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11 The Political Economy of Protectionism: Tariffs and Retaliation in the Timber Industry

Joseph P. Kalt

11.1 Introduction

11.1.1 A Brief Military History

The United States is in the middle of a trade war—or at least a skirmish—with its largest trading partner and one of its closest allies. The most important battle of this conflict is being fought over lumber. The first confrontation came in June 1986 when President Reagan imposed ad valorem duties of up to 35 percent on imports of wooden shakes and shingles, which are primarily supplied by Canada.[1] The Canadians retaliated almost immediately with duties on a hodgepodge of imports from the United States, including Christmas trees, computers, semiconductors, and books.

The shakes and shingles industry is relatively small, with annual U.S. sales of only $80 million and Canadian imports of $50 million per year. On October 16, 1986, however, the U.S. Department of Commerce issued a preliminary finding that Canada was subsidizing its softwood (construction) lumber imports at the rate of 15 percent of their value. This finding followed an initial determination by the International Trade Commission (ITC) that U.S. lumber producers were being materially harmed by Canadian imports. This set the stage for the United States to impose a 15 percent countervailing duty on issuance of a final Commerce Department finding of subsidy (due December 30) and a final ITC determination of material injury (due by February 1987). Pending these expected final determinations, importers

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of Canadian lumber were required to post bonds equivalent to 15 percent of the value of their shipments (subject to refund should the United States eventually drop its countervailing duty action).

The softwood lumber industry is important to both countries. Sales in the United States total approximately $10 billion per year, and Canadian imports amount to $3 billion per year. In Canada, softwood lumber is a $5 billion per year industry and is larger than metals, agriculture, fisheries, and autos combined. Lumber accounts for approximately 4 percent of both Canadian GNP and Canadian exports to the United States. Canadian imports hold roughly 30 percent of the U.S. market and provide over 99 percent of the foreign lumber supplied to the United States.

A week prior to the October 16 announcement of the U.S. softwood lumber decision, Canada's minister for international trade had called U.S. producers' lobbying for tariff protection "total harassment" and explicitly warned of retaliation.[2] On November 7, with support from liberals and conservatives in Parliament, the Canadian government imposed a 67 percent countervailing duty on U.S. corn exports to Canada. Within two weeks, as tensions over the U.S. lumber duty mounted, the U.S. secretary of state (then embroiled in the Iran-Contra scandal) was in Ottawa attempting to find grounds for U.S. backtracking on the lumber duty. With the 15 percent U.S. duty scheduled to become permanent on December 30, Canadian and U.S. negotiators reached an agreement on December 31 that implemented a 15 percent Canadian export duty in exchange for the U.S. lumber industry dropping its duty action. As of 1987, the corn retaliation remained in place.

In terms of the size of the import sector and the anticipated domestic price effects, the U.S. lumber duty was the largest countervailing/antidumping action that the country has ever taken against a specific trading partner under the terms of GATT. The Canadian corn retaliation represented the first countervailing duty ever imposed on the United States and one of the few times Canada has imposed such a duty on any nation. Within Canada, the eventual lumber export tax has been assailed by the timber industry as "bizarre" and "sickening,"[3] and opposition parties had urged the Mulroney government to reject any negotiated settlement and to mount its opposition to U.S. protectionist measures through U.S. and international judicial proceedings. The negotiated settlement, they argue, puts Canada in a defensive posture and establishes precedents that leave "any major Canadian export . . . subject to this kind of action by the United States."[4] The Mulroney government, meanwhile, defends itself on the grounds that U.S. domestic political pressures could not possibly have been deflected by Canada, and that it is better that Canada collect the revenues from a lumber duty than have the revenues flow to the United States. But

even Canada's trade minister laments that "today it's lumber—tomorrow it could be any number of issues. This is not the way to conduct business between the world's largest trading partners. There must be a better way."[5]

Interestingly, the timber trade war is taking place in the middle of high-level negotiations aimed at reaching a general free trade arrangement between the United States and Canada. The future and direction of the free trade negotiations, however, have been threatened by the lumber controversies. Public support in Canada for an agreement has declined markedly over the last year, as opinion polls show rising distrust of U.S. motives and promises, declining faith in the abilities of Canadian negotiators, and a general waning of the faith that free trade will improve the Canadian economy. In the face of these sentiments, even Prime Minister Mulroney has noted (specifically within the context of the lumber affair) that it is "extremely difficult for anyone, including Canadians, to be friends with the Americans."[6]

11.1.2 Can the United States Win a Trade War?

It goes without saying that there is much concern or hope, depending on one's viewpoint, that protectionist "sentiments" are on the rise in the United States and that a major change in the direction of U.S. trade policy may be in the offing. I suspect that among economists the protectionist trends afoot are viewed with apprehension. New theoretical developments and a certain amount of playing to the public's heightened nationalistic predilections may have softened the profession's traditional, if not downright doctrinaire, preaching of free trade, but most economists appear to continue to worry that protection that leads to cycles of confrontation and retaliation is nationally and globally harmful.

The U.S.-Canadian rift over lumber trade provides a potentially revealing example of one of the paths that the nascent changes in trade policy can take. On the face of it, the circumstances of the timber trade war do not appear extraordinary. The U.S. industry has been in the employment and output doldrums for a number of years; prospects for sharp improvement are not particularly encouraging; and import market shares have been on the rise. On the Canadian side, the lumber industry is an important industry in the economy—overwhelming, in fact, to certain regions of the country. It is unrealistic to think that Canada would not respond in some substantive way to attempts to limit its access to export markets.

The political origins and economic consequences of the timber trade war are the focus of this study. The former appear to lie in a combination of a well-organized and forceful group of beneficiaries (that is, U.S. lumber producers) and a serendipitous timing of congressional pressures on

the White House. The outcome, to date, of the timber trade war has, indeed, been an improvement in the lot of domestic producers, as they have realized a rise in the price of lumber. From the broader perspective of nationalistic aggregate welfare, the United States appears to have started, but ultimately lost, the war. What began as a large-country, monopsony tariff directed against Canada has become a large-country, monopoly tariff directed against the United States.

11.2 The U.S. Countervailing Duty Decision

U.S. restrictive action against the importation of softwood lumber from Canada originated with a 1982 petition to the Department of Commerce and the International Trade Commission. This petition was filed by the Coalition for Fair Lumber Imports (CFLI), a lobbying association of 350 U.S. forest products companies and each of the eight major lumber and timber trade associations. The Coalition requested that the United States impose countervailing duties against Canadian softwood imports under the terms of the (amended) Tariff Act of 1930. The Coalition argued that countervailing duties were warranted because Canadian federal and provincial governments were subsidizing the production of softwood lumber, and subsidized production was materially injuring U.S. lumber producers.

The 1982 case ended in May 1983 when the Department of Commerce failed to rule in favor of the U.S. lumber industry. In essence, the Commerce Department found that there was ample evidence that Canadian governmental policy was subsidizing lumber production through below-market pricing of trees sold by public forest authorities, but that these subsidies were "generally available" and not specifically targeted at lumber producers. In the view of the Department of Commerce, this lack of specificity disqualified the Canadian subsidies as actionable under the countervailing duties provisions of the 1930 Tariff Act.

