ it is important to link with customers that often require seasonal rapid replenishment and supply (e.g. home centres, remodeling contractors, etc.)
- ⊗ need to focus on design, customization, value chain management and service,
- ⊗ it may be possible to take advantage of lower cost producing areas such as China and assemble components for JIT delivery to US market
- ⊗ potential for a shift from manufacturing as core to design, assembly and marketing as core for some firms

CANADIAN OPPORTUNITY → 6/10

2.3.5.4 Additional Survey Results

These companies had an average of approximately 31 FTEs There was a bimodal distribution of income with the largest number of firms earning less than \$500,000 annually or between \$1 -5 million annually. They could be categorized as mostly small to medium sized enterprises (SMEs) with a few large (>\$20 million annual sales) firms.

Only taxation policy was considered an important limit to growth. Cabinet manufacturers were also not very familiar with emergent business terms.

- ✓ Value chain mng't, design, service, customer relations are key
- ✓ could outsource some components
- ✓ focus on mid and high end
- ✓ Canada CAN compete in cabinets

Strategic Factors

- ✓ moderate - high focus on inv strategies
- ✓ Marketing - customer service & custom design are key
- ✓ Innovation - skilled persons, specialty products key

The majority of respondents who produced cabinets belonged to Cluster 2, with most of the remainder in Cluster 1 indicating that they had moderate to high levels of focus on competitive strategies other than just cost competition (innovation, market orientation and supply chain strategies). The market orientation strategies emphasized customer service and design. Marketing innovation, special geographical markets, promotion and branding all were emphasized to a lesser extent. In terms of innovation strategies, producing specialty products and employing skilled personnel were emphasized the most followed by process innovation and the production of high priced products.

2.3.6 Wood Flooring

2.3.6 Exports and Trade

The US accounts for over 35% of imports of wood flooring. China is dominating the growth in production of solid wood flooring and has branched out into laminate flooring which uses a high-density fiberboard base with a paper overlay. Much of the investment in Chinese flooring has been from US and European companies using Chinese production facilities, as OEM's, to produce branded flooring products (e.g. Bruce Hardwood Floors which is owned by Armstrong).

China has become the major supplier to the US with the value of Canadian exports to the US declining in the past year (Figure 18).

- ✓ China dominating solid wood flooring sector with imported logs/lumber and low cost labour
- ✓ US outsourcing supply (e.g. Bruce / Armstrong)

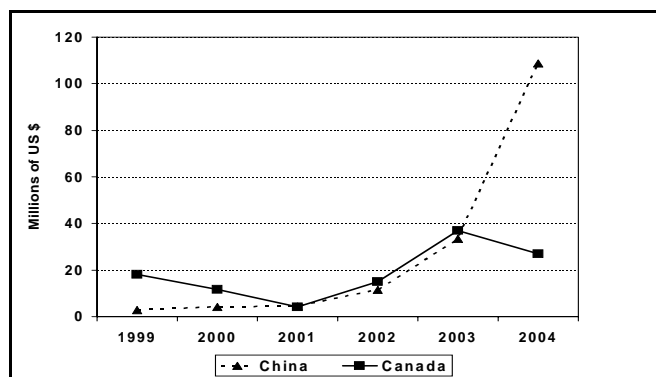


Figure 18: Canadian and Chinese Exports of Wood Flooring to the USA 1999 – 2004

2.3.6.2 Competitive Position

The qualitative ratings for the competitive factors for Canadian wood window sector are shown in Table 9. The key competitive factors for wood flooring are costs, value chain management, and market orientation. The key competitive regions for Canada are China, the US and Europe.

