British Columbia's Coastal Forests, Hemlock Timber and the Japanese Housing Market*

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Introduction

British Columbia (BC) is widely recognized as having two separate and distinctive parts of its forest industry: coastal BC and the interior (Figure 1).[1] Many of the critical differences between these two regions revolve around their respective timber species and size of trees, as well as the types of timber mills, wood products, and mix of final markets (Table 1). For instance, in the wetter coastal region the species harvested include Western hemlock, Douglas fir, Western red cedar, Yellow cedar and Sitka spruce. By contrast, most inland timber companies utilize species such as spruce-pine-fir; commercial species here include sub-alpine fir, lodge pole pine and western larch. The smaller coastal market is distinctive in that it has many more species of wood and a wider export market. Importantly, product lines in the coastal region include structural lumber that is custom milled for Japanese houses in special metric dimensions. These can be contrasted with more

* The author wishes to acknowledge the assistance provided by various government officials and private sector informants in British Columbia and Ottawa as well as the comments provided by two anonymous referees. This research benefited by funds provided by a Humanities and Social Science Grant (HSS) of the University of British Columbia (UBC), and a grant provided by the Centre for Japanese Research, UBC. The figures were prepared by Eric Leinburger.

1. The coastal region comprises Vancouver Island, the Queen Charlotte Islands, and the coast of BC from Prince Rupert to Hazelton. The latter location (around Hazelton) is really a transition zone as the timber here is not so suitable for the so-called high quality 'appearance lumber', which traditionally has been sold at a premium in the Japanese market. But in terms of the physical characteristics of its lumber it is very strong, especially so when compared to the spruce-pine-fir (SPF) species logged in the interior regions (interview with Brian Zak, President, Coastal Forest and Lumber Association, CFLA, Vancouver, April 2003).

ISSN: 0705-4580 Printed in Canada/Imprimé au Canada

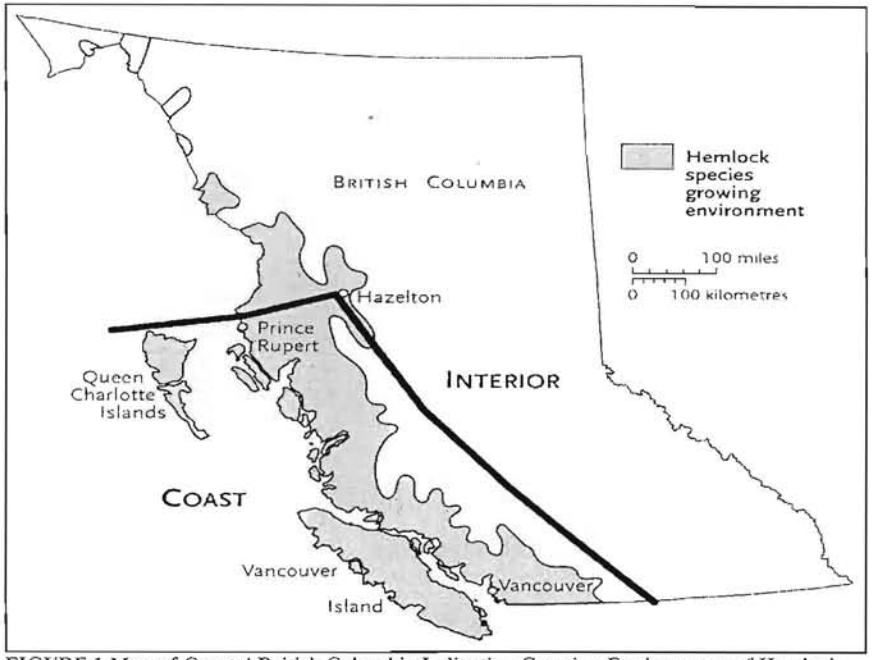

FIGURE 1 Map of Coastal British Columbia Indicating Growing Environment of Hemlock.

TABLE 1 Differences between the BC Coast and Interior Forest Industries, 2003 (1995 figures in brackets)

Coast	Interior
a. Species Harvested:	
- Western hemlock 42 % (51%)	Spruce-pine-fir 81% (81%)
- Douglas fir 29% (16%)	Douglas fir 9% (9%)
- Western Red Cedar & Cypress 26 % (27%)	
- Sitka Spruce 3% (6%)	
b. Harvest:	
- 21.46 million m^3 (25.96 million m^3)	50.28 million m^3 (50.51 million m^3)
c. Production:	
- 3.30 billion fbm (3.31 billion fbm)	12.00 billion fbm (10.54 billion fbm)
- $2.0 billion sales value ($3.5 billion; 1996)	$3.4 billion sales value ($4.4 billion; 1996)
- 1.4 jobs/1000m^3 (1.6 jobs/1000m^3)	1.1 jobs/1000m^3 (1.3 jobs/1000m^3)
d. Exports (Volume):	
- 29% to Japan (42%)	7% to Japan (8%)
- 53% to USA (46%)	91% to USA (84%)
- 6% to Europe (4%)	2% to Other (8%)
- 12% to Other (8%)	
e. Direct Employment:	
- Logging 10,400 (13,300)	Logging 17,000 (16,100)
- Saw mills & manufact. 22,200 (28,500)	Saw mills & manufacturing 39,700 (39,700)
f. Industry Association	
- Coastal Forest & Lumber Assoc. (CFLA)	Council of Forest Industries (COFI)

Note: 1. fbm = million board feet
Source: Based upon data provided by the Coast Forest and Lumber Association.

standard timber typically produced by the interior region's saw mills; 'two inch by four inch' (2 x 4) or '2 inch by 6 inch' (2 x 6) pieces milled principally for United States markets.[2] The coastal industry also specializes in decorative or 'appearance-grade' products, including wooden mouldings, value-added and secondary products such as flooring, as well as specially treated building materials (Coast Forest and Lumber Association [CFLA] 2002a). Because of this added-value feature, wood products from the coast sell typically for almost twice the price of lumber produced by interior sawmills. However, due to the higher costs of extraction together with environmental constraints, the expenses of operating timber mills on the coast are often more than double those of the interior, and indeed, on a global basis, the BC coast ranks among the most expensive of all forest product regions (ibid.).

All told, this comparison supports the oft-held view that BC's coast and interior regions represent two separate forest industries, each with their own challenges and needs (Hayter 2000; Pearse 2001; Taylor 2003). In this paper, I examine the changing fortunes of the BC coastal forest industry in the fifteen years or so up to 2004, focusing on its links with Japan through sales of hemlock timber products (i.e. added-value lumber/mill work). This study covers the impact of a sudden decline in the Japanese housing market after the mid-1990s, together with important structural shifts in this market, as well as recent efforts taken by BC coastal lumber firms, the local industry association and both levels of Canadian government to jointly build a strategy for the coastal industry's renewal. At the outset, it is important to recognize that Japan is currently BC's second largest forest product market, representing 16 % of all BC forest product exports and 29% of coastal lumber exports in 2004. However, Japan is the BC coastal region's most critical market because it is the primary customer for hemlock products, a species that makes up over 60 % of coastal forests (Coast Forest Product Association 2004).

My conceptual departure is the continuing interest in the role of public policy in a globalizing world. For instance, Hirst and Thompson (1999) note that there is has been a great deal of volatility and increased uncertainty in the international economy during recent years, especially relative to the period 1950 to 1972 (see also Herod et al 1998). Still, if this is so, then to what extent can governments and firms harness trends and respond to more unstable environments so as to provide jobs, profits and better standards of living for local citizens? This is a crucial question for both industrialized regions as well as resource peripheries such as British Columbia. Nonetheless, while the role of the state has certainly been scrutinized carefully in core industrialized countries, much less attention has been devoted to strategies pursued by governments, firms and industries in resource-based economies (Hayter et al 2003). In this paper, I address such a lacuna through

2. Note that nominal and actual dimensions of 'dimension lumber' are different and '2x4' is in reality '1.5 inch x 3.5 inch' lumber. Dimension lumber is also cut in standard lengths, such as 7.5 feet, 8 feet, 12 feet and 16 feet lumber suitable for North American platform frame housing styles.

a case study of the BC coastal forestry region. Because of its greater exposure to Japanese markets, this region was devastated by various events surrounding the Asian financial crisis of 1997-1998; in particular the rapid decline in Japan's level of new housing construction, as well as globalization of the sources of Japan's timber supply. Indeed, BC as a whole was the Canadian province most affected by the Asian Crisis due to the large amount of resources sold to the troubled East Asia region (Edgington 2004). Even despite such dramatic events, this research suggests that local regional policy need not be completely impotent in light of external 'shocks', and potentially can make a difference to production and market outcomes.

In particular, I examine closely the reaction to the 'crisis on the coast' by BC firms selling timber products to Japan, the role taken by the Coastal Forest and Lumber Association (CFLA) - the 'regional' industry advocate for over 20 companies involved in coastal BC forests - and the support given by a number of public sector agencies. The methodology used was an examination of events in the period 1995 to 2004 by means of direct interviews, scrutiny of corporate annual reports, as well as other secondary sources. This latter category included useful newspaper reports by *Vancouver Sun* reporter Gary Hamilton. In this way, I was able to record the response of various 'actors' or 'stakeholders' in the BC coastal forest industry – the major forest companies, unions, industry association and governments concerned. Based upon these sources and data analysis, I assess the overall impact of the Asian crisis and the Japanese recession on the coastal industry, though, as I show later, the roots of the industry's problems stretch back to the Hanshin (Kobe) earthquake in Japan of 1995. In addition, I demonstrate how the coastal forest industry, with government support, 'fought back' against competitors in Europe, and attempted to win back its share of the Japanese housing market.

