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## Aspects of the Vermont-Canada Forest Products Relation in the Twentieth Century

*The story of forest products in Vermont, almost from the outset, has been a story of Vermont's relation with Quebec.*

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**T**his paper examines Vermont's forest products industry in the context of U.S.-Quebec and U.S.-Canadian relations by reviewing production and trade since the late 1800s. Paradoxically, the last years of the nineteenth century mark the period when the Vermont lumber era is said to have closed.<sup>1</sup> This article could have been subtitled "from the Dingley Tariff to the Free Trade Agreement," since the nineteenth century ended with significant unilateral United States trade policy action and now the twentieth century has culminated in the bilateral U.S.-Canadian Free Trade Agreement. "From tariffs to free trade" suggests a story of change, which it is, but a major purpose of this paper is also to show elements of continuity, as groups wanting trade barriers consistently have been in tension with free-trade interests.

Forest products include sawlogs, which are used in lumber production and then in construction of houses and furniture, pulpwood, which is used in production of pulp and then paper products, fuelwood, veneer logs, and other items. Measures of output include the stumpage value, that is the value of the raw material itself as it comes out of the woods, and the value added, that is the additional value contributed by processing. In Vermont the stumpage value of the 1983 harvest was estimated at \$17 million, generated by 647 logging and log-trucking firms.<sup>2</sup> Altogether wood industries in the 1980s ranked second among Vermont manufacturing activities in terms of employment, payroll, and value added. Vermont forest products account for 16.5 percent of manufac-

turing labor, generating wage income of about \$120 million, while the value of wood industry shipments is some \$663 million, with a value added of \$310 million or 17.8 percent of the state total.<sup>3</sup>

This makes Vermont similar to Canada as a whole, where in 1983 wood products accounted for 15 percent of manufacturing output and employment, and like neighboring Quebec, where wood industries are also the second largest manufacturing segment. The orders of magnitude are very different though, as the Canadian forest industry ranks first in the world with total forest products shipments in 1983 of close to \$25 billion, including log shipments. Quebec's production amounted to almost one-third of the Canadian total, while Vermont accounts for just one percent of U.S. forest products activity.<sup>4</sup>

Overall, about 75 percent of Quebec's land area consists of commercial forest. While forests in Vermont are overwhelmingly privately owned (91 percent), those in Quebec are predominately owned and controlled by the provincial government (90 percent), largely as a result of the original French policy on Crown lands.<sup>5</sup> Though Vermont once produced mostly softwood timber, this changed around mid-century and hardwood now dominates, making Vermont unlike its neighbor to the north.<sup>6</sup> Among Vermont wood industries, furniture and cabinetmaking account for 41 percent of establishments and 38 percent of jobs, while woodenware of various sorts account for 19 percent of companies and 8 percent of jobs. A disproportionate 18 percent of jobs were contributed by just eight paper-producing establishments in the state in 1985.<sup>7</sup> In Quebec pulp and paper activities dominate.

The story of forest products in Vermont, almost from the outset, has been a story of Vermont's relation with Quebec, or rather with the region that was to become Quebec. In 1744 a Frenchman visited Lake Champlain in search of timber for shipbuilding and shortly thereafter timbermen began floating rafts of pine north along the Richelieu River to St. John, destined for Europe.<sup>8</sup> This trade in timber continued despite the War of 1812, and in the post-1820 raw-material exporting era, potash was Vermont's number one export product; lumber was second.<sup>9</sup> The opening of the Champlain Canal in 1823 reversed the direction of lumber movement. However, exhaustion had occurred in the Richelieu Valley because of wasteful exploitation, and by the end of the 1840s timber arrived at Quebec City from as far away as Lake Huron.<sup>10</sup> Decline set in, and one result was that Burlington's "local property fell drastically in value."<sup>11</sup>

What saved Vermont were the railroads and the subsequent lumber boom that was linked to them.<sup>12</sup> But the opening of the Chambly Canal in 1835 and the subsequent 1851 completion of the Richelieu route to Montreal and beyond also contributed. The railroads integrated the Lake



Champlain region into national and international markets, while the Richelieu River locks linked Vermont to a Canadian hinterland from which came vast cargoes of timber. Urgent need for building materials reached northward and the U.S. became a large market for this Canadian staple, despite American tariffs on rough lumber, sawed timber, and some other items from 1842 on. British North America's need, meanwhile, was to find new markets to offset its loss of preferential treatment in England.<sup>13</sup>

The 1854-66 Reciprocity Treaty provided free trade between the U.S. and British North America in raw materials and was followed by a burst of expansion for Canadian exports of planks and boards. At the same time, American capital, such as that of the Lake Champlain-based Hunterstown Lumber Company, moved north.<sup>14</sup> As a result, lumber flowing through St. John to Vermont became the largest single export from any interior Canadian port in the 1850s.<sup>15</sup> By 1870 Burlington imported about 150 million board feet of Ottawa Valley lumber, which was sorted and finished in Burlington to meet various market demands.<sup>16</sup>