Table 9: Competitive Rating for Canadian Wood Flooring Sector

| | | | | |
|----------------------------|---------------------------|-------------------------|-------------------------------|-----------------------------|
| labour/operating cost – | government influence 0 | Stability 0 | raw material 0 | capital cost 0 |
| infrastructure 0 | process innovation – | Product innovation – | technology develop & use – | value chain management 0 |
| business clusters – | managerial expertise – | worker skills – | market orientation 0 | knowledge 0 |

A Reality Check

Two factors must be considered when evaluation the Chinese flooring sector as a competitor. Currently, the Chinese flooring manufacturing industry is operating as purely production facilities making OEM products for established North American and European producers. The Chinese producers want to develop their own brands and capture the profits now accruing to their joint venture partners. The reason for this desire leads to the second factor – government subsidies.

Chinese flooring plants are importing raw material, often from the US, and manufacturing flooring for re-export. They rely on low cost wages, subsidized power, a fixed currency exchange with the US dollar (which keeps declining relative to other competing regions) and very generous loan arrangements with Chinese banks controlled by the government who appoints the members of their Board of Directors. The high level of potential subsidization has led to a recent ruling to impose a 30% tariff on

Reality Check

- ✓ China DOES subsidize wood industry
- ✓ Some sectors will be competitive w/o subsidy eg flooring
- ✓ Some will not eg laminate flooring
- ✓ depends on labour component, raw material supply

all Chinese exports of laminate flooring to Canada. The entire cost of this was borne by the companies. There was no increase in posted prices in Canada which suggesting that Chinese subsidies will increase to maintain competitiveness.

These two factors could change the nature of the competitive assessment for flooring should either change.

2.3.6.3 Competitive Assessment

- ✦ opportunity exists in supplying raw material to low cost producing regions
- ✦ can develop niche products for unique Canadian species
- ✦ provide marketing, value chain and service for outsourced products
- ✦ move into laminate flooring with low labour inputs once heavy Chinese subsidies are addressed

✓ Opportunity only for niches & laminate flooring

CANADIAN OPPORTUNITY → 2/10

2.2.7 Prefabricated Buildings

This grouping includes log homes and panelized houses.

2.3.7.1 Exports and Trade

Canada is the largest exporting country for prefabricated houses and is responsible for almost 12% of world exports. The US is the largest importing country outside of the European Union. The US market imports two thirds of Canadian exports with Japan importing an additional 21%. US imports are shown in Figure 19.

✓ Canada global leader in export of prefab buildings, especially to US

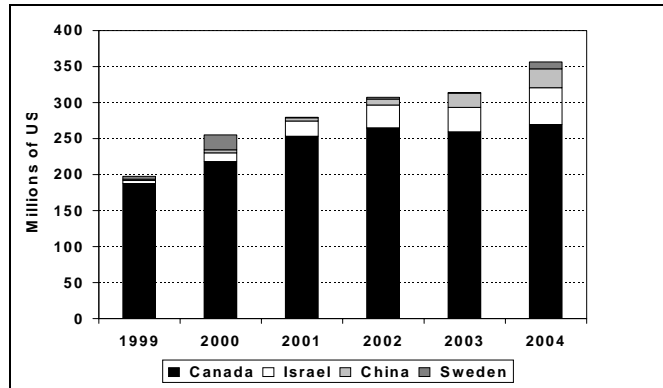


Figure 19: US Imports of Prefabricated Buildings 1999 – 2004

The increased use and availability of container shipping has facilitated the export of prefabricated buildings globally resulting in a slow annual increase in value exported totally 18% over the past five years.

2.3.7.2 Competitive Position

The qualitative ratings for the competitive factors for Canadian prefabricated wood housing are shown in Table 10. The key competitive factors for prefabricated buildings raw material supply (logs and engineered wood products depending on type of house), product innovation (especially for panelized houses) and market orientation (including an ability to design and finish for different cultural tastes). Key competitive regions for Canada are Scandinavia (for log house) and the USA (for panelized housing).