The theoretical framework is introduced in the second section, and uses the work of management studies scholar Michael Porter to examine how resource regions can develop appropriate strategies within the international economy. Porter's approach was developed originally for individual firms, but can be usefully drawn upon to develop policy for resource regions, and can be compared with more traditional economic theory that suggests development should be based upon principles of regional 'comparative advantage' (see, for instance, Balassa 1989). Porter's 'competitive advantage' strategy method can also be contrasted with a political economy approach that characterizes resources-based countries, such as Canada, Australia and New Zealand, as 'semi-peripheral' nations (located between the 'core' and 'periphery') in a world economic system (Wallerstein 1974, 1979). In a similar vein, Canadian political economist Harold Innis (1999) established the theory of the 'staples trap', arguing that regional economies such as British Columbia would remain dependent upon a highly volatile demand for raw commodities (often called 'staples') in international markets, and that this would continue to distort domestic economic development. While these two latter literatures have proved to be useful if somewhat static approaches, I argue in this paper that a more incisive framework is required in these unstable times – one based on understanding a region's 'competitive' strengths rather than its comparative strengths, and one

that focuses on how strategies taken by firms and governments might maximize a region's long-term competitive advantage. In following sections, the focus is on the coastal lumber industry's decline since the mid-1990s, highlighting the role of structural changes in Japan's housing market and corporate responses in BC. A subsequent section documents policies taken to revitalize the coastal forest products region through lines of attack associated with product branding and sophisticated marketing, as well as generating new products for the Japanese market. Finally, these events are evaluated in the conclusion and comments are provided on the likely success of similar approaches in other Asian markets.

Strategic Options for Commodity Producers and Resource Regions

Conceptually, BC has long been perceived of as a resource periphery within a semi-peripheral country (Robinson 1998). As such, it faces the challenges of many such regions characterized by timber, minerals, fishing and agriculture, and which are dependent largely upon international commodity markets. For instance, BC (together with other western Canadian provinces) has experienced high levels of price volatility for its raw materials over the past 50 years, leading to 'boom' and 'bust' development cycles (Chambers and Percy 1992). Still, despite such negative categorizations, it may be questioned whether sustained economic development in BC is truly constrained through its reliance upon the export of natural resources. Gunton (2003: 67), for instance, notes that there has been considerable diversity of opinion over the role of commodities in the development process. "The role of natural resources in regional development is the subject of a debate between dependency theorists, who argue that natural resources impede development, and comparative advantage theorists, who argue that resources can expedite development". Of course, the term 'natural resource' itself is misleading as few resources, including timber, are 'naturally' available for export without the application to some degree of labour, capital and technology(McKern 1989). Indeed, what Porter (1980) and others call 'competitive advantage', when applied to resource regions, is not only closely related to these and other factor inputs, but also to various forms of public policy and collective action involved in managing the extraction of resources, the generation of various products, and finally, their sale into a range of markets.[3] This insight in turn begs the question as to what exactly might be an appropriate role for firms, collective industry policy, and also governments, when applied to a resource region as a whole. Here, I argue that under conditions of volatility and uncertainty a more incisive way is required of looking at regional

3. Classical theories of international trade propose that comparative advantage resides in the factor endowments that a country (or region) may be fortunate enough to inherit. Factor endowments include land, natural resources, labour, and the size of the local population. 'Competitive advantage', by contrast, when applied to regional development is an advantage gained over competing resource regions by offering consumers greater value, either by means of lower prices or by providing greater benefits and service that justifies higher prices (Porter 1980).

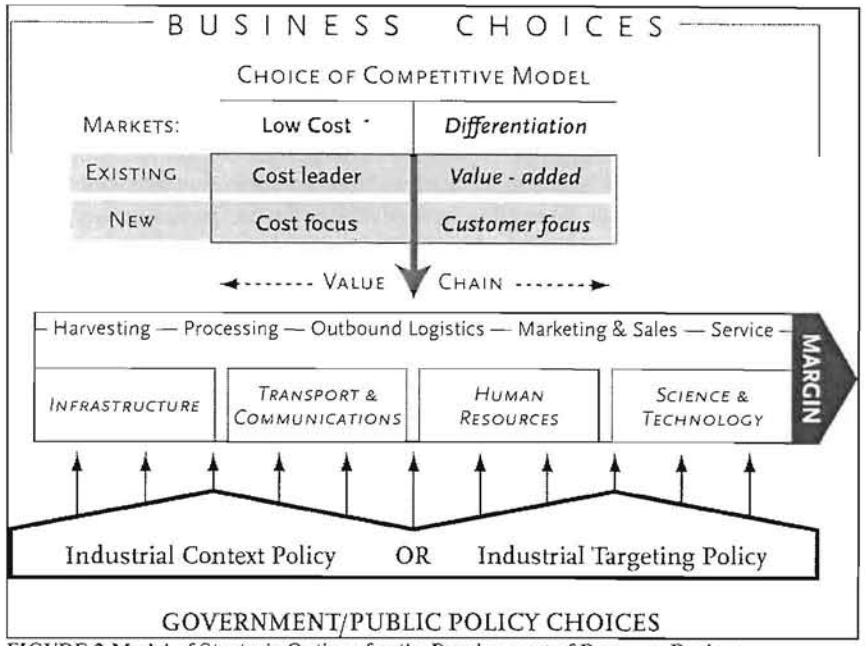

FIGURE 2 Model of Strategic Options for the Development of Resource Regions.

development options than that provided by either the static 'comparative advantage' or 'dependency' theories mentioned earlier. Ideally, new approaches should be able to generate a range of strategic options for firms, industry associations and governments to position any particular resource region in overseas markets according to its perceived competitive advantage (Porter 1985, 1990).

The model shown in Figure 2 illustrates this argument and outlines a number of strategic choices for firms, as well as matching actions by governments and collaborative industry programs for resource regions. The top section of Figure 2 comprises a '2 cell by 2 cell' matrix illustrating strategic choices that firms can make regarding competitive modes in international trade. One dimension of the matrix relates to the degree of product differentiation (low cost strategy or differentiation strategy on the horizontal axis). The other dimension concerns the scope of markets (existing or new markets, shown on the vertical axis). This specific approach to understanding strategic opportunities and modes of competition has been used to illustrate the competitive advantage and options facing individual enterprises and is drawn from Michael Porter's book *Competitive Strategy* (1980), but I adopt it here to interpret better the prospects of resource regions geared to international markets under conditions of extreme volatility (see also McKern 1989). There are two basic strategic approaches (the top two cells of the matrix). One is anchored in maintaining the position of a low-cost producer based on relatively undifferentiated goods and conditions of 'price taking' in international markets, while the other option is to advance strategic differentiation of resource

products, and so achieve 'premium prices' in overseas markets. The two other (bottom) cells in Figure 2 are also linked to sales into either 'existing' or into 'new' markets. Consequently, the full range of alternative approaches lead to four possible strategies: cost leadership in existing markets (or a cost focus in penetrating new markets) and product differentiation (either by selling value-added products in existing markets, or by focusing on particular customer requirements when launching into new markets).

Apart from corporate strategies, development outcomes for resource regions are also influenced by the dominant public policy environment in any particular jurisdiction. Thus, I also conceptualize a spectrum of government and public policy activity, including the collaborative efforts of firms acting within industry associations (bottom section of Figure 2). These programs can range from industrial context policies set by governments (such as generic trade policies, and broad-based science and technology programs) to more targeted policies, sometimes using joint public-private sector mechanisms that assist key industries attain a competitive advantage in particular overseas markets (McKern 1989). The final part of the model in Figure 2 (middle section) comprises a value-chain of activities for resource development (from simple harvesting to more value-added processing and associated services) based on material in Porter's work *Competitive Advantage* (1985).

To be successful in the low cost production cells of the matrix, the objective for any resource region's stakeholders would aim to become the lowest-cost global supplier of raw materials, with an emphasis placed on continually minimizing costs. This strategy is usually associated with regions that can obtain economies of large-scale production, and so offer generic commodities with relatively little differentiation but which are perfectly acceptable to the majority of customers. So, for generic commodity exports, concentrating on reducing costs at every point in the value chain shown in Figure 2 (from harvesting to after-sales service) is certainly one way to compete. The focus here is predominantly supply-side oriented and directed to production capability, defined to include production know-how, processes, systems and equipment required for extracting raw materials, and the capacity to improve those processes over time. Innovative action is absorbed into improved managerial practices and employee training, or through capital outlays for machinery and equipment incorporating the newest technology as rapidly as possible. "The emphasis must be on cutting, digging, and reaping more effectively" (Chambers and Percy 1992: 53).

What then is the particular role of public policy in this cost minimization strategy? In a review of the literature, Gunton (2003:70) notes that under these circumstances governments will often restrict their responsibility to "supplying subsidized high-cost infrastructure to extract the staple and providing access to staples on highly favorable terms". In other words, rather than target how particular resource industries might upgrade production along the value-added chain, government activity in this case is usually relegated to the more generic 'industrial context policy'. This involves the provision of public infrastructure (including modern transportation and communications), as well as fostering human resources

(through education and training) and a science and technology base in an efficient way as possible so as to reduce production costs.

