

**A Reality Check on the Expansion Potential  
for Secondary Manufacturing  
in Canadian Forest Products**

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**by**

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# **A Reality Check on the Expansion Potential for Secondary Manufacturing in Canadian Forest Products**

**Dr. Bill Wilson<sup>1</sup>**

## **Introduction**

In international economic terms Canada is a small, open economy the performance of which is highly dependent on the ability to export resource-based products. One of the key ingredients in this export mix is forest products; indeed there are few other jurisdictions more dependent on forest products trade than Canada. Forest product exports contributed \$32 billion (1994) in export earnings, easily the dominant share of Canada's net export earnings.

International demand forecasts for forest products are encouraging, at least from an exporter perspective. Current per capita global consumption is about 0.7 cubic metres per annum (still higher in regions with strong economies). With global population increasing at three people per second, incremental global timber demand is 65 million cubic metres each year. In an attempt to place this in perspective, the annual allowable cut in British Columbia is 72 million cubic metres.

The Canadian supply side of the equation is not as encouraging in the short-run. With the transition in forest management objectives from timber harvest to ecosystem sustainability, reduced access to forest land, past harvest levels, and increased operating costs (both market and government driven) there will be reductions in domestic timber harvest volumes.<sup>2</sup> The magnitude, geographic distribution and the timing of these reductions will be the product of protracted and demanding analytical and negotiation processes.

Many regions in Canada are seeking to expand secondary or "value-added" manufacturing in forest products. Given the significance of the forest sector to Canada and the potential impacts of this supply-driven transition, it is important that Canadian decision-makers give a realistic assessment of the options for expanding secondary manufacturing in the forest sector.

This paper will define secondary manufacturing, explore the basis for the renewed interest in it, and discuss the challenges that confront further growth in Canadian secondary manufacturing. Although the paper deals with solid wood products, the reader is reminded that pulp and paper products are a major part of Canada's forest products mix.

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<sup>1</sup>Wilson directs the Industry, Trade & Economics Program at the Pacific Forestry Centre, Canadian Forest Service, Victoria, B.C.

<sup>2</sup>Global sources of natural timber supply are, for the most part, under similar pressures to Canada and for many of the same reasons. Fast growth plantation forests constitute about 10% of global industrial timber harvest but limited potential remains for further increases, particularly for softwood saw logs.

## **What is Value-Added Manufacturing?**

In value-added manufacturing, wood products firms obtain primary wood materials and transform them into other products. However, the term value-added generally invokes a strong reaction from those involved in the production of primary products, who stridently claim that they too are adding value. It is a reasonable position. Indeed, the adding of value accrues throughout the total forest regime from planting, silviculture, harvesting and handling, processing, manufacturing, and marketing. Rather than inviting this digression to the focus of the discussion it is prudent to employ the term **secondary manufacturing**.

The major wood products in the secondary-manufacturing industry include cabinets, windows, doors, engineered building components, remanufactured products and pallets used in shipping. A reasonably complete product listing and logical taxonomy are presented in Table 1 (Wilson & Ennis, 1993). Canadian secondary manufacturing in wood products generated about \$4.5 billion in shipments (9% of total forest product shipments) and 42,000 jobs (IC, 1995). Despite a substantial aggregate contribution the vast majority of the secondary manufacturing companies are small firms involved in the manufacture of one type of product.

The value of Canadian secondary-manufactured products exported is about 15-20% of production and the major market is the United States, which accounts for about 85% of export sales (ISTC, 1991).

On a select regional basis secondary manufacturing is a well-established and significant component of the British Columbia forest sector (which, in turn, constitutes about 50% of the Canadian total). British Columbia's secondary manufacturing contributed about 11,500 direct jobs and \$1.5 billion in annual sales (FORINTEK, 1993). This comprised about 15% of direct employment and 12% of sales within the B.C. forest products industry. Despite endemic under-capitalization, secondary manufacturing delivered financial returns favourably comparable to the primary forest industry (Price Waterhouse, 1992)<sup>3</sup>.

## **Why the Interest in Secondary Manufacturing?**

The strong and widespread interest among the various forestry stakeholders to expand secondary manufacturing in forest products is common to a number of timber producing and importing jurisdictions, including the major timber exporting regions of Scandinavia, Chile, New Zealand, and the US. Pacific Northwest.

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<sup>3</sup>Surveys of B.C. secondary manufacturing companies indicated excess production capacity (this is likely to be the case in regions with a wood supply constraint). With the excess capacity a program of capital support to encourage additional physical plant would not be dealing to the constraint to expansion in secondary manufacturing (such a program would also have efficiency and equity difficulties).