Table 10: Competitive Ratings for the Canadian Prefabricated Building Sector

| | | | | |
|----------------------------|---------------------------|-------------------------|-------------------------------|-----------------------------|
| labour/operating cost 0 | government influence 0 | stability + | raw material + | capital cost 0 |
| infrastructure + | process innovation 0 | product innovation + | technology develop & use 0 | value chain management + |
| business clusters - | managerial expertise - | worker skills + | market orientation + | knowledge 0 |

2.3.7.3 Competitive Assessment

- ⊗ servicing high end global markets and expand to service mid cost housing with both manufactured log homes and lower costs panelized homes
- ⊗ continue focus on US and Japanese markets
- ⊗ expand product line (increase industrialized building)
- ⊗ capture value of suitable logs for log houses

CANADIAN OPPORTUNITY → 8/10

2.3.7.4 Additional Survey Results

These companies had an average of approximately 32 FTEs. There was a bimodal distribution of income with the largest number of firms earning less than \$500,000 annually or between \$1-5 million annually. They could be categorized as mostly small to medium sized enterprises (SMEs) with a few large (>\$20 million annual sales) firms.

Two areas were noted by respondents as potentially limiting growth. The first focussed on access to raw materials and forest policy. This was most likely influenced by the thriving log home sector, concentrated in BC, which is dependent on access to suitable logs as raw materials to function. The second area had to do with financial and monetary issues, including taxation policies and access to financing. Housing, with a high value per unit, requires funding over a relatively long period.

Respondents were not very familiar with sophisticated business terms indicating a potential educational opportunity. The majority of respondents who produced housing belonged to Cluster 2, with the remainder in Cluster 1 indicating that they have moderate to high levels of focus on competitive strategies other than just cost competition (innovation, market orientation and supply chain strategies). Respondents emphasized customer service and design followed closely by a focus on geographical markets. Marketing innovation, promotion and branding were all emphasized to some extent.

Respondents considered producing specialty products and employing skilled personnel as the most important innovation strategies. In addition, they considered having a high priced product and innovation in

- ✓ Canada has strong competitive position globally
- ✓ Need to expand product line for log & panelized housing
- ✓ Can be fed from EBP

Strategic Factors

- ✓ moderate focus on innovation, market & value chain
- ✓ Marketing - customer service and custom design
- ✓ Innovation - skilled persons, specialty products are key
- ✓ Quick delivery key in value chain

processing as important. In terms of supply chain strategies, quick delivery and maintaining a low inventory were important.

2.3.8 Engineered Building Products and Systems

Since this section addresses a large grouping of products, the evaluation will be qualitative and address the overall opportunity for engineered building products and systems.

2.3.8.1 Assessment

The products included in this grouping include structural products such as glue-laminated beams, laminated veneer lumber, oriented strand lumber, etc. It also includes non-structural products such as edge glued panels and engineered wood flooring. Engineered building systems include products such as I beams, roof trusses, floor systems, wall systems, laminated posts for Japan, etc.

This product grouping has been growing rapidly in terms of use in North America, Japan and Europe. Canada has been a North American leader in developing and manufacturing these products. Due to the inherent strength of the wood fiber in Canada, particularly in comparison to some fast grown southern plantation fiber, there is a comparative advantage in terms of raw material supply, a key competitive factor.

Many of these products are bulky and difficult to ship long distances. This is particularly true for large engineered structural products such as long glue laminated beams or roof trusses. The location of Canadian mills, the transport facilities (rail and ocean freight) and existing value chain relationships with both US and Japanese buyers indicate a good potential for continued export growth in this sector.

Other key competitive factors include a knowledgeable work force, good technology development and adoption, and process innovation. Canada is well positioned globally to continue to grow exports from this segment even with a rapidly declining US currency.