In more volatile international environments, however, supply and demand conditions for all types of resources often fluctuate in sudden and wild gyrations. Indeed, cost minimization and the passive acceptance of prices for commodities set in international markets may not be a promising long-term strategy for regional economic development. Relative wage rates change, exchange rates are unstable, market preferences shift, and technology often erodes the industrial use of some resource commodities while creating new applications for others. Currency fluctuations have been common in recent times and in particular threaten this strategy so that constant devaluation might be necessary (Paterson 2004). Moreover, even if industry and the companies involved were extremely vigilant in responding to these transformations, there is neither a guarantee that competitive advantage can be maintained, nor that resource regions could be insulated from the effects of technology in altering the preferences of end-users. What is more, a cost-minimization approach also presents problems when many of a region's accessible resources have been fully exploited, and where the unit costs of extraction are under continuous upward pressure (Clapp 1998).

Differentiation strategies may therefore be a more propitious way of competing in either existing or new markets and maintaining market share in the face of instability. They require the various 'actors' or 'stakeholders' in resource region to develop pro-actively a distinctive difference in products or services from any competitors, across either a broad range (for existing markets) or in a narrow product range for specific consumers in new markets. This strategy involves selecting one or more criteria used by buyers in a market, and then positioning the region uniquely to meet those criteria. Diversification of a broad range of products by branding and special marketing is often popular but may be difficult to sustain because of strong pressure from competitors, and by itself this strategy entails higher costs simply in order to maintain differentiation. Consequently, diversification is associated typically with charging a premium price for a resource-based product, often to reflect higher production costs and extra value-added features provided for the consumer (Porter 1985). To be successful in product differentiation the basis for a firm's (and region's) distinctive competence must be identified clearly, and at every part of the value chain – from harvesting, processing, outbound logistics, marketing and sales, and also post-sales service (middle section, Figure 2).

At this point we might ask 'what public policy is required to attain a diversification strategy'? It is likely that public sector and cooperative private-public sector leadership and pro-active support for strengthening specific industries will be critical to the effectiveness of any focus on diversification, and therefore vital to the region's economic performance. Industry targeting is usually necessary here to meet two types of needs, either assisting those industries undergoing structural changes or else helping healthy industries maintain their competitive position. Often this is done as part of an 'industry cluster strategy', involving private sector consortia and public-private networks. The overall objective is to foster the better

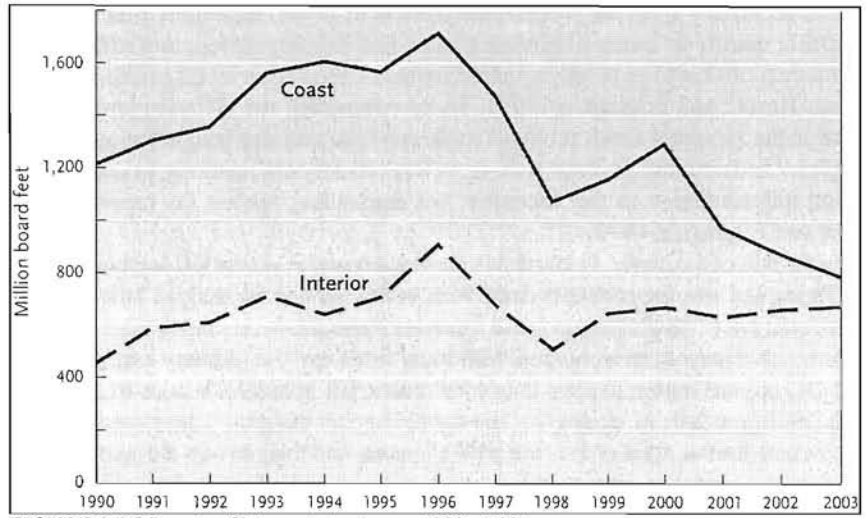

FIGURE 3 BC Lumber Shipments to Japan, 1990 – 2003
Source: Statistics Canada.

use of technology, improved access to specialized services and R and D, stronger market intelligence and international links, as well as generating an environment that encourages innovation (for example, see Holbrook and Wolfe 2002).

I now consider how the concepts explored in Figure 2 have applied to the BC costal forestry region in the 15 years or so up to 2004. As noted earlier, firms in the coastal industry have for a long time focused on product lines that are non-generic, high-value and targeted towards specialized applications. As shown in previous research (Edgington and Hayter 1997; Refferstein et al 2002), BC coastal forest product firms were able to produce a range of added-value forestry products for the Japanese wooden housing market, which on a global basis is the largest outside of North America. These specialty products included particular dimension structural timber, and also furniture, doors and windows, floors and timber mouldings designed for the Japanese market. This trend commenced in the 1980s and the early 1990s saw increased sales levels of specialty added-value coastal forest products in Japan (see the early 1990s trend shown in Figure 3). Indeed, over most of the 1990s only around 10 % of coast production was focused on the mass-produced and standard 'two-by-four' or 'two-by-six' style of dimensional products for USA markets (see data contained in CFLA 2002a). While the large volumes of timber produced in the region define coastal wood products as 'commodities' rather than 'custom-made', the product specialization and more exacting specifications required for Japanese housing have taken coastal lumber producers into niche markets.

Nonetheless, the region's launch into Japan was parallel with a range of specific problems for those BC firms concerned, inherent in shifting exports from standard commodities, for instance logs and simple dimension lumber, to more differentiated wood products in international markets. In particular, such a shift

required increased knowledge about the market in Japan, especially relating to acceptable quality in terms of lumber grades and delivery time, more effective communications between producers and consumers, and higher levels of after-sales service (Hayter and Edgington 1997). To be successful, the BC companies involved in the Japanese forest products trade required and also sought the support of regional and national governments, as well as industry associations, to establish product differentiation in this lucrative, but demanding market (as reported in Hayter and Edgington 1999).

In the rest of the paper, I extend this previous research on the BC lumber trade with Japan and use the concepts dealt with in this section to analyze how firms have responded to rapid changes in the Japanese forest products market after 1995, and how governments have worked with local firms and the industry association in the BC coastal region to stem the more recent fall in hemlock sales to Japan. The following section examines first the coastal lumber industry's development of the Japanese timber market over the past 15 years, and then covers the particular vulnerabilities and changes brought on by events surrounding the Kobe earthquake (1995), the Asian financial crisis and other events of the late-1990s.

Coastal Hemlock Timber and the Japanese Market

The distinctiveness of the BC coastal forest lies in the particular species of timber found in this region. As alluded to earlier, the species grown on the coast are larger in size when compared to interior BC, and six out of ten trees are of the hemlock variety, sold mainly to the Japanese market (Figure 1). While these may only comprise about half or less of total timber harvested in the coast, it is true to say that "as the fortunes of hemlock go, so goes the BC coastal forest industry" (Davies et al 2003: 6).[4] Across the Pacific Rim, the Japanese version of hemlock is somewhat different, but for 1,300 years or so it has been a crucial component of the traditional 'post-and-beam' (often called *zairai*) Japanese house (Figure 4).[5] Since the mid-1920s, the quality of the BC coastal hemlock timber, especially its very fine appearance, has allowed the manufacture of distinct products for the Japanese housing market. However, it was not until the early 1960s that BC started shipping regularly to Japan. But since that time, shipments gradually increased,

4. The species comprising the North American Pacific Coast hemlock commercial groups are Western hemlock (*tsuga heterophylla*) and Amabilis fir (*abies amabilis*). They grow in mixed stands throughout the coast and interior wet belt forests in BC extending from Alaska southward. The physical properties for both species are similar and the wood is moderately hard and strong with high bending strength, shear strength and stiffness (CFLA 2002b).

5. Japan is the only country outside of North America that builds a significant number of wooden single-family detached homes. This construction has traditionally been dominated by 'post-and-beam' architecture, known in Japan as *zairai* (traditional housing), as well as extensive use of joinery as opposed to nails and metal connectors. The post-and-beam home utilizes larger dimension lumber than North American '2 by 4' platform frame construction, with *zairai* posts ranging from around 120 million squares, and beams sizes of 120 by 240 millimetres. For excellent accounts of the regional structure of Japan's housing markets and recent changes, see gi (2002), Gaston et al (2000) and Patchell (2003).