**Table 1. Taxonomy to Secondary Manufactured Wood Products**

<b>Wood Products</b>			
<b>Log Products</b>	<b>Primary</b>	<b>Intermediate</b>	<b>Final</b>
Chopsticks	Boards	Building/Home Components	Boxes, Bins and Crates
Firewood	Cants	Cutstock	Cabinets
House Logs	Flitches	Door Stock	Coffins
Pilings	Lumber/Industrial	Edge Glued Components	Countertops
Poles	Timber	Finger-Jointed Stock	Decking
Posts	Veneer	Furniture Components	Doors
Log Homes		Joinery Stock	Fencing
Shakes		Ladder Stock	Finger-Jointed Dimension Lumber
Shingles		Laminated Components	Flooring
Treated Pilings		Laminated Stock	Flooring/Engineered
Treated Poles		Metric Stock	Furniture/Commercial
Treated Posts		Moulding, Panel Blanks	Furniture/Household
Wood Novelties		Pallet, Crating Stock	Furniture/Patio
		Medium Density Fibreboard	Furniture/RTA
		Particleboard	Garden Buildings, Products
		Pattern Stock	Laminated Veneer Lumber
		Sawmill Specialty Products	Millwork/Architectural, Custom
		Staircase Components	Mouldings
		Turning Squares	MSR Lumber
		Window Stock	Oriented Strandboard
			Pallets
			Paneling
			Plywood
			Prefab Buildings and Manufactured Homes
			Siding
			Staircases
			Stakes, Lathe, Strips and Batten
			Structural Laminated Beams
			Treated Lumber and Timber
			Trusses
			Turned Wood Products
			Windows
			Wood Novelties

Based on Wilson and Ennis (1993). The primary column is not secondary products but is included for completeness.

The transition to an information based economy with highly automated manufacturing has produced many remarkable achievements but it has also produced collateral displacement and devaluation damage. The damage includes considerable structural unemployment, labour that is not adequately skilled to fit in the new manufacturing and marketing order. It is increasingly difficult to create or stimulate industrial employment opportunities. Open markets, production factor mobility, international institutions, and production efficiencies are increasingly intolerant of national and regional development or employment objectives. Hence, the interest of governments in the more labour intensive secondary-manufacturing industry.

Stakeholder interests in secondary manufacturing are for different reasons. Wood products secondary manufacturing is seen by governments as a vehicle to maintain or expand the level of economic activity (jobs, exports) generated from the timber harvest (often a declining level of harvest). The public now has ready and inexpensive access to information about the negative environmental impacts of commercial forestry and in exchange for this increasingly demands to see maximum local activity from the harvest. Many environmentalists view secondary manufacturing as a route to preserve additional forest land with a reduction in consequent job loss. The logic is to get more manufacturing activity out of the timber harvested.

Labour is concerned about the substitution of capital equipment for high paying jobs in the primary manufacturing sector. Good employment alternatives are not readily available outside the resource sectors, so labour looks for new opportunities within the forest sector. The skill set of the displaced workers can, to a limited degree, complement this transition.

The forest industry responds to a mixture of market signals and to government moral suasion and various command and control signals to increase investment in secondary manufacturing. Given the mix of policy objectives, the overlapping of policies across time, and fluctuating markets, it is indeed unlikely that the package of signals will prove to be cohesive.

### **Challenges to Increased Secondary Manufacturing**

The major economic challenges to increasing the level of secondary manufacturing are wood supply, the real cost of labour and marketing.<sup>4</sup>

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<sup>4</sup>The US. Pacific Northwest secondary manufacturing is often seen as having labour and wood supply advantages in comparison to British Columbia. However, research completed at CINTRAFOR, University of Washington included government taxation, wood supply or cost, cost of capital, labour cost and government regulations as most serious problems to secondary manufacturing (Dirks & Briggs, 1991).

### Wood Supply

Wood supply, which typically constitutes a large proportion of total production costs, is a key challenge to any effort to expand secondary manufacturing. Research completed at the direction of the Canadian Forest Service estimated that wood costs can represent as much as 60% of operating costs in secondary manufacturing. Wood supply is critical to a secondary manufacturer in terms of the absolute volume available, the grade and quality of the volume available, the price quoted, and the time period for this quoted price. Because wood costs are such a large proportion of total product costs, and these products are often sold in thin markets with a limited ability to pass along price changes, secondary manufacturing is particularly vulnerable to volatility in wood supply costs.

Various jurisdictions have employed numerous policy instruments to promote the level of secondary manufacturing through increases in the volume of available wood. These have included: restrictions on log and lumber exports, improved access to standing timber in exchange for greater activity in secondary manufacturing, support for market information and development, and import tariff structures which discriminate against higher value imports to support local manufacturing (sometimes based on log and cant imports). British Columbia, for example, is currently implementing an electronic trading vehicle intended to facilitate supply information between major companies with primary breakdown mills and smaller, independent secondary manufacturers, has log export restrictions, and uses a timber allocation initiative to encourage the flow of fibre to secondary manufacturing.