- ✓ Engineered building products has grown rapidly in NA
- ✓ Canada well positioned to "go global" with expertise
- ✓ Good global opportunity

CANADIAN OPPORTUNITY → 7/10

2.3.8.2 Additional Survey Results

These companies had an average of approximately 58 FTEs. Unlike the other two sectors, the majority of firms indicated revenue between \$1-10 million annually. There was a greater proportion of firms earning over \$10 million annually. This sector would still be categorized as small to medium sized enterprises (SMEs) with only a few large (>\$20 million annual sales) firms.

The most important factor limiting was increased competition, followed by financial considerations (taxation and financing) and market demand. Producers of engineered building products were more familiar with emergent business terms than the other sectors.

Cluster membership was similar to prefabricated buildings as was strategic emphasis in terms of marketing and innovation.

Competition is key limiting factor

Strategic Factors

- ✓ moderate - high focus on imv strategies
- ✓ similar to prefab buildings in marketing, innovation and value chain

2.4.0 Summary of Competitive Assessment

The relative assessment of export opportunities are shown below:

| | |
|------------------------------|---|
| Prefabricated Buildings | 8 |
| Wood Windows | 7 |
| Engineered Products & System | 7 |
| Wood Cabinets | 6 |
| Designer Furniture | 6 |
| Wood Doors | 3 |
| Commodity Wood Furniture | 2 |
| Wood Flooring | 2 |

The next section will use the results of the national survey to examine sectors with the best global opportunities

However, some of the comments from the Introduction to this section bear repeating. ***Great leadership, excellent planning, strong operations, and superb marketing will create opportunities for the well-managed companies in any of these sectors, regardless of its opportunity ranking. In addition, there will always be niche opportunities in every sector for the focussed firm.***

Section 3: Recommendations and Policy Suggestions

3.1 Recommendations

The focus for many of the Federal, Provincial and Regional programs to assist the value-added wood products industry has been on increasing production and exports. Market focus has been on offshore markets, particularly Asian targets such as China, India and Japan. Recently, some of these promotional programs have been used more as mechanisms to provide codes, knowledge, and programs to encourage increased wood use. The increasing competition from regions that are predominantly viewed as markets, rather than competitors, must now be recognized as Canadian market share is directly threatened by imports from newly developing regions such as China. Policies require adjustments to better reflect the realities of the global marketplace for wood products in the twenty first century. China does have 1.2 million potential customers; they also have 1.2 million potential low cost labourers to produce labour intensive commodity wood manufactured products. In the face of global competitive threats like this, it becomes all the more salient that government policies strive to be conducive to protecting our current manufacturing base and encouraging new entrants to “set up shop” in Canada. We need to establish and market the fact that Canada has an abundance of high quality resources, a highly skilled workforce, proximity and access to the world’s largest market (the US) and an attractive business climate. In short, we must put forth policies that serve to foster and nurture the development of the secondary wood manufacturing sector.

Concurrently, new models of operation must be explored that recognize the competitive power of newly emerging economies such as China, Vietnam, Malaysia, Brazil, Chile, etc. For many sectors in the secondary manufacturing sector to be successful, they must look to more sophisticated business models: models that go beyond production efficiencies and government sponsored marketing access and promotion programs. A newer, and potentially more risky, approach is needed. This approach would be two pronged; one for sectors that need to mitigate global competitive forces while they restructure and shift to either manufacturing other products or adopt different business models less dependent on manufacturing. This would apply to those sectors ranked with low global opportunities due to new competitive realities. The second would be suitable for those sectors that can be globally competitive and that were discussed in Section 3.

3.1.2 Recommendations for Sectors NOT Globally Competitive

For the first group, which includes doors, commodity furniture and flooring, policies need to support:

- 1) The outsourcing of manufacturing, while supply chain management, quality assurance, marketing, customer servicing, promotion and branding are retained in Canada.