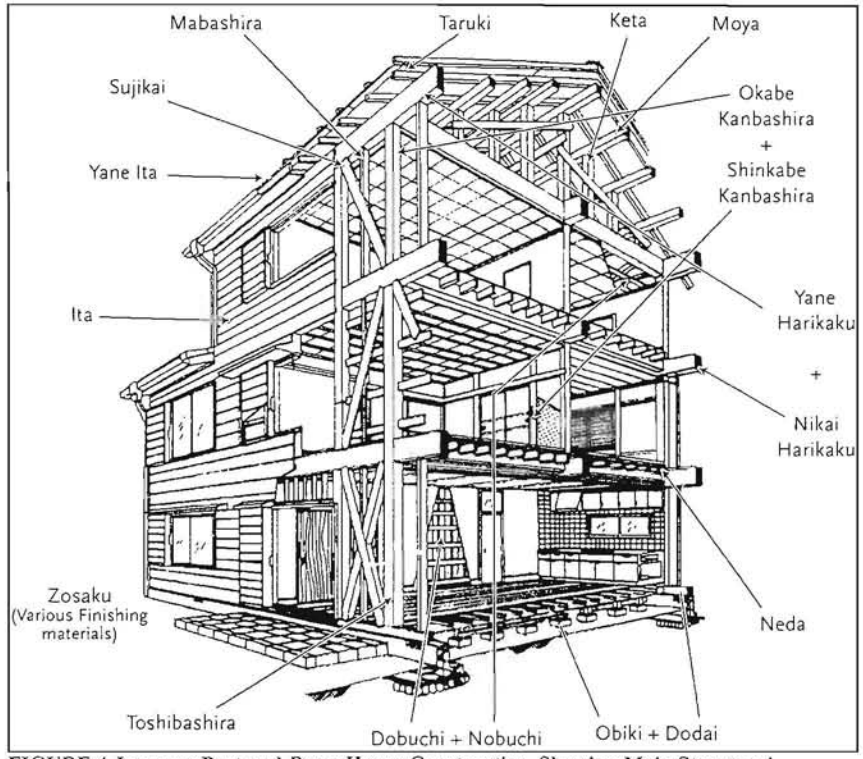

FIGURE 4 Japanese Post-and-Beam House Construction, Showing Main Structural Components
Source: CFLA.

and coastal mills in particular found that 4 inch by 4 inch (so-called 'baby squares') could be provided profitably.[6] Then, in the early 1980s, many coastal companies in BC switched from 'two-by-fours' and retooled to produce the metric dimension posts and other structural components demanded by the Japanese 'post-and-beam' market. This timber product has been shipped to Japan typically in a 'green' condition (non-kiln dried), and then hand chiseled and constructed by experienced Japanese carpenters, even when some shrinkage and bending of pieces has occurred in transit (Hayter and Edgington 1997; Edgington and Hayter 1997).

When BC forest production costs began to rise significantly after 1992 (due mainly to more stringent environmental regulations), coastal timber producers found they could raise their prices in the Japanese housing market to cover their extra outlays. This price premium in the Japanese market was related to hemlock's

6. The term 'baby squares' in coastal BC signifies lumber cut to (or close to) the specifications of Japanese *zairai* construction, typically 105 by 105 millimetre squares used for *hashira* (posts) in 'post-and-beam' housing (see the *mabashira*, *toshibashira* and *kanbashira* posts shown in Figure 4).

aesthetic qualities, such as clear wood, tight growth rings, and constant color. Due to these distinctive characteristics BC coastal lumber soon became preferred in Japan over all other competitors, and for the first time mill producers in coastal BC became 'price setters' in an international market, rather than the traditional situation of being commodity 'price takers' (Hayter and Edgington 1997). However, as we shall see, such an event soon attracted the attention of potential global competitors, such as Scandinavian and Austrian timber mills, who entered the Japanese market with competing wood products in the early 1990s, lured by dramatic growth in Japanese demand and substantial price increases. Nevertheless, by 1995 the coastal forest industry could boast substantial economic contributions to British Columbia, based on serving an expanding Japanese market. These included direct employment of nearly 42,000 direct jobs (Table 1) and provincial government revenues of about $1.9 billion (CFLA 2002a).

In January, 1995, the first major setback occurred in what would eventually become an international battering of the BC coastal forest industry. An earthquake, measuring 7.2 on the Richter scale, struck Kobe, Japan. Damage to property and infrastructure was in the order of C$30 billion, and among the wreckage was a 35 km stretch of post-and-beam homes – over 60,000 of them, which all collapsed, killing thousands of inhabitants. When the ground shook, the weakened timbers gave way and heavy clay-tile roofs crashed onto their owners (Tobriner, no date). Many of these houses had been built prior to 1945 in the absence of any specific building codes, and untreated wooden beams had been subjected to decades of humidity rot. Nonetheless, it was perceived that the (local Japanese) hemlock-built homes in the Kobe quake were at fault, and that hemlock everywhere was a weak species. Consequently, the North American hemlock, shipped then as a 'green' and untreated product, fell into disrepute. Specifically, green hemlock became increasingly non-competitive with new timber product lines imported from Europe that were either kiln-dried or specially engineered, and so did not shrink or warp, and in some cases were pre-cut for easy assembly (interview with Brian Zak, President, Coast Forest and Lumber Association, Vancouver, April 2003).

In April, 1997, a consumption tax was introduced in Japan, and this was a trigger for a full-blown economic recession that year (pre-dating the Southeast Asian financial crisis by several months), as well as a dramatic fall in the number of new housing starts. In the three months following the April tax increase, Japan's economy shrank at an annual rate of 11.2 % (Zaun 1997). Moreover, once the tax increase took effect, consumer spending dropped more than anticipated, and housing sales plunged, by 12.2 % in 1997 and 13.6 % in 1998 (see the trend for housing starts in Japan, Figure 5). Those mills in BC that had become dependent upon purchases from Japan attempted to divert their surplus lumber into the USA. However, coastal lumber mills found they could not take advantage of the relatively stronger US market due to their lack of quota on imports from Canada, as regulated by the 1996 US-Canada Softwood Lumber Agreement. Similarly, the European market was also closed. Indeed, it had been largely barred to coastal producers since the beginning of the 1990s through various regulations, due mainly to European caution over perceived potential bug infestation problems in importing Canadian green hemlock.

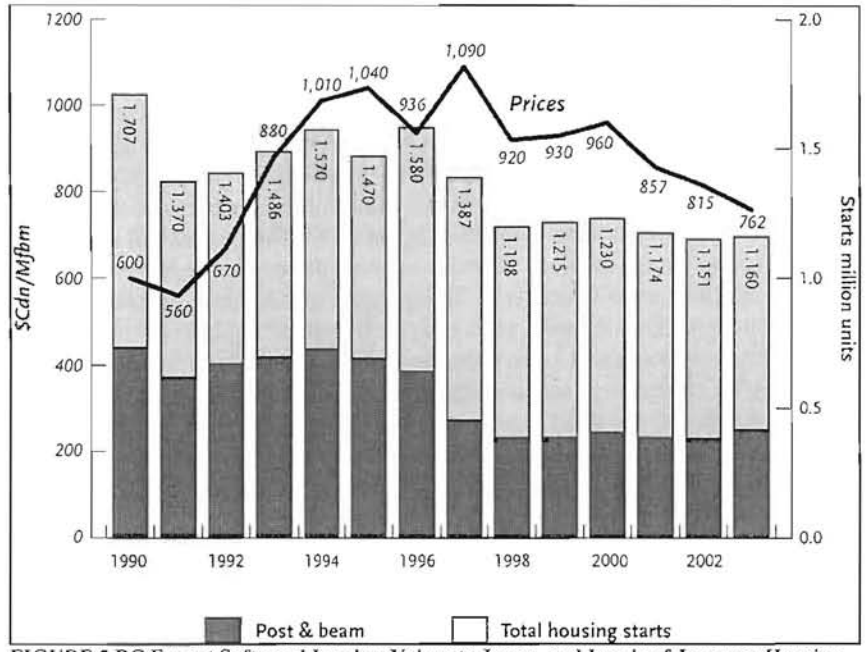

FIGURE 5 BC Export Softwood Lumber Values to Japan, and Levels of Japanese Housing Starts, 1990–2003

Sources: Wood Products Information and Research Centre (JAWIC); Ministry of Land, Infrastructure and Transport, Japan.

The frustration experienced by coastal BC forest product companies at this time was expressed well by Bob Sitter, then President and Chief Executive Officer of International Forest Products Ltd (Interfor).

> "We are in a box. We cannot break out of it. The only option we have is to wait until there is a recovery in Japan. The crisis has opened coastal manufacturers' eyes to the drawbacks of the Canada-US lumber deal. The deal restricts exports to companies that have quotas, which were allocated on historical exports. Because most coastal companies diversified into Japan years ago, they have no quotas, and now find themselves with no Japan market" (Hamilton 1997).

In effect, BC coastal firms exporting hemlock products lost Japanese customers, and those without quotas into the US market had to shut down forest operations and lay off workers.

Throughout the rest of 1997 and 1998, the Asian financial and economic crisis hurt an already faltering Japanese economy, leading to further rounds of falling imports and also falling prices for BC coastal hemlock products (see trends in the coastal region's sales of lumber to Japan after 1996 in Figure 3, and similar trends

in $C per Mfbm for imported BC lumber in Figure 5). Without a doubt, the coastal lumber industry in BC was affected more than any other region in North America by the collapse of the Japanese market (Edgington 2004). Production levels of BC's coastal sawmills fell precipitously, and roughly 10 years' worth of growth in sales of hemlock and other products to Japan were taken away in just an 18 month period (Hamilton 1998). However, in 1999, Asian countries recommenced their growth after banking reforms and economic stimulation packages took effect (Edwards 1999). Yet, while housing sales in Japan revived as a result, this resulted mainly in resumption in sales of 'J-grade' lumber, the premium lumber grade shipped by interior sawmills and used in Japanese 'two-by-four' western-style house construction.[7] Coastal mills producing metric-sized lumber for the *zairai* housing market did not report such a similarly strong turnaround in percentage terms (Figure 3). Moreover, there was little improvement in price to accompany the increased sales of imported lumber to Japan (Figure 5). This was because coastal BC companies, prevented from selling all of their products into the USA and Europe by trade restrictions, diverted the bulk of their production to the fledging recovery in Japan, keeping prices relatively low.