A reading of the record of the 1982 case leaves the very strong impression that the Commerce Department (or, more realistically, the White House) was squirming to find a technicality under which it could reject the Coalition's petition. Under the "general availability" criterion, the Commerce Department found that below-market-price trees were available to a number of parties beyond construction lumber producers, including manufacturers of pulp and paper, plywood and veneer, furniture, turpentine, and food additives. Within months of the lumber decision, however, the Commerce Department was enunciating a "dominant use" standard in order to provide protection to the domestic steel industry, which was requesting countervailing duties against imports of Brazilian steel made with subsidized iron ore (which has uses, albeit minor, beyond steel production). Under this standard, a

subsidy could be generally available (in other words, to sectors other than the export industry of concern), but still qualify for countervailing duties, if the dominant user of the subsidized inputs if found to materially injure U.S. competitors. In the case of Canadian softwood trees, the lumber industry is by far the dominant user.

The broadening of the qualifications for countervailing duties prompted the Coalition for Fair Lumber Imports, with strong support from a number of members of the House and Senate, to again petition for protection. The resulting 1986 petition found the Commerce Department boxed in by the new precedent of its "dominant use" standard and the strong possibility that a negative decision would be overridden by federal legislation. The White House, in deciding whether to back the adoption of a countervailing duty, faced this second constraint as well as the fact that five Republican senators from major lumber-producing states (Washington, Oregon, Idaho, Georgia, and Alabama) were facing reelection challenges. Thus, with virtually the same substantive record before it (and, if anything, a slightly improved domestic industry), the Commerce Department reversed its 1983 decision and determined that purported Canadian lumber subsidies did meet the requirements of the Tariff Act.

11.2.1 The Case before the ITC and the Commerce Department

The basic substantive argument of the U.S. lumber industry before the Department of Commerce is succinctly summarized in table 11.1. Over 95 percent of Canadian softwood timber lands are publicly owned, compared to only 28 percent in the United States. The various Canadian governmental authorities sell the rights to remove trees from public forests to private logging companies (including lumber producers). The price at which the right to remove a tree is sold is known as the

Table 11.1 **U.S. and Canadian Stumpage Prices**

	United States	Canada	Canada as % U.S.
1977	$96.41	$10.16	10.5%
1978	$118.76	$21.59	18.2%
1979	$134.37	$30.96	23.0%
1980	$122.16	$27.48	22.5%
1981	$140.98	$12.09	8.6%
1982	$93.57	$10.57	11.3%
1983	$105.99	$11.63	11.0%
1984	$104.16	$11.84	11.4%

Source: U.S. ITC 1985.
Note: US$/per 1000 board feet (mbf).

"stumpage price." In most Canadian provinces, stumpage fees are based on mechanistic (if not totally arbitrary) formulas that work back from a selected end-market value, subtracting administratively determined forest-to-market costs to arrive at a value of trees on the stump. By contrast, rights to harvest timber on U.S. public lands are sold through a bidding process (with problems of its own) that is designed to recover full market value.

As indicated in table 11.1, the Canadian and U.S. systems for determining stumpage prices produce dramatically different results. U.S. prices are commonly many times higher than Canadian prices, and this holds even after adjustments for quality, transportation differentials, and production costs. This evidence that Canadian stumpage policy results in much lower Canadian stumpage prices has formed the central argument for protection before the ITC, the Commerce Department, Congress and, most recently, U.S.-Canadian negotiators.[7]

Evidence of the type presented in table 11.1 has been employed by interested parties to establish the existence of a Canadian lumber subsidy. ITC standards, however, require that any purported subsidy must be shown to cause material injury to domestic producers before countervailing duties may be imposed. The standards of "material injury" are problematic for the ITC. Economic criteria might be quick to equate "injury" with reduced profitability. Virtually any industry facing import competition will satisfy this criterion. The patterns of ITC cases, however, suggest that "material injury" commonly is interpreted as giving protection a bailout role. The criteria for determining the extent to which an industry is in need of protection under this definition of material injury, as revealed by ITC practice, include the existence of negative profits, declining employment, plant closings, and declining prices.

It is not sufficient (at least not according to the ITC's legislative mandate) that an industry seeking countervailing protection be able to show that it is experiencing hard times. The industry must demonstrate that it is materially injured by reason of the subsidized imports. To determine whether subsidized imports are the cause of material injury to a petitioning industry, the ITC's reports reveal that it explicitly examines such factors as the depth of any foreign sector subsidies, offsetting U.S. subsidies, exchange rates, macroeconomic growth and other general economic conditions, foreign-domestic price differentials, and the market share of imports.

The Coalition for Fair Lumber Imports emphasized four primary pieces of evidence regarding the extent and cause of the lumber industry's distress in its 1986 case before the ITC: (1) the market share of Canadian imports had risen steadily over the last decade (table 11.2); (2) sawmill capacity (and associated employment) in the United States

Table 11.2 Imports, Exchange Rates, and Prices

	Canadian Share of U.S. Lumber Consumption	Real Exchange Rate (US$/Can$; 77 = 100)	Real U.S. Lumber Prices (1984$/mbf)
1975	18.7%		
1976	21.9%		
1977	25.3%	100.0	$302.81
1978	27.6%	94.7	$323.81
1979	27.3%	93.6	$343.66
1980	28.1%	93.2	$295.97
1981	28.6%	91.9	$276.27
1982	29.2%	92.8	$204.06
1983	30.1%	94.9	$202.17
1984	30.7%	91.7	$214.87
1985	33.2%	89.8[a]	
1986	33.0%[a]		

Sources: U.S. ITC 1985; Coalition for Fair Lumber Imports 1986b.
[a]Estimated.

had declined over 1977–82, with only minor recovery since the end of the early-1980s recession (fig. 11.1); (3) profitability in the 1980s had deteriorated sharply (fig. 11.2); and (4) despite some recovery in demand since the early 1980s (fig. 11.1), real U.S. lumber prices showed little improvement and remained far below historic highs (table 11.2). This last point was played particularly hard by the Coalition. It provided the tactically important argument that "something is not right" with the workings of supply and demand and, by implication, the free trade views of neoclassical economists, since recovering demand did not pull up prices; the "something" that was not "right" was Canadian stumpage policy (Coalition 1986b). This argument was eventually endorsed by the ITC.

The ITC (U.S. ITC 1985) examined a number of indicators of relative competitiveness, but these showed little evidence of a strong Canadian advantage. As shown in table 11.3, the Canadians reveal a moderate advantage in unit labor costs, owing to higher productivity (that is, Canadian hourly wages actually exceed U.S. wages). Effective Canadian tax rates, however, are higher than U.S. rates in the lumber industry, and average total costs of U.S. and Canadian lumber production hardly differ at all.