- ✦ This will require new skills for manufacturing firms. There is a role for government in increasing the awareness, knowledge and expertise in the value chain, marketing and customer service areas of current manufacturers so they can develop the strengths to “add value” in ways other than manufacturing. New policies will require new measures of success such as increasing integration of Canadian firms in the chain that supplies US markets.
 - ✦ This may prove a difficult task for government agencies with a long history of supporting product export programs. Government agencies have little experience in supporting global linkages that promote Canadian business as an important link in a global chain that can supply major markets.
 - ✓ Specific projects could be developing global mapping of supply chains for key markets (e.g. the US) for specific product groups (e.g. prefabricated housing). Current and emerging competitors would be identified and Canadian advantages and knowledge gaps would be identified.
 - ✓ A new mandate for Canada Wood could be to collect and provide vital information on Chinese production of select secondary products. This would not only help identify potential markets for primary producers but serve the secondary sector in two ways: 1) to identify potential component producers for Canadian secondary manufacturers and 2) to identify Chinese competitors to assess future competition.
- 2) The encouragement of a shift from product/process/manufacturing (or the engineering focus) to a design/service/market focus.
- ✦ This can be accomplished by ensuring that some of the research, development, and promotional funds, already provided by government agencies, be directed towards the social side of business. Firms SHOULD explore how value can be added in ways other than manufacturing, a concept that is now critical to maintain market share given growing Chinese competition and the inability of Canadian producers to compete on price alone with this new threat. Currently, many government sponsored research programs such as Value-to-Wood focus on processing / engineering activities, but current competitive realities require a realignment of efforts.
 - ✓ For example, the CFS could provide direction and leadership to the Value-to-Wood funding for research by allocating 25% of this funding for post-manufacturing research activities for the value-added sector. These would include marketing, management, supply chain analysis, corporate social responsibility, and other strategic factors that contribute to firm success. An additional 25% could be allocated to the exploration and development of third generation engineered wood products.

- While much of the funding is currently committed, either additional funds or remaining funds could be allocated exclusively to these two areas.
- ✓ Another example could be the requirement for ALL Canada Wood funded market studies to include a competitor assessment. It is no longer feasible to explore new markets and export potential by examining only market demand for value-added products and our ability to produce them. The relative competitive position of Canadian producers should be examined as part of any market assessment prior to allocation promotional or market access funding
- 3) The broadening of knowledge regarding emerging business practices.
- ✪ Clearly, the lack of familiarity of respondents concerning value chain mapping and management, vendor-managed inventories and industry clusters must be changed if firms are to evolve into a more service-focussed company and leave the actual manufacturing of components to lower-cost regions. If we are to add value to the global supply chain, we must develop those skills that add value on the service side rather than through lowest cost manufacturing. Many firms are unaware of the need for this type of management education, yet it is crucial to their ability to adjust to changing business realities. This type of program would be useful to companies in both types of sectors. There is an opportunity to combine new methods of education delivery (e.g. video conferencing, internet linkages, CD ROM content) with traditional face-to-face training. The training should focus on management and strategic, value chain and marketing knowledge and not worker skills or processing efficiency.
 - ✓ For example, there is a management course targeted to SME manufacturers that has been proposed by the Centre for Advanced Wood Processing (CAWP) since 2000. It is currently under its third study for feasibility. This program could be implemented in person, via the internet or video links and/or other distributed educational methods to ensure maximum bang for the buck. The CFS could collaborate with Human Resources to fast track this national educational program through the Wood Manufacturing Council. This course would include supply chain management (from production to end user rather than from forest to mill) in new management diploma targeted to managers of SME's.
- 4) The support of education that links design with manufacturing.
- ✪ Rather than develop new programs policies could assist in the support of co-operative education placements that for design students in industrial settings. Furniture producers could employ design students who are assisted in their support for four to eight month co-op placements. Support could be provided to allow existing educational programs to use the secondary wood sector for the development of new and innovative products. Many incremental programs could bring the existing design community into the

secondary wood industry. The need is starting to be recognized by industry and an effective program could be developed with little additional costs.

