Industry Profitability

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Introduction

The future economic health of Canada's forest-products industry is one of the important determinants of possible forest futures in Canada. The economic sustainability of the industry depends directly upon its ability to prosper and continue to attract investment in order to keep renewing itself. If not, it will become marginal, drawing down on previously invested capital and slowly withdrawing as mills are closed and timber-harvest activities cease. In turn, the economic health of the industry will affect not only the economic prospects for forest-dependent communities, but will also be a factor in determining what kind of forest-management strategies Canada pursues, both in influencing economic objectives and affecting the economic feasibility of various management options.

Profitability indicates how well firms perform and contributes to the industry's ability to cope with changes. Firm performance depends on both the factors that influence operations (e.g., market demand for forest products, the level of market competition, the nature of the forest resource and other inputs used, and what can be manufactured out of those resources), and the quality and execution of the chosen strategies. The reasons for profitability may vary. Firms may enjoy high levels of demand and be able to secure enough fibre at low prices such that they can capitalize on cyclical markets by producing at high volumes to achieve economies of scale and compete in global markets. Alternatively, firms may seek niche opportunities to create value by customizing their products for specialized applications or meeting customer's unique needs. Given that profitability results from the correct strategy in conjunction with certain market conditions, marginal profitability follows either where external economic conditions may not support a profitable industry (regardless of strategy), or where firms have chosen the wrong strategies.

Profitability also serves as a measure of the capacity of the industry to cope with change. Capacity to cope is important because the industry will be facing change at many levels. How industry responds and will continue to be able to respond is a key factor in shaping the future.

This paper explores possible future financial conditions of the Canadian forest sector and different financial outcomes in response to other drivers. The industry may be profitable or marginally profitable. Profitable means the industry enjoys market rates of return, is capable of renewing and sustaining itself, and is able to compete internationally. The sector may be either large or small. Marginal refers to an industry that is not earning an adequate return on capital over the entire economic cycle and is more vulnerable to competition. Marginal may also mean that the industry exists only to serve local markets, unable to compete in global markets. Strategy does not refer to the individual strategies chosen by different firms, but rather the average overall approach taken by successful firms in the industry with decisions made in a few key areas. There will be a diversity of firms and strategies, and not all firms need to follow the same "macro" strategy.

2. Industry Profitability and its Influence on Other Drivers

Appendix Table 1 lists the influence of profitability on the other drivers. For the most part, profitability does not directly influence these drivers, although a more profitable industry increases industry's ability to engage in more proactive measures and undertake investment in response to the changes induced by climate change, the main driver. Such investment has effects.