The Burlington boom has drawn much attention.<sup>17</sup> In 1850 L. G. Bigelow brought the first cargo of lumber to Burlington, and in 1856 Lawrence Barnes became the first real lumber baron. By the 1860s the waterfront was crowded with lumbersheds, planing mills, and ships, and by 1868 Burlington ranked as the nation's third largest lumber center. In 1873, with more than 760 people at work in the mills, more than 170 million board feet of lumber arrived; by 1889 one thousand people worked in these mills.<sup>18</sup> So strong was the market that by the time of Canadian Confederation in 1867, the U.S. was as important an outlet for Canadian exports as was Britain.<sup>19</sup>

Related business enterprises arose in Burlington, such as producers of doors, blinds, and refrigerators, some of which remained active well into this century. For example, the Porter Manufacturing Company made screen doors until 1952; the Baldwin Manufacturing Company made wooden refrigerators until the 1930s.<sup>20</sup> Unfortunately, in the depressions of the 1870s and 1890s Canada began to experience the vagaries of the American market and the hardships that dependency brings. The volume of Canadian lumber exports was cut in half, for example, in the 1873 to 1876 period when Vermont also suffered from market conditions beyond its control.<sup>21</sup>

Burlington was not the only place to prosper with the increased lumber trade made possible by railroads and water transport. In Newport, for example, the Prouty and Miller lumber company was established in 1862 and sold lumber to southern New England. Lumber came in by rail from Canada after 1872 on the Missisquoi and Clyde Rivers Railroad, and in the 1880s the firm established a mill in Roxton Falls, Quebec. The Frost

Veneer Company is another Newport example and in the 1880s Newport birch veneer mills constituted "possibly the earliest hardwood veneer industry of sizeable proportion in New England." Prouty and Miller peaked just after the turn of the century, as did Frost Veneer, which then had more than two hundred employees.<sup>22</sup>

A parallel growth occurred on the Quebec side of the border, as from around 1850 on the economy expanded, with forest products playing a key role. The Côte-du-Sud area, for example, is one where forest exploitation became the engine of growth. This growth started in the 1830s when William Price bought substantial landholdings and continued into the 1900s. On the Côte-du-Sud, forest-product firms first made lumber and then at the turn of the century pulp and paper as well. Growth continued and in the 1920s, for example, the community of Lac Frontière was founded and grew to eighteen hundred people in ten years thanks to the B. C. Howard Company.<sup>23</sup>

Even as parts of Vermont and Quebec boomed, however, the relative importance of eastern lumber in general decreased, as activity shifted southward and westward with the exhaustion of prime, first-cut timber stands. In the U.S., the Northeast contributed 55 percent of national lumber production in 1850, but just about 7.5 percent by 1920.<sup>24</sup> Similarly in Canada activity began shifting westward in the nineteenth century, a process that continues today. British Columbia's lumber production surpassed that of Quebec in 1909, and by the 1920s lumber was flowing east from there by way of the Panama Canal.<sup>25</sup> By the late 1800s eastern growth was increasingly stimulated by pulp and paper activity and during the 1920s-1930s pulp and paper surpassed sawmilling in eastern Canada.<sup>26</sup> By 1980 Quebec's share of Canadian forestry value added had dropped from its World War II high of 44 percent to about 16 percent.<sup>27</sup>

With the westward shifts in output went a political power shift, which affected tariff policies and eventually hurt Vermont. While Canada sought to process logs domestically to reduce the bulk and thus freight costs of lumber exports, the United States wanted Canada to export logs, not lumber, so that the processing would be done in this country. These conflicting aims collided after 1870, especially in the Great Lakes region, as U.S. tariffs were raised and structured to favor logs and low value added lumber products. The Canadian provincial response was to impose export taxes and embargoes on logs in an attempt to get American mills to locate in Canada. This was part of a complicated struggle, the outgrowth both of U.S. conflicts between free-traders and protectionists and Canadian national policy.<sup>28</sup>

In 1890 the McKinley Bill reduced the duty on white pine lumber. This increased the flow of logs from Canada to U.S. mills and stopped both



the flow of lumber from Canada and the relocation of sawmills to Canada. With the Wilson Tariff in 1894, however, almost all forms of sawed lumber were put on the free list, which encouraged establishment of American lumber manufacturing enterprise in Canada.<sup>29</sup> Again there was reversal when high-tariff ideas triumphed in the 1896 presidential election, which was followed by enactment of the Dingley Tariff of 1897.

The tariff was intended to protect American lumber interests in the south against Canadian lumber exports and to protect Great Lakes millmen in the U.S. against Canadian export duties on logs, which raised their input costs. In reaction Ontario promptly forbade exportation of logs cut from Crown lands and other provinces followed.<sup>30</sup> Some feel the Dingley Tariff dealt the "mortal blow" to wholesale trade in Burlington, while others comment that the trade would have died anyway after the decline caused by the 1875-1880 depression years and the 1890s growth in western lumbering. In any case, 1897 imports to Burlington totaling 158 million board feet of lumber dropped to less than fifty-six million in 1898.<sup>31</sup>