- ✓ For example, there are several proposals that would increase design education and skills in the secondary wood sector. BCIT and Emily Carr currently have such a proposal, but others could be developed. Current co-operative education programs at both colleges and Universities are looking for assistance in placing design oriented students with companies. A cost sharing program supported by several Federal departments could increase the success of these activities.

3.1.3 Recommendations for Globally Competitive Sectors

Some general recommendations would apply to prefabricated buildings, windows, engineered building products and systems, cabinets and designer furniture. These include the following:

Recognize the importance of the domestic and US markets and support the five sectors identified in educational and promotional activities in North America.

- ✦ This could include travel to trade shows to determine trends in design, make distribution contacts, understand specific regional customer needs, etc. These would NOT be sales missions, but direct intelligence gathering and relationship development in preparation for new supply chain initiatives. Given the strong support of associations and the linkage between associations and profitability, they would be the natural avenue for developing (or strengthening) such a program. While this is already partially funded, the focus in the past few years has been Asia and funds for US activities seem limited possibly for fear of accusations of subsidies.
- ✦ Consider expanding the Canada Wood concept to major US cities where a single office could provide key information on the products and services available from the Canadian secondary manufacturing sector. This may require expanding secondary industry associations to include the Prairies, Alberta and Ontario. Offices could be established in major regions of the US with on-the-ground personnel providing services to Canadian companies. This should be restricted to secondary manufacturers since the large primary producers have their own representatives in the US already and assisting the primary producers to increase exports to the US could exacerbate the US Canada lumber situation.
- ✓ Link QWEB, BCWood (representing western Canada) and the Wood Products group to develop collaborative programs in the US. Encourage Ontario to develop a secondary manufacturing association or group of existing sector-based organizations to join this national program

- ✓ Services provided could include contact lists of smaller chains or individual retail stores, identification of agents and distributors with proven track records and good reputations, identification of regional trade shows which may be suitable for Canadian SME enterprises, linking consulate activities with the secondary wood manufacturing sector, etc.
- ✪ Target support programs to these five sectors, recognizing that other sectors are unable to compete globally. This is very complex given the fear of “government controlled selection of winners and losers”. However, this is recognition that the market has already determined winners and losers and it is just common sense to report what the market has determined.
- ✪ Develop two day workshop on working with firms that could be your competitor and your collaborator. The purpose is to inform the secondary producers about global competitors coming into their home market. It would provide background information on China as a precursor to information trips to China for key window and cabinet producers in Ontario and Quebec. Use associations along with west coast Chinese expertise to develop these programs through a Canada Wood initiative. There would need to be qualifying criteria along with only partial funding support from governments.
 - ✓ This could be repeated for furniture and flooring producers but with different objectives, site visits and preparation.

Following are some of the sector specific recommendations.

3.1.3.1 Recommendations for Prefabricated Buildings

Two sub-sectors need to be addressed: 1) log home and timber frame and 2) prefabricated and/or panelized buildings. Each would require a different approach. The log home and timber frame sector requires access to suitable raw materials (logs or timbers). While this is a provincial matter, some of the funds provided to provinces for sustainable community forestry could be earmarked to facilitate the “right log going to the highest value use”. Many of these producers exist in forest dependent communities and their economic contribution cannot be overstated. Promotional support is secondary to assisting them in getting the right raw material.

An additional recommendation addresses increasing fibre supply (especially in BC) being allocated for use by aboriginal bands. There is great opportunity for a “Canadian First Nations Brand” that would fit well with log and timber frame housing for export. Recreational and private buildings would have their value enhanced through this type of branding with an appropriate interior finish. It is recommended that initial meetings between First Nations bands and existing

log and timber frame businesses be initiated to explore synergistic win-win situations at a local level.

For prefabricated and panelized housing, a very different approach is recommended. Less than 20 mid-sized companies could service the export market. For specific recommendations for this sector, it is recommended that the Manufactured Housing Association (Hank Staro) be contacted for input on specific program initiatives that could aid in expanding market share both in Canada and for export, particularly to the US.