This last observation is a reflection of the efficiency of the Canadian log market. That is, it might be thought that low Canadian stumpage prices should show up as low Canadian lumber prices. But the stumpage price is the price of removing a log from its forest, and, once removed,

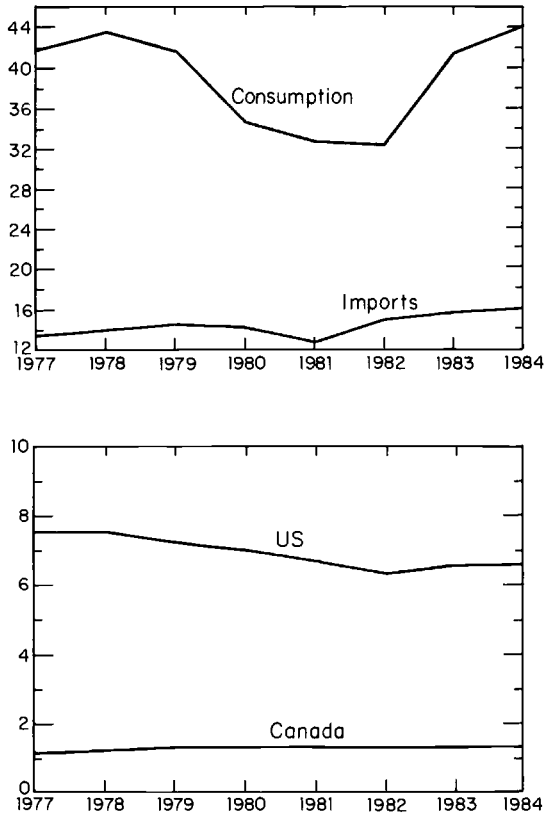

Fig. 11.1 Softwood lumber consumption and imports (billions of board feet) and number of sawmill establishments (1000s).

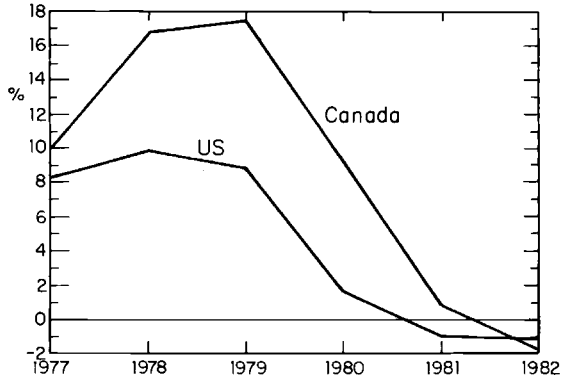

Fig. 11.2 Lumber industry return on assets.

Table 11.3 **Determinants of Production Costs in the Softwood Lumber Industry**

	Average Total Cost (US$ per mbf)		Unit Labor Cost (US$ per mbf)	
	U.S.	Canada	U.S.	Canada
1977	$180	$162	$67	$56
1978			$69	$61
1979	$278	$193	$73	$65
1980			$77	$67
1981	$240	$188	$79	$74
1982	$204	$206	$86	$78
1983	$221	$207	$85	$71
1984	$213	$205	$81	$65

	Average Hourly Wage (US$)		Labor Productivity (board feet/year)	
	U.S.	Canada	U.S.	Canada
1977	$5.14	$6.76	208,405	292,276
1978	$5.79	$6.75	206,718	285,679
1979	$6.07	$7.29	199,399	277,892
1980	$6.36	$8.15	185,418	285,207
1981	$6.80	8.79	185,061	269,209
1982	$8.27	$9.60	206,719	299,478
1983	$8.77	$9.98	243,640	365,979
1984	$9.26	$10.24	239,200	382,814

	Effective Tax Rates	
	U.S.	Canada
1977	26.4%	40.6%
1978	24.4%	36.1%
1979	21.6%	36.8%
1980	33.1%	29.4%
1981		23.1%

Source: U.S. ITC 1985.

logs are marketed by logging firms on the open market to Canadian lumber producers. Market-clearing log prices paid by lumber producers are roughly uniform, after accounting for quality differentials and transportation costs (FTC 1986). Canadian prohibitions on log (as opposed to lumber) exports do keep in-Canada log prices to lumber mills somewhat lower than U.S. prices, although differences turn out to be minor (U.S. ITC 1985; FTC 1986).

Thus, the vehicle by which the Canadian stumpage system could subsidize lumber exports is *not* through direct subsidization of lumber production. Rather, Canadian stumpage policy is alleged to subsidize lumber exports by subsidizing Canadian loggers, resulting in increased timber production turned into increased output from the Canadian lumber industry (Coalition 1986b). In the absence of the prohibition on Canadian log exports, an increase in Canadian timber production would tend to depress log prices evenly throughout North America—to the benefit of both Canadian and U.S. lumber mills. In the presence of restrictions on log exports, however, log prices tend to be levelized through an expansion of the Canadian sellers of log *products* (such as lumber). The result is that more of North America's sawmill capacity comes to be located in Canada than would otherwise be the case—to the displeasure of the U.S. Coalition.

11.2.2 The Economics of the ITC's Decision

Upon perusal of the kind of information available to the ITC and shown in tables 11.1–11.3 and figures 11.1–11.2, it is tempting to try to apply a more rigorous analysis to see if, in fact, Canadian stumpage prices (table 11.1) are the cause of the upward trend in the market share of imports (table 11.2), the soft prices in the North American lumber market (table 11.2), or depressed industry profitability. Do the data indicate changes in Canadian stumpage that correspond to changes in Canadian lumber export performance or lumber price levels? And what other explanations (such as exchange rate movements and recession) are there for the relative performance of the U.S. and Canadian lumber industries? These are, of course, the kinds of analyses that we might hope the ITC would perform in a systematic (for instance, econometric) fashion. However, there is a much more fundamental issue regarding the effects of below-market stumpage pricing in Canada.

The Federal Trade Commission, in its legal role as a guardian of consumer interests and in its de facto role as a proponent of free international trade, intervened in the 1982 and 1986 lumber proceeding before the ITC (FTC 1986). In its challenge to the Coalition's request for tariff protection, the FTC argues that the Canadian stumpage subsidy is entirely inframarginal; it has no effect on the level of forest harvest and, hence, no effect on Canadian lumber output. With appropriate references to Adam Smith, David Ricardo, Paul Samuelson, and Joan Robinson, the FTC asserts that

> the stumpage fee represents that portion of the trees' value, or economic rent, that is captured by the landowner. By definition, an economic rent does not affect the quantity of a factor supplied. Characterization of stumpage fees as part of economic rent rather than a cost that affects the quantity supplied follows from the fact that the

> [Canadian] government, which decides how much land will be made available for logging, would make the land available for harvesting and loggers would harvest the logs regardless of where the stumpage fee is set, so long as it is within the range between zero and the amount by which the value of the logs exceeds the cost of harvesting them. (FTC 1986, 22–23)

The FTC's interpretation of the Canadian below-market stumpage prices as gifts of rent to loggers is founded on two observations. First, the stumpage prices do not even come close to clearing the market and are far exceeded by the market-clearing prices received on resale by loggers. That is, once cut, Canadian logs fetch prices that leave logging firms with unit revenues that exceed logging expenses and stumpage charges. Second, and most fundamentally, Canadian harvest (or "cut") levels on public lands are set administratively without reference to the stumpage price. By law, Canadian public cut levels are set (as they are on U.S. public lands) according to fundamentally noneconomic, biological criteria dealing with the physical sustainable yield, the age of the trees, and the species mix of the forest. Although specifics vary from province to province, the Canadian procedure for establishing a cut level begins with official determination of how much acreage to be allotted to tree harvesting and when to allocate that acreage to loggers. The right to remove timber from cuttable acreage is determined by an administrative process that awards long-term cut licenses to selected logging firms without charge and on the basis of explicitly noneconomic criteria. The licensee then submits a cut plan requiring approval on the basis of its conformation with sound logging practice. Loggers are permitted flexibility to vary their efforts at any point in time as market price and cost conditions vary, subject to the overall cut limit over the full term of the license. The stumpage price the licensee is charged on the removal of timber is determined through an administrative formula that arrives at the stumpage value as a net-back from the administratively calculated log value (FTC 1986).