On top of this, coastal exporters began to face stiff competition in the Japanese *zairai* market from Finland, Sweden, Germany and Austria, as a structural shift in the Japanese market occurred in earnest, away from 'green' timber products to kiln-dried products. This was even more astonishing for BC producers considering that European suppliers were often three to four week's boat transportation time away from Japan (compared with just one week from BC ports), Still, relative exchange rates and more aggressive marketing favoured timber from Scandinavia and Western Europe over BC coastal products. In particular, Swedish engineered appearance lumber (laminated wood) gained favour with Japanese importers. The Swedish product was kiln-dried and more stable (straight) for Japanese builders, who following the Kobe earthquake appreciated what was perceived to be the higher quality of the Swedish lumber. "It also looked good, and was cheaper than the natural hemlock from BC. Japanese importers used to phone us as they needed our products. We were the price setter and dominant supplier in the market. But after 1995, due to the Kobe earthquake, when stronger timber that was kiln-dried was more preferred, then no one rang and we lost market share" (Zak, op. cit.).

A final blow to the exports of BC coastal timber came in year 2000 when tough new building standards were introduced formally in Japan, triggered by the Kobe earthquake and requiring all new homes to have a 10-year warranty.[8] Japanese builders were unclear exactly what these new standards meant for their

7. J-grade lumber refers to the Japan Agricultural Standard (JAS) benchmark of quality for imported lumber used in domestic house construction. Importantly, prospective house owners require the JAS certification to obtain Japanese government Housing Loan Corporation funding (JETRO 2004).

8. Consumer pressure pushed the Japanese government to institute a new building code, essentially a revision of the Building Standards Law (1998); and to introduce a new home warranty, the Housing Quality Assurance Law (1999), which forced builders in Japan to provide a 10-year warranty on any house they built (Gaston et al 2000).

production: the new standards were performance-based and ranked lumber according to factors such as strength and shear, making it the responsibility of timber suppliers to provide the necessary information.

> "Japanese builders became worried about liability issues if they used wood products made from BC green hemlock. Because they were looking for increased stability, green hemlock was low on the rating and did not receive as high a rating as a laminated square from competitors such as Sweden. Green hemlock is strong and sturdy enough to beat code ratings, but over time it can shrink, twist and even split. Builders were reluctant to use it after they were required to provide 10-year warranties. Given the choice of predictability over the beauty of BC wood, the Japanese chose predictability. By comparison, kiln-dried lumber and engineered wood products can be cut in Japanese factories and installed with no further carpentry needed. The Scandinavians made these products" (Zak, op.cit.).

Accordingly, the new Japanese code resulted in a 'marketplace meltdown' for the coastal industry, and after year 2000, demand from Japan fell back to under half of peak shipments in 1996, and prices slipped further (Figures 3 and 5) (Hamilton 2000a). By comparison, where coastal lumber could be kiln-dried then exports of BC doubled from 1998 to year 2000, albeit from a very low base. But as noted by Brian Zak, President of the Coastal Forest and Lumber Association (cited in Piros 2001), to maintain its market in Japan, BC mills had to ship more than twice this volume of treated timber and be prepared to provide 80 % of hemlock kiln-dried. During the late 1990s, this was seen as problematic, especially as Western hemlock was known to be notoriously difficult and costly to dry. Moreover, even by year 2000 there was only enough kiln drying capacity on the coast to manage a small fraction of the volume previously sold in Japan. Consequently, the market for green hemlock lumber and other BC coastal varieties slumped and the total quantity shipped to Japan by coast producers declined, from 1,237.5 million board feet in 2000 to just 779.3 million board feet in 2003 (Figure 3). At the same time, aggressive European suppliers of kiln-dried lumber, laminated beams and other advanced products increased their shipments into Japan and their share of all imported softwood lumber rose from just 7 % in 1995 to 33 % in 2003 (Figure 6). By contrast, as hemlock lost its competitive advantage in Japan's housing market, the share of Japan's softwood lumber from the BC coast declined, from a dominating 35 % in 1995 down to 23 % in 2003 (Figure 6).

Summing up, although Japanese housing starts recovered from the Asian financial crisis in 1999, it became clear that a structural shift had occurred in the market - to BC coastal producers' disadvantage. The coastal forests had produced some of the most aesthetic wood in the world, and for many years, Japanese customers paid a premium for 'appearance grade' coastal wood products. Yet after the mid-1990s, they were no longer willing to offer this traditional bonus. Competitors in Scandinavian and Western European countries had used technology to turn inferior wood into high-quality products that could compete with traditional coastal

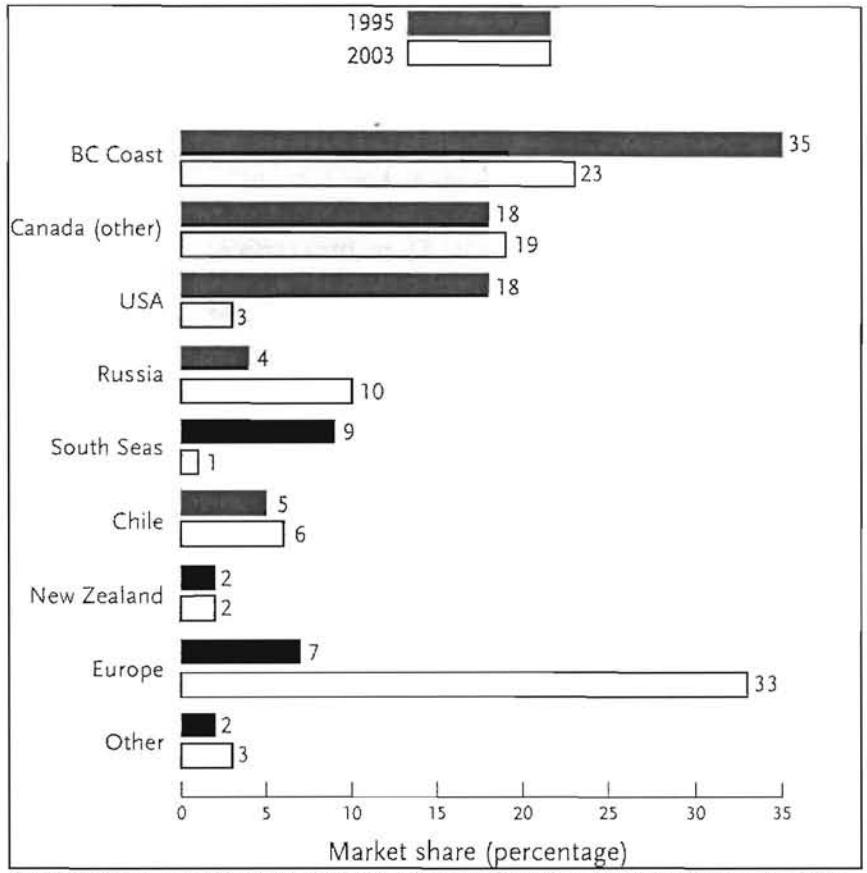

FIGURE 6 Changes in Sources of Softwood Lumber Supply for the Japanese Market, 1995 and 2003 (Percentage share of total)
Source: Wood Products Information and Research Centre (JAWIC).

products. In addition, Japan increasingly moved to a global sourcing strategy for its lumber, importing from Russia, China, Chile, New Zealand, as well as Scandinavian and European countries (Figure 6). The fact was that the Japanese softwood product trade had itself become more global, making the search for future areas of competitive advantage for BC products in the Japanese market more difficult, but necessary. 'Baby squares' and other building timbers from BC made from green hemlock were still used in Japan, but their volume was down significantly.

BC coastal exporters trying to compete in the Japanese market were also faced with compounding factors at home. For instance, the Canada-USA Softwood Lumber Agreement from 1996 to 2001 continued to constrain shipping levels and meant that coastal producers could not easily redirect their added-value Japanese products to the United States. Moreover, BC government stumpage (tax) rates were based on harvest levels, rather than market price of the lumber, and so this system discriminated against coastal producers because of the latter's higher cost

structure, higher added value species and specialty products.[9] On top of this, a 19.73 % softwood lumber tariff against all Canadian timber products was imposed by the United States administration when the Softwood Agreement expired in 2001, and this was increased to 27 % in 2002, immediately creating an unaffordable marketplace for the costlier BC coastal products (Hamilton 2001a, 2003a).

A combination of lost market share in Japan (and the USA), together with high regulatory costs in BC, led to an overall downward spiral of reduced forestry and saw mill operations together with low profitability. Without adequate profits, coastal lumber companies were not able to generate the funds needed for ongoing reinvestment, research and development, or product marketing. This, in turn, also made it more difficult to access the capital required for major projects, such as the construction of new mills and kiln drying machinery necessary to maintain or increase market share in Japan. As reported by Pearce (2001), this downward spiral in the coastal industry lead to significant job losses, reduced work hours, community instability and, ultimately, less revenue to the BC government.