Trade conflict affected pulp and paper as well, after pulpmill activity had crept northward due to U.S. raw material shortages. In 1888 Vermont had pulpmills at Bellows Falls, Readsboro, and Middlebury, and in the late 1880s the first sulphite pulp was produced in Canadian mills.<sup>32</sup> U.S. tariffs were imposed on newsprint starting in 1883 and rose after 1897 on a sliding scale based on the value of the product. When Canada then restricted the export of pulpwood, pressure followed to increase the tariff. This was strongly resisted by American newspaper publishers for whom Canadian pulp and newsprint had become essential. Publishing interests finally won out when the 1913 Underwood Act put basic pulp and newsprint on the free list, where they remained.<sup>33</sup> Once the tariff was removed, the Canadian newsprint industry vigorously took advantage of proximity to raw materials and the availability of cheap hydropower. By mid-century it ranked as Canada's largest industry, helped by enormous increases in U.S. newspaper circulation. New England's share of the pulp and paper market fell rapidly after the 1920s, and by the 1950s Quebec produced about 25 percent of the *world's* newsprint.<sup>34</sup>

As a result of U.S. urban growth and consequent shortages of domestic building materials, lumber tariffs also were decreased in 1909 and 1913. These actions were aided by conservationist sentiment.<sup>35</sup> Thus, for a brief interval before the Smoot-Hawley tariff and the Great Depression, an historian could write in the 1920s that "The import and export trade with Canada is looked upon practically as part of the domestic business and is handled in the very same way."<sup>36</sup>

Canadian forest product exports to the U.S. more than doubled after the turn of the century, from a 1901 level of \$10.4 million to a 1911 level of \$24.5 million, as Canadian newsprint sales soared even before the 1913 tariff cuts. This appeared to be highly beneficial for Canada, but increased dependency on American markets came with the sales. In 1901 the U.S. took 40 percent of Canadian forest product exports; this rose to 63 percent in 1911.<sup>37</sup> Currently the U.S. accounts for 72 percent of all Canadian forestry exports, while for specific products and provinces the dependency is even higher. Quebec, for example, depends on the U.S. for 88 percent of its newsprint exports.<sup>38</sup>

Canadian dependency on the U.S. market, however, is not the only constant factor in the two countries' forest product relation. Some aspects of conflict persisted, too. For example, in recent years western states have been in serious conflict with Canadian lumber producers. Conflict is also illustrated by the following current Vermont and New England example.<sup>39</sup>

The general pattern in forest product trade with Quebec is that Vermont logs go north, while Quebec lumber moves south. As in the 1872-1913 arguments, there are actors on both sides of the border who want free movement of forest products and those who do not.<sup>40</sup> For example, Ken Davis was selected by the Vermont Timber Truckers and Producers Association as Outstanding Logger of the Year for 1988. Davis is famous not for his Paul Bunyan-like strength but rather for his marketing ability, and like his fellow loggers wants to sell logs wherever they bring the highest prices. When Davis finds that Quebec sawmills pay higher prices than Vermont mills, as they often do, he sells to Quebec. He gets a good return, and the Quebec sawmill gets a supply of reasonably priced logs, makes lumber, and sells the lumber back to New England users, who are content with favorable prices. Vermont sawmills, on the other hand, are not happy at all. They not only pay more for logs, but compete with Quebec lumber that depresses output prices. In the 1880s it was Canadians who wanted to keep their logs at home for processing; now it is Vermont mill owners.

An estimated four hundred million board feet of hard and softwood logs are exported annually from New York and New England to Canada, almost all to Quebec. Vermont's portion of this is nineteen million board feet.<sup>41</sup> The log export issue may be more important in Maine, but it is not trivial to Vermont job creation and output. If logs were milled in-state, rather than exported, Vermont could possibly gain an estimated six hundred direct and four hundred indirect jobs, with an eight million dollar potential payroll, and a fourteen million dollar potential value added.<sup>42</sup> Vermont mill owners have joined with out-of-state mills to form S.E.L.L.-U.S.A. (Stop the Export of Lumber and Labor) in an attempt



to keep profits in Vermont, though there is no certainty that the logs would be milled in the state if not in Quebec, since doing so would mean higher prices.

Because both logs and lumber have crossed the border free of tariffs since the 1960s, this dispute may seem unrelated to the 1988 Free Trade Agreement, which implements reduced trade barriers.<sup>43</sup> The dispute, however, reinforces Canadian fears about possible loss of autonomy under the trade agreement since one element of contention is Quebec provincial policy-making, as U.S. interest groups accuse Quebec of unfair subsidization. Subsidy disputes are the 1990 equivalent of the heated tariff and export duty debate of the late 1800s. Vermonters and other Americans accused the Quebec government of providing its mills with various kinds of assistance, including joint government-private ownership arrangements, which are said to unfairly work against American interests.<sup>44</sup> Closer examination, however, reveals that exchange rate movements provide a better explanation of the Canadian advantage. "Although government practices may create a favorable climate for Canadian sawmills, there are no large subsidy programs that enable the Canadians, at least in the east, to compete unfairly with U.S. producers."<sup>45</sup> Subsidies, however, become a convenient political lightning rod.

In 1990, though, Vermont's interests in world trade go beyond simply a bilateral relationship with Canada. Vermont timber exports have "soared" not just because of Quebec purchases, but because of "lucrative markets overseas." In 1987, for example, Koreans alone received close to one million board feet of Vermont hard maple out of the twenty-nine million board feet of maple logs produced. This broader development has meant that Vermont sawmills must now pay higher prices and, according to former state wood-utilization forester William G. Gove, "it's not killing them, but it's hurting them."<sup>46</sup>

Unlike loggers and lumberyards, numerous other Vermont businesses will be affected by the Free Trade Agreement that went into effect in January of 1989.<sup>47</sup> An example is the Granville Manufacturing Co., which relies on Canadian purchases of wooden bowls and clapboard siding for about 10-15 percent of its sales. Duties have been about 12 percent on the value of these products, and Granville expects that the agreement will be "of great benefit."<sup>48</sup> The agreement groups wood products with other politically sensitive products so that tariffs will be phased out over a ten-year period. Furniture tariffs, significant to both Vermont and Quebec producers, are scheduled to be phased out over five years.