3.1.3.2 Windows and Cabinets

For both of these sectors it is important to alert companies to the need to outsource some of their production. For example, China can be expected to start manufacturing of kitchen cabinet doors based on their current expertise in edge glued panels, hardwood flooring and doors. Encouraging Canadian to keep their companies growing and profitable by outsourcing when suitable is good business and is good for Canada. Missions, other than sales missions, to countries such as China, Vietnam and Brazil can give Canadian companies an edge over US and European competitors.

3.1.3.3 Engineered Products and Systems

The development of a research and development cluster in Canada that would combine engineering expertise with architectural design, and would focus on developing new engineered systems. These systems would use existing and newly developed engineered products would enhance Canada's competitiveness in this sector. Support for more interdisciplinary research, building code acceptance of innovative products and systems, and non-proprietary research to develop a new generation of engineered wood products would help to maintain and enhance Canada's position as leader in this area.

- ✪ There are already two initiatives nearing completion that would facilitate this implementing this recommendation. First, there is a research cluster currently being developed in Vancouver under the guidance of Allan Potter that seeks to link Forintek, Feric, Paprican, UBC, etc. Second, a Chair in Wood Building Design at UBC (a collaboration of Applied Science, Forestry and Architecture) has several million dollars worth of funding in place. Additional research funding targeted towards the development of a new generation of engineered wood products that takes into consideration the unique characteristics of Canadian wood species could tie these two initiatives together and contribute to a cluster that could aid Canadian competitiveness in this manufactured wood products group.

Expanding the market for engineered products and systems should be supported by specific policies that target non-residential construction. Expanding the use of engineered wood products in this sector can provide environmental and performance benefits over current materials. Support for additional market intelligence, promotion and product development specifically targeting the non residential sector should be jointly funded by industry and both levels of government (Federal and Provincial).

- ✪ Current work by the Marketing group at Forintek and UBC will have completed market research in the US enabling the identification of specific sectors of the non-residential sector in the US that could provide the greatest opportunity for increased wood user. The federal government could provide funds to develop programs to ensure code acceptance, specifier knowledge, and increase use. Link with US associations to provide a more coordinated approach (maybe some of the billions from the current trade dispute could fund this win-win proposal).

Our proximity to the US and the sophisticated transportation system, combined with the similarity of codes and standards, will give Canada a globally competitive edge in supplying the North American market for engineered products and systems.

3.1.3.4 Designer Furniture

The most important factor that will ensure growth is to encourage the creation of design clusters and cohesive “made in Canada” design movements, with a focus on the production of high value wooden furniture. There are lessons to be learned from major design clusters around the world like Milan, Italy and Copenhagen, Denmark. These regions have continually shown that a cohesive, sensible and marketable design aesthetic translates into profit margin, even in the absence of abundant fibre supplies. Government programs, which serve to catalyze the creation of design clusters and even design movements, would be a welcome boost for the value-added sector and should be encouraged. This is not unprecedented in Canada, and examples of commissions, competitions and policies that encouraged high design values from the 1950s and 1960s should be revisited (e.g., The National Industrial Design Committee, The Royal (Massey) Commission on National Development in Arts, Letters, and Sciences, The Design Merit Awards for Industrial Products).

3.2 Summary & Conclusion

New competitors, such as China, are becoming serious competitive threats to our most important export market, the United States. In addition, they will also be eroding domestic Canadian market share for Canadian producers. It is critical to develop new initiatives that will both mitigate these negative impacts as well as provide opportunities for manufacturing growth. This will require policies unlike those of the past and a new focus on management (e.g. supply chain management, human resource training for workers and managers, etc.), marketing and linking with the global value chain. Current funding initiatives will need to be refocused and new ones considered to meet the growing competition from newly developing regions, many of whom have their eyes set on the lucrative US market.