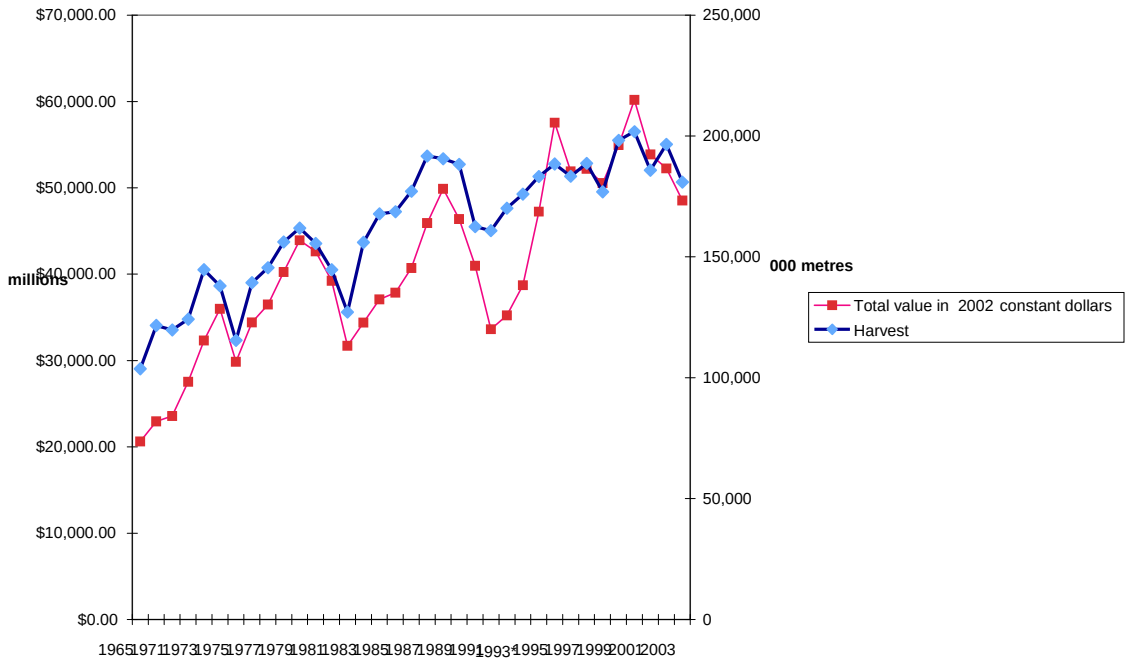
Appendix Table 2 illustrates how the various drivers will affect industry profitability within Canada. Climate change is the key driver, in large part because it drives change in global markets, altering the current balance by potentially changing the competitive advantage of Canadian firms. Canada will face increased competition from regions where timber can grow faster, while the quality and availability of timber may fall within Canada. Climate change also creates uncertainty – where it is unpredictable, especially in relation to its impact upon timber supply, it can result in an industry that becomes marginal where Canadian firms may find that

they guessed wrong. Climate change that leads to severe environmental consequences can contribute to greater political conflict; in this case, it increases risk and the industry becomes marginal because firms under-invest not only in innovation but also in the forest resource. Alternatively, climate change may trigger a social response in which the role of the industry changes; its main purpose may change from providing economic benefits from timber to helping society meet other goals, such as restoration.

3. Looking Back Forty Years

In the past 40 years, Canada's forest sector has grown tremendously. Although cyclical highs and lows occurred in product markets, mostly the sector prospered (Figure 1). Expanding demand facilitated by access to timber drew new investment in both capital and research and development. This ensured the continued competitiveness of the Canadian forest sector, which grew along with world demand. The cyclical effect of higher product prices manifested itself in a straightforward fashion: firms could take advantage of higher prices through harvesting more timber and increasing production, resulting in higher sales. Although the industry continued to also experience the cyclical lows, the ability to expand and recoup investment during good economic times more than offset the impact of periods of lower prices.

Figure 1. Total Sales Value, ($ millions, 2002$) and Harvest (000m3)



In recent years, industry profitability has diminished as competitive pressures have increased. Demand growth in traditional markets has slowed, and harvest levels have flattened (Figure 2) as the timber resource in Canada has become fully utilized and costs of access have increased. New lower-cost competitors have emerged in Canada's traditional export markets. Trade restrictions have also played a role by limiting access for Canada's lumber in its largest export market, the US. Overall sales value has flattened in recent years and started to drift downwards (Figure 2), despite what were (until recently) relatively strong commodity prices.

Profitability has suffered in recent years; the most consistent set of figures only extends back to 1999 (Figure 3). The return on capital employed in the Canadian forest sector has trended downward over the past eight years, taking out seasonal factors. The effect of the softwood lumber duty refunds in the fourth quarter of 2006 shows a temporary increase. After that period, return on capital employed (ROCE) fell back to low levels.

Figure 2. Relative Changes in Harvest and Sales Value (1965=100)

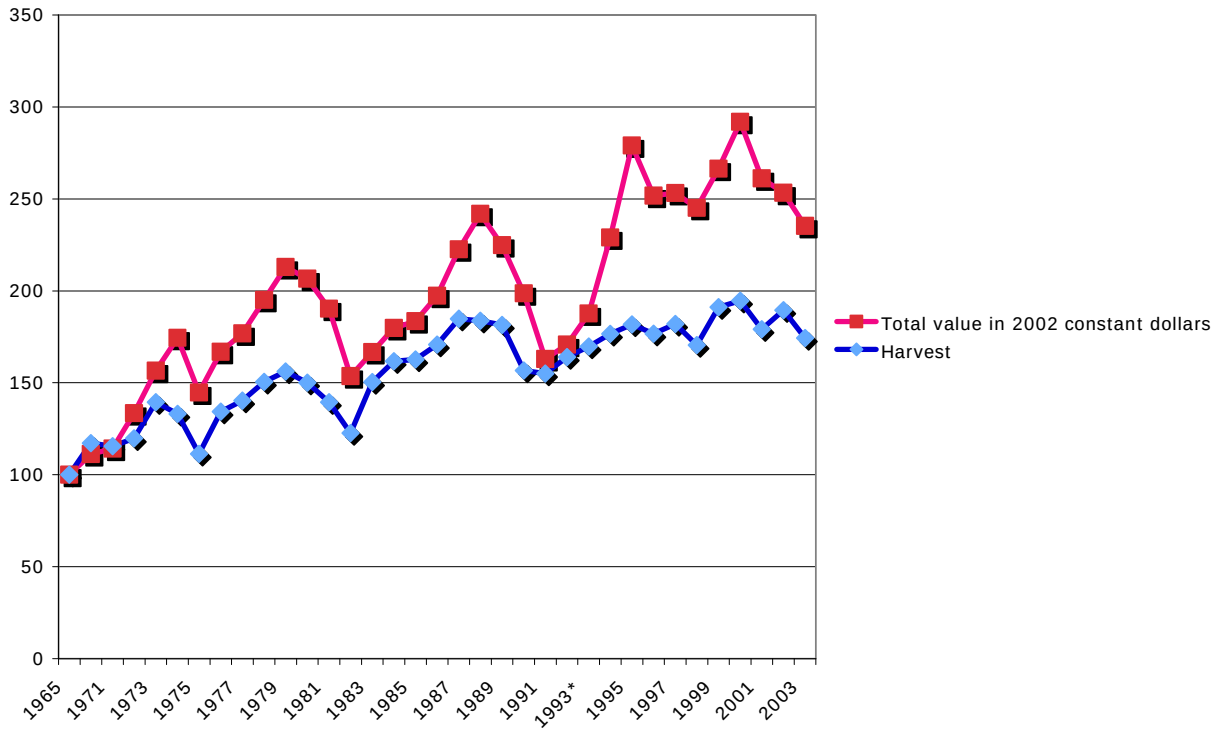
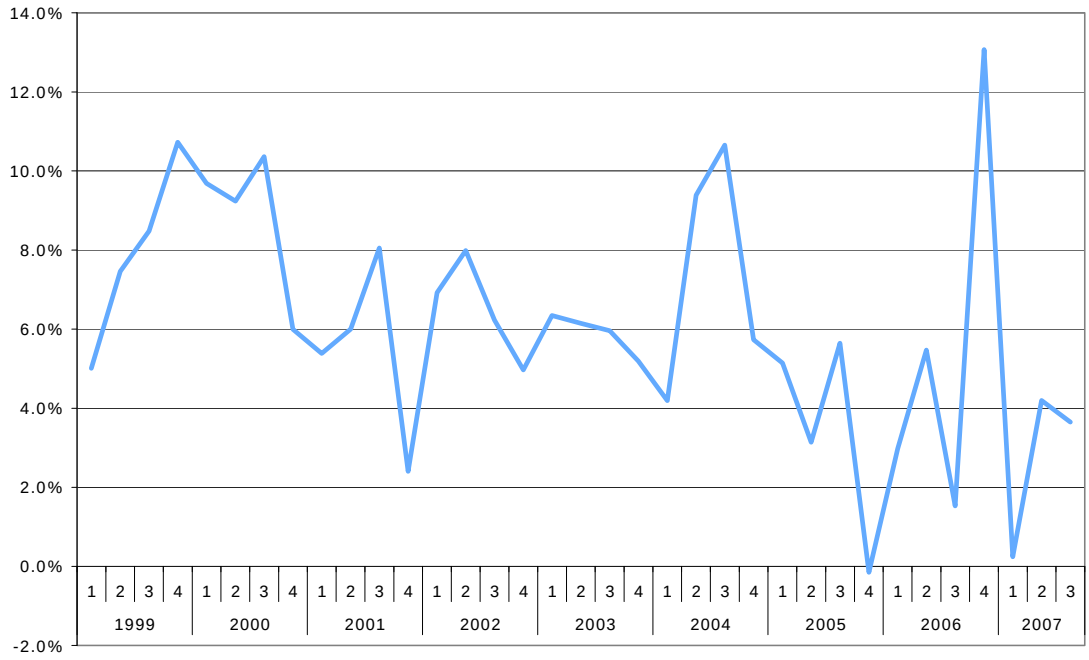
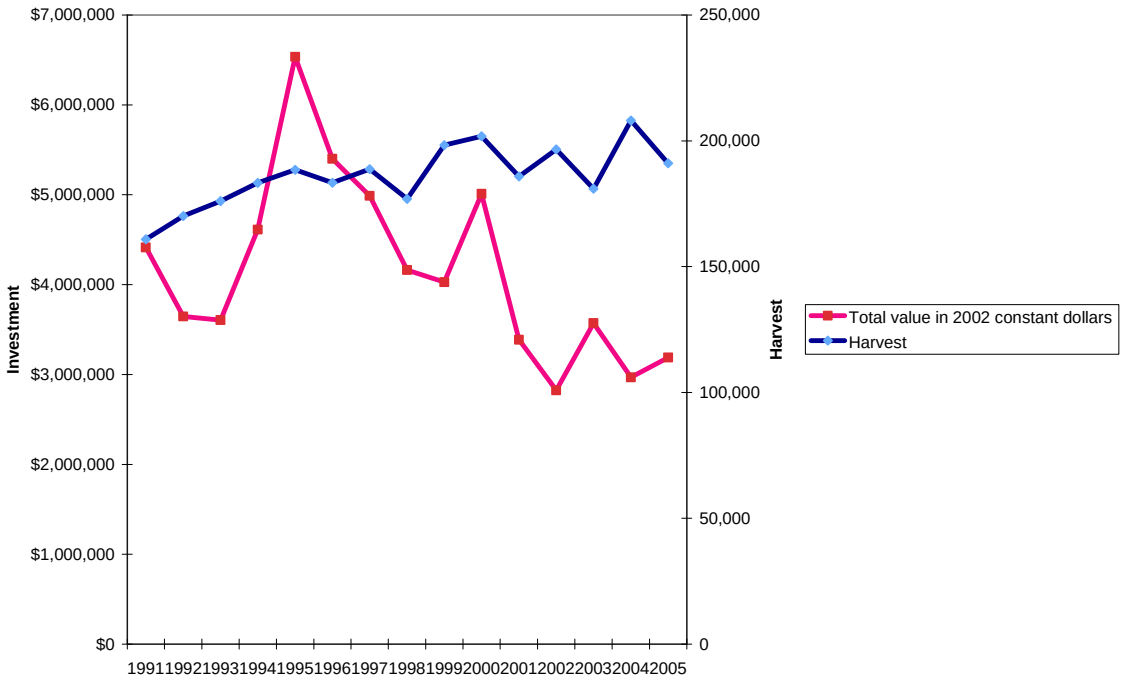


Figure 3. Return on Capital Employed, Q1 1999 to Q3 2007



The problems of profitability may be related to a decline in new industrial investment that started several years earlier than 1999. New investment had fallen to the range of $3 billion in 2001 and 2005, lower than the average in the previous ten years, about $4.3 billion (Figure 4). Another view would be to look at the trend after 1995, which has been mostly downward. While cause and effect are difficult to sort out, investment began to fall in 2001, and the ROCE did not fall until 2005. The most likely connection is that low investment led to low innovation, which then created a low return on capital.

Figure 4. New investment in $000's (2002$) and Harvest, 000 m3



4. A 40-year Look-ahead: Future Outcomes to 2050

The range of potential outcomes for industry profitability depends upon the interaction of investment, innovation, and market conditions. This look-ahead suggests four alternative futures, two in which the industry is profitable for different reasons and two where the industry is not profitable, also for different reasons. In these alternative futures, the industry may be large or small, and profitability is not dependent upon it being a particular size. Rather, profitability is an indicator that the industry has successfully adapted to both the environmental and social circumstances governing its operations, through successful investment and innovation.

Firms will make two key strategic investments: innovation (not only around new products and technology but also new ways of carrying out business) supported by investments in capital; and investment in developing new sources of timber supply within Canada. Investment in innovation is key to a profitable future regardless whether the industry maintains its current size or becomes smaller. Without such investment, the competitive position of the industry is likely to deteriorate, as new suppliers and new products continue to emerge - even before considering how other drivers might change the future conditions within which the industry will operate. Figure 4

illustrates the importance of this variable, where the lack of investment appears to have manifested itself later in reduced productivity and reduced profitability. Indeed, in a report prepared for the Forest Products Association of Canada, the Centre for the Study of Living Standards noted that while the industry saw strong growth in productivity over the past several decades, since the 1990s productivity growth has been weak, and "[o]ne development that has to be noted in the 1990s is the fall-off in investment in two of the forest products industries (forestry and logging and the paper industries)" (CSLS 2003: 2).

The second area, timber supply, can be a key variable in one alternative future. Here, forest sector firms (or other parties) invest in timber, establishing fast-growing plantations that can become the major source of supply, as firms shift away from their historic reliance on the slower-growing species in natural or semi-natural forests..

Several trends will continue for all the outcomes. On the supply side, while old-growth softwood timber, the historic staple of much of Canada's industry, will continue to be available, that timber is likely to be increasingly costly to access. This will result either because of more distant location (the easy-to-harvest stands have already been cut), or because of environmental concerns (which will limit the amount brought in from a given area as more is reserved for environmental objectives). An increasing proportion of the available wood will be second- or even third-growth (International Wood Markets Group 2007). Long-term harvest levels will fall in large part as the industry relies on smaller timber even if the land base does not decrease.

As a consequence, the ability to manufacture certain types of solid wood products (such as large-dimension lumber or high-quality veneer) will diminish. In some areas, the timber that is available might not be sufficient to sustain traditional products. The industry in Canada is already restructuring as firms close mills and concentrate manufacturing in fewer facilities to maintain economies of scale (Nelson et al. 2007). Technology has eroded the traditional advantage once held by Canadian and other northern producers (particularly in the pulp-and-paper sector) and suppliers in the southern hemisphere, using fast-growing plantations, are meeting more and more of global demand for forest products, a trend expected to continue

(PricewaterhouseCoopers, various years). The challenge created by these developments affects our alternative outcomes.

I. High profitability and large firms

If the effects of climate change are moderate and society continues to emphasize commodity production, one way for firms to obtain high profitability is for them to adjust to the changing forest by investment in new technology both in manufacturing and in growing wood fibre. While the details may be difficult to anticipate, the general trend would be an increased investment in plantations using fast-growing species. Accompanying the establishment of a steady supply of fibre, manufacturing would change its utilization methods while retaining high volumes in large mills.

II. High profitability and medium-sized firms

If the effects of climate change are moderate, and society starts to favour non-commodity outputs and services from forests, the industry can obtain high profitability by adjusting to those circumstances. Wood fibre would be available from forests which primarily deliver ecosystem services, meaning a scarcity of large volumes of the same type of wood. Forests would provide less volume of more high-quality wood, as trees would be left standing until older than a purely financial calculation would dictate. Lower volumes (in comparison to outcome I) of higher quality, more-diverse timber could support the development of profitable niche markets. Mills of medium size that use new technology for such markets would be profitable and competitive in international markets.

III. Low profitability and large firms

In a competitive, commodity-oriented world, high rates of change resulting from climate could catch an unaware industry unprepared for high fluctuations in wood fibre. Competition from bioenergy and other sectors would further compromise the supply of fibre. In these circumstances, many mills would close and the profitability level of the conventional industry would fall. Cycles of boom and bust would intensify, with increasingly long periods in which return on invested capital would become negative. As investment then declines, a reinforcing

pattern of low investment and low innovation, leading to further inability to adjust to conditions, would mire the industry in extended periods of low returns. The sector would shrink as a result, with fewer and fewer high-volume mills able to survive.

IV. Low profitability and small firms

If extended and dramatic changes in climate are accompanied by society valuing the forests for production of services other than commodities, then the forest industry would face double difficulties. Not only would wood supply be highly variable, industry's ability to access that supply would also become uncertain. To deal with the uncertainty, mills would need to shrink, and only a few firms would be able to survive. These firms would be small, able to exist in niche markets, but still facing difficulty in obtaining the fibre that they need. In some cases, timber harvest would be totally prohibited as forest lands are converted to other uses. Funds obtained from the liquidation of mills would not be reinvested in new equipment, and workers would need to find employment in other activities.

5. Conclusion

The four outcomes just described correspond to the predictability and magnitude of climate change on one hand, and to how social values evolve on the other. Where change is slow or predictable, industry can adapt and make investments in developing new technologies and perhaps even in establishing plantations. Slow predictable change is also more likely to let institutions adapt too, with less likelihood of conflict. Firms are more likely to be able to choose the correct strategy as they can better evaluate not only how climatic conditions are evolving but public ones as well. Where there is little significant change in consumption patterns or values, there is likely to be a continued role for high-volume standard commodity production. Should values change to an overall lower desire for commodities, a shift to the production of higher quality products can allow industry profit levels to remain high.

The effects of unpredictable change, however, are likely to trigger more severe consequences and responses will tend to be reactive. Conflict is also more likely as the status quo is disrupted. In such circumstances, the risk of making the incorrect investment, or even making no investment, is much greater. In this kind of world, the prospects for an industry that is marginally profitable are much higher, as firms discover either they have made incorrect investments or have not invested sufficiently to remain competitive. An expanded role for bioenergy, as concerns for climate change grows, would further limit wood supply to commodity-oriented mills. In some circumstances, social change consistent with environmental concerns taking precedence, combined with a lack of investment, might mean that the forest industrial sector no longer remains important in economic terms.

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Appendix Table 1: Influences of profitability on other drivers

Driver	How Profitability in Canada Affects the Driver
Global Climate Change	To the extent the financial health of the industry is stronger there is greater capacity to undertake adaptation measures that may lessen the impact of climate change. If forestry is profitable it may also provide alternatives that mitigate some of the future impacts of climate change where wood products and bio-fuels serve as carbon-neutral substitutes for other GHG-emitting products and fuels.
Global Wood Supply/Forest Products Demand	In the case of high forest products demand, if Canadian firms have chosen successful and therefore profitable strategies that will allow them to secure the type of fibre required to meet high global net demand and continue to enjoy a significant role supplying world markets. If they choose the wrong strategies they will be unable to compete and will play a minor role in supplying wood to global markets. If forest products demand is low, Canadian firms are likely to play a minor role, regardless of profitability (although a more profitable sector will encourage a larger local supply within Canada), as effective competition from regions where trees grow faster and harvesting is less expensive will make it more difficult for Canadian firms to compete.
Geopolitics	The profitability of the sector by itself will not affect geopolitics as the sector is too small to have any global political influence.
Global Energy	To the extent the sector is profitable it can afford to invest in developing bioenergy and capitalize on its access to the resource.
Technology	To the extent the sector is profitable it can afford to invest in R&D to innovate and to acquire the technology to utilize the fibre for its highest value and remain competitive in whichever markets it chooses to compete.
Governance	The profitability of the sector will not affect the type of governance structures as the sector is too small to have any global political influence.
Aboriginal Empowerment	Indeterminate. Industry profitability and aboriginal empowerment are not related although a more profitable sector may offer more opportunities for engagement with aboriginals.
Ecosystem Health	To the extent the industry is profitable it can help it play a role in taking measures to assist in ecosystem health.
Competition for Resources	The profitability of firms where they are competing through markets will not have an effect upon conflict over resources.
Demographics	Indeterminate.

Appendix Table 2: Influences of other drivers on profitability in Canada

Driver	**How the Driver May Affect Industry Profitability in Canada**
Global Climate Change	To the extent climate change is predictable it permits firms to adapt and to identify strategies and undertake investment that can support a profitable industry. Unpredictable climate change will increase the risk and make it more difficult to identify appropriate strategies, and discourage investment, setting the stage for an industry that is more likely to be marginal, subsisting on whatever fibre is available.
Forest Products Demand/ Global Wood Supply	The interaction of global demand and global supply set the stage for the profitability of the Canadian forest sector depending upon the strategies it has chosen. Where global demand is high, and there is insufficient global supply, significant Canadian supply can help meet the gap and support industry profitability where the forest sector is competing in those global markets. Where demand is high but Canada is a minor supplier, the forest sector will not be profitable given these strategies as they cannot afford to pay enough to both be competitive while also securing the fibre necessary. They are profitable where they have targeted niche markets and enjoy values sufficient to secure and maintain timber supplies even if demand is low.
Geopolitics	Here a more unstable political environment that creates turmoil will create political risk-creating the same dynamic as in unpredictable climate change and resulting in a marginal sector. Where political change is predictable, political risk is lessened, and to the extent the sector enjoys local public support, it will contribute to profitability.
Global Energy	The development of a vigorous global bioenergy economy can contribute to the profitability of the Canadian forest sector where it adds to global demand for forest products. It does not necessarily translate into profitability; if firms have undertaken the wrong type of investment they will be marginal regardless of the size of the bioenergy market; conversely, firms that can take advantage of niche higher value markets can be profitable regardless of bioenergy.
Technology	The risks posed by climate change as well as the ramifications in terms of how society responds (in terms of changing demands as well as changing environmental conditions that will especially affect firms reliant on natural resources) will underscore the demand for new products, new ways of conducting operations, and even new ways of carrying out business. Ongoing technology development and innovation will become even more important for firms that will be competing in global markets.

Governance	Social values will influence the strategies taken by firms as they seek to minimize risk. Profitability is then governed to what extent forestry is seen as contributing to public goals; where there is dissension and disagreement, political risk is high and the industry is unlikely to be profitable for the reasons listed earlier.
Aboriginal Empowerment	Again there is not a direct relationship between aboriginal empowerment and industry profitability, although local involvement supported by successful strategies increases the chances of profitability.
Ecosystem Health	Poor ecosystem health-manifested in disease outbreaks, insect infestations and large scale wildfire-will lead to lower quality wood that will reduce ability of the industry to provide higher quality products. The industry is unlikely to be profitable in these circumstances and timber supply is likely to become erratic and unpredictable. The converse is also true-good ecosystem health helps maintain timber values.
Competition for Resources	Increased competition for resources is unlikely to directly affect industry profitability if channeled through markets; however, if increased conflict turns into political competition for resources, the industry can become marginal as either forests are diverted into other uses or begins operating on a short-term horizon.
Demographics	Indeterminate. The strategies of firms are dependent in part upon the resources (including skilled workers) being available to carry them out.