A number of developments mark the period between the turn-of-the-century tariff arguments and today's quarrels. Over the years per capita consumption of forest products in the U.S. has declined to only about



40 percent of what it was at the turn of the century.<sup>49</sup> Not surprisingly, much of this decline was the result of reduced use of wood as a fuel and its replacement by fossil fuels. But as a building material wood has held its own only moderately better. Sawlogs and other construction wood accounted for 65 percent of all raw material inputs used in durable goods manufacturing in 1900, but only 36 percent in the late 1970s. In contrast, consumption of pulpwood has shown strong growth.<sup>50</sup>

U.S. consumption of sawlogs is extremely sensitive to cyclical patterns in housing construction and thus to movements in interest rates and to overall economic downturns. Thus, for example, the post-World War II housing boom had a strong impact on overall consumption.<sup>51</sup> U.S. housing cycles are also the driving force behind Canadian wood production movements. Both countries share a concern about third party demand for lumber, and both face current downturns in important segments of the forest products industry.<sup>52</sup>

Table 1 shows the overall trends in U.S. production and consumption of forestry raw materials. The data include sawlogs, pulpwood, and other items such as veneer and fuelwood, turpentine and rosin, but not products such as maple syrup or Christmas trees, which are considered to be agricultural items. Production and consumption are measured here in millions of 1972 dollars, so that the changes over time reflect changes in real quantities of wood because prices are being held constant.<sup>53</sup>

TABLE 1  
Forestry Raw Materials Production in the U.S. 1900-1977  
(annual average in millions of 1972 dollars)

<i>Year</i>	<i>Production</i>	<i>Consumption</i>
1900	\$5,671	5,472
1900-1909	6,233	6,045
1910-1919	6,150	6,044
1920-1929	5,654	5,619
1930-1939	4,252	4,246
1940-1949	5,097	5,287
1950-1959	5,287	5,692
1960-1969	5,349	5,845
1970-1977	5,495	6,058
1977	5,645	6,428

Source: *Raw Materials in the United States Economy*, Tables A1 and A4, pp. 55, 61.

After dropping in the Great Depression, production has returned to about its turn-of-the-century level. Overall U.S. consumption of these raw materials remained below production until the late 1930s when the pattern reversed itself. Since the 1930s U.S. net imports of forestry raw materials have thus climbed.<sup>54</sup> In the 1900-04 period exports accounted for 4.6 percent of U.S. production, while imports made up 1.3 percent of consumption; currently those percentages are 12 percent and 20 percent respectively. From the outset, the U.S. was far less self-sufficient in pulpwood than in sawlogs, but domestic pulpwood production has increased in importance.<sup>55</sup>

Overall the U.S. has run a forest products deficit with Canada, though it has had a surplus with the rest of the world.<sup>56</sup> Canada runs an overall forest products trade surplus, with the U.S. accounting for more than 70 percent of its forestry exports.<sup>57</sup> A declining share of U.S. lumber imports from Canada has come from Quebec but, as previously noted, Quebec is very dependent on the U.S. market. The U.S. takes 87 percent of Quebec's softwood lumber export volume, 68 percent of woodpulp exports, and 88 percent of newsprint exports. Other provinces, such as British Columbia, enjoy stronger Japanese demand, especially for woodpulp, because of geographic proximity and joint venture activity.<sup>58</sup>

Vermont exports of forest products have remained essentially unchanged for the last decade or so at about ten million dollars. Lumber products were its third largest export, while imports of lumber and newsprint were "heavy" in the last twenty years.<sup>59</sup> Table 2 shows Vermont trends. The state's sawlog harvest hit an all time high in 1859 with 901 million board feet.<sup>60</sup> Output hit a low of 94.2 million feet in 1930, though even in the Depression years about eight thousand Vermonters were employed in forest products industries.<sup>61</sup> World War II and the nationwide post-war housing boom had a substantial impact; the harvest reached 342 million board feet in 1946, followed by drops and then recovery after the 1982 recession.<sup>62</sup>

These data are annual averages, decade by decade, so that some cyclical movements are smoothed over, highlighting the trend. Vermont has generally held its own in production levels since around 1920. The rising output we see in the 1980s is attributed to landowners being "more inclined to cut timber."<sup>63</sup> Their incentive was strong: when in 1982-1983 the homebuilding rate rose more than 75 percent, prices of framing lumber rose 73 percent.<sup>64</sup>

Over the years the number of sawmills has declined, and the proportion of lumber produced by large mills has increased. In 1957 18 percent of mills had more than a one million board feet output each and accounted for 62 percent of production; by 1965 only 25 percent of mills reached



TABLE 2  
Sawlogs Harvested in Vermont  
(in millions of board feet)

<i>Period</i>	<i>Average Annual Cut</i>
1890	384
1900-1909	334.1
1910-1919	221.3
1920-1929	144.6
1930-1939	124.6
1940-1949	202.4
1950-1959	241.7
1960-1969	171.0
1970-1979	182.4
1980	197.8
1983	225

Sources: S. Bonyai and P. Sendak, *Vermont's Timber Economy*, p. 3.

a one million feet output, but accounted for 75 percent of production.<sup>65</sup> With many small millowners under efficiency pressures, the rationale for S.E.L.L.-U.S.A. efforts is clearer.