In short, the Canadian cut of timber is not determined by reference to the price that public authorities receive for timber. Formally, the supply response of the Canadian cut to the stumpage price is zero. This conclusion leads directly to the FTC position that the Canadian stumpage system has no adverse effect on the U.S. lumber industry. The FTC's conclusion is based, however, on a combination of a priori economic theory and a reading of the literal content of Canadian cut policies. The FTC notes that there is an alternative hypothesis regarding the responsiveness of Canadian timber supply to the below-market stumpage system: "The Canadian stumpage fee systems could lead to an increase in the quantity of timber harvested if the timber companies successfully lobbied the Canadian federal or provincial governments

to expand the quantity of cutting permitted *because the increased economic rents they would earn by cutting additional trees at the low stumpage fee*" (FTC 1986, 30–31, n. 38; emphasis in original). If true, this hypothesis provides support to the Coalition's assertions that U.S. lumber companies have been harmed by Canadian stumpage practices.

To test whether the Canadian supply of timber is responsive to the stumpage subsidy, we might directly estimate the supply of Canadian logs as

$$Q_c^s = Q_c^s\,(P,\ SUBSIDY,\ X_c), \tag{1}$$

where Q_c^s is Canadian timber production, P is the price received for cut logs, $SUBSIDY$ is the stumpage subsidy, and X_c represents Canadian input cost and productivity variables (such as labor costs). The view of Canadian stumpage subsidies as entirely inframarginal implies that the effect of $SUBSIDY$ on Q_c^s is zero, while the U.S. lumber industry's assertion is that this effect is positive.

In reacting to the possibility that Canadian timber supply responds positively to stumpage subsidies, the FTC puts forth the possibility that the Canadian stumpage system might even discourage supply. The FTC argues that the noncompetitive process of license awards makes the Canadian system particularly likely to allocate harvesting to inefficient firms for whom some market-cuttable tracts are unprofitable. Raising stumpage fees worsens the fate of such firms and may cause a reduction in cut.

The FTC further notes that the arbitrary Canadian stumpage system may typically produce inframarginal rents, but it can also lead to the overpricing of some tracts of cuttable land for which market-determined levels of Ricardian rent are less than the stumpage fees. Such lands will go unharvested under the Canadian system; in effect, a rise in stumpage has no impact on tracts for which the stumpage fee is less than the associated Ricardian rent, but pushes some tracts and their supply out of the market. Both of these hypotheses amount to the observation that the Canadian stumpage system can reduce supply if and when fees are raised above market levels on particular tracts of forest, but should be entirely inframarginal when set below market levels.

The Canadian logging activity described in equation (1) is plausibly determined by the simultaneous action of supply and demand for timber. The indigenous Canadian demand for timber can be expressed as

$$Q_c^d = Q_c^d\,(P,\ Z_c), \tag{2}$$

where Z_c represents determinants of timber demand, such as housing starts or aggregate income. Of course, Canadian timber markets are linked through trade in forest products to international markets. This really means U.S. markets, as transocean shipping costs effectively

limit broader trade; only about 5 percent of North American timber output leaves the continent and most of these exports are specialty and high-grade products. Thus, there are corresponding supply and demand schedules for the U.S. that, together with equations (1) and (2), describe the market for timber in which Canadian loggers find themselves. Using u subscripts to denote the United States, this market can be described by equation (1) and the residual demand left over for Canadian suppliers after U.S. loggers have put their output on the market.[8] This demand is

$$(3) \qquad Q^d_{c,u} = Q^d_c + Q^d_u - Q^s_u = Q^d_{c,u}\,(P, X_u, Z_c, Z_u),$$

with s and d continuing to signify supply and demand.

Expressions (1) and (3) now constitute a two-equation system that we can estimate with available (albeit limited) data.[9] I have collected data for the six Canadian logging regions that produce all but a minute amount of the country's timber (Coastal B.C., Interior B.C., the Prairie Provinces, Quebec, Ontario, and the Maritime Provinces) over 1977–84. These data provide 48 sample points on prices (P) of logs (in real US$/mbf), annual harvest levels (Q^s_c), and stumpage prices. *SUBSIDY* is measured by the difference between the price received by loggers and the stumpage fee.[10] To capture determinants of the cost of logging in Canada (X_c), we have data on industry labor costs and productivity.[11] Corresponding measures are used to capture X_u for the United States. The demand determinants reflected in Z_c and Z_u are measured by housing starts per year. The supply schedule in equation (1) is estimated using the pooled data and utilizing two-stage least squares, instrumental variables techniques that allow the separation of supply factors from demand influences on Canadian timber prices and quantities.

The estimated Canadian timber supply function is shown in table 11.4. A log-log (no pun intended, just lucky) specification is employed and produces elasticities of supply with respect to the indicated variables. My econometric "fishing" was restricted to the endogeneity/exogeneity of *SUBSIDY* and labor productivity, and the inclusion/exclusion of the lagged value of the dependent variable (Q^s_c). Results were not sensitive to these choices, including the magnitude and sign of the effect of *SUBSIDY*. Although confidence is weak, the elasticity of Canadian timber supply with respect to the price received by loggers appears to be of the same magnitude that others have reported when estimating U.S. supply functions (e.g., Adams, McCarl, and Homayounfarrokh 1986). It appears that the data allow the detection, with fairly good confidence, of the supply effects of costs and productivity factors.

Table 11.4 indicates that the elasticity of Canadian timber supply with respect to official stumpage prices has a point estimate of -0.13. There is moderate confidence suggested for this result, but I believe

Table 11.4 **Does the Canadian Stumpage System Subsidize Lumber Exports?**

The Canadian Timber Supply Function

Variable	Expected Sign	Elasticity	2-Tail Signif.
Stumpage subsidy	+ (Lobbying for +Q) 0 (Inframarginal rents)	−0.13 (−1.13)	0.27
Price	+	+0.23 (.75)	0.46
Labor Costs/HR	−	−2.03 (−2.09)	0.04
Labor Productivity	+	+0.68 (3.14)	0.003
Intercepts			0.10–0.00

Notes: Standard error = 0.11; F-statistic = 307.14; D.W. = 1.84; and number of observations = 48.

the most that can really be said is that the approach and data employed here have produced no evidence that the Canadian system of stumpage subsidies results in an increase in Canadian timber supply. In this negative sense, my results are supportive of the view that the ITC incorrectly ruled that the Canadian timber pricing system constituted an export subsidy to the lumber industry that warranted countervailing U.S. duties.

This is not to say that, had the ITC seen table 11.4 (or understood the FTC's argument about inframarginalism), it would have ruled any differently. My reading of the record of the case is that the ITCs decision turned on a combination of (1) evidence that, for whatever reason, the U.S. lumber industry finds itself in poor condition, and (2) irresistible domestic, election-year political forces. Indeed, from the Administration's point of view, it must have seemed far preferable to have protection for the lumber industry emanate from the Commerce Department and the ITC, rather than from congressional legislation. The former leaves the Administration in control of both the level of duties and negotiations with the Canadians regarding remedial measures.

11.3 The Welfare Consequences of Protection

Even if there were compelling evidence that the Canadian stumpage system for timber effectively subsidized the expansion of the Canadian lumber industry, the existence of a subsidy, by itself, would provide little economic justification for tariff protection of the U.S. lumber

industry. Indeed, taking the sum of consumers' and producers' surplus as our yardstick of aggregate national welfare, the ITC might be instructed to send a note of gratitude to the Canadians, rather than impose a tariff against them. If Canada would like to tax other sectors of its economy (through resource diversion into timber and lumber production) to subsidize the production of goods for which the United States is a large net consumer, the United States benefits.

This (neo)classic response to the importation of products subsidized by foreign governments, of course, needs to be qualified. For example, were Canadian lumber subsidies part of a predatory strategy to drive the U.S. industry under in anticipation of a subsequent exercise of monopoly power, the United States might appropriately respond with protective tariffs. Successful predation, however, has as its first requirement the ability of the predator to drive its victim's capital out of production and to keep that capital out of production. This is hard to imagine in the timber or lumber industries. In the former, the basic capital stock on which production is based just keeps on growing if taken out of production, and the lumber industry's mills are extremely long-lived and highly specific to lumber production.[12] At any rate, figure 11.1 indicates that capital has been (re)entering the U.S. industry since the bottom of the early-1980s recession.

Other, nonpredatory justifications for countervailing against a subsidy to Canadian shipments of lumber are also difficult to defend. The Canadian industry is quite competitively structured and hardly presents an oligopolistic front to the United States. The lumber industry, in general, is low on the list of industries likely to produce beneficial technological spillovers if protected against subsidized imports. Strategic, national defense justifications for protecting an indigenous softwood (construction) lumber industry are equally unconvincing, since the probability of a military interdiction that cuts off supplies from Canada seems so farfetched. In fact, the Coalition for Fair Lumber Imports is notable, if not commendable, among lobbyists seeking protection for its *not* waving the national security banner.

11.3.1 The United States as an Import Monopsonist

If there is a nationalistic (that is, national welfare) justification for tariffs on imported lumber, it lies in the observation that the United States is a large-country importer of softwood products. As noted above, North America is virtually a closed market. The United States annually buys more than 60 percent of Canadian lumber production, and other outlets for Canada are subject to very high transportation costs and tend to be restricted to specialty products. Moreover, the elasticities of Canadian lumber supply, both for total production and exports, are quite low.[13] In short, Canada's very large neighbor to the

south is its primary market, and the economics of forestry and milling are such that production levels are not especially sensitive to price. Policies such as U.S. import duties have the potential of depressing lumber and timber prices in Canada, and the country is an easy target for monopsonistic U.S. trade policies that improve the U.S. terms of trade—unless it can credibly retaliate.

Canada has, however, considerable scope for defending itself against an aggressive, monopsonistic United States. Canada is, for all intents and purposes, the sole foreign supplier of lumber to a country with a very inelastic demand.[14] In 1984, for example, the United States imported 12.995 billion board feet of softwood lumber. Fully 99.6 percent (12.947 billion board feet) of this total came from Canada.

The current trade wars in the timber industry, then, are being played out in a setting in which both trading partners have significant market power. Each might like to exercise its respective ability to act as a price maker, but the danger that a move away from the traditional free trade equilibrium will force the other country to exercise its market power is very real.

The stakes that the United States and Canada face, if not the game-theoretic optimal strategies each could play, can be quantified through the application of existing information on supply and demand responses in the lumber industry. From the U.S. perspective, an import duty on lumber from Canada has the potential of depressing the price of Canadian imports. Domestic producers stand to gain as the duty-inclusive price of imports is driven up. U.S. lumber consumers may not be pleased by having to pay higher prices, but the U.S. Treasury can collect the tariff wedge between U.S. and Canadian lumber prices. Depending on the height of the duty relative to the optimal monopsony tariff, the gains to U.S. producers and the Treasury can outweigh the losses of domestic consumers, and in that sense raise aggregate national welfare.

To estimate winners' gains and losers' losses from U.S. lumber duties, I have parameterized a simple three-sector model of North American lumber trade, employing the estimates of supply and demand elasticities provided by researchers who have specialized in modeling lumber markets. This model is used to simulate alternative tariff policies and measure the associated incidence and welfare effects. There are two supply sectors to be captured: the U.S. supply (Q_u^s) and the supply of imports from Canada (Q_c^i). These supplies must be priced to clear the U.S. market, given U.S. demand for lumber (Q_u^d). The two supply schedules and one demand schedule are taken to have constant elasticity functional forms over the relevant range, such that $Q = \alpha P^{\epsilon}$ where ϵ represents the elasticity.[15] When a duty of t percent is imposed on imports, the import supply schedule as perceived by the United States becomes:

$$Q_c^i = \alpha_i [(1 + t)P^i]^{\epsilon^i}$$

where P^i refers to the duty-exclusive delivered price of Canadian lumber and $P = (1 + t)p^i$. Solution of $Q_u^s + Q_c^i = Q_u^d$ for P then yields equilibrium prices and quantities. The model's results are clearly partial equilibrium results in the sense that no feedback effects to the macroeconomy or close substitutes and complements are calculated.

The elasticity of U.S. lumber supply is taken to have a value of .42, which is the three-region weighted (1985 quantities) average of supply elasticities reported by Adams, McCarl, and Homayounfarrokh (1986). Domestic demand elasticity is set at $-.15$, which accords with estimates reported by Spelter (1985) and Adams, McCarl, and Homayounfarrokh (1986). The most important of the elasticity values is the value for the elasticity of import supply from Canada. This elasticity fundamentally determines the extent of any U.S. monopsony power vis-à-vis Canada. This elasticity reflects both the elasticity of Canadian demand and the elasticity of Canadian supply:

$$\epsilon^i = \epsilon_c^s(Q_c^s/Q_c^i) - \epsilon_c^d(1 - Q_c^s/Q_c^i). \tag{4}$$

Adams, McCarl, and Homayounfarrokh (1986) estimate a value of .917 for ϵ^i and this value is employed here. This is close to the estimate of 0.89 reported by Boyd and Krutilla (1987). While an import supply elasticity of less than one may seem small, it also accords with direct calculation of equation (4). Employing 1984 values for the quantities in equation (4), assuming that Canadian consumers have the same demand elasticity as U.S. consumers, and taking a value of $\epsilon_c^s = .23$ from table 11.4 produces an import supply elasticity of approximately 0.9. Any value in this range suggests a very high degree of monopsony power for the United States.

The Effects of a 15 Percent Countervailing Duty

Under the foregoing parameterizations, table 11.5 reports the calculated incidence and welfare effects of a 15 percent U.S. countervailing

Table 11.5 **Welfare Consequences of a 15 Percent U.S. Lumber Duty (millions of 1986 dollars)**

	Gains	Losses
U.S. lumber producers (labor, capital, land)	$416.8	
U.S. lumber users (intermediate and final)		$556.9
U.S. government (tariff revenues)	$340.5	
Net U.S.	$200.4	
Net Canada		$223.0
Net U.S. and Canada		$22.5

duty on Canadian lumber imports. Table 11.6 shows the corresponding price and quantity impacts on the North American lumber market. In each table, it is assumed that Canada does not respond with retaliation of any form. A 15 percent duty raises domestic lumber prices (by approximately 5 percent). Through the monopsony effect, however, the duty also depresses Canadian lumber prices. U.S. lumber producers are unambiguously better off—by an estimated $400 million per year. The U.S. Treasury also realizes a gain from tariff revenues totaling $340 million annually. These benefits are in contrast to the negative effects of a 15 percent duty on U.S. lumber consumers. Consumers suffer a burden of over $550 million per year.

The gains of U.S. lumber producers and the Treasury are large enough to more than offset consumers' losses. In this sense, a 15 percent duty raises national welfare. The duty effectively transfers some of the rents that otherwise accrue to Canadian lumber producers to U.S. producers and to U.S. governmental revenue collections. As a result, Canada in its role as a net producer of lumber is worse off. Canadian losses are on the order of $220 million (US$) per year. The $20 million excess of Canadian losses over U.S. gains is the deadweight "world" loss as a result of the exercise of U.S. monopsony in the international lumber market.

The "Optimal" Tariff

If the United States benefits, on net, from a 15 percent lumber duty, how far could it push the duty and still see rising benefits? How high is the optimal tariff? This question is addressed in tables 11.7 and 11.8. *Assuming no Canadian policy response,* table 11.8 indicates that the optimal duty is roughly 50 percent. A duty of this magnitude has very large impacts on the lumber market. The optimal duty would drive domestic lumber prices up sharply, severely depress Canadian prices, cut imports by close to 40 percent, and raise domestic production by 10 percent.

Table 11.6 **Market Effects of a 15 Percent U.S. Timber Duty (1986 dollars)**

	% Change from No Tariff	Price/Quantity Impact
Tariff	15	$29/mbf
Change in U.S. Price	5	$13/mbf
Change in Canadian price	−9	−$18/mbf
Change in U.S. production	2	698mmbf
Change in imports	−8	−1026mmbf
Change in U.S. consumption	−1	−328mmbf

Table 11.7 **Welfare Consequences of an "Optimal" U.S. Lumber Tariff (millions of 1986 dollars)**

	Gains	Losses
U.S. lumber producers (labor, capital, land)	$2,249.0	
U.S. lumber users (intermediate and final)		$2,910.2
U.S. government (tariff revenues)	$1,119.9	
Net U.S.	$458.7	
Net Canada		$890.0
Net U.S. and Canada		$431.2

The optimal, unopposed tariff would be a great boon to domestic lumber producers, who would realize a gain of over $2.2 billion per year. Similarly, the Treasury would see tariff revenues of more than $1.1 billion. These gains are in contrast to the $3 billion loss that would be experienced by domestic consumers. This burden would manifest itself in higher home construction costs and higher prices of homes, apartments, and commercial buildings. The gains of U.S. lumber producers and revenue collectors from an optimal tariff would outweigh the losses of consumers, by the definition of optimal. The net gain to the nation would be on the order of $450 million per year.

An optimal tariff would hit Canada extremely hard. As indicated in table 11.7, Canada would suffer a loss of almost $900 million per year. For an economy of the size of Canada's, this sum is hardly trivial and could be expected to engender a vociferous response designed to exploit Canada's monopoly power. The net international deadweight loss of $430 million, however, would presumably go unnoticed by anyone.

As previously discussed, the central parameter determining the degree of U.S. monopsony power in the lumber market is the elasticity of import supply. Not only is there the usual statistical uncertainty

Table 11.8 **Market Effects of an "Optimal" U.S. Lumber Tariff (1986 dollars)**

	% Change from No Tariff	Price/Quantity Impact
Tariff	53	$140/mbf
Change in U.S. price	26	$65/mbf
Change in Canadian price	−41	−$85/mbf
Change in U.S. production	10	3408mbf
Change in imports	−38	−4929mbf
Change in U.S. consumption	−3	−1521mbf

about this parameter, but an optimal tariff as large as indicated by table 11.8 would severely depress Canadian lumber prices. This could be expected to open up very significant trans-Pacific and trans-Atlantic trade for the Canadians, and would effectively move the United States into a much more elastic portion of the Canadian import supply function. To provide some indication of the sensitivity of welfare implications to the import supply elasticity, figure 11.3 graphs the net national U.S. welfare gains from an optimal tariff over alternative values of the import supply elasticity (again assuming no policy response by Canada). Cutting the import supply elasticity to .5 would imply an increase in U.S. monopsony power, and the net gain from an optimal tariff would exceed $700 million annually. Doubling the initial value of the import supply elasticity to 1.8 cuts the optimal tariff; the associated net welfare gains would be less than $200 million per year.

11.3.2 Canada as an Export Monopolist

Optimal duties approaching 50 percent are primarily of academic interest. The vehement response of the Canadians to the October actions in support of a 15 percent import duty provides an indication of the intolerance that would meet an even higher duty—and that would invalidate the calculations in tables 11.7 and 11.8. Moreover, the U.S. political and administrative process provides no indication that it con-

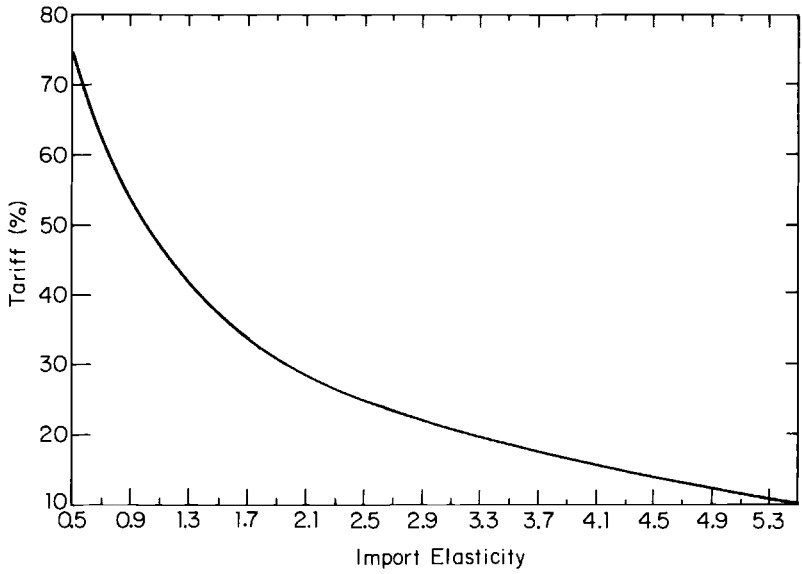

Fig. 11.3 Optimal U.S. timber tariff.

siders an optimal duty within the realm of possibility. The U.S. lumber industry's most aggressive demands have been in the range of 25–28 percent.

More relevant than the matter of an optimal tariff is whether the kinds of distributional payoffs to the domestic lumber industry and/or the associated net national impacts of the magnitudes shown in table 11.5 were worth putting the United States' broader relationships with Canada at risk of significant deterioration. The end result, after all, is that the negotiations regarding a general free trade agreement have been set back, and the December 30, 1986 lumber accords have left the United States subject to a monopolistic Canadian export tariff.

Table 11.9 shows estimates of the incidence and welfare effects of the Canadian 15 percent export duty, relative to the previous free trade regime.[16] The Canadian export duty raises delivered lumber prices in the United States and depresses prices in Canada. In fact, news reports out of the timber- and lumber-producing regions of Canada are already reporting output and employment cutbacks, as well as the attendant public outcry against the Canadian government for agreeing to the export duty. The export duty, however, permits Canada to exercise its monopoly power vis-à-vis the United States—although it is apparently no consolation that the resulting monopoly rents accrue to the Canadian treasury rather than to the Canadian timber and lumber industries. On net, Canada appears to gain roughly $120 million per year from the 15 percent lumber export duty.

The U.S. lumber industry cares little if its prices are raised by a U.S. import tariff or an equivalent Canadian export tariff (table 11.9). (In fact, this observation probably carries the heart of the political economy of the timber trade war.) U.S. lumber consumers are equally indifferent to the reason the prices they face are going up. At the national level, the

Table 11.9 **Welfare Consequences of a 15 Percent Canadian Export Duty (millions of 1986 dollars)**

	Gains	Losses
U.S. lumber producers (labor, capital, land)	$416.8	
U.S. lumber users (intermediate and final)		$556.9
U.S. government (tariff revenues)	$0.0	
Net U.S.		$140.1
Net Canada	$117.6	
Net U.S. and Canada		$22.5

primary economic difference between the countervailing duty and the ultimate Canadian export tax that has been adopted is found in which government gets to collect the tariff revenues. The move from a U.S. import duty to a Canadian export duty has caused a transfer from the U.S. Treasury to the Canadian treasury. Relative to the pre-October free trade regime, the United States now finds itself $140 million per year worse off. From a national perspective, the war has not gone well.

11.4 Conclusion

11.4.1 Observations on the Conduct of U.S.-Canadian Trade Relations

What began in October 1986 as a monopsonistic action against Canada has ended with a breakdown of free trade in lumber and the imposition of a monopoly tariff against the United States. While the economic logic of this is troubling, the political rationale does not seem hard to fathom. The U.S. lumber industry appears to have pulled off a classic case of industry capture of the political process.

It is fashionable to criticize simple industry "capture" theories of economic policy-making (e.g., Kalt and Zupan 1984), and in some sense it would be nice if there were a more complicated and less traditional story to tell here. In this case, however, the capture theory holds considerable appeal: the U.S. lumber industry was able to organize itself into a highly effective lobby group that was able to organize virtually all timber and lumber producers, suppress free-rider factionalism, produce technical legal and analytic submissions to the relevant administrative agency, and enlist particularly important congressional support in its appeals to the White House, the Commerce Department, and the ITC. In Washington, Oregon, Idaho, Georgia, and Alabama, the November elections for the U.S. Senate provided the catalyst that forced the political process to focus on the lumber industry. The finding, three weeks prior to the elections, that Canada was subsidizing lumber production and was subject to countervailing duties may have angered the Canadians, but within two months a negotiated settlement was reached that left the U.S. lumber industry and Canada better off than if no intervention had occurred. This helped the Administration preserve, or at least partially salvage, its relations with Canada while supplying the benefits to the domestic sector that put forth the most compelling political demand. In classic Stigler-Olson fashion (that is, more concentrated groups are more effective at political organization), the U.S. consumers of lumber products were so diffuse and faced such low per capita stakes relative to lumber producers that they had (and

continue to have) little ability to block moves to raise the prices they pay.

From the Canadian perspective, the prospect of a countervailing duty imposed by the United States created sharp strategic choices: fight the ITC and Commerce Department findings through the courts or negotiate a settlement. The former path suggests a strategy designed to convince the United States of Canadian toughness in opposing monopsonistic U.S. tariffs, but why take this stand? The negotiated settlement, after all, offered the prospect of a net gain for Canada—a victory in the timber trade war. To imply, however, that the Canadians adopted the negotiations approach because they were pursuing the Net Canada entry in table 11.7 is to beg the question of why the Canadian political process would be driven less by capturing private interests and more by considerations of net national economic welfare than is the policy process in the United States. The Canadian lumber and timber industries would appear to be no less powerful relative to consumers than their counterparts in the United States, and they have not benefited from the timber trade war. The reality seems to be that Canada really was put in a defensive posture when the United States launched its import duty, and the negotiated settlement was explicitly justified internally in Canada by the argument that, if there is going to be a duty on lumber, it is better that Canada collect the sizable tariff revenues than let these monies accrue to the U.S. government.

It remains to be seen whether the timber trade war is completely over. If it is rekindled, the impetus will come from Canada. Only within Canada is there significant, continuing unrest and distress over the current state of affairs. Layoffs have begun in the Canadian timber and lumber industries, and nationalistic sentiments have been piqued by a sense of having been put on the defensive by the United States. The global solution may still ride on the fate of ongoing attempts to establish a general free trade agreement. The lumber incident, however, has probably reduced the prospects of a broad agreement. In the United States the lumber and timber industries now have vested interests in opposing a return toward free trade, and in Canada mistrust of the United States runs high.

11.4.2 Observations on the Conduct of Protectionist U.S. Trade Policies

The U.S.-Canadian lumber dispute forcefully demonstrates that the realms in which trade wars are fought are not solely the economic marketplaces. The outcome of the lumber dispute has hinged significantly on broader geopolitical, foreign policy concerns. For, at the core, the outcome of the timber trade war reflects a combination of (1) the

domestic political necessity of transferring wealth to the U.S. forest products industry, while (2) trying to keep the Canadians "happy." The essence of the negotiated settlement of December 1986 (and table 11.9) is that to accomplish the former, the United States had to raise the amount it pays for the latter—by $117.6 million per year (table 11.9).

This interpretation of the timber trade war explains why the U.S. political system ended up at table 11.9—a Canadian monopoly export tariff—rather than a table 11.5—a U.S. monopsony import tariff. If the path to protection for the U.S. industry was a U.S. import duty, Canada was going to be harmed—table 11.5. The prospect of direct economic harm, as well as the fueling of Canadian nationalism, was demonstrably going to reduce the supply of an important ally's cooperation in the conduct of U.S. foreign policy. As Prime Minister Mulroney noted (threatened?), it is "extremely difficult for anyone . . . to be friends with the Americans."

This kind of Canadian response was unacceptable to the White House and, especially, to the State Department. But if protection had to be delivered, the congressional, legislative route to protection for the U.S. lumber and timber industries was the *least* appealing course: it would be extremely difficult and time-consuming to repeal tariff legislation and replace it with a policy that transferred wealth back to Canada. The alternative result of a temporary U.S. duty replaced by a negotiated Canadian export tariff was far more appealing, the Net U.S. loss of $140.1 million per year from table 11.9 is the price the nation has paid to satisfy the domestic political demands of the timber and lumber industries while ensuring continued Canadian cooperation and allegiance in the conduct of foreign policy. This sum really is a net loss for the United States: the country now pays a higher price to Canada for no more, and probably less, Canadian contribution to U.S. foreign policy.

The path of protectionism that this case reveals is sobering. It is not a picture of the United States engaged in strategic moves to improve the national welfare. It is not even a picture of the United States and its trading partners engaging in mutually destructive rounds of economic retaliation. Rather, it is a picture of the United States pushed into protectionist measures by powerful domestic political interests and then, through the foreign policy branches of government, having to find ways to quickly halt the resulting trade war and appease the affected foreign nations.[17] The United States must act in this way because, as the dominant member of its alliances, it is forced to bear the brunt of the responsibility for maintaining those alliances. Thus, this case suggests that, at least when it affects allies, protectionism can raise the cost and inhibit the conduct of foreign economic and political policy.

Notes

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1. The shakes and shingles duties arose out of a section 201 case before the International Trade Commission. Section 201 cases allow for import protection of a domestic industry when the ITC is satisfied that imports have been shown "to be a substantial cause of serious injury." This criterion makes no reference to unfair trading practices by foreign competitors and is generally regarded as outside the intent of GATT provisions for countervailing duties.
2. *New York Times,* October 9, 1986.
3. *New York Times,* January 1, 1987.
4. Ibid.
5. *New York Times,* October 17, 1986.
6. *MacClean's,* January 5, 1987, 38.
7. The coalition's filings before the ITC predictably include a list of additional Canadian subsidies that allegedly harm U.S. lumber producers. This list includes preferential tax treatment, loan guarantee programs, and public reforestation programs. At least the first of these does not appear to be substantiated by the data (see table 11.3), and reading the coalition's discussion of these other subsidies, it is hard to resist the impression that the list of U.S. preferential programs for the forestry industry could be made to seem as extensive as the Canadian list.
8. After adjustment for transport costs and exchange rates. This formulation assumes that the process of log-price equalization through trade in log products works within the period of observation (one year in the data used below). Available data require this approach.
9. The basic limitation is disaggregated stumpage fees that can be matched to appropriate measures of logging output. All data employed here are from U.S. ITC 1985.
10. Data that would permit a more accurate accounting for the market-clearing stumpage price and the actual price are not available on a comparable basis.
11. The latter, in particular, may be endogenous since its measurement involves Q_t^s. Results reported below treat labor productivity as an endogenous variable. Results are not sensitive to this.
12. The human capital in the lumber industry is not particularly high skilled, with low-skill labor dominating the work force (see, e.g., the wages in table 11.3). It is also notable for its unwillingness to relocate.
13. See, for example, Adams and Haynes 1981; Adams, McCarl, and Homayounfarrokh 1986; and Boyd and Krutilla 1987.
14. Adams, McCarl, and Homayounfarrokh 1986, for example, estimates the elasticity of U.S. lumber demand to be in the range of $-.15$ to $-.17$.
15. The α's are explicitly calculated by parameterization of ϵ and insertion of actual values of Q and P.
16. The price and quantity effects are as indicated in table 11.8.

17. The United States–Japan dispute over Japanese auto imports followed the same general course: U.S. quota restrictions were superseded by Japanese voluntary export restraints that leave the rents from trade restriction in Japan.

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Comment Arye L. Hillman

Joseph Kalt has presented us with a most interesting case study of the political economy of protection. Kalt's study confirms the appropri-

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ateness of the political-influence models of protection in explaining the formulation of international trade policy and reveals how approaches to the determination of trade policy that presume a benevolent government pursuing efficiency objectives assume motivations for intervention that tend to be of little importance in the political arena wherein trade policy decisions are made. A particularly interesting aspect of the study is the revelation that whereas initially pleas for protection went unheeded, once the loophole had been found that provided a legal basis for protection, competition arose between the executive and legislative branches of government to become the provider of protection. This competition is clearly understood in political economy terms. Given that protection could now be provided, both the executive and legislative branches of government sought to reap the benefits attendant on being the agents dispensing increases in rents to the residual claimants in the domestic import-competing industry. Presumably the transaction is not one way; protection is provided against an offsetting return. The political competition was to designate the beneficiary of the return.

The economic theory underlying political-support-maximizing choice of trade policy is based on the principle that policymakers trade off the political costs and benefits of intervention; the costs are the loss of political support from the losers from intervention and the benefits are the gains via the political support from the beneficiaries. Kalt shows us that complex linkages can underlie this cost/benefit calculation. The United States instigated protection for the domestic lumber industry. But such protection in the form of an import tariff has associated political costs that either are absent or at least can be diminished if the same protection were seen to be the consequence of a trade-restricting policy by a foreign government, in this case, Canada. Hence, if one asks why the U.S. government insisted that the Canadians impose an export tax to replace the U.S. import duty, thereby transferring $220 million of revenue annually to Canada, the answer can only be that the political benefits to the United States of casting Canada as the interventionist government were at least equal to the present value of the revenue stream.

Of course, the ITC's position was that intervention in this case corrected for a market distortion rather than created one. Kalt's econometrics confirm that the assignment of rights to Canadian trees is a story about rents rather than subsidies. Rent-seeking activities of Canadian loggers could have evoked an output response, but Kalt's estimates indicate that the supply of Canadian logs is determined administratively, and thus, from an economic perspective, inelastically with respect to the price of logs. Thus the ITC's reasoning went the wrong way around: the difference between the payments made for logs in Canada and the United States does not affect Canadian output of

logs, but administratively determined Canadian output establishes the value of the residual rents available to the recipients of the rights to fell Canadian trees.

Thus, rents are assigned in Canada via rights to trees, presumably to individuals who are adept rent-seekers. And a restriction of Canadian lumber exports increases the rents available in the U.S. lumber industry. The list of gainers, not taking into account more complex general equilibrium interdependencies, consists of the claimants to rents in the U.S. lumber industry, the Canadian federal government as the recipient of the revenue from the export tax, and Canadian consumers who presumably benefit from lower domestic lumber prices via the output-substitution effect of the export tariff on domestic Canadian producers' market allocation decisions; one must infer that the gainers also include the U.S. government, which initiated the interventionist process in the first place. Missing from this list are U.S. consumers of lumber, whose loss from intervention Kalt quantifies, and the Canadian logging industry.

The absence of the Canadian logging industry from the list of gainers from intervention is somewhat of a puzzle. After all, the Canadian loggers appear sufficiently politically astute and well organized to be the beneficiaries of the substantial rents from below-market-price access to Canadian trees. But enter a new set of actors: the Canadian provincial authorities who assign the right to log and thereby allocate the rents from logging. The Canadian export tax on lumber therefore effected a transfer from the beneficiaries of administrative allocation decisions made by the provinces to the Canadian federal government. The Canadian provinces lost and the Canadian federal government gained via discretionary assignment of rents and revenues.

There is one final step in tracing through the transfer of rents. The Canadian federal government has announced that revenue from the export tax is to be transferred to the provincial authorities, who, we recall, exercise the discretion to determine the assignment of rents from access to trees. Thus, somewhat circuitously, the Canadian provincial authorities have secured a share of the rents accruing from Canadian timber production. Of course, the provincial authorities could directly secure access to these rents if they could directly sell the right to trees. But the right to trees is "given away" at prices below market value. The export tax permits the Canadian provincial authorities to secure natural resource rents that otherwise are allocated via the interaction between provincial officials and loggers.

We have not been told how the Canadian federal government, the Canadian provincial authorities, and Canadian loggers decide on the mechanism for sharing Canadian natural resource timber rents. Nor do we know the sharing rule for the monopoly rents from restriction of Canadian supply. However, the Canadian rent recipients together have

more rents to share subsequent to the intervention, because of the exercise of monopoly power. Taking the Canadian rent recipients into consideration, the list of losers from the United States–Canada lumber intervention reduces to one—domestic U.S. consumers. And this is what the political economy approach to explaining government intervention would predict. The diffused domestic U.S. consumers of the import-competing goods are the source of the rents for the more cohesive U.S. and Canadian industry-specific interests and for the Canadian authorities. "Rational ignorance" or perhaps "rational apathy" of the U.S. consumer facilitates this outcome.

Joseph Kalt is to be complimented for unraveling all of this for us, and for showing us how good applied economic theory and econometrics can be put to use to demonstrate that even though governments may frame their interventionist motives in efficiency terms, considerations of political support and income distribution, and not efficiency, more often explain governments' interventionist decisions. Indeed, in this case, since both governments appear to have gained, Kalt has shