

**The Potential Effects Of Tenure Reform On The Position Of
The BC Forest Products Industry In The Global Context:
A Strategic Approach**

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ABSTRACT

British Columbia's forest tenure system has shaped the development of the province's forest products industry for over 100 years. As the industry continues to face serious decline in its global competitive position, calls for significant tenure reform are increasing. Corporatization, privatization and decentralization have been presented in the literature as tenure reform options available to the government of British Columbia.

This report examines the literature on the history of tenure reform and the relevant strategic literature to prepare an analytical strategic approach to examine the effects of these three tenure reform options on BC's competitive position, using the five forces model. The analysis demonstrates that each of the tenure reforms can have a range of positive and negative effects on the industry's competitive position. This highlights the critical importance of a thorough understanding of the effects of tenure reform and how it can influence the forest industry's competitiveness.

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SECTION I

INTRODUCTION

The structure and performance of BC's forest products industry is closely linked to the provinces forest tenure system, through which timber harvesting rights and responsibilities are allocated. The basic construct of today's system was designed in mid-1940, and since then the system has undergone a myriad of changes, designed to achieve a diversity of objectives, which has resulted in one of Canada's most complex systems.

As the competitiveness of the BC forest products industry continues to decline, there are growing concerns about the ability of the tenure system to support a globally competitive forest industry. Over the past decade provincial governments have initiated five separate forest industry competitiveness initiatives and each has highlighted the importance of tenure reform as a means of revitalizing the industry. But despite the many recommendations and the few reforms that have occurred, the industry's competitive position continues to decline and is becoming critical in some sectors. Given the powerful nature of this public policy instrument the provincial government must carefully consider future tenure reforms and the possible implications to industry competitiveness.

The purpose of this project is to prepare an analytical strategic approach to comparing three uniquely different tenure reform options, as described by Haley and Nelson (2006) to determine how each will potentially affect the global competitive forces currently shaping the industry, using the five forces model

(Porter 1985). By considering these effects, we are able to examine the potential implications of tenure reform options on the forest industry's competitive position. This project will not consider the legal, social and environmental effects of tenure reform, or the means to implement them.

Methodology

In this project the methodology used was to review the literature and gather the required information to respond with confidence to the research question. This consisted of a review of the literature concerning the history of forest tenure and forest tenure reform in British Columbia, a literature review of the five forces model, the dominant approaches to strategy, including industry positioning, resources based view, sustainable competitive advantage, national advantage, environmental scanning, and a review of current forest tenures and the three tenure reform options; corporatization, privatization and decentralization.

The information collected from the reviews was then used to prepare the current competitive position of the BC forest products industry, and to prepare a macro-level environmental scan of the factors influencing the industry. These results were then analyzed to determine the possible effects of the three tenure reform options on the industry's current competitive position, as described by the five forces model. While strictly qualitative, the analysis concludes that tenure reform can affect industry structure, and that each option considered will have unique effects. It will be important for the provincial government to understand these types of affects as it considers the tenure reform options available to it.

SECTION II

LITERATURE REVIEW

Historical Overview of Forest Tenures in British Columbia

The term “tenure” comes from English feudalism and is derived from a Latin term for “holding” or “possessing”. The notion of tenure is based in Anglo-Canadian law, where absolute rights to all land area are vested in the Crown, which in turn grants certain rights to private individuals. Overall, a tenure system is typically a reflection of the economic, political and social systems, which produce and influence it (Bruce 1998). Vertinsky (2007) describes a forest tenure system as one that provides property rights for the holder, but within a context of social conditions, which governments place on the holder. Cashore et al. (2001) further describe this as part of a policy regime, which reflects a set of norms, conventions, rules and behaviours, which are designed to influence ones actions in an attempt to achieve a set of provincial level goals and objectives.

Historically, the BC government’s primary goal for the provincial forest tenure system was to provide access to timber to establish and grow a competitive forest industry, which would provide jobs in communities throughout the province and a source of revenue for the crown (Sloan 1957, Task Force on Crown Timber Disposal 1974 and Pearse 1976). Table 1 provides a summary of the major events, which reformed tenure policy in British Columbia.

Table 1: Summary of Major Forest Tenure Policy Events in British Columbia
Source: BC Ministry of Forests and Lands

1865	The Land Ordinance grants licenses to harvest timber while the Crown retains ownership in the land, and formalized in the Land Act of 1884.
1888	Timber licenses are granted for a one-year term and limited to 1000 acres.
1905	Terms for timber licenses changed to allow for replacement and are transferable.
1907	Granting of timber licenses are suspended.
1909	Royal Commission of Inquiry established, F.J. Fulton appointed as Commissioner.
1912	Forest Act established, which creates a Forest Service to manage reserve lands and issue short-term licenses.
1943	Royal Commission of Inquiry established, Chief Justice Gordon Sloan appointed.
1947	Forest Act changes tenure arrangements and establishes management units from new volume based licenses .
1956	Second Royal Commission of Inquiry, lead by Chief Justice Sloan.
1975	Royal Commission of Inquiry established, Dr P. Pearse appointed as Commissioner.
1978	Forest Act establishes Timber Supply Areas and new form of volume-based tenures.
1981	Small Business Forest Enterprise Program (SBFEP) introduced to encourage competitive market for timber sales.
1988	Government implements a 5% take-back of replaceable timber rights, and allocates a portion to the SBFEP.
1991	Forest Resources Commission established, which makes recommendations for tenure reform.
2003	Government's Forest Revitalization Plan makes a series of tenure policy changes

Early Provincial Forest Policies

Prior to joining the Confederation of Canada, the British colonies of Vancouver Island and British Columbia transferred timber rights from Crown land using grants of fee simple interest in the land. James Douglas, the Colonial Governor of the two colonies at the time, introduced the idea of granting property rights to harvest Crown timber, but without alienating the land itself (Task Force 1974). His approach was the foundation for the creation of the timber lease, which as reflected in the Land Ordinance of 1865. The timber lease allowed government to provide access to provincial timber for industrial development and retain ownership of the land (Wilson et al. 1998).

Between 1871 and 1911 the population of BC increased by 700% and the forest industry became the dominant sector in the economy. Sawmills increased from 27 to 224, and employment went from 393 to 15,400 (Marchak 1983). With this industrial expansion, the provincial government began to recognize that timber had a great value as a source of industrial and community development, and a source of provincial revenue (Kant et al. 2002).

The 1910 Royal Commission of Inquiry on Timber and Forestry

In 1909, and continued pressure from the forest sector to issue more licenses, the Premier, Sir Richard McBride called for the establishment of a Royal Commission of Inquiry. He appointed the Hon. Fred J. Fulton, who was acting Attorney General at the time, as the Commissioner. Fulton was mandated to reassess the provinces forest tenure policy and to explore how B.C.'s forests could best be managed.

The Commissioner's 1910 report recommended that government continue to grant access to timber while retaining Crown ownership of the lands. He stated that the "... abandonment of the practice of Crown granting timber land and the adoption of a leasing system marked an important step forward in the provincial policy. That the change originated in the desire of the Legislature to encourage the establishment of sawmills is made very evident by the Act of 1888 that made the building of a mill an essential condition of every lease." (Fulton 1910,16). Fulton also characterized the early tenure system as one designed primarily to provide "...sawmill owners with a definite source of supply, at cheap rates" (Fulton 1910, 6).

Following the recommendations of the Fulton report the provincial government established forest reserves due to the perspective that much of the available forest had already been alienated through existing tenure arrangements, and that no further alienations could take place except in very special circumstance (Task Force 1974). The government also established competitive auctions of prescribed tracts of land within the reserves, which later became known as the timber sale license (Task Force 1974).

With the establishment of the *Forest Act* of 1912 the province secured control over the granting of timber harvesting rights and established the ability to implement a regime of charges, fees and royalties, from which the province would draw revenues over time. With B.C.'s substantial timber inventory, declining supplies in the U.S., and emerging forest products markets, the value of B.C.'s forests was destined to rise (Fulton 1910).

The 1945 and 1956 Public Inquiries into the Forest Resources of BC

Demand for B.C. lumber increased rapidly after WWI, as the newly opened Panama Canal made eastern U.S. and European markets much more accessible, and there were also apprehensions about the future supplies of timber in the U.S. The B.C. forest industry began to experience a period of prosperity together with a general economic expansion in the province. Pulp and paper mills were now being established along BC's coast, which became integrated with existing sawmill operations (Marchak 1983).

As BC's forest products industry grew, becoming a larger part of the BC economy, there was also a growing dependence by its employees, communities and the provincial government (Nicol et al. 2006). Given this dependence, the provincial government began to realize that there were no assurances of continuous forest production (Pearse. 1976). By 1940, 2858 forest companies had tenure, and 58 of those controlled 52% of the forest tenure in the province. Timber sale licenses were also becoming clustered around the coast and developed areas and there was a growing concern about the lack of reforestation on these licenses (Marchak 1983). The forest industry was also voicing concerns about the short-term nature of the tenure system and that the current system was not providing adequate assurance of long-term supply to justify industrial expansion (Task Force 1974).

By 1943, concerns about the tenure system and the increasing competition by firms in Scandinavia and the Baltic nations lead the provincial government to initiate a Public Inquiry into the Forest Resources of British

Columbia. Premier John Hart appointed Chief Justice Gordon Sloan as the Commissioner, with the mandate to enquire into the state of the industry, with the stated purpose of finding ways to protect the industry (Task Force 1974, Pearse 1976 and Marchak 1983).

In his report, Chief Justice Sloan made recommendations in three key areas. These included: the idea that more secure tenure arrangements would provide incentives to undertake improved forest management; that sustained yield policy would ensure community stability; and that security of tenure would attract investment for the construction and maintenance of sawmills that would spur employment. He also recommended that tenures be awarded to the pulp and paper industries and other large integrated organizations because these firms were likely to be “more stable” (Sloan 1957, 94).

Sloan (1945) recommended a restructuring of the tenure system, which included what eventually became known as Public Sustained Yield Units (PSYU) and Tree Farm Licenses (TFL). This new system was designed to provide long-term security for the industry to encourage investment, promote improved forest management by introducing sustained yield forestry, and provide community stability (Wilson et al. 1998, Dellert 1998 and Nicol et al. 2006). The provincial government adopted the Commission’s recommendations in legislation in 1948 (Kant et al. 2002).

Prior to this public inquiry the timber harvest had risen modestly, with a predictable decline during the war years. But in the decade following the 1945 Sloan Commission, the volume of timber cut in the province doubled, (BC MF&R,

1945 and 1955) with the majority of the increase coming from the growing forest industry in the interior of the province (Pedersen 2003). A second Public Inquiry headed by Gordon Sloan in 1955 evaluated the implementation of the new forest policy direction and recommended its continuation and expansion.

In his 1956 report, Chief Justice Sloan stated that: "An assured continuity of supply of raw material results in the construction, maintenance, and uninterrupted operation of costly integrated conversion plants, ensuring the highest utilization return for the logs cut with attendant competitive advantages in world markets. This in turn should result in a maximum continuity of employment in all phases of the industry..." He also stated: "Continuity of employment has, as its sequel stable, settled, and prosperous communities..." (Sloan 1957,43).

Following the second Sloan Commission, pulp mills began to expand into the B.C. interior. Between 1963 and 1974, 10 new mills were added to the existing 14, and the new mills needed large continuous supplies of wood chips. In response the provincial government provided new long-term tenures through the establishment of Pulpwood Harvesting Agreements (Task Force 1974). Supplies were also being secured through the takeover of sawmills, to obtain their harvesting rights and to reduce competition for the resource. The total number of sawmills in the province dropped from over 2000 in the 1950's to 330 by 1978 (Marchak 1983). During this time the provincial government was also involved in major infrastructure and transportation development to support the industry and communities grew to provide labour (Pedersen 2003).

The net effect of the tenure policy changes and in direct response to the growing U.S. demand for forest products, the BC forest industry continued to develop and expand, which provided the impetus for the population growth, business and transportation infrastructure development for much of the province (Marchak 1983, Pedersen 2003 and Nicol et al. 2006). By the early 70's there was also a shift towards enhanced environmental values on public forestlands (Cashore et al. 2001).

The 1975 Royal Commission on Forest Resources

In 1975, the dramatic change in the size, structure and technology in the forest industry lead to the establishment of the Royal Commission on Forest Resources, and Dr. Peter H. Pearse was appointed commissioner. His primary task was to broadly examine and make recommendations to change forest policy. The Commission analyzed what Pearse characterized as a "somewhat bewildering mixture of rights" (Pearse 1976, 22) that had developed over the past century, as successive governments added new forms of property rights to the existing forms of tenure.

In his 1976 report, Pearse commented on the industry's declining profitability and suggested that the industry was facing obstacles to further growth. The industry's traditional advantage of superior timber was eroding and its costs were high relative to other competitors. He felt that government had a role in helping the industry reduce its costs by removing regulations and policies, which were considered excessive or demanded standards that were unnecessary. He also saw an opportunity for government to enhance the market

value of logs and intermediate forest products such as chips. Pearse also recommended that forest policy not favour only the larger firms in order that government restore a more balanced and diverse industrial sector.

The 1978 Forest Act was amended to encourage more capital investment in the industry through increased security and to improve government flexibility to regulate (Wilson et al. 1998). The amendments incorporated many of Pearse's recommendations, which provide the statutory framework for tenure holders today. Area-based Tree Farm Licenses became the primary form of tenure, most of which were granted by 1966 (Pearse 1976), and a new form of volume-based tenure, the Forest License, was also created, which granted harvesting rights within a Timber Supply Area. Today, Tree Farm Licenses and Forest Licenses account for over 80% of the allocated cut in B.C. (BC Ministry of Forest & Range 2006b).

The tenure structure was further modified with the 1978 introduction of the Small Business Forest Enterprise Program (SBFEP). The SBFEP was a policy response to concerns about the sector concentration and barriers to entry, which were in part developed by the government to provide security of supply to attract investment (Wilson et al. 1998).

The historical significance of the 1976 Royal Commission was in its attempt to unravel the many layers of forest tenures and policies laid down by previous governments who were working to improve the economic efficiency of the forest industry (Gray 1977). Many authors have debated the significance of the tenure changes made as a result of Commissioner's recommendations,

suggesting that 1976 Royal Commission did not call for a major redirection of forest policy, but rather acted to legitimize and entrench the concentrations of harvesting rights, which in large part were induced by previous policies (Cashore et al. 2001,105).

Recent Trends in Forest Tenure Reform

Throughout the 1980's as environmental concerns continued to escalate, changes to provincial forest policies were focused mainly on attempting to achieve the integrated use of multiple values on public forestlands (Cashore et al. 2001 and Haley et al. 2006). In response to the recession in the early 1980's the forest industry began to focus on productivity improvements through the incorporation of new technologies (Nicol et al. 2006). As pressure continued to mount to stay competitive, the industry began to rationalize facilities employing fewer people (Cashore et al. 2001 and Nicol et al. 2006). By the mid-'80's the industry also dramatically increased it's penetration into the US market and came under pressure from US producers for alleged unfair competition. In addition, the forest industry was coming under increasing criticism for its forestry practices and preservationists began to win victories through logging blockades and international market campaigns (Cashore et al. 2001). But despite these issues the total value of forest products shipped by the province increased from \$4 billion to \$15.5 billion between 1976 and 2003 (BC Ministry of Forests & Range 1976 and Council of Forest Industries 2008). Stumpage and other fees paid by the industry also increased from \$66,564,000 to \$986,495,000 during this same period (BC Ministry of Forests & Range, 1976 and 2003).

The overall strategic direction of the forest industry was characterized by a growing concentration and centralization of ownership, increasing economy of scale in manufacturing operations, improved technology to reduce cost and improve quality, and further expansion of the pulp and paper sector in the interior. Throughout this period the industry became well known for its strategic approach, which was based on cost leadership and efficiency (Wouters 2000).

In 1989, the provincial government announced the establishment of a Forest Resources Commission to independently review and make recommendations on how to manage and protect the full range of forest values (Haley et al. 1992). In response, and as the environmental movement grew, provincial policies such as the Old Growth Strategy and a doubling of protected areas were implemented, in an attempt to improve the provinces environmental image. But despite the provinces changing policy objectives and the increasing complexity of its forest policy regime, the tenure system continued to promote a sustained timber harvest, which continued to direct log flows to appurtenant manufacturing facilities, promoting community stability (Haley et al. 2006 and Nicol et al. 2006).

By the 1990's however, the forest industry was beginning to show signs of distress. Increased global competition, severe market cycles in commodity forest products, US trade actions on softwood lumber imports, product substitution, and an aging manufacturing infrastructure were some of the symptoms of an industry that was beginning to lose its competitive edge (Roberts 2004 and Kozak et al. 2005 and BC Competition Council, 2006). Between 1997 and 2003, 27 mills

closed permanently, and 13,000 forest workers lost their jobs (Forest Revitalization Plan 2003). Between 1998 and 2003, major corporations in BC forest products industry ranked in the bottom quartile for return on capital employed. The industry's return on capital during this time was also below its cost of capital, which discouraged capital expenditure (Roberts et al. 2004).

In 2003, the provincial government enacted the *Forestry Revitalization Act*, in an attempt to revitalize the industry. Under the Act, the provincial government took back approximately 20% of the forest industry's replaceable forest tenures, which it re-allocated to the BC Timber Sales program and to other new participants such as First Nations communities (Nicol 2006 and Nelson 2006). The primary role of the BC Timber Sales program is to competitively auction 20% of the province's crown timber creating a competitive timber market (Forest Revitalization Plan 2003). In addition to the re-allocation of tenure, changes were made to tenure policy to reduce cut control requirements and remove processing requirements. Restrictions to transferring and subdividing tenures were also removed (Nelson et al. 2006).

Likely the most dominant issue that has emerged over the past decade is the issue of Aboriginal rights and title, which involves the direct control over land ownership in B.C. The question of who owns the land is fundamental when considering forest policy change (Cashore et al. 2006).

Current Forest Tenures in British Columbia

Today, the BC Ministry of Forests and Range define the provinces forest tenure system as the collection of legislation, regulations, contractual agreements, permits and government policies that define and constrain a person's right to harvest the provinces timber (BC MF&L, 2006b).

There are two general types of forest tenures in B.C today: long-term tenures and short-term licenses. Long-term tenures are the Tree Farm License and the Forest License under which the provincial government has transferred long-term timber harvesting rights and the delegation of significant forest management responsibilities to the tenure holder. In the case of the Tree Farm License, the tenure holder has the exclusive right to harvest from a specified area, whereas a Forest License holder has the right to harvest within a specified Timber Supply Area where numerous other tenure holders also have harvesting rights. In both cases, their activities are subject to the terms and conditions of the *Forest Act* and the *Forest and Range Practices Act* (BC Ministry of Forests and Range, 2006b). Short-term licenses generally allocate harvesting rights over a shorter period and typically have fewer forest-management responsibilities as long-term tenures. (Haley et al.1990).

Table 2 provides a summary of the forest tenures in the province today.

Table 2: Overview of Major Forest Tenures in British Columbia
Source: Adopted from BC Ministry of Forests and Range 2006b.

Overview of Major Forest Tenures in British Columbia				
Tenure	Area or Volume	Property Rights	Duration	Major Responsibilities
Timber License	Area	Exclusive right to harvest timber in a specified area.	Variable terms, no longer being issued.	Planning, road building, reforestation, stumpage fees.
Tree Farm License	Area	Virtually exclusive right to harvest and manage timber in a specified area. May also include private land.	25 year term, replaceable every 5 - 10 years.	Planning, inventories, roads building, reforestation, stumpage fees, logging contractor obligations.
Forest License	Volume	Right to harvest an allowable annual cut in a specified management unit.	20 year term, replaceable every 5 - 10 years, or non-replaceable.	Planning, road building, reforestation, stumpage fees, logging contractor obligations.
Pulpwood Agreement	Volume	Grants a conditional right to harvest pulp quality timber, where other sources are insufficient or uneconomic.	25 year term, no longer being issued.	Planning, appurtenancy, obligation to purchase wood residue, reforestation and stumpage fees.
Timber Sale License	Volume or Area.	Issued by BC Timber Sales Program via competitive bid. Right to harvest a specified volume in a specified area.	Up to a 4 year term, non replaceable.	Planning in limited cases, stumpage fees.
Woodlot License	Area	Exclusive right to harvest timber in a specified area. May include private land.	Up to 20 years. Most are replaceable every 10 years.	Planning, inventories, road building, reforestation, stumpage fees.
Community Forest Agreement	Area	Exclusive right to harvest timber in a specified area. May also include right to harvest and charge fees for non timber forest products.	Initially 5 year agreements, can be converted into long term replaceable licenses.	Planning, inventories, road building, reforestation, stumpage fees.

Tenure Reform Options

The structure of the forest industry in British Columbia is closely linked with the provinces forest tenure system (Maness 2006). Many concerns raised about the existing tenure system in British Columbia suggest that the system may be contributing to the industry's current competitive disadvantage, and the system no longer provides the economic and social benefits expected by the provincial government (Haley 2007). In fact, the same can be said about many of the tenures systems in the rest of Canada. Several provinces have initiated task forces to assess the problems facing the forest industry, and each has highlighted the need for forest tenure reform, as an important component for forest sector restructuring (BC Competition Council 2006, Alberta Forest Industry Competitiveness Project 2006, Ontario Minister's Council on Forest Industry Competition 2005 and Forests: Building a Future for Quebec 2007).

British Columbia, and indeed Canada have been endowed with a rich natural timber resource. This important factor condition, along with available labour and the close proximity to the dominant U.S. market, allowed this region and nation to become the leading low cost producers of commodity forest products. Unfortunately, this rich endowment and favoured status relative to the U.S market has eroded (Porter 1991 and Martin and Porter 2001). Martin and Porter (2001) discussed the need for Canada to abandon its comfortable path for a new one, based on "innovation and bold strategy" (p. 26).

Many authors discuss the important role of forest tenure and tenure reform, to stimulate innovation and this new bold strategy (Nelson et al. 2006,

Maness 2006, Kozak et al. 2005, Nicol et al. and Cashore et al. 2006 and Haley et al. 2006). Haley and Nelson (2006) present three alternative options for tenure reform in British Columbia. Though not strictly adhered to, these alternatives have guided the following contents of this project. From a regional context, the authors also describe tenure reform at three levels:

1. Retain the basic structure of the current tenure system, but change contractual obligations to address specific areas of concern
2. Retain many features of the existing tenure system, but introduce significant changes such as a reallocation of existing rights,
3. Discard the existing tenure system, in whole or part and replace it with an alternative arrangement for allocating rights to harvest public timber.

For the purposes of this project, the level of tenure reform considered is to discard the existing tenure system and replace it entirely with one of the three alternative tenure options proposed by Haley and Nelson (2006); corporatization, privatization, and decentralization.

Corporatization

Corporatization involves creating a Crown corporation that would manage the provincial forestlands of British Columbia, on behalf of the provincial government. The corporation's mandate would include maximizing profits from timber harvesting and other land management activities, while meeting environmental and social objectives set by government. Being at arms length

from government, the corporation would require its own business systems, staff, and access to capital resources. Forest companies would purchase timber from the corporation through a competitive bidding process, creating a competitive log market.

Privatization

This second approach involves selling British Columbia's provincial forestlands to private interests, and giving up the regulatory controls of the current forest policy regime. Options range from selling the land with all of the forest attributes associated to only selling the timber rights and retaining the ownership of the land. There are also a variety of options available in terms of the degree to which controls are relinquished, ranging from retaining minimal regulatory controls to retaining extensive regulatory controls. For the purposes of the following analysis, the privatization model assumes the sale of British Columbia's public forests to private interests, but the provincial government will retain ownership in the land. This model also assumes that in doing so, the provincial government will give up some of the regulatory controls of the current forest policy regime, but retain enough to continue to achieve the environmental and social objectives of the crown.

Decentralization

This third approach involves the relocation of forest management decision-making authority away from the provincial authority to a regional level authority, such as a regionally elected management board. Boards would have the freedom to maximize benefits from the regional forests, through the sale of

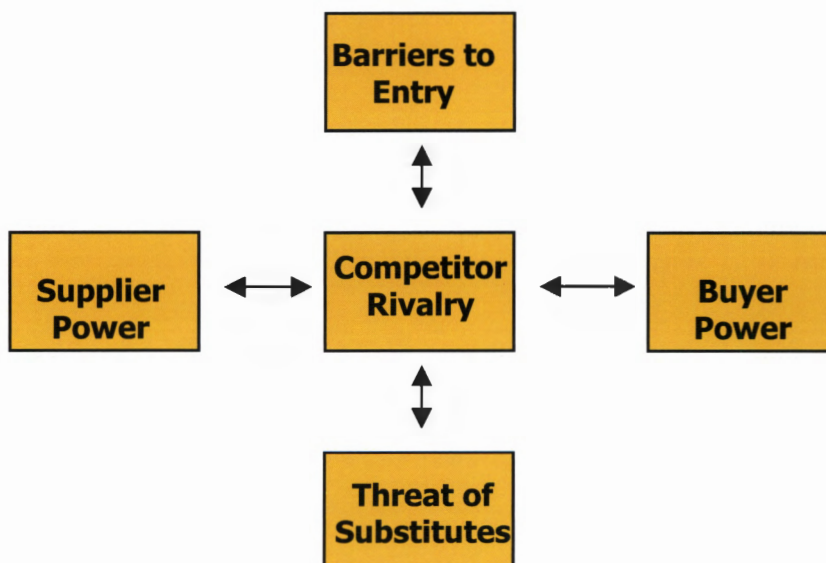
timber and non-timber products, within the constraints of a set of environmental and social objectives provided by the provincial government. The regional boards would also be responsible for most of the forest management activities. The provincial government could also retain a certain level of regulatory control over the public forestlands, such as specifying the maximum allowable annual cut available within the regional forest.

Haley and Nelson (2006) also suggest that a tenure system designed to promote industrial competitiveness, social stability and environmental stability should have the following attributes: social legitimacy, flexibility, transparency, security, diversity, minimum regulatory compliance costs and efficient equitable timber pricing. For the purposes of results and analysis of this paper, a subset has been chosen that reflects the desirable attributes from the firm's perspective. The attributes are: security of timber supply, total cost of timber supply, and flexibility of timber supply.

Competitive Forces

Porter (2008) describes the role of the strategist as someone who must understand and cope with competition. To understand competition within an industry, Porter (1985) proposes an analytical framework, which considers the industry's structure and the forces that shape competitiveness. Understanding the forces and their underlying causes will reveal industry profitability, which he uses as the measure for industry attractiveness (Figure 1).

Figure 1: Diagram of Porter's Five Forces



Source: Adopted from Porter (1985)

Barriers to entry describe the structural advantages that existing firms have over new entrants, which may deter their entry into the business. The major barriers to entry include: economies of scale, network effects, customer switching costs, capital requirements, incumbency advantages independent of size, unequal access to distribution channels, and restrictive government policy. Without such barriers, new entrants can bring new capacity in attempts to gain market share putting downward pressure on prices. When barriers are low, firms in the existing industry must hold down prices or boost investment to lower costs in attempts to deter new entrants.

Powerful buyers can capture more value by forcing down prices or increase industry costs by demanding better quality and more service. The bargaining power of buyers is higher when there are few buyers who purchase large quantities, industry products are undifferentiated, and buyers can backward integrate. When buyer power is high, firms attempt to leverage their own position by establishing exclusive arrangements with particular customers.

Substitute products and services attempt to offer similar function but by a different means, resulting in a greater perceived value to customers. The threat is high when: substitutes offer an attractive price-performance trade-off to the industry's products, or the buyer's costs of switching to the substitute are low. This results in reduced industry profitability during normal times and the establishment of a price ceiling, limiting profits in good times. Industries with a high threat of substitution must continually focus on keeping costs low and prices down.

Powerful suppliers attempt to capture more value by charging higher prices or by limiting quality and service to the industry, resulting in higher costs. Supplier power is higher when suppliers are more concentrated than the industry, switching costs are high, supply is differentiated or has no substitute, and suppliers can forward integrate. In response, industry can attempt to concentrate its purchases with other buyers or backward integrate, if feasible.

Competitor rivalry is considered high when there are large numbers of competitors with similar capacity, slow or stagnant industry growth, high exit barriers, low product differentiation or brand equity, and high fixed costs. In response to high rivalry, firms attempt to aggressively compete by changing prices, improving products and distribution channels, and exploiting relationships with suppliers.

The five forces model provides the baseline for beginning to size up the firm's strengths and weaknesses relative to the rest of the industry, allowing it to derive defensive and offensive actions to cope successfully with the most significant aspects of the competitive environment. The forces also provide a framework for anticipating and influencing competition within the industry. From this position, the firm can then begin to develop its competitive strategy (Porter, 2008). Porter also cautions that by reacting to the competitiveness with changes to its activities will also likely elicit a reaction by rivals. Active competitors to the industry will also be responding to signals from the competitive environment. As a result, the search for a sustainable competitive advantage is one that requires the continuous evaluation of potential benefits and risks of

competitive strategy. Industry growth, innovation, government policies, and complementary products all affect industry structure, which will also affect competitiveness. For example, fast growing industries will not always be fast growing and government policies can influence either of the competitive forces (Porter, 2008).

Adam Brandenburger and Barry Nalebuff suggested a further refinement to Porter's five forces framework by adding a sixth force, which they termed complementors (Ghemawat 2002). This force included suppliers and customers who formed strategic alliances as observed in the technology sector. Other critics of Porter's five forces include Coyne and Subramanian (1996). They were sceptical about three assumptions, which they said had to underlie the forces in order for Porter's model to work. The assumptions they highlighted were: no interaction or collusion between buyers and suppliers and other competitors, that competitive advantage is structural, and that uncertainty is low allowing firms time to plan and respond to the forces.

Strategy

Strategy, from the ancient Greek word 'strategia', comes from roots meaning "army" and "to lead" (Merriam-Webster). Originally, strategy has involved the planning and directing of an organization toward a set of goals and objectives (Collis et al. 2005). The contemporary literature defines two dominant approaches to strategy. Porter (1985) supports the notion that firms strive to occupy a sustainable strategic position within their industries, which results in

above average profits and market share. Porter's (1985) view is underpinned by what he terms the activity-based view of the firm, suggesting that it is the activities of the firm, which are strictly aligned with its strategy that generate its competitive advantage. Porter also claims that competencies are an intrinsic part of these activities and acknowledges the inseparable nature of activities, resources and capabilities, but highlights that activities are paramount, because that is how resources are strategically allocated.

Barney (1991) describes a second approach termed the resource-based view, which centers on how firms leverage their resources to gain a sustainable competitive advantage. This view is contrasted with Porter's. Porter focuses on isolating opportunities and threats outside a firm and within a company's competitive environment where Barney focuses on competitive advantage within the firm. Porter (1996) has more of the view that resources by themselves do not create value, but it is how you use them in particular markets that creates the advantage.

Barney (1991) points out that the resourced-based view of the firm assumes that firms in the same industry have bundles of resources that they control which are heterogeneous. This heterogeneity also persists over time because the resources are not perfectly mobile across firms. This immobility becomes a necessary condition for a resource bundle to contribute to competitive advantage. In this way, the resource-based view suggests that a competitive advantage can only be developed when the firm possesses resources and capabilities that are uniquely superior to competitors. To become a source of

competitive advantage Barney (1991) characterizes bundles of resources as having to be valuable, rare, imperfectly imitable, not have strategically equivalent substitutes and be valuable to customers. Without these, competitor firms can duplicate and the advantage quickly vanishes (Dierickx et al. 1989). Barney (1991) also suggested that simply exploiting advantageous resources is likely not enough to achieve competitive advantage.

The resource-based view also has its critics such as Mintzberg and Lampel (1999) who found the model to be too much inward looking for the difference of competitive strategy, which they felt should also be externally focused.

Amit et al. (2003) also suggests that the resources themselves do not confer a sustainable competitive advantage. The resources only become an advantage when they are applied to an industry or brought to market. As a result, the role of management becomes crucial to convert resources into value for customers and delivering this to the marketplace. This suggests that good quality management is in itself, a potential source of sustainable competitive advantage.

Mintzberg (1978) demonstrated that the notion of strategy, as deliberate plans conceived in advance of making specific decisions was not always true. He contended that strategy formation may be intended or just realized despite best intentions. Mintzberg contends that it is the interplay between intended and realized strategies that leads to the complexity of the strategy process. He

concluded that strategy is not a fixed plan, nor does it change systematically at prearranged times solely at the will of management.

Quinn (1981) suggests that successful strategy emerges over time. He states that at the beginning of the strategy building process it is impossible to predict all the forces that will face the firm. As a result, top management can only forecast what is most likely to affect their company. In developing the strategy, the firm then attempts to build up resources and a dominant position in selected market so they can survive even under very difficult circumstances. Quinn also suggests that top management must be able to handle ambiguity while constantly scanning the environment for changes that will affect company performance. Quinn emphasizes that strategy is continually emerging and adjusting to outside influences and no matter how formalized, it can never be completely implemented due to external influences that were not anticipated by the management.

Quinn also recommends outsourcing to firms that have greater competency in certain areas than the firm (Quinn 2004). Firms can then leverage the strengths of suppliers to gain a competitive advantage. Quinn also suggests that firms should be constantly scanning the environment for outsourcing opportunities, which will result in savings to the company. This model of competitive strategy differs from Porter's (1985) view, which looks for ways to integrate the value chain as much as possible, where as Quinn suggests keeping core strengths and everything else should be outsourced to create a competitive advantage. Quinn (1996) also suggests that outsourcing will allow

firms to serve customers substantially better, simultaneously decreasing risk to the firm and its size, while increasing flexibility.

Sustainable Competitive Strategy

Barney defines sustainable competitive advantage as: "A firm is said to have a sustained competitive advantage when it is implementing a value creating strategy not simultaneously being implemented by any current or potential competitors and when these other firms are unable to duplicate the benefits of this strategy" (Barney 1991, 102).

Barney (1991) suggests that not all firms have the resources with the potential to create a sustainable competitive advantage, unless they possess four key attributes: rareness, value, inability to be imitated, and inability to be substituted, in order to have the competitive advantage potential. As a result a sustained advantage comes from the resources being heterogeneous in nature and not perfectly moveable, without great effort.

Hunt and Morgan (1995) proposed that resources should be categorized as financial, physical, legal, human, organizational, informational and relational. It is then the combination of these resources and skills into core competencies, which a firm then can do uniquely well in relation to its competitors (Prahalad and Hamel, 1990). Day and Wensley (1988) identified the key sources of competitive advantage as superior skills of the personnel of a firm, and the superior resources of the firm. Combining resources, developing competencies using the skills of personnel, and organizing a firm's activities in unique ways,

firms may succeed in achieving value for customers and a sustainable competitive advantage.

Porter (1985) discussed the concept of sustainable competitive advantage when presenting the generic strategies of low cost or differentiation suggesting that the process of differentiation within the firm, beyond simply offering a lower price, but which offers something unique that is valuable to buyers, is an important source of sustainable competitive advantage. He also suggests that the differentiation is found in the product itself, or the service associated with the product. And so, a distinction can be made between the firm's resources, which can be termed a comparative advantage and competitive advantage. The differentiation is how the firm utilizes the resources and where it positions itself in the market place.

Porter (1985) also suggests that it is the external forces, which the firm reacts to that in the end contribute most to the sustainable value creation, and in rapidly changing markets, it is difficult to pinpoint a time when the advantage can be classified as sustained. Firms that are flexible in utilizing their resources and capabilities, and can distinguish and react in advance to environmental changes, can take advantage of new emerging opportunities with reconfiguring their resource and capability base (Porter, 1996).

D'Aveni (1995) suggested that these approaches to explaining strategy might not be applicable in highly dynamic environments where leveraging unique resources or strategic positioning is likely going to be insufficient. Achrol and Stern (1988) described market dynamism as the degree of change in a market,

which includes elements such as customer demand, technology, and competitor structure. Firms competing in these markets are required to make frequent changes to products and services to respond to continuously changing customer demand, technology and business practices.

Given the less dynamic nature of the global forest products industry and its markets, Porter's approach to strategy will be used to guide the results and analysis of this paper. Porter (1985) describes two basic types of competitive strategy, which enables a firm to achieve greater value for its customers and more profits for itself - cost advantage and differentiation. A cost advantage suggests that the firm is able to deliver the same benefits as competitors but at lower costs. A differentiation strategy provides customers with benefits that exceed those of competing products. Cost leadership best describes the dominant strategic approach utilized by the BC forest products industry.

Environmental Scanning

Choo (1999) describes environmental scanning as the acquisition of information about events, trends, and relationships in an industry's external environment that may influence its performance. Firms utilize the knowledge acquired to plan activities to respond to these environmental influences. The extent to which firms can adapt to the environmental influences largely depends on their abilities to know about and learn from the information acquired. Choo (1999) also reported that environmental scanning and the generative

organizational learning that results are directly linked with improved organizational performance.

The terminology and methodology of environmental scanning are from the strategic planning literature. Environmental scanning is an important step for a firm to undertake in the process of developing a competitive strategy. It strives to identify the macro-environmental factors that the firm must consider when developing the best fit between a firm and its external environment, and is conducted assuming the need for continuous improvements to its strategic activities (Eadie 1989).

The four key environments that may be identified for the purpose of an environmental scan include: political, economic, social and technological.

- Political factors include areas such as tax policy, employment laws, environmental regulations, trade restrictions and tariffs and political stability,
- Economic factors include economic growth, interest rates, exchange rates and inflation rates,
- Social factors consider cultural issues, population growth rates, demographics, career attitudes and safety concerns,
- Technology factors include research and development activity, automation, technological incentives and the rate of technological change.

National Competitiveness

Ideas about competitiveness and the advantage of nations traces back to the early economic literature by Adam Smith and David Ricardo (Bowles, 2007).

Smith argued that the determinants of a nation's wealth were in its endowments of land, capital, natural resources and labour. Ricardo introduced the theory of comparative advantage, which is based on the principle that nations should produce those goods and services for which it has the greatest relative cost advantage. Contemporary models, such as the national diamond (Figure 2) proposed by Porter (1990), define a new dimension to national competitiveness. Porter's theory is based on the idea that the capacity of an economy to sell its products is also based upon factors such as efficiency and modes of competition. Porter argues that these attributes are created not inherited. In his model, Porter describes the determinants of a nation's advantage as: factor conditions, demand conditions; firm strategy, structure and rivalry, and related and supporting industries.

Determinants are favourable when they help promote and stimulate individual firms and clusters of firms to continually upgrade and widen their advantages over competing firms in other nations. The role of governments is to offer the most productive environment for firms by supporting the development of favourable determinants. However, this does not guarantee success. In fact the more dynamic the national determinants, the more likely it is that some firms may fail because not all have equal skills and resources, and do not exploit the national determinants equally. However, Porter suggests that companies that emerge from such an environment will prosper in international competition.

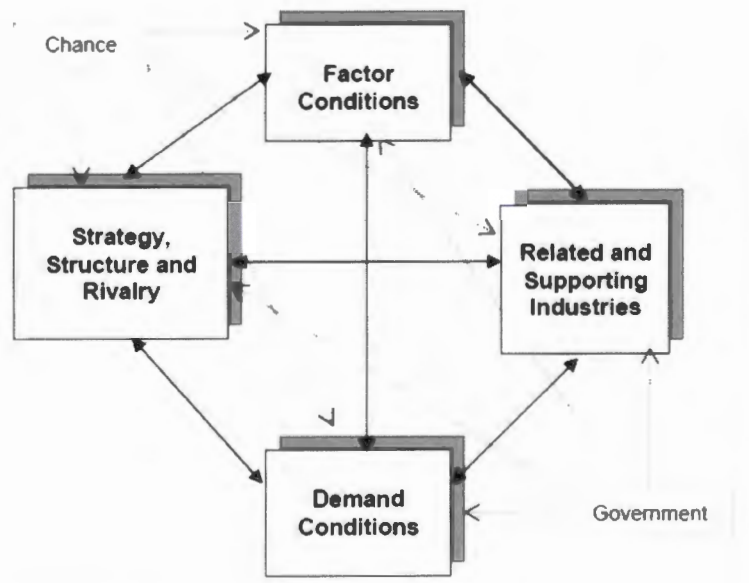


Figure 2: Porters National Diamond,
Source: Adapted from Porter (1990)

Porter (1990) stresses that the role of governments at national and regional levels is to offer the most productive environment to help businesses develop and continually upgrade their competitive advantage. Governments achieve this by influencing and re-enforcing the four determinants of national competitive advantage. This influence can lead to both positive and negative effects. For example, national competitive advantages built entirely on government policies designed to provide a cost advantage will eventually fail, as other governments move to duplicate these advantages. To positively support the determinants, governments must encourage companies to raise their performance by stimulating early demand for advanced products, focusing on specialized factor creation and stimulating local rivalry by limiting direct cooperation and enforcing anti-trust regulations. Porter suggests that these

types of policies facilitate long-term competitive advantage because they are difficult to imitate, and are often intensely uncomfortable for firms.

Porter also suggests that chance plays an important role by altering the conditions that affect the determinants. Chance refers to conditions that are outside the power of firms to influence, such as shifts in financial markets, exchange rates, changes in demand and political decisions by foreign governments. These types of conditions can have the effect of catalyzing periods of innovation and investment or conversely disrupt customer relationships. Porter views that nations with the most favourable diamond are those that are most likely to convert chance events into competitive advantage. While the role of government is different from private firms, it is interrelated in creating a productive economy.

Martin and Porter (2001) in their paper "Canadian Competitiveness: A Decade after the Crossroads" provided a critique of Canada's diamond and suggested that it was weak. The authors suggested that Canada needed a clear national vision for its resource-based industries. By contrast, several countries with firms that are strong competitors in this forest products industry, such as Finland, Sweden and Chile have a clear national sense of their firm's core competencies and support them with appropriate policies.

There are some economists who criticize Porter's model and some of the judgements made about which factors are important (Grant 1991, Davies and Ellis 2000). However, Porter's national diamond remains a widely used

framework for analysing the resources and constraints that influence a nations competitive advantage (Ghemawat 2002).

SECTION III

RESULTS

In the following section, the information collected from the literature review is used to support an understanding of the macro-level environmental influences on the BC forest products industry and its current position and structure as observed by using Porter's (1985) five forces model.

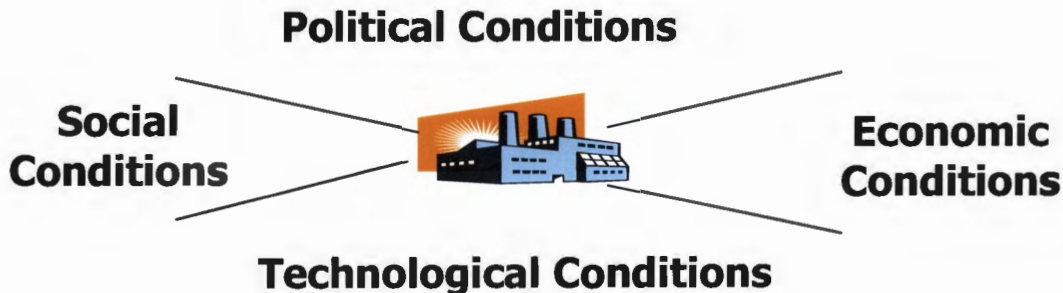
Environmental Scan of the B.C. Forest Products Industry

As observed from the literature, an important part of strategic planning for any firm involves understanding the environmental factors that influence it. By monitoring the relevant environmental changes influencing B.C.'s forest products industry, a firm competing in the industry can formulate strategies to help it respond to the changes in order to survive and prosper. Environmental scanning typically focuses on factors both external and internal to the firm (Croft 2007). The two methods of scanning the external environment are PEST and Porter's (1985) five forces model.

PEST Analysis

The PEST analysis is a framework to help a firm assess the macro-level environmental factors, which are external to it. PEST is an acronym for Political, Economic, Social and Technological factors, which may be currently impacting the industry's market place (Croft 2007).

Figure 3: Diagram of PEST Analysis



Political Conditions - There are a number of political factors affecting the forest industry today. These include trade restrictions and other trade barriers in many export markets, unresolved Aboriginal and treaty rights over provincial Crown forestlands, federal and provincial policies that restrict industry consolidation and discourage capital investment, a changing provincial forest policy regime that has increased in complexity creating uncertainty and added cost to timber supplies, and the ongoing threat of market campaigns aimed at boycotting B.C. forest products over debates about forestry practices.

Exports of Canadian softwood lumber into the U.S. market are governed by the 2006 Softwood Lumber Agreement (SLA). The SLA is a complex agreement that imposes export tariffs and volume restrictions as a means of controlling softwood lumber shipments into the U.S. Shipments are restrained by setting explicit bounds on physical shipments from each province. The export charges or boarder measures are charged and collected by the Canadian

government when the price of lumber is at or below U.S.\$355 per thousand board feet (FA&IT 2006).

The impact of the SLA and its current boarder tax on BC producers is likely to have a negative impact on competitiveness. It provides distortions in production costs forcing BC manufacturers to make shorter term investment decisions based on the boarder tax rather than on sustainable longer term drivers of competitiveness.

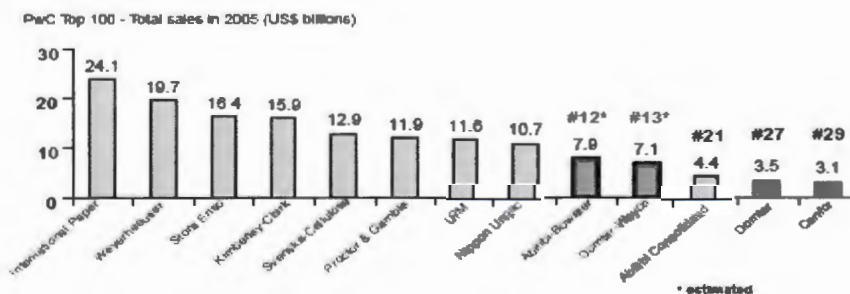
A unique feature of this agreement, which impacts both countries is the anti circumvention clause. This clause states that neither country will take action to circumvent and offset the commitments made in the agreement. This suggests that the Canadian and provincial governments cannot change laws, regulations or forest management programs which could result in cost saving to the industry. This could severely restrict the role of the Canadian and provincial governments in helping to improve the competitiveness of the forest industry (Waddell 2007). Other non-tariff barriers such as environmental and technological criteria, which are imposed by some countries, can also limit the import of B.C forest products. These include building codes, product standards and eco-labelling requirements (NRCan 2008).

The Canadian Constitution protects Aboriginal and treaty rights in Canada, and Canadian case law recognizes claims to Aboriginal and treaty rights. The Canadian courts continue to clarify the nature of these rights and the impact that they may have on the relationships between Aboriginal communities, governments, and businesses in Canada. This often raises the uncertainty for

resource industries like the forest industry that holds forest tenures, which may overlap with or impact Aboriginal and treaty rights.

Canada's *Competition Act* (1985) attempts to maintain and increase competition in Canada by ensuring that small and medium-sized businesses have an opportunity to participate in the Canadian economy. In doing so, the Act can restrict or prevent mergers or acquisitions of Canadian firms. This restriction can limit the ability of firms to increase their production capacity in regions where they may already own manufacturing assets. This is an important consideration given the global nature of markets and competition. While B.C. forest products firms are growing, they are still small by international standards (Roberts et al. 2004). Figure 2 compares the largest firms in the sector globally measured by 2005 total sales revenue. Canfor Corporation, which is B.C.'s largest forest products firm, was 29th in total sales when compared to the top 100 global forest products companies. Canada's largest company, Abitibi-Bowater was 12th followed by Domtar-Weyco at 13th place, Abitibi Consolidated at 21st place and Domtar at 27th place.

Figure 4: Top 100 Global Forest Products Firms – 2005 Total sales (US\$ billions)
Source: FPAC. Available at: <http://www.fpac.ca>



Taxation on capital investment in Canada's forest industry is among the highest rates paid when compared with other global producing regions. Given the increased international mobility of capital, taxation rates higher than other industrialized countries acts to discourage capital investment in Canada (FPAC 2007 and Giammarino 1998).

The current forest policy regime in British Columbia has evolved over many years. The regime controls the firm's access and cost of timber from provincial Crown lands. Timber cost is the single largest input cost for the forest products firm in B.C. The political nature of forestry in the province has resulted in ongoing changes to these policies, as the provincial government tries to balance the economic, social and environmental values demanded by society. Government administrators have extensive scope to regulate and add to the forest industry's costs (BC Competition Council 2006). In attempting to achieve this balance, B.C.'s complex forest policy regime has likely worsened the industry's competitive position by forcing tenure holders to provide non-timber and environmental services that have increased the cost and increased uncertainty of the timber supply (Haley et al. 2006).

The debate about sustainable forestry practices and B.C.'s forest policies has been ongoing for many years. This debate has now moved to the marketplace, where Environmental Non-governmental Organizations are targeting key customers of specific B.C forest products firms, promoting the purchase of eco-labelled forest products. This drive to certify forest products can restrict access and increase the cost of timber supplies.

Economic Conditions - The economic factors that affect B.C.'s forest products industry include currency exchange rates, access to capital, and market demand trends. The industry has always been a major contributor to the provincial economy. In 2006, this sector manufactured over \$15 billion worth of forest products, which represents 35.6% of the total of all manufacturing industries in BC (Council of Forest Industries 2008). Over 80% of this production was shipped to U.S. markets. However, the industry's contribution to the provincial economy has been slipping in recent years. In 1999, the sector manufactured over \$17.6 billion worth of forest products, which was approximately 48% of the total of all manufacturing industries in BC. Direct employment in the industry has also dropped from 94,808 jobs in 1999 to 81,600 jobs in 2006 (BC Stats 2008). The overall competitiveness of the B.C. industry is declining as new, lower cost firms emerge, and capture market share in many of B.C. traditional product markets (BC Competition Council 2006).

In 2006, the U.S. Housing starts were 1,838,900 units. In 2007, starts dropped to 1,380,500. In 2008, the U.S Department of Housing and Urban Development forecast housing starts for the year to be 1,048,000. This represents a 24% drop from the previous year and a 43% drop from 2006. Long-range forecasts suggest that this market will not likely rebound until sometime in 2009 (WoodMarkets 2008). There are also rising concerns about the U.S economy and as a result, it is expected that demand for wood products will continue to be weak.

The BC forest products industry also ranks as the lowest amongst its global competition when comparing Return on Capital Employed (ROCE). Emerging regions such as Latin America and South Africa are posting the highest average ROCE, which is putting significant competitive pressures on the BC firms, and limiting their ability to access capital. Credit markets have also tightened considerably as a result of the U.S. banking crisis, making it more difficult for firms to obtain financing. Other factors such as the Canadian/U.S. currency exchange rate and rising input costs such as energy are also contributing to the BC forest industry's decline (Roberts et al. 2004).

Roberts et al. (2004) also conclude that real prices for most commodity forest products including lumber have trended downward over the past 18 years. They predict that this downward trend will continue due to lower productions costs, increasing global supply, few barriers to entry but high barriers to exit for the industry. This downward pressure on commodity prices overall has been clearly observed and documented since 1800 (Martin and Porter 2001).

The recent Mountain Pine Beetle infestation in the central interior of British Columbia is also expected to reduce timber supplies by as much as 50% in some regions (BC Ministry of Forests and Range 2006a).

In addition, the long-term devaluation of the Canadian dollar, in U.S. funds, has obscured the real decline in global competitiveness of many marginally profitable mills (BC Competition Council 2006). This has encouraged excess capacity to prevail, undermining the viability of mills that have made consistent strides to remain competitive through productivity gains.

Social Conditions - The social factors affecting the B.C. forest industry include the impact of changing social values on the provinces forest policy regime, an aging workforce and changing career attitudes, and the general safety concerns associated with the industry.

Over the past 30 years provincial forest policies in British Columbia have changed in direct response to changing public values associated with provincial forestlands. Forest policies traditionally were focused on supporting industrial development, however, today they are primarily focused on attempting to achieve a multiple of social, economic and environmental values on public forestlands (Haley et al. 2006). These changes have increased the complexity of operating on provincial Crown lands for forest companies that hold forest tenures.

Many B.C. forest industry firms, particularly those located in northern communities are currently having a difficult time recruiting and retaining skilled trades workers, forest professionals and managers. This has been a recurring problem, and in some cases, key positions remain vacant for several months while the firm tries to recruit new employees. While some of the difficulties in attracting and retaining employees are likely due to a general labour market tightening, it is also expected that there are shortages of labour in specific occupations and trades, due to an aging population. The 2004-2005 Conference Board of Canada report on "The World and Canada: Trends Reshaping Our Future, Performance and Key Findings" points out that Canada's aging population is increasing at a much faster rate than children are being born. This means in the next few decades there will not be the population of younger

workers to replace the older workers as they retire. There is also a general economy-wide movement away from resource industries and a movement towards knowledge-based industries, which will influence career choices for workers entering the workforce or considering new employment opportunities (Huq. 2007).

Technological Conditions - The primary technological factor that has affected the forest industry is its recent lack of investment in R&D. The industry has a very high debt to equity ratio, which has resulted in the industry not investing in new technology (Maness 2006). The Forest Products Association of Canada (2007) suggests that the Canada's very high tax on capital investment may also be reducing the incentives for investments in innovation. This lack of investment has created a competitive disadvantage when compared to other producing regions that have invested in R&D and employed new technologies (Maness 2006 and FPAC 2007). Figure 3 compares the amount of spending on R&D, as a percentage of gross revenues for Scandinavian, U.S. and Canadian forest products firms.

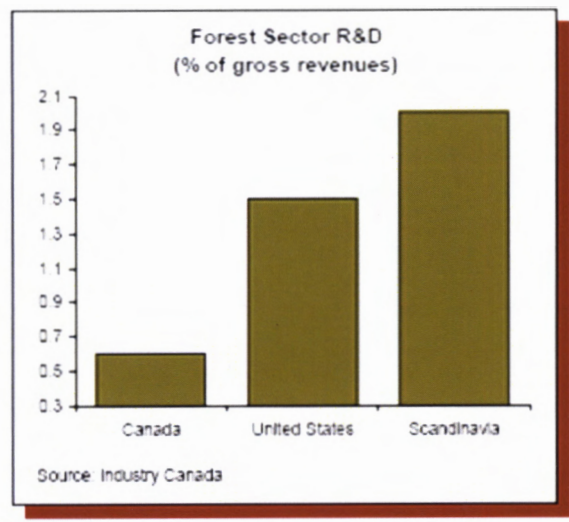


Figure 5. Proportion of Forest Sector Revenue Spend on R&D. Source FPAC. Available at: http://www.fpac.ca/en/pdfs/forest_sector_innovation_response_E.pdf

The effects of rapid technological change and globalization further exacerbate the industry's relatively low investment level in R&D. Competition arises much more quickly, and with greater intensity than before (Lall 2004)

Innovation in tree growing has significantly reduced the reliance on natural forests in Canada and the U.S. This includes conversion of marginal agriculture lands into fast growing tree plantations in places like Brazil, Chile, Argentina and other parts of South America, Australia, New Zealand, South Africa, China and Indonesia. Shorter rotations and the applications of tree breeding programs and biotechnology have increased yields and substantially reduced the financial risks associated with holding this inventory (Bael et al. 2006).

Bael and Sedjo (2006) claim that technological innovations, along with reduced costs of transport, and greater mobility of labour and capital have shifted

the comparative advantage from developed countries to developing countries in the southern hemisphere.

Nelson et al. (2006) also reported that new process technologies have reduced the B.C.'s historical advantage. The end result has been product prices that have remained flat or trended downwards over time. On the cost side, the authors also point out that resource conditions have been deteriorating while the stumpage fees paid have often increased higher than a market with private forest land owners would have. And, the cost of labour remains the highest levels paid anywhere in the world.

Five Forces Model

Porter (1985) outlines five forces, which he suggests influence competition within an industry. Understanding these forces and their underlying causes are the key to understanding an industry's attractiveness, or long-term profitability. The purpose of this assessment is to consider the micro-environmental factors that are currently affecting competition in the global softwood lumber industry and the assessment is based on the perspective of a public corporation in the central interior of BC, producing 3 billion board feet of lumber each year.

The results of the PEST assessment will also be considered in this five forces assessment, as many of the conditions raised will play an important role in influencing the micro-environmental factors.

High Rivalry Among Competitors - The North American softwood

lumber industry has a large number of firms who compete for many of the same customers. North American lumber production in 2007 totalled 51.5 billion board feet and the largest 40 firms in North America produced only 62 % of this production. There is also substantial diversity among the largest competitors in North America when comparing the number of manufacturing plants owned and their total manufacturing capacities. The number of manufacturing facilities owned by firms ranges from 1 facility to 25 facilities, and production capacity at each facility ranges from under 100 million board feet to over 500 million board feet, with the average being 140 million board feet (Wood Markets 2008). This low concentration and high diversity results in increased rivalry.

In a global context, the central interior softwood lumber firm is considered to be small relative to its global competitors. When comparing 2006 sales revenue, twenty-seven U.S firms made the list of top 100 firms in the world. In Western Europe twenty-five companies were in the list of top 100 firms and in Canada only twelve firms made the list of top 100 firms (PriceWaterhouse Coopers 2007). As highlighted by the PEST, the ability for the BC interior firm to grow by acquiring or merging with other lumber producers in the same geographic area is restricted due to the federal *Competition Act*.

The U.S. is the largest softwood lumber market in the world. In 2007, the U.S. consumed 51.5 billion board feet. In 2008, U.S. lumber consumption is forecast to drop to 43 billion board feet. This represents over a 20 billion board foot drop from 2005, when the U.S consumed 64 billion board feet. This decline

in consumption is equal to the total shipments of Canada's largest 20 lumber producers in 2007 (Wood Markets, 2008). This decline in U.S. consumption also demonstrates the cyclical nature of the business, which has resulted in high rivalry among North American producers.

February 2008 framing lumber prices in the U.S. moved to cyclical lows not seen in 17 years. Analysts anticipate that at these prices, virtually no commodity lumber producer anywhere in North America will be profitable. Many analysts also predict that these low prices will continue until enough firms reduce or close manufacturing capacity to match the low levels of product demand (Wood Markets 2008). Overall global demand for wood products has also been stagnant over the past 20 years (Bael et al. 2006), while industrial roundwood production has increased by approximately 14% during this same period. Today, global demand for wood products remains low compared to the current manufacturing capacity, resulting in a huge oversupply. In the longer term as global populations continue to grow, this oversupply situation is expected to change.

Another characteristic of the forest industry that contributes to rivalry are its relatively high fixed costs, which are those costs that do not contribute to costs of goods sold. This results in firms striving to produce at or near capacity to attain their lowest unit cost of production. This results in intensified rivalry as firms continue to operate and produce lumber in excess of market demand. This is particularly evident in the U.S. market today.

Product differentiation and brand identification in the softwood lumber sector are both low, which results in a low switching cost for buyers. Low switching costs in an oversupplied market results in firms becoming price takers or face having to close their operations. As a result firms are forced to continue to operate in an attempt to reduce losses and retain customers. This puts tremendous pressure on firms to be low cost producers in order to sustain themselves during poor markets.

Forest companies can also be characterized as having high exit barriers due to their asset specificity. Manufacturing facilities in the industry are highly specialized and typically cannot be sold to buyers in other industries. As a result, firms are left to compete, or face selling their assets at low salvage values.

Low Barriers to Entry - In British Columbia, forest tenures cover all of the available timber supply on public lands. This has provided a competitive advantage for the BC interior firm, because it holds tenure, which has restricted the ability for new entrants that did not. In recent years however, access to timber for new entrants has increased due to changes to forest tenure policy. Approximately 20 percent of the provincial timber supply is now available through short-term tenures. This timber is sold through a competitive bidding process to anyone who can meet the contractual obligations.

Historically, the tenure system has also provided holders of long-term tenure, with the legal protection of property rights associated with the tenure, which has acted as a barrier for new entrants, similar to the legal protection provided by intellectual property laws (Cashore et al 2001). However, with the

changing social values and the uncertainty of Aboriginal and treaty rights highlighted in the PEST, these property rights are being impacted by provincial forest policies, which are being changed to address both the changing values and Aboriginal rights.

In the US, much of the forestland in the northeast and south is privately held by a large number of small landowners who sell their timber to the highest bidder. In many cases this favours new entrants with new lumber manufacturing technology because they are able to pay more for their raw materials due to their lower conversion costs. In addition, many of the private landowners do not have long term contractually obligations with manufacturing facilities allowing them to hold onto their inventory until prices are favourable.

There are also few economies of scale that prevent new entrants from entering the softwood lumber industry. Laakonen-Craig (2007) reported that there is no statistical evidence of a relationship between total sales and profitability in the forest industry, despite expected economies of scale. Many of the new entrants from countries in the southern hemisphere were performing on par or better than large established firms in North America (Laakonen-Craig 2007 and Roberts 2004). The new entrants have the advantage of utilizing new technology when constructing their assets, which provides an immediate conversion cost advantage over the BC firm, which is utilizing older technology. It is also expected that lumber exports from southern hemisphere countries utilizing plantation timber will double from 2002 to 2020 (Bael et al. 2006).

As suggested by the PEST, high capital taxes and access to capital may have contributed to a lack of investment in upgrading the technology used by the BC interior firm, which has likely increased its conversion costs, relative to new entrants.

The BC interior firm also has low product differentiation and little brand equity, making it easy for new entrants to access existing markets provided their costs are low. High product differentiation and brand loyalty create barriers to entry, because new firms must overcome the brand awareness and the customer loyalty with competitor's products. Some lumber firms attempt to differentiate their products based on service, supply chain management and quality, but because lumber products are generally viewed as commodities and given the current oversupply in most markets, customers will base their purchasing decisions on price.

Overall, the BC interior firm is experiencing poor financial performance. Roberts, Lethbridge and Carreau (2004) reported that between 1998 and 2003 even the most profitable forest products producing regions have not covered their cost of capital, suggesting that the interior firm will have difficulty attracting new capital. This will likely make the lumber industry less attractive to new entrants.

As highlighted in the PEST, the current Softwood Lumber Agreement with the U.S. also has the effect of restricting lumber shipments from the BC interior thereby allowing global lumber producers, and potentially new entrants to ship lumber products into the U.S. market.

Moderate Bargaining Power of Suppliers - Access to competitively priced raw materials, labour, and transportation to markets is critical for the firm's success. In BC, where the provincial government owns the majority of the forestland and controls access through the tenure system, timber pricing and security of supply can often be unstable. This directly affects the BC firm's profitability (FPAC 2007). However, Howlett and Rayner (2001) also suggest that the government's dependence on forest-generated income for general revenue purposes and their unwillingness to invest in timber management has created a strong bargaining position for firms holding tenure. Tenure holders have become a critical partner in the policy negotiations as they provide the processing facilities, marketing know-how and technical and professional knowledge essential for timber management.

The labour force is also a powerful supplier in British Columbia, but typically not at the international level. For the BC interior firm, its labour workforce is organized, keeping labour rates high. In addition, switching costs for labour are relatively low when there is high demand in other sectors. In addition, the PEST identified that the BC interior firm is faced with an aging workforce and changing career attitudes among new employees. This will make it difficult to attract new employees as the current workforce begins to retire.

The BC interior firm relies on a combination of truck, rail and ocean carriers to access its markets. While truck transportation is readily available, equipment is not specialized making it easy for trucks to switch to other sectors that may be willing to pay more for their service. When using rail transportation,

the BC interior firm has no options, resulting in a near monopoly for the rail company. Research commissioned by the Forest Products Association concluded that Canada's current rail transportation policy framework is failing to limit the market power of the rail industry (FPAC 2007) resulting in high costs and poor rail service. Offshore export markets like Japan and China require access to ports and ocean carriers, at competitive rates.

Moderate Bargaining Power of Customers - The bargaining power of customers for lumber products is a function of their market share, lumber supply, their switching costs and threat of backward integration. In the U.S. market, buyers are considered fragmented in some channels and concentrated in others. Homebuilders across the U.S are typically regionally focused with small market share purchasing small quantities. Retail outlets such as Home Depot, Lowes and IKEA have become very concentrated, with significant market share, purchasing large quantities and resulting in an oligopsony structure (Kant and Mehrotra 2007). In 2007, Home Depot was number 17 on the Fortune 500 list of America's largest corporations (Fortune500 2008). The current oversupply in most global markets also gives buyers significant power.

With little product differentiation for the BC interior firm, the switching costs for its buyers is low, and given the current excess supply, customers can demand improvements in quality and service without impacting price. The marketing and sales sophistication of forest product firms also has a bearing on their ability to sell into specific channels. Firms who wish to minimize their costs of marketing and sales will sell to wholesalers and distributors, while others who are prepared

to put effort into marketing and sales attempt to access more sophisticated channels such as the large retailers. New entrants can tap into these distribution channels easily provided they are low cost producers.

The recent increase in global environmental awareness has also provided large buyers such as Home Depot with additional leverage over the BC interior firm. Larger retailers are often targets of marketing campaigns by Environmental Non-government Organizations, as highlighted by the PEST. This results in retailers making additional demands for eco-labelling from suppliers like the BC firm, which is not reflected in the purchase price.

Moderate Threat of Substitute Products - The extent to which different products will be used as substitutes for softwood lumber products is a function of price and quality. There are substitute products available today, such as steel studs and these are sold by promoting their superior performance over softwood studs. However, given the current oversupply and low commodity prices, the threat of substitute products such as steel studs is moderate. When commodity lumber prices increase however, the threat of substitute products will become higher.

Other factors that impact the threat of substitutes is the switching costs for buyers. For some channels such as homebuilders, this is considered high because of the cost of specialized supplies required to build with substitute products. In addition, a well-established supply chain may also favour existing suppliers, as this will increase the switching costs of buyers.

The following table summarizes the results of the Five Forces analysis.

Table 3: Summary of Five Forces Analysis

Five Forces Analysis	
Competitor Rivalry	High
Barriers to Entry	Low
Supplier Power	Moderate
Buyer Power	Moderate
Threats of Substitutes	Moderate

The forces currently affecting competition within the global softwood lumber sector of the forest products industry are intense, resulting in low financial returns on investment over the long term. While rivalry in the industry is high, it is clearly not the only force limiting the industry's profitability. The current global overcapacity and oversupply of commodity lumber products from new sources will continue to keep profitability for the BC interior firm low. These forces will likely result in the firm being forced to take down time or close its higher cost facilities during periods of low demand when product prices fall below their variable cost of production. In addition, the firm will likely seek efficiency through rationalization and consolidation. Industry downturns will also continue to occur routinely due to the cyclical nature of the economy and consumer confidence.

Given the current industry structure, the BC firm has no choice but to continue to compete using cost minimization as its primary competitive strategy.

As a result, the firm must continue to focus on reducing its costs in all areas of the business. Given that timber is the largest single input cost, continued access to lower cost timber supplies will be a key area of focus.

SECTION IV

ANALYSIS

The forest industry today can be characterized as having poor financial performance, intense rivalry, low entry barriers and high exit barriers creating a situation where firms are forced to compete. When product demand is low, this results in oversupplied markets driving down commodity prices. New firms continue to enter the markets and out-compete B.C firms because of access to lower cost timber, the availability of new lower cost manufacturing technology and access to lower cost labour.

In analyzing the possible effects of the three tenure reform options (corporatization, privatization, decentralization) on the five competitive forces, consideration is given to the effects on the economic value stream of holding the new form of tenure, and the implications to innovation. The key attributes chosen to assess the potential effects are: security of timber supply, cost of timber supply, and flexibility in the timber supply.

Security of timber supply has always been a prerequisite for capital investment in B.C. and the lack of security has been a major concern with the current tenure system. Firms will want to have high security of supply to rebuild confidence in order to attract capital for new investment and innovation. However, it should be noted that access to a timber supply does not necessarily mean that the supply must be secured through long-term tenure arrangements such as those found in B.C. Currently, many firms in the U.S. do not have long-term timber supply sources secured through land ownership or forest tenure.

Instead, firms rely on their lower production costs and strategic plant locations to enable them to pay competitive prices for timber that is sold regularly on the open market. This approach reduces the carrying cost of large timber inventories and reduces the risk of loss or damage to standing inventories for the firm. However, firms do run the risk of having timber shortages at critical periods in the market cycle.

The cost of supply will be extremely important as firms continue to drive out costs in order to compete in commodity forest markets. The environmental scan demonstrates that firms selling into forest products commodity markets have few options other than to continue to use cost leadership as their competitive strategy. High competitor rivalry combined with slow market growth and significant barriers to exit continue to drive firm behaviour. Important cost drivers of the firm's operating activities include economies of scale, patterns of capacity utilization, timing and learning. Any added fixed costs will also be a factor.

Firms will view having flexibility in the timber supply as desirable. Flexibility will enable firms to make optimum choices about when to harvest timber, which specific timber products to harvest and which markets to enter. As markets become more dynamic, flexibility will be an important part of any new tenure system

Corporatization

For the purposes of this analysis, corporatization of the provincial forest resource involves creating a provincial Crown Corporation that is accountable for

all aspects of forest management including planning, development, timber selling, reforestation, and protection, while retaining ownership. The Corporation's mandate will include maximizing profits from timber sales, while meeting the environmental and social objectives of the Crown. Firms will purchase timber from the Corporation in both a standing timber and log form, through a competitive bidding process. Timber sales will be offered in a range of timber types, size of area and length of sale.

Effects on Competitive Rivalry - Under the corporatization model of tenure reform, the security of timber supplies will be low. While the Crown Corporation will be at arms length from the provincial government, the Corporation will be required to fulfill the multiple of provincial goals and objectives for the resource, which may change depending on the political party and the potential for political interference. This model does not guarantee or provide preferential access to timber and as a result, may not create the confidence necessary to promote increased capital investment or innovation.

It is likely that under this model, the competitive bidding process will increase the cost of timber in areas with a high concentration of firms with manufacturing facilities in close proximity. Increased competition may result in reducing the number of firms in areas of high concentration. Firms with high costs may not be able to survive.

While the competitive bidding process will increase local rivalry and potentially reduce the number of firms, corporatization will not affect market growth, low customer switching costs or the high exit barriers currently present in

the industry. Overall, corporatization of the provincial tenure system may have a slightly positive affect on global competitor rivalry.

Effects on Barriers to Entry – As stated earlier the corporatization model will include the establishment of competitive log markets. This will attract new entrants within B.C.'s regional log markets. New entrants within these markets may have a competitive advantage if they have incorporated new technology in harvesting or manufacturing facilities over existing firms who have not invested in new equipment.

The process of competitive sales may also substantially reduce the strength of the U.S. government's argument concerning softwood lumber trade with B.C., since a substantial portion of their argument is based on the lack of competitive log markets. If this resulted in a reduction or removal of the export tax for B.C. softwood lumber products shipped to the U.S., B.C. products would become more competitive, potentially reducing the attractiveness of U.S. markets to new entrants from other global regions. This could moderately raise the barriers to entry within the U.S. softwood lumber market. However, corporatization will not affect current asset specificity or organizational economies of scale.

Effects on Supplier Power - Corporatization will maintain the near monopoly in timber sales throughout most of the province. There may also be a risk of timber shortages in the short term as the Corporations staff work to become efficient in their operations. Strong markets may also amplify this situation, when firms wish to add additional production capacity and need to

purchase additional timber supplies quickly. As a result, corporatization may increase the power of the timber supplier, and likely have no effect on other suppliers.

Effects on Buyer Power - Corporatization will increase timber costs for some firms making them less cost competitive in the short term. Firms will have to look to other parts of the value chain to find cost reduction opportunities. For example, firms will no longer be responsible for planning, development, reforestation and protection of the resource, which will reduce activity costs. Costs associated with environmental protection measures will remain, and may increase as public concerns about the environment continue to increase. The competitive bidding process and higher logs costs, combined with reduced planning and protection obligations may also give rise to more efficient use of timber products, where firms direct logs to their highest and best use.

Corporatization provides moderate flexibility for firms to be responsive to the cyclical nature of markets. When markets are low firms can easily reduce their lumber production levels and reduce their timber harvesting activities accordingly. However, when lumber markets are strong and firms want to add additional manufacturing capacity, getting quick access to large volumes may be difficult. Firms wishing to increase output quickly to respond to market opportunities may find it difficult to access additional timber supplies. In addition, low timber security will likely affect the willingness to invest capital in new technology or innovation.

Overall, corporatization may actually increase buyer power in cases where existing forest products firms become less cost competitive due to increased timber costs, and potential for timber shortages.

Effects on Threat of Substitution - Increased competition for timber supplies will likely increase timber costs in some regions of the province. Increased input costs will reduce the competitiveness of exiting firms unless firms can find cost reduction opportunities in other parts of their value chain. Given that the threat of substitution is greater when forest product prices are high, corporatization of tenure will not affect this force.

Privatization

The privatization model involves selling British Columbia's public forests to private interests, but retain ownership in the land. Firms will be required to pay for the standing timber inventory at the time of purchase. This model also assumes that the provincial government will remove a number of the regulatory controls currently in place, but retain a high environmental standard.

Over the years, there has not been much public support for privatization of public forestlands because of public opinion favouring public ownership, but also because when the crown owns the resource, the public bears the cost of its maintenance (Marchak, 1983). Pearse (1976) also noted that because public ownership bears the costs of carrying the forest inventory, the capital required to enter and operate in the industry is substantially reduced, as are the financial risks. In addition, the U.S. forest products industry has been divesting its ownership of U.S. forestlands. In the past 25 years, forest industry private lands

have been reduced by 50 percent, with nearly half of that decline in the past decade. Simultaneously the industry has increased its ownership of offshore forestlands similar to the trend among Nordic forest products companies. The notion is consistent with the globalization trend which has shifted the comparative advantage in industrial wood production from forest lands in North American to the forests to the southern hemisphere, where fast growing plantation forests carry a much lower risk (Bael et al. 2006).

Competitor Rivalry - Under the privatization model firms will enjoy greater security of timber supply because of the long-term nature of the property rights. This increased security of supply may also provide incentives for some firms to increase innovation or make addition capital investments. The security and preferred access to timber should also reduce the cost of timber supplies compared to other tenure reform models. A reduced regulatory burden will also reduce activity costs.

This model will also provide high flexibility so that firms can be responsive to the cyclical nature of the commodity forest product markets. When demand is high, firms will have quick access to additional supplies and when demand is low, firms will reduce timber-harvesting operations accordingly.

Privatization will require access to capital to purchase the standing timber inventory, which will increase the fixed costs of the firm. This may cause some firms to exit the industry and potentially reduce the number and diversity of firms. In addition, firms that purchase timber will have to take on the risk associated with the standing inventory from such events as wildfires, windthrow and insect

outbreaks. But despite these added fixed costs, when firms harvest, their direct operating costs will be lower.

Overall, privatization may not affect the current high exit barriers for the industry, low customer switching costs, or market conditions, however it may reduce the number and diversity of firms currently competing in B.C, which can affect global competitor rivalry.

Barriers to entry – The capital costs required to purchase the standing timber under this model would raise entry barriers locally. In addition, lower input costs, potential for improved economies of scale and improved competitiveness will deter new entrants. Increased security may provide opportunities for innovation and enhance brand equity.

The privatization model also reduces the strength of U.S. arguments in softwood lumber trade negotiations, assuming that the standing timber is sold at market value. Eliminating or lowering the export charges would result in improved competitiveness in U.S. markets. Overall, the privatization model could have the effect of raising barriers to entry in some markets.

Supplier Power - The privatization option removes the timber supplier from the value chain and provides greater security of timber supply, lowering direct timber costs. This will not likely affect the power of transportation suppliers.

Buyer Power - Assuming that the privatization option can lower input costs and result in lower total costs and provide flexibility to access timber supplies, firms can offer powerful buyers lower prices and larger volumes of

forest products. Security of supply also provides opportunities for firms to innovate and differentiate their products, and possibly find unique ways of branding their products. This may affect buyer power in some markets.

Threat of substitutes - Privatization can lower input costs making firms more competitive, providing the opportunity to offer lower prices. Firms may also have more opportunity to innovate and develop brand loyalty under this model. Lower prices and product loyalty make substitutes less attractive.

Decentralization

The decentralization model involves the relocation of forest management authority and control away from the central provincial authority to a regional level authority, such as regionally elected Management Boards. Under this model, the provincial government will retain land ownership, but boards would have the freedom to establish regional goals and objectives to maximize benefits from the regional forests. Boards will manage and sell timber and non-timber products, within the constraints of a set of environmental and social objectives provided by the provincial government. The regional boards will be responsible for most of the forest management activities. The provincial government would retain a certain level of strategic control, such as specifying the maximum allowable annual cut available within the regional forest. Firms will purchase timber sales in both a standing timber and log form, through a competitive bidding process. Boards will offer a range of timber sales including a variety of timber types, size of area and duration of sale.

Decentralization may also have the effect of reducing the overall available provincial timber supply, as the process for setting allowable annual cuts for smaller regions need not equal the current allowable annual cut for the entire province.

Competitor Rivalry - Decentralization does not offer security of supply or preferred access to timber supplies. In addition, the model runs the risk of creating timber shortages if regional Management Boards decide to reserve or restrict areas from harvesting, or when management is not efficient at offering sufficient quantities of the appropriate timber sales when market demand is high. Like the Crown Corporation, Management Boards will attempt to sell timber competitively, which may result in increased timber prices in some areas. The combination of lower allowable annual cuts and increased prices due to competition may cause some firms to close. However, there will also more sellers with different goals under this model, which may also impact this result. Firms will also enjoy a reduced regulatory burden similar to the corporatization model, which will reduce activity costs.

Overall, decentralization may reduce the number of competing firms in a region due to the reduced timber supply, which may have a small affect on competitive rivalry in the global forest products market.

Barriers to Entry - Decentralization does increase competition for timber at the regional level, providing opportunities for new entrants, and favouring new entrants with newer technology. However, there will be lower timber supplies available, which will impact this. This increased level of competition will increase

timber costs in areas of higher firm concentration and high demand. Overall reduced timber supplies and low security of supply will likely reduce the opportunity for firms to pursue economies of scale.

Like corporatization, decentralization incorporates competitive sales, which could reduce the strength of the U.S government's arguments concerning softwood lumber trade with B.C. If this resulted in a reduction or removal of export charges B.C products would become more competitive, potentially reducing the attractiveness of the U.S. market to new entrants from other global regions. However, without the opportunity for increasing economy of scale, decentralization is not likely to have a significant affect on increasing barriers to entry in the U.S. market.

Supplier Power – Under the decentralized model the number of sellers is increased providing firms with the opportunity to purchase timber sales from a number of regions. This will reduce supplier power for timber sellers, however decentralization will not likely affect other suppliers such as transportation and services.

Buyer Power – Decentralization will not provide opportunities for substantial timber cost reductions. The model may even create timber shortages and increase costs. The model does not provide much flexibility to be responsive to market demand however, it may be more responsive than the centralized model because of the increased number of sellers. The model may provide opportunities for some innovation and branding in regions where Management Boards are receptive. Overall, decentralization is not likely to affect buyer power.

Threat of Substitutes – Decentralization will not provide opportunities for cost reduction and will likely increase timber costs in some regions through increased competition. Given that threat of substitutes is greater when product prices are high, decentralization will not affect the threat of substitutes.

Table 4: Effects of the Three Tenure Reform Options on the Five Forces

Five Forces	Corporatization	Privatization	Decentralization
High Competitor Rivalry Large number of competitors, High diversity in facility capabilities, High fixed costs, Slow market growth, Low brand & product differentiation, High exit barriers.	<ol style="list-style-type: none"> 1. Low security of timber supplies, 2. Increased competition resulting in increased costs, which may cause high cost firms to close, 3. Moderate regulatory burden compared to existing tenures, 4. Moderate flexibility to be responsive to cyclical nature of markets. 	<ol style="list-style-type: none"> 1. High security of timber supplies, 2. High flexibility to be responsive to cyclical nature of markets, 3. High initial capital costs, may force high cost firms to close, 4. Increased fixed costs, 5. Lower direct timber costs due to preferred access and low regulatory burden, 6. Opportunity to become more innovative in timber management and products, brand and differentiation, 7. Reduced local rivalry, and some impact globally, ability to reduce prices in response to rivals. 	<ol style="list-style-type: none"> 1. Lower security of supply in some areas 2. Increased competition and increased costs for timber in areas of high demand, may encourage new entrants and force high cost firms to close, 3. Reduced administration costs due to lower regulatory burden compared to existing tenures, 4. Increase local rivalry, and no impact globally
Low Barriers to Entry Increasing supply of low cost plantation timber from southern hemisphere, Increase in local competitive timber sales, New technology favours new entrants, Impact of globalization favouring new entrants, Low Brand & Product Differentiation, Softwood Lumber Agreement favouring non Canadian producers.	<ol style="list-style-type: none"> 1. Increases volume of timber sold competitively favouring new entrants, 2. Increasing cost of fibre due to competitive sales, potentially favouring new entrants, 3. Reduces strength of US arguments in softwood lumber trade negotiations. 	<ol style="list-style-type: none"> 1. Ability to keep prices low to deter new entrants, 2. Capital cost and preferred access to timber supplies raises barriers to entry, 3. Opportunity to become more innovative in timber management, potentially increasing brand and differentiation, 4. Reduces strength of US arguments in softwood lumber trade negotiations. 	<ol style="list-style-type: none"> 1. Increases volume of timber sold competitively favouring new entrants, 2. Moderate cost increase of timber due to competitive sales, potentially favouring new entrants 3. Reduces strength of US arguments in softwood lumber trade negotiations
High Supplier Power Provincial government is dominant supplier of timber, Unionized labour force keeping wages high, Strength of transportation suppliers.	<ol style="list-style-type: none"> 1. Higher timber costs resulting in greater supplier power, 2. Lower timber security resulting in greater supplier power, 3. Near monopoly in timber sales. 	<ol style="list-style-type: none"> 1. Provincial government no longer dominant supplier, 2. Lower timber costs provide some insulation from powerful suppliers, 2. Increased timber security reducing supplier power. 	<ol style="list-style-type: none"> 1. Higher timber costs resulting in some increase in supplier power, 2. Increased number of sellers reducing power, 2. Lower timber security, reducing power.
High Buyer Power Large buyers in some segments, Low brand and product differentiation resulting in low switching costs for all buyers, Environmental market campaigns.	<ol style="list-style-type: none"> 1. Low timber security and higher costs increase buyer power, 2. Low opportunity to innovate in timber management, maintaining low brand and product differentiation 3. Some flexibility to be responsive to periods of high market demand, resulting in timber shortages. 	<ol style="list-style-type: none"> 1. Ability to offer lower prices to powerful buyers, 2. Ability to offer higher volumes to powerful customers, 3. Provides flexibility to respond to cyclical nature of business, 4. Opportunity to become more innovative in timber management, potentially increasing brand and product differentiation. 	<ol style="list-style-type: none"> 1. Moderate increase in timber costs, resulting in some increase to buyer power, 2. Potential to cause higher cost firms to close, 3. Reduced timber security increasing buyer power, 4. Opportunity to innovate in timber management, potentially increasing brand and product differentiation, 5. Low flexibility to be responsive to periods of high market demand resulting in timber shortages.
High Threats of Substitutes Superior performing substitutes. Threats are higher when forest product demand and prices are high,	<ol style="list-style-type: none"> 1. With higher log costs, firms will be forced to curtail operations sooner during poor markets. 	<ol style="list-style-type: none"> 1. Firms will have lower direct log costs allowing them to continue to operate longer when market prices are low. 	<ol style="list-style-type: none"> 1. With higher log costs, firms will be forced to curtail operations sooner during poor markets.

Discussion

The analysis demonstrates that each tenure reform option has the potential to affect one or more of the five forces by some degree. Each option will affect local competitor rivalry. Privatization offers the most significant affects in the short term, but given that the capital costs and risk associated with this model, this may not be feasible in some areas of the province. Each model can have some affect on entry barriers, assuming that they can affect trade negotiations with the U.S government. Supplier power is most significantly affected by privatization followed by decentralization. The supplier power of the transportation industry and other services will not likely be affected. Buyer power may be affected by privatization if the firm is motivated to innovate, and each model has the ability to reduce the number of firms by forcing the high cost producers to close, which could have the affect the supply to customers. The threat of substitutes is greatest when forest product prices are high. While each option could reduce the number of suppliers, it is unlikely that this would cause a significant price increase given the capacity that exists in other producing regions of the world.

The results of the PEST analysis highlight five major dynamics that will likely continue to influence provincial forest policy and its tenure system, and the industry's timber supplies. These are as follows:

- the uncertainty created by Aboriginal and treaty rights on provincial Crown lands,

- the uncertainty and added costs of a forest policy regime and tenure system that has evolved into one of Canada's most complex,
- the ongoing threat of environmental market campaigns promoting boycotts of B.C.'s lumber products,
- the constraints imposed by the current Softwood Lumber Agreement limiting the provincial governments ability to reform forest policies, and
- the eventual timber shortages that will occur due to the recent Mountain Pine Beetle infestation.

Faced with these challenges, and the industries declining competitiveness, the provincial government must determine how it can best utilize tenure reform as a means to positively affect the determinants of its regional competitive advantage. As demonstrated in the five forces analysis, the three tenure reform options do present opportunities to affect firm structure and rivalry as well as investment in innovation. Further investigation into the possible effects of tenure reform on these determinants, including demand conditions and related and supporting industries will be necessary to assist government with this challenge.

Overall, the results of the environmental scan demonstrates that B.C forest products firms competing in the commodity markets facing a very difficult challenge in order to reverse their current decline in global competitiveness. In

addition, the provincial government also faces significant obstacles when considering its role in creating the environment necessary for the industry to regain its competitiveness.

SECTION V

CONCLUSION

As the competitiveness of the BC forest products industry continues to decline, there are growing concerns about the ability of the current tenure system to support a globally competitive forest industry. Given that the structure and performance of the BC forest products industry is closely linked to the tenure system, careful consideration must be given to the design of any new tenure system, to understand the potential impact that tenure reform may have on industry competitiveness.

In this study, an analytical strategic approach was developed, to compare three tenure reform options and how they might impact the competitive position of the forest industry was developed. With this in mind, the report presented the following:

- an overview of the history of tenure reform in BC, and a discussion of the current tenure systems and three tenure reform options available to the BC government,
- a discussion about the relevant strategic literature including the five forces model, strategy, national advantage, environmental scanning,
- a discussion of the macro-level environment factors influencing the industry and the current industry competitive position using the five forces model,

- an analysis of the affects of the three tenure reform options on the five forces currently shaping competition in the global forest products industry.

The analysis demonstrates that tenure reform can affect the forces of competition and will affect the relative position of the BC forest products industry. While it was not the intent of this paper to make a definitive recommendation about which of the three tenure reform options might be more favourable, the analysis does suggest that privatization will influence competitor rivalry, increase barriers to entry, and reduce supplier power. This is achieved by providing higher security to timber supplies, providing greater flexibility in terms of responding to the cyclical nature of the business, reducing direct costs of timber supplies, and potentially providing the incentive for firms to innovate in key areas of the value chain. The relatively high capital costs associated with this option will likely force higher cost firms to close.

The qualitative nature of this study provides for a range of interpretation about the possible effects of tenure reform on the industry's competitive position. Further research incorporating quantitative data about industry trends would be helpful. In addition, the study focused on the extreme view that the existing tenure system would be discarded and replaced with one of the three options. This approach is not realistic so further research considering the affects of retaining some features of the exiting system combined with each of the three options would be useful. And finally, further research is recommended to

analyze the possible affects of tenure reform on a firm's choice of competitive strategy. The dominant competitive strategy currently utilized in the industry is cost leadership. Considering the effects of tenure reform on Porter's (1980) generic strategies would contribute to a better understanding of possible effects of tenure reform towards the development of a new approach to competitiveness in B.C.

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