Pulpwood and paper consumption in the U.S. is not as sensitive to business cycles as sawlog usage, and, except for the depression years of the 1930s, maintained an upward trend, helped by the overall increase in U.S. paper industry output, which in 1988 topped more than \$100 billion for the first time.<sup>66</sup> The competitiveness of the U.S. pulp and paper industry has increased, to the detriment of Quebec and the rest of Canada.<sup>67</sup>

Pulpwood harvests in Vermont have also shown an upward trend, rising from just 38,500 cords in 1926 to about 275,000 cords in 1983.<sup>68</sup> Much of this pulpwood increase is recent, however, and comes after declines in the 1960s. For nearby states "Vermont has functioned as a reserve supply of pulpwood. When a neighboring mill was in need of pulp it would look to Vermont as a source of supply."<sup>69</sup> Like Quebec, Vermont is influenced by these and other decisions made outside its boundaries, as can be observed, for example, in a recent spate of ownership changes affecting Vermont forest land and forest product producers.<sup>70</sup> Vermonters now probably feel differently about outside control than Quebecers felt when the Hunterstown Lumber Company set up its operations on the Rivière du Loup or than Vermonters did when Canadian lumber baron John Rudolphus Booth began operations in Burlington,

but the industry changes in the state may help Vermonters realize how Canadians feel about extensive American ownership of their forest product and other industries.

In other areas, Vermont has had a mixed performance. While commercial veneer and plywood production has declined, specialty veneer enterprises have grown, using imported logs and new technology. The furniture industry has partly switched to pine from northern hardwood species, and sales of woodenware items have grown.<sup>71</sup> One last forest product, wood chips, provides an example of ties that bind Vermont and Quebec. Wood chips are a product flowing both ways across the border, revealing Quebec and Vermont to be a single marketplace.

Vermonters produced some 92,000 tons of whole tree chips for paper manufacture in 1983 and about twice that amount for industrial fuel.<sup>72</sup> The clean, bark-free, pulp-quality chips generally flow north to Quebec, while additional fuelwood chips come south from Quebec to New England users. The Burlington Electric Department (BED) is one chip user that buys from both Vermont and Quebec sources as well as from New York and New Hampshire.<sup>73</sup> Purchase decisions depend on the cost of various sources, including transportation. Chips cost BED more, for example, when usage is high and its Joseph C. McNeil Generating Plant is pushing at the limits of its procurement area, which is roughly the Vermont-New Hampshire border. There it competes with other users. In Gilman, Vermont, for example, Georgia Pacific has a paper plant that buys both fuel chips and pulp chips, while in Sherbrooke, Quebec, a Domtar paper plant, aided by the provincial government, also buys chips. Chip prices fluctuate with BED's usage and also with general market conditions: when lumber usage is down, fewer residues are produced at various sawmills and prices rise.<sup>74</sup>

Approximately 10-15 percent of Burlington's wood chips come from Canada through Swanton, where the BED maintains a railway depot. Most Canadian chips are purchased from suppliers close to the border, though cheapest of all McNeil plant fuels is bark from north of Montreal. Here BED benefits from Quebec provincial policy, which forbids open burning and disposal of sawmill residues at landfills, so mill owners let BED have the bark for little more than trucking costs. South of Montreal the high-price mulch market of Boston is a better outlet for bark sellers.

Should Vermont complain about Quebec provincial policies? Obviously, Burlington electric ratepayers benefit from the no-landfill and no-burn policy. They now also benefit from supplies of chips generated by a provincially subsidized project promoting the chipping off of low-grade hardwood on small private lands close to the mills. But the properties



are being replanted with softwood to overcome spruce budworm devastation of ten years ago, and this spruce will eventually go to Quebec paper mills, perhaps displacing Vermont exports. The more abundant fuel available to BED now may possibly hamper the ability of Vermonters to sell their chips at high prices. Furthermore, northern Vermont producers have discussed formation of a consortium that would run a chip plant and sell chips to the highest bidder, which might turn out to be the partially government-owned Domtar plant in Quebec. This would benefit chip producers at the expense of Burlington electricity users and others.

In conclusion, the field of forest products is very much like many other product areas. Chippers, loggers, paper producers, mill owners, and others have been arguing over prices, markets, and subsidies since at least the mid-1800s and, all things considered, it is not easy to assess short- and long-term gainers and losers. Should the U.S. or Vermont governments push Quebec to change its policies? Should states and provinces gauge their own economic development needs and act on them in isolation? Or is cross-border cooperation a possible way to work toward diffusing tensions and meeting shared wood supply, job creation, and long-term forest health needs?