### Real Cost of Labour

The typical secondary manufacturing operation is not one of high throughput with high technology equipment. Instead, even discounting for scale, relative to other forest products manufacturing (say a modern pulp or saw mill) secondary manufacturing tends to be labour intensive. Although wage rates in forestry can be considerably higher than those in other sectors or the regional average, the real wage rate will prove the greater challenge to secondary manufacturing. Real wage rates include wages and benefits, but also worker skills, flexibility, capital and other production factors to complement the labour, and productivity levels. Thin markets and difficult factor supply conditions require labour flexibility to mitigate and to sustain competitiveness. A lack of flexibility contributes to the real cost of labour. Prevailing real wage rates represent the positioning of government, industry management and organized labour in response to the evolution of the forest sector and the associated institutions.

Efforts to reduce real wage rates include Canada and British Columbia's cooperative development of a training package which is intended to provide both technical and academic training options tailored to meet the demands of secondary manufacturing. The package will provide technical college programs for workers to gain

and enhance skills related to working in secondary manufacturing and university training for those interested in exposure to a broader spectrum of production and marketing tools.

### Marketing

Effective marketing is the ability to identify and respond to tastes, habits, knowledge and preferences in a market. Clearly the further from home the market is, the more difficult it is to secure the required information and understanding. The hierarchy among these elements will vary across markets but the three basic competitive elements in any market are price, quality and service.

In B.C., cooperative research with the industry, has examined the degree to which marketing is a constraint to increased secondary manufacturing (FRDA, 1993, 1995). Some companies indicated that markets are not a constraint and that they can sell all that they can deliver. These same companies will often identify wood supply as the reason they cannot meet the market demand. This does raise the question as to why the wood supply cannot be bid away from alternate uses to meet this opportunity. Presumably the bulk of the wood supply is going to the highest value use and other uses are simply not competitive (albeit the efficiency in wood distribution is influenced by, among other things, the transparency of market signals and regulatory interference).

The four P's of marketing -- product, promotion, place (distribution) and price-- can provide some productive insight into the marketing requirements (Cesa, 1992). Competing in **product** terms requires a superior combination of product quality and service. Meeting these terms means a long-term commitment to deliver after-sales service, a market presence for ready response to customer needs, and superior factors of production (wood, labour, machinery, design, and processing). It will also require the ability to identify products and markets where a sustainable competitive advantage can be had.

**Promotion** has the objective of informing target customers about a company and a product. Informal word-of-mouth and business cards can suffice in local or regional markets but pursuit of export markets will usually be much more demanding and expensive.

**Place** refers to the distribution channels available to transport products from the manufacturer to the customer. Market globalization has served to open markets previously protected by high tariffs and non-tariff barriers (including Canadian import markets), to improve the flow of market information, and to encourage development of rigorously based, world standards for production and management practices. These and other strong trends within the global market place and the forest sector -- the rapid migration of technologies, reduced costs of capital, corporate concentration, backward integration to manufacturing, retail concentration, and a reduction of levels in the distribution chain -- do not readily accommodate small secondary-manufacturing firms.

**Pricing** can be a difficult task both for new products and for niche or thin markets. Aside from price discovery the critical issues is price competitiveness. The high domestic costs of timber, labour and services and the small scale of production runs must be offset with product selection, quality, service. As a consequence there are a limited number of products and markets in which Canada can expect to be competitive.

Examination of the marketing elements suggests that domestic secondary manufacturing will be a challenging option to pursue. In order to counter the shortcomings in meeting the marketing fundamentals the domestic industry must take full advantage of the existing strengths. These include a high quality timber supply, the ability to manage and increasingly to be seen to manage the forests on a sustainable and scientifically sound basis, well-developed infrastructure, an established presence in primary forest products in all significant markets, a research structure, existing cooperative market development efforts and a relatively stable business climate.

## **Conclusions**

Secondary manufacturing is an attractive objective in the forest products sector and is being pursued in many jurisdictions. Global demand for forest products and the limitations on timber supply suggest that opportunities for market growth will be there for regions in a position to supply the products. The encouraging demand situation must be balanced against the considerable fundamental challenges to expansion in secondary manufacturing. These include the identification and development of markets that will support the cost of inputs, inputs, like wood supply and labour, which are often difficult and costly to acquire.<sup>5</sup>

Within the current mix of market and non-market (i.e., government) signals, domestic secondary manufacturing will continue to grow in significance but the scale of growth cannot be expected to adequately offset labour displacement from reduced timber access.

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<sup>5</sup>Bogdanski and Wilson, 1995 have produced a guide to developing a business plan for a secondary manufacturing business which can provide real improvements in a meaningful assessment of opportunities in this business.

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