The consequences of such poor performance and industry returns were clearly evident in the succession of coastal timber mill operations that closed between 1997 and 2001 (Table 2). While the analysis in Table 2 only distinguishes between those mill closures in Vancouver and rural coastal BC, it confirms other reports indicating that coastal communities heavily dependent on the forest industry, such as Port Alberni, Ladysmith, Tahsis, Youbou, Coquitlam and Prince Rupert, were hit particularly hard (Barnes et al 2001). Indeed, newspaper articles from 1997 to 2003 were replete with stories of coastal timber mill closures, either temporarily or permanently (see for instance, Hamilton 2001b, 2003a, 2003b). As recorded in Table 2, the reasons for mill closures varied in this period, from the direct consequence of losing Japanese markets to the general reduction of allowable cutting rights by the BC government. In 2002, the higher US softwood tariffs also led to mill closures in the coastal region. General overcapacity in the industry was also seen as a major problem; and a BC government-sponsored report into the coastal forest sector by industry economist Peter Pearce (2001) observed that 22 coastal sawmills, about half the coast's sawmilling capacity, needed to close permanently just to match the decrease in allowable timber cut approved under higher environmental constraints imposed on coastal timber regions. Among the report's many findings, Pearce also pointed out a need for renewed investment in fewer, modern saw mills, as a way of laying the foundation for building a refurbished coastal industry (ibid.).

Historically, the industry's labor unions had not played a significant decision making role with respect to changes in the forest industry. Their response to the

9. 'Stumpage systems' are essentially rent collected by provincial governments for the trees that forest companies harvest from Crown land. Through target-based formulae the government collects the revenue according to the timber cut rather than whether or not it can be sold at a profit. The coastal industry has long argued for a more market-sensitive stumpage system, but the BC government and interior companies have opposed this change in BC to appease American lumber interests who perceive the BC Crown land and stumpage system as a hidden subsidy to producers (Grafton et al 1998).

TABLE 2 B.C. Coastal Region Mill Closures, 1998-2002

1997: 45 saw mills working on the 'BC coast'
1997-2001: 15mills or plants closed, due to the declining Japanese market and reduction of annual allowable cut (AAC) by 28 per cent

	Name of mill	Company	Location	Reason
a) 1997-2000:				
Vancouver	Inlet Cedar Mill	Tolko	North Shore	Reduction in AAC
	Fort Langley Plant	MacDonald Cedar	Fort Langley	Remanufacturer
	Eburne Mill	Canfor	Richmond	Decline in Jap. Market
	Surrey Mill	Imperial Lumber	Surrey	Decline in Jap. Market
	Delta Plant	Cantree Plywood	Delta	Log supply problem
Rural BC	Powell River Mill	MacMillan Bloedel	Powell River	Remote location
	Campbell River Mill	Campbell River Mills	Campbell River	Lack of access to logs
	Gold River Pulp Mill	Gold River Pulp Mill	Gold River	Lack of logs
	Alberni Kraft Pulp	MacMillan Bloedel	Alberni	Lack of logs
Total capacity reduced was 1.1 billion board feet, 1,300 sawmill and manufacturing jobs lost				
b) 2001				
Vancouver	Fraser Mills	Interfor	New Westmin.	Reduction in AAC
	Cdn White Pine Mill	Weyerhaeuser	Vancouver	Old Mill
Rural BC	Youbou Mill	Timber West	Youbou	Old Mill
	Nanaimo Mill	CIPA Lumber	Nanaimo	Decline in Jap. Market
	Prince Rupert Mill	NC-WF	Prince Rupert	Decline in Jap. Market
	Port Mellon Mill	Bayside	Port Mellon	Decline in Jap. Market
1 billion board feet capacity reduction, 1,000 saw mill jobs lost				
c) 2002				
Seven further mills closed, mainly due to US softwood tariffs				

Source: as Table 1.

structural changes of the 1990s was to decry the permanent closures of mills but to participate in the Pearce review and to welcome recommendations aimed at restructuring the coastal industry, encouraging investment and new jobs to replace the old. Dave Haggard, president of the Industrial Wood and Allied Workers of Canada (IWA), considered that the Pearce report leant too heavily towards corporate interests.

> "One of the biggest challenges is that industry has to bring something to the party and so far they haven't. Capital investment on the Coast has been going down, down, down for 20 years and that's why their costs are so high. If we still had a team of horses hauling hay we wouldn't have costs as efficient as a new truck hauling hay. It's no different in the forest industry. They haven't invested in 20 years here. Instead, they were making nothing but money in Japan. Japan went in the tank and they weren't ready for it. If labour costs need to come down, the union can cooperate in identifying ways to reduce them. But it's got to be a package deal. Everyone has to come to the party" (Hamilton 2001c).

Strategies for Renewal

The problems of the coastal industry can now be assessed in terms of the model that I introduced in Figure 2. A certain degree of customization and differentiation towards the Japanese market had already taken place by the major coastal forest companies, but since the mid-1990s or so, structural rather than cyclical changes in the Japanese housing market required a strategic re-think about the role of BC coastal forest products. The option of producing generic and low-cost products for the more standardized US market remained impossible due to the much higher cost structure borne by the environmentally sensitive coastal forests. Societal values had also changed and the BC Forest Practices Code introduced in 1995 required coastal timber operations to leave a lighter 'footprint' on the environment (Clearcutting Canada's Rainforest 2004). While cost minimization had been, and remained, important to the coast's operations, a more promising and sustainable approach led to even further product differentiation. Above all, the coastal industry clearly identified its competitive advantage with the distinctive hemlock species and its aesthetic attractiveness to Japanese home purchasers, rather than through imitating European suppliers using laminated and engineered timber products. A strategy for coastal BC's renewal and increased competitiveness in Japan was built therefore on repositioning hemlock in the Japanese market, emphasizing the concepts of the model depicted in Figure 2; in other words taking advantage of the region's core competitiveness - access to supplies of premium hemlock species. Importantly, the 'crisis' of the late-1990s led to public and private sector action and cooperation in order to help develop new products and to move hemlock up the value-added chain of production. Individual firms on the BC coast, who could not afford marketing or technical research and product development individually, found advantage in cooperating within the regional industry association, the Coastal Forest and Lumber Association (CFLA), a body that was eligible to apply for BC and federal government funding.[10]

Attention is now turned to an examination of the strategies taken by a range of government and industry actors to find new ways of marketing hemlock timber in Japan and different treatment techniques, so that the characteristics of hemlock products could be enhanced. Figure 7 illustrates the array of major actors involved in promoting BC hemlock into Japan between 1997 and 2003, and denotes their major roles.

10. The CFLA was formed in 1993 at the request of coastal forestry firms, and become independent from the broader Council of Forest Industries (COFI) with a goal of representing coastal lumber interests, in particular the marketing of coastal hemlocks and Douglas firs. COFI remains, therefore, the principal industry association for the BC interior forest region, while the CFLA has taken on this role in the coast (see CFLA 2004).

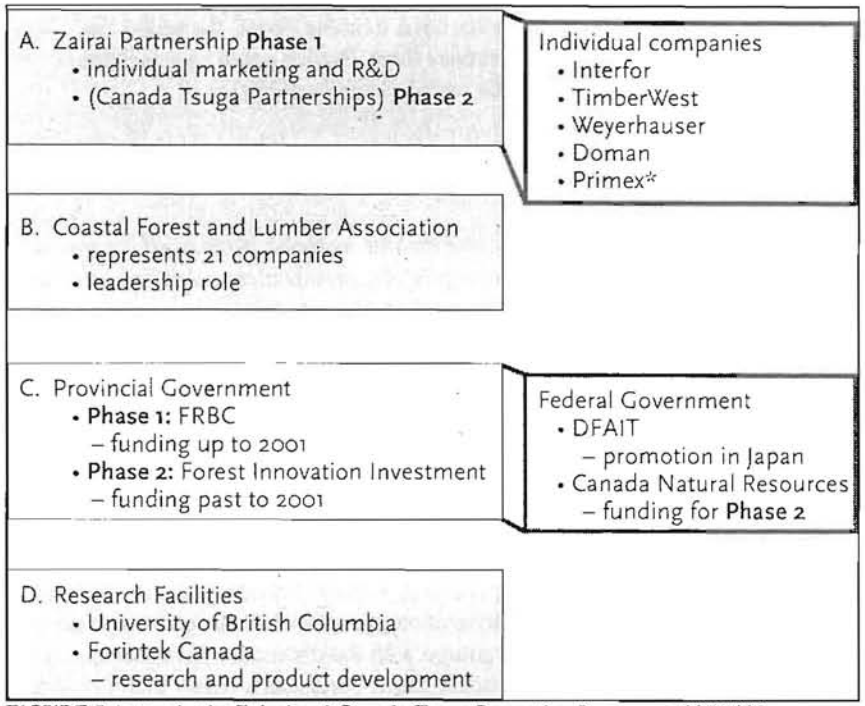

FIGURE 7 Actors in the Zairai and Canada Tsuga Promotion Program, 1997-2003
Note: * Primex Forest Product Co. was acquired by Interfor Ltd., in 2001
Source: fieldwork

To begin with, the major industry association, the CFLA, took leadership and commenced marketing efforts directly in the Japanese market starting in the crisis years of 1996-1997. Previously, such coordinated industry-wide action was hardly necessary due to the entrenched position of hemlock lumber in the market, which as stated above was well accepted for its aesthetic qualities. Next, CFLA launched Phase 1 of its Zairai Lumber Promotion program (mid-1997 to 2002) in partnership with funding provided by the Forest Renewal BC (FRBC) program of the (then) New Democratic Party (NDP) BC provincial government and five member companies of the CFLA, who together accounted for around 80 % of all hemlock sales into Japan (see Figure 7) (Weyerhauser In Action 1999; Zairai Lumber Partnership 2000). The overall objective was to develop a strategy to encourage *zairai* housing builders and designers in Japan to use BC hemlock products instead of competing lumber products imported from Europe and other timber regions in the world. The federal government was also involved in a general way during Phase 1 through the programs of the Department of Foreign Affairs and International Trade (DFAIT) (Figure 7).[11] This five-year partnership plan was successful in arresting the free-fall of Hemlock lumber market share in the Japan marketplace after 1997 through a combination of the following initiatives.

First, was a strategy to separate and differentiate Canadian (BC coast) hemlock from US hemlock lumber, which was usually sold as untreated 'green' logs into the Japanese market. The following comment indicates that a major impediment that BC hemlock faced in Japan was the changing perception of this timber in the marketplace. "One of the difficulties that we have had in the market is, to some degree, the nomenclature of how we describe our lumber. We describe the conifer species that we saw into lumber as softwood. Quite frankly in Japan the marketplace is nervous about things like 'soft wood'" (comments made by Roger Stanyer, Chair and CEO, Forest Renewal, BC, quoted in Select Standing Committee on Forests, Energy, Mines and Petroleum Resources 2000). As mentioned earlier, BC coastal lumber was for a long time cut to suit *zairai* Japanese metric dimensions, and so it was reasonable, and necessary, to distinguish the BC hemlock (or *ka tsuga* in Japanese) from the not quite so strong American hemlock (or *bei tsuga*).[12] Market research conducted by CFLA, together with the Zairai Lumber Promotion consortium of BC timber companies, indicated that by 1997 Japanese builders considered Western hemlock to be a rather poorly performing and low strength species. By contrast, data from testing at the University of British Columbia showed that, contrary to this perception, it was in fact a high strength species. Subsequently, a market differentiation strategy that clearly exploited this new knowledge was developed by establishing a generic name and brand for Canadian hemlock, one that could be readily identified in Japan by all end users as 'Canada Tsuga', along with a (Japanese calligraphy) 'stylized' house and maple leaf logo. From then onwards, all five private BC coastal timber companies used the Canada Tsuga brand logo on their hemlock products sold to Japan. With the new brand in place, CFLA subsequently carried out a variety of promotion strategies and opened a small office in Tokyo during 1998. The next five years up to 2002 were spent advertising the Canada Tsuga brand in the Japanese market. In this way, the CFLA tried to promote Western hemlock in a new vein in Japan, one based on the species' strength as well as its appearance, as a way of fighting off the competition (CFLA 2003a).

Second, in addition to marketing, a research program was launched in BC during 1998 aimed at developing the strength and stability of coastal hemlock in order to compete effectively with engineered and laminated wood from Europe. Kiln drying hemlock had always been a severe technical problem due to the fragile cellular structure of the timber, and a tendency for the fibre to collapse and lose

11. The federal government was committed to providing trade promotion and other supporting programs, both in Ottawa and at the Canadian Embassy in Tokyo, as well as important market access measures through negotiating amendments to the Japanese Building Standards Law. The latter was required to ensure that Canadian forestry and building producers received equal and fair treatment in the Japanese market when compared to the domestic forest industry under the new law (see DFAIT 1999).
12. The genus *tsuga* is a Japanese term for hemlock and similar kinds of timber species (see Mozilla dictionary, http://www.thefreedic-tionary.com/other, accessed January 2004).

strength when heated. Indeed, up to the late-1990s little was known about the most suitable drying techniques, especially as the Canadian industry itself was used to building with 'green' hemlocks. Nonetheless, the new building regulations in Japan required a higher standard in terms of long-term straightness and toughness of the timber, and its suitability for taking 'metal cleats' rather than the more traditional non-nail jointing techniques. The challenge, therefore, was to develop new methods of drying hemlock to create product uniformity, and to do this at reasonable cost. Beyond each coastal company's own research efforts, the CFLA used Forest Renewal BC funds to engage the forest research agency Forinteck Canada Corporation, which had its own laboratory facilities located in Vancouver. Essentially, the testing equipment comprised radio-frequency kilns – 'giant micro-wave ovens' - as well as vacuum kilns, which could draw moisture out by creating a vacuum. CFLA testing was also carried out under Japanese supervision and monitoring (Hamilton 2000b). "The challenge was how to get dry hemlock products into Japan at a competitive cost. Over the last 5-6 years we have spent a lot of time, energy and money on doing research on how to dry cost effectively in large volumes, and that means understanding the technical components and qualities of the wood, and coming up with techniques that will allow us to do it on a cost-effective basis" (Ron Henshaw, FRBC Value-Added Investment Manager, quoted in Piros 2001). FRBC provided funding of over $2 million for this research, and following 1999 most of the technical work was done through the University of British Columbia and the Forinteck Canada research institute (Science Council of British Columbia 1999).

By the end of the Phase 1 period, CFLA had created a new product line of Canada Tsuga – E120 – a special quality of kiln-dried hemlock that was graded to Japan's Ministry of Land, Infrastructure and Transport approved standards for *zairai* housing, and which was independently audited for quality assurance by facilities at the University of Tokyo, the University of Kanto Gakuin, the Japanese Centre for Better Living, Tokyo, and the Japanese Building Research Institute, Tsukuba. This new product was therefore developed especially for Japan. Any wood product from coastal mills not meeting this standard (usually green timber) was sold into other markets, mainly Canada or the USA. In 2001, a new Canada Tsuga product line was graded and grade-stamped as 'E120 Hem-fir (North)' and approved by Japanese government agencies. "It was perceived in the market that hemlock was a weak species. But through our research we found that hemlock was much stronger. We in the industry always knew it was stronger, but we did not have the data to back it up until we conducted the research. Along with the new logo, coastal hemlock is now stamped with a strength rating that surpasses the new Japanese building standards" (Zak, op.cit.).

The second phase of the Zairai Lumber Promotion strategy was renamed the Canada Tsuga Partnership, to reflect the new product brand and the reduction in coastal timber companies participating in the program (Primex Forest Product Co. was acquired by Interfor Ltd., in 2001) (CFLA 2003b). Phase 2 of the hemlock promotion was initiated in 2002 and coincided with a new provincial Liberal government in BC, who continued to fund both CFLA marketing and research

plans through its new agency, the Forest Innovation Investment program of the Forest Investment Account (Forest Innovation Investment Ltd 2004a) (Figure 7). At the federal level, the Department of Natural Resources provided direct funding to the CFLA under the 'Canada Wood Export Program' (Natural Resources Canada 2002) (see Figure 7).

Phase 2 of the Zairai Promotion Program was designed to run from 2002 to 2006 and to be more focused and targeted in the marketing dimension of its activities. Armed with a new brand, grade and competitive product, CFLA upgraded its Japanese (Tokyo) office by hiring a local Japanese architect and engineer who could evaluate the implementation of the new Japanese building regulations, and work with local builders and architects to promote the Canadian graded hemlock lumber. While the launch of E120 generated a renewed interest in hemlock's strength, it was still plagued with relatively low regard in certain sections of the Japanese industry, such as builders in Japanese regional markets outside the major metropolitan areas. This suggests that distinct hemlock products required specific promotion approaches, as the benefits and features to be emphasized in each case were different. For instance, while Japanese architects and engineers appreciated the significant advantages of E120 in terms of the product's strength and stiffness, many Japanese carpenters and home builders (known as *komuten*), together with retailers and carpenters, did not readily understand the technical data provided. Accordingly, a communication and advertising strategy was developed for this market segment in 2002-2003. Moreover, CFLA continued to sponsor R and D programs in BC laboratories in order to reduce the costs of kiln drying. Research effort was also focused on expanded studies of shear wall testing and computer modeling of specific hemlock-based *zairai* building components and their strength properties (CFLA 2003b).

An especially interesting facet of the Phase 2 marketing program was the use of a well-known personality in Japan, namely a sumo wrestler called Mai-no-Umi. This famous wrestler, now retired, became a 'goodwill ambassador' for Canada Tsuga (CFLA 2003c; Hamilton 2003c). The promotion poster shown in Figure 8, tells Japanese housebuilders "You have to appreciate unassuming strength" The advert shows Mai-no-Umi crouching on a beam of BC hemlock together with the Canada Tsuga logo. This special campaign was developed by CFLA's Japanese agent in Tokyo and the initial promotion of Canada Tsuga E120 in Japan took place in 2003; the advert ran in trade magazines as well as engineering and architectural journals.

> "We had a promotion in Tokyo at the Embassy of Canada in April 2003, when Mai-No-Umi was asked to get nails out of various types of imported and domestic tsuga. Of course they were impossible to remove for the Canadian brand. Consequently, the strength of this grand sumo master, who weighs just 107 kilograms, but who beat in the ring a sumo who weighed 200 kilograms, is now associated with the strength of Canada Tsuga. Like Umi, coastal hemlock is a lot stronger than it appears. In the beginning, many people did not appreciate his quiet unassuming strength.

FIGURE 8 Mai-no-Umi, Goodwill Ambassador for Canada Tsuga
Source: CFLA promotion material (used with permission).

> Many people under-estimated how much study and science he put into learning his craft. Big things come in small packages when knowledge and innovation are combined in a single force" (Zak, op. cit.).

How successful has the Zairai Promotion Program (and its successor program) been? In the five years up to 2002, CFLA estimated there had been a 20 % increase in the amount of kiln-dried BC hemlock wood products being shipped into Japan as a result of its various programs (CFLA 2003c). Buoyed by a stronger Euro currency against the Japanese yen after year 2000, BC coastal firms anticipated winning back some of the market share lost to Scandinavian suppliers (see comments in Interfor 2004). In 2003, it was thought that in the next five-year period, up to 2008, a target of coastal market share in Japan climbing to 28 % of all Japanese sawn lumber imports could be achieved. Together with an expected come-back in Japanese housing starts and a livelier domestic economy, Hemlock

lumber shipments from the BC coastal region were anticipated to climb from 404 million fbm (million board foot) in 2002 to around 442 million in 2008.[13] Of course, a marketing program alone can not guarantee to produce these results; and in fact, production of coastal timber was badly affected in 2003 by labour conflict between the major companies and the IWA union in coastal mills, as well as the BC forest fires of that year. Still, according to TimberWest Forest Corporation's Director of Marketing, John Birch,

> "Japanese buyers feel that they are now too dependent on European suppliers. The strengthening Euro, increasing freight costs, and the need for profitability have forced European white and red wood product prices up, and the Japanese themselves have no ready alternatives to these products. We are looking to gain some market share back....The market recognizes hemlock as a superior building material. The Zairai promotion of Canadian forest products has reinforced that and had a positive effect on promoting Canada Tsuga. Five years ago, Japanese customers did not want to discuss hemlock" (quoted in *TimberWest News* 2002).

This optimistic evaluation led TimberWest Forest Corporation to invest in kiln drying capacity for the Japanese market at its Elk Falls lumber mill in Campell River, Vancouver Island, during 2003 (TimberWest Forest Corporation 2004). Moreover, three firms involved in the new Canada Tsuga Partnership (Weyerhauser coastal division, Interfor and Timber West) published jointly a plan in late-2003 designed to reinvigorate the coastal region, entitled 'Embracing a New Vision: Rebuilding the Coastal Forest Industry', and this spirit of inter-firm cooperation won a special business award in 2004 (Hamilton 2004a).[14]

The new Liberal Party provincial government elected in 2001 recognized the particular problems of the coastal forest industry, and responded by introducing a market oriented stumpage system.[15] Many challenges remained, however, such as the rising value of the Canadian dollar against competitor currencies from 2003 onward, making BC timber relatively more expensive in the Japanese market (Hamilton 2003a, 2004). It was also reported in 2003 that Chinese saw mills were

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13. Currency fluctuations after year 2000 were the main reason that BC coastal companies were more optimistic about maintaining their market share in Japan. Thus, the increase in the Euro's value from 84 yen to the Euro in 1997 to 106 by 2002 led the import of lumber from Europe to Japan to decline sharply (Hamilton 2003d).
14. The document "Embracing a New Vision" focused on an appraisal of the crisis in the coastal foresty sector by the presidents of Interfor, TimberWest and Weyerhaeuser Company, coastal division, as well as a plan to restore prosperity for the entire industry (Doman Industries declined to join due to their own dire financial difficulties experienced in 2002-2004). The companies stated that they were committed to reinvest in state-of-the-art mills. Underlying this pledge was a realization that the coast industry should shift to a smaller number of manufacturing facilities, provided that labour costs came down and that the provincial government followed through on its proposed forest policy changes (Davies et al 2003).
15. The coastal industry was affected (positively) by changes to the BC stumpage system introduced by the new Liberal Government in 2002, called Market Pricing System. As well, coastal timber industry was assited by changes in reductions of coastal region allowable annual timber cut on Crown land (Ministry of Forests 2003).

cutting *zairai* dimension lumber for Japan using low-cost Russian timber, competing with BC coastal lumber for market share (Hamilton 2003d). However, an overall expansion in the Japanese economy and specifically the housing market later that same year was expected to provide a stabilizing element to corporate earnings for BC coastal companies, repairing some of the damage done to profit margins and rates of return on investment by almost a decade of volatility (ibid.).

At the end of the study period in year 2004 it was estimated that the coastal industry had spent between $100-120 million on new and existing mills. For instance, Interfor spent $25 million on a new Westminster BC sawmill, and Weyerhauser coastal division spent $10 million on upgrading its Somass plant in Port Alberni, Vancouver Island (Hamilton 2004b). This remains, however, a far cry from the $1 billion investment prescription of the Pearce Report mentioned above. Nonetheless, coastal forest products increased their market share in Japan from 20.0 % in 2001 to 24.6 % in 2004 (half year comparisons) (see Coast Forest Products Association 2004).

Conclusion

In this paper, I posed the question as to what was the appropriate role of public policy for resource regions in a globalizing and unstable world, and I argued that traditional approaches based upon competitive advantage and dependency models offered little assistance in developing policy. Indeed, in their own, and very different ways, these models suggest that governments either should not or cannot offer much assistance. By contrast, through this case study I maintain that resource exporters and the public sector, collectively, can intervene to guide their own trajectory; and 'external shocks' or endogenous factors can often be mitigated by local policy. In this sense I agree with Gunton (2003) that while public policy for regions with natural resource endowments is challenging, there are still opportunities for diligent resource development relative to other economic activities, such as elaborate manufacturing or service sector growth. Earlier in the paper I offered a strategic choice model for resource regions and suggested that collective action was required for successful competition against other jurisdictions in unpredictable global markets. In the case of BC coastal forests, a low-cost mass-production strategic orientation for North American markets was ruled out after the BC Forest Practices Code was implemented in the mid-1990s due to the much higher cost structure compared to the inland region's production facilities, as well as increasing barriers to accessing the US market. Fortunately for the coast, the hemlock species commanded a premium price in the Japanese market – initially based upon its attractive qualities, rather than strength, and based upon market-reorientation in the form of exporting 'baby squares' and other metric sized timbers rather than 'two-by-fours'. However, this situation changed as volatile shifts occurred in the market and as new competitors emerged during the 1990s. A switch back to a low-cost supply orientation was then completely unfeasible as the US market became unprofitable due to the end of the Softwood Lumber Agreement in 2001. The

coastal region thenceforth made a strategic choice to build its competitive advantage around the (literally) 'new-found' strength of the hemlock species, and proceeded with strong measures to differentiate it from competitors in the USA and Europe. The federal and BC governments used targeted industry policies to support these efforts in contrast to the more unfocused approach of the older Western Economic Diversification program (see Western Economic Diversification Canada 2004). The CFLA's marketing plan took advantage of the hemlock species' "quiet unassuming strength" and played on similarities to the well-known sumo wrestler Mai-no-Umi.

This case study illustrates how various stakeholders and actors in the BC coast forest region have played a useful collaborative role, here by restoring markets for hemlock lumber, in which both government and the industry have an obvious interest. The research and development program was sponsored by the forest industry and both provincial and federal governments, and this made encouraging progress in developing practical technologies for kiln-drying hemlock lumber. The industry-targeted policy also included the development of new products, marketing strategies, and an action plan to re-position Canadian hemlock as the favoured material for housing construction in Japan. In addition, the BC provincial government introduced a more market responsive method of determining stumpage prices for hemlock-dominant stands of timber.

The overall implication is that public policy and cooperative action in resource regions are not totally impotent in the face of external shocks. While governments themselves rarely have the necessary flexibility to seek out a focused strategy, they can respond to leadership exercised by industrial associations or member firms and so assist resource regions that face shifting international markets. Conversely, coordinated marketing and other actions by industry-wide associations can usefully complement the individual marketing and product development efforts of individual regional firms. The strategy in this case was undertaken initially by the industrial association, and the policy of governments largely comprised setting a supporting context that was highly favourable to innovation and entrepreneurship in an open economy. Coastal firms were responsible for contacting Japanese house builders and suppliers to increase sales and market share. Labour unions, by contrast, appeared to have played little role in policy making.

Finally, this case study begs the question whether similar strategies could be applied to other western Canadian staple products that are exported into global markets, such as wheat, beef or even diamonds. It can be hypothesized that the Zairai Promotion Program model may indeed serve as a building block in developing similar programs for new and emerging markets such as China, India and South Korea. In China, especially, both the CFLA and the BC government have recently committed to establishing an on-the-ground capability for BC coastal lumber products, similar to that in Japan, so as to deliver promotion programs and market intelligence effectively on an on-going basis (Coast Forest Products Association

2004; Forestry Innovation Investment 2004b).[16] However, despite the rapid growth of the Chinese economy and a surging demand for imported wood, home-buyers there are unlikely to shift in any substantial way from the mainstream cement-and-brick building style found in that country to wood-frame housing. There are opportunities, however, and a focused and coordinated strategy by the provincial government, federal government and the industry to provide differentiated BC products will be required for successful competition in this new market.

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