History seems to teach that cooperation is almost always the best option. If Vermont and Quebec policy makers listen to the shrill political oratory, they could well fall into the zero-sum thinking trap that plagued the two neighbors in the late 1800s and that continues to emerge whenever trade is discussed—whether or not consumers or laissez faire-oriented heads of state agree on the desirability of free trade. Perhaps in the future policy makers on both sides of the border will recognize joint interests in maximizing the forest bounty. Certainly, the June 1989 agreement to form the Vermont-Quebec Joint Commission acknowledged the common concern.<sup>75</sup> The memorandum of understanding signed by Governor Madeleine Kunin and Premier Robert Bourassa called for the commission to propose “specific activities the two jurisdictions can take which will . . . promote the shared interests of Vermont and Quebec.” Forest-cutting practices are among the first issues to be discussed. Perhaps it is possible, after all, that as the twentieth century ends the forestry relations between Vermont and Canada will be very different from U.S.-Canadian relations at the last turn of the century.

#### NOTES

<sup>1</sup> *Gazetteer of Vermont Heritage* (Chester: The National Survey, Bicentennial Edition, 1976), 20.

<sup>2</sup> William G. Gove and Jack Dwyer, *Directory of Logging Operators and Truckers in Vermont* (Montpelier: Department of Forests, Parks and Recreation, 1984), 3. Logging employment in that year was 1,825 (owners and employees), while an additional thirty-eight firms brokered logs or pulpwood.

<sup>3</sup> William G. Gove, ed., *Directory of Wood Product Manufacturers and Craftsmen* (Waterbury: Vermont Department of Forests, Parks and Recreation, 1987), 7.

<sup>4</sup> "The Canadian forest industry ranks first in the world in terms of the value of exports and newsprint production, second in pulp production and third in softwood lumber output." *Economic Growth: Natural Resources Program* (Ottawa: Ministry of Supply and Service, 1986), 157. Quebec data from A. O. Hero, Jr. and L. Balthazar, *Contemporary Quebec and the United States* (Lanham, Md.: University Press of America, 1988), 320.

<sup>5</sup> In this Vermont is like the rest of the U.S. except the Pacific Northwest, and Quebec is like the rest of Canada, where provincial government autonomy in natural resource management prevails and where timber fees are an important contributor to government finances.

<sup>6</sup> The Vermont production mix in 1957 was 66 percent softwood (pine, spruce, hemlock); in 1964 it was 60 percent hardwood (maple, birch, beech). Monte R. Harold and Roy A. Whitmore, Jr., "Vermont Forest Industries in Review," *The Northern Logger and Timber Processor* 19 (May 1971): 28.

<sup>7</sup> Gove, ed., *Directory*, 8.

<sup>8</sup> Perry Merrill, *History of Forestry in Vermont, 1909-1959* (Montpelier, Vt.: State Board of Forests and Parks, 1959), 5-6.

<sup>9</sup> H. N. Muller, III, "A 'Traitorous and Diabolical Traffic' . . .," *Vermont History* 44 (Spring 1976): 90. Harold A. Meeks, *Time and Change in Vermont* (Chester, Conn.: The Globe Pequot Press, 1986), 87. By 1820 wood was also increasingly important as the raw material for charcoal used in iron production.

<sup>10</sup> W. T. Easterbrook and H. G. J. Aitkin, *Canadian Economic History* (Toronto: Gage Publishing, 1980), 199-200.

<sup>11</sup> William G. Gove, "Burlington: The Former Lumber Capital," *Northern Logger and Timber Processor* 19 (May 1971): 38.

<sup>12</sup> Timber and railroad interests were intimately linked and, for example, Timothy Follett of Rutland and Burlington Railroad fame was at the time a substantial timber dealer. T. D. Seymour Bassett, "500 Miles of Trouble and Excitement: Vermont Railroads, 1848-1861," *Vermont History* 49 (Summer 1981): 166. Vermont railroads also became important as wood users and in 1874 burned 500,000 cords of wood. *Gazetteer*, 20.

<sup>13</sup> In Britain, 1841 marked the beginning of the end for the differential duties that had provided a preference to colonial wood over rival Baltic timber. See A. R. M. Lower, *The North American Assault on the Canadian Forest* (Toronto: Ryerson Press, 1938), 90, 103, and Easterbrook and Aitkin, 202 ff.

<sup>14</sup> The treaty had been sought by lumber merchants and seems to have benefitted them. But it is virtually impossible to distinguish treaty impacts from other events such as the Crimean War, railway expansion in the 1850s, and the American Civil War. Lower, 130-131. The Hunterstown Lumber Company exhausted its limits on Lake Champlain and moved north during the reciprocity period, built a big mill on the Rivière du Loup, and shipped the output to a sales office in Burlington. Lower, 138.

<sup>15</sup> Previously, in the 1807-1926 period the only item of wood exported through St. John was 112 cords of firewood in 1822 (and none at all through other inland ports). Lower, 109.

<sup>16</sup> Merrill, *History of Forestry*, 6. One million board feet of lumber is equivalent to about 650 cords of wood, or about enough lumber to build one hundred present-day residential dwellings.

<sup>17</sup> Gove, "Burlington," 18 ff; Joseph Amrhein, "Burlington, Vermont: The Economic History of a Northern New England City" (Ph.D. diss., New York University School of Business Administration, 1958).

<sup>18</sup> Amrhein, 218. Only four firms handled all the Canadian lumber imported in 1870: Shepard and Davis, 50 percent, Blodgett and Son, 25 percent, Rolfe and Tyler, 14 percent, and W. and D. G. Crane, 11 percent. Barnes became the largest lumber company in the U.S., but after 1869 used only western, not Quebec or Ontario, lumber after Shepard Davis & Co. was formed to purchase Barnes's Canadian interests. See Gove, "Burlington," 40; Amrhein, 224.

<sup>19</sup> James E. Defebaugh, *The History of the Lumber Industry of America, vol. 1* (Chicago: The American Lumberman, 1906-07), 104.

<sup>20</sup> Amrhein, 229.

<sup>21</sup> Easterbrook and Aitkin, 392.

<sup>22</sup> William G. Gove, "The Forest Industries of Lake Memphremagog, Part II," *Northern Logger* (March 1975): 18, 19, 31. The state's forest product output in 1840 accounted for 2.6 percent of the value of U.S. sawmill production; in 1850 this was 1 percent, and in 1900 1.4 percent.

<sup>23</sup> Martine Côté, "L'évolution Industrielle," *Cap-aux-Diamants* 3 (August 1987): 53-55.

<sup>24</sup> Nelson C. Brown, *The American Lumber Industry* (New York: John Wiley & Sons, 1923), 6. Southern and western production accounted for 42 percent and 35 percent of the national total by 1920.

<sup>25</sup> Lower, 197.

<sup>26</sup> G. W. I. Creighton, "Eastern Canadian Provinces," in Society of American Foresters, *A Half Century of Forestry* (Littleton, N.H.: Courier Print Co., 1970), 44.

<sup>27</sup> Stephen Maly and Lauren McKinsey, "The Political Economy of Lumber Trade," *American Review of Canadian Studies* 16 (Autumn 1986): 222. *GDP by Province* (Ottawa: Ministry of Supply and Service, 1980), 85.



<sup>28</sup> For discussions of the tariff debates of the 1870-1913 period see, for example, Defebaugh, 445-457; Brown; and Frank W. Taussig, *The Tariff History of the United States* (New York: Capricorn, 8th rev. ed., 1964).

<sup>29</sup> Defebaugh, 450-51.

<sup>30</sup> This brought prosperity to the Canadian lumber trade after Ontario prohibited export of sawlogs cut on Crown lands. Prices rose as U.S. buyers had to find stocks elsewhere. Lower, 186.

<sup>31</sup> Amrhein, 220. Gove, "Burlington," 42.

<sup>32</sup> Merrill, *History of Forestry*, 57. Most of the Canadian pulp output up to 1914 was made into paper in Canadian mills, and most of the paper was sold in the Canadian market. See Easterbrook and Aitkin, 538-40.

<sup>33</sup> Quebec had reduced the fees on wood cut on Crown lands by about one-third on condition that the wood was manufactured within the province. Easterbrook and Aitkin, 541, 544. Paper other than newsprint has been subject to duty, and some of Quebec's paper production may shift to higher grade, more profitable items as these tariffs are removed.

<sup>34</sup> Easterbrook and Aitkin, 538-46. Many New England mills survived by switching to fine papers and now import pulp. Lloyd C. Irland, "The Importance of Forest Industries to New England's Economy," *Northern Logger* (March 1975): 16.

<sup>35</sup> Lower, xiv.

<sup>36</sup> Brown, 228.

<sup>37</sup> Lower, 187.

<sup>38</sup> *Selected Forestry Statistics of Canada, 1985* (Ottawa: Ministry of Supply and Service, 1986), 62.

<sup>39</sup> For discussions of the softwood lumber dispute see, for example, Maly and McKinsey, 265-78, David Leyton-Brown, *Weathering the Storm: Canadian-U.S. Relations 1980-83* (Toronto: C. D. Howe Institute, 1985), and Charles Doran and Timothy Naftali, *U.S.-Canadian Softwood Lumber: Trade Dispute Negotiations* (Washington, D.C.: Johns Hopkins Foreign Policy Institute, 1987).

<sup>40</sup> I am grateful to William Kropelin, Chief Forester, Burlington Electric Department, for his generous sharing of information in a May 26, 1989, interview.

<sup>41</sup> Stephen D. Blackmer, "Lost Opportunities: The Export of Sawlogs to Canada," *Northern Logger* (October 1985): 11. A total of 79 percent of Vermont's exports consists of spruce and fir; most of the rest is maple and birch.

<sup>42</sup> "Petition Seeks to Block Exports of Maine Logs to Canada," *Northern Logger* (December 1986). Over the 1978-83 period, according to the Bangor *Daily News*, an average of 590,000 cords of softwood logs were exported annually from Maine to sawmills in Quebec. Job estimates are from Blackmer, 11.

<sup>43</sup> Since 1973 western lumber producers have benefitted from a ban on exports of unprocessed timber cut from federal lands. This ban does not apply to the eastern states; it remains in place despite the Free Trade Agreement. See, for example, the November 7, 1989, General Accounting Office Report T-RCED-90-8, "Administration of the Federal Ban on Exports of Unprocessed Federal Timber," a statement by John W. Harman.

<sup>44</sup> Just one example is the decision by Donohue, Inc., and Quebec's provincial government to jointly build a \$232.6 million pulp mill in Matane, to be 50 percent Donohue-owned and 50 percent owned by Rexfor, a Quebec government agency. "Quebec Government Joins Venture to Build Pulp Mill," *Wall Street Journal*, September 9, 1988.

<sup>45</sup> Blackmer, 11.

<sup>46</sup> "State's timber going out of the country," *Burlington Free Press*, July 4, 1988, 1B. Maple is especially in demand in Asian markets for making pianos.

<sup>47</sup> "Nearly all of the timber imported by Vermont comes from privately owned forests in the eastern provinces and currently travels across the border with no tariff." Nancy Crowe, *Burlington Free Press*, May 23, 1988, Business Monday, 3.

<sup>48</sup> *Ibid.*

<sup>49</sup> Vivian Eberle Spencer, *Raw Materials in the United States Economy: 1900-1977*, Bureau of the Census Technical Paper No. 47 (Washington, D.C.: U.S. Government Printing Office, 1980), Table 3, 8.

<sup>50</sup> Spencer, 34, 41.

<sup>51</sup> In contrast, lumber usage is not very sensitive to price movements either domestic or abroad, so that when demand for sawwood does increase, prices rise substantially faster than output.

<sup>52</sup> G. P. Goad, "North American Forest Product Sector to Post Drop in Profits for Fourth Quarter," *Wall Street Journal*, January 19, 1990.

<sup>53</sup> Raw materials production and consumption bottomed out in 1932 at \$3.4 and \$3.3 billion 1972 dollars respectively. Price data show about a tenfold increase in U.S. pulpwood prices for the 1900-1977 period, while sawlogs experienced almost a thirty-fold increase in price. Spencer, 85. Canadian wood prices have roughly paralleled those of the U.S. See *Selected Forestry Statistics of Canada*, 120-21.

<sup>54</sup> Spencer, Table 5, 15.

<sup>55</sup> Spencer, Table 9, 22.

- <sup>56</sup>"World Report," *World Wood* (June 1983): 84.
- <sup>57</sup>*Natural Resources Program*, 157.
- <sup>58</sup>*Selected Forestry Statistics of Canada*, 62, based on product volume. Increasingly wood and paper related industries are as multinational as any, with cross-border mergers and joint ventures. Examples are included in J. S. Arpan, et al., *The United States Pulp and Paper Industry: Global Challenges and Strategies* (University of South Carolina Press, 1986).
- <sup>59</sup>Susan A. Bonyai and Paul E. Sendak, *Vermont's Timber Economy: A Review of the Statistics* (Montpelier: Department of Forests, Parks and Recreation, 1982), 21; Eloise Hedbor, "Vermont Firms Take Their Business to Canada," *Burlington Free Press*, December 19, 1988, 1, 3.
- <sup>60</sup>Amrhein, 107.
- <sup>61</sup>*Rural Vermont, A Program for the Future* (Burlington: Vermont Commission on Country Life, 1931), 115.
- <sup>62</sup>Amrhein, 107; Merrill, *History of Forestry*, 8.
- <sup>63</sup>T. W. Birch and D. A. Ganser, "VT and NH Landowners 'More Inclined to Cut Timber'," *Northern Logger* (March 1989): 9.
- <sup>64</sup>Measured for the October 1982-May 1983 period. *World Wood* (September 1983): 31.
- <sup>65</sup>Harold and Whitmore, 28.
- <sup>66</sup>"Late Industry News," *Northern Logger* (March 1989): 1.
- <sup>67</sup>While Quebec still maintains the advantage of cheaper energy, the burdens of acid rain damage and spruce budworm infestations are of special concern. Mergers and restructurings in the Canadian industry reflect attempts to stay competitive. Thus, Abitibi bought Price, which had hardboard facilities in Mississippi, Ohio, and North Carolina. Arpan, et al., 5-45. These trends were already felt in Quebec in the 1950s. See, for example, Economic Research Corporation, *The Economy of Quebec: An Appraisal and Forecast* (Montreal: Citadel Publications, 1960), 88.
- <sup>68</sup>*Rural Vermont*, 115; Gove and Dwyer, 2.
- <sup>69</sup>In southern Vermont regions, of course, this means that activity is affected by the International Paper Company's Ticonderoga plant, which uses five hundred tons per day. When the Franconia Paper Company closed its mill at Lincoln, N.H., Vermont producers suffered. Harold and Whitmore, 29.
- <sup>70</sup>Richard Cowperthwait, "Boise Cascade Sells Division," *Burlington Free Press*, April 11, 1989, 12A.
- <sup>71</sup>Mike Recht, "Acreage auction raises eyebrows," September 10, 1988. See also note 74.
- <sup>72</sup>Harold and Whitmore, 32. See also the *Directory of Wood Product Manufacturers and Craftsmen*.
- <sup>73</sup>Gove and Dwyer, 2.
- <sup>74</sup>Unless otherwise noted, information on wood chip markets is drawn from a May 26, 1989, interview with Burlington Electric Department Chief Forester William Kropelin.
- <sup>75</sup>The Georgia-Pacific plant is now changing ownership, as the company divests itself of various facilities to remove antitrust objections to its purchase of Great Northern Nekoosa Corp. The Gilman plant is being purchased by a Seattle-based firm, Simpson Paper Co. See "Georgia-Pacific sells Vt. plant," *Burlington Free Press*, February 13, 1990, 5B; and G. Ruffenach, "Georgia-Pacific to Sell . . .," *Wall Street Journal*, February 13, 1990, A5.
- <sup>76</sup>"Vermont, Quebec OK Commission," *Burlington Free Press*, June 9, 1989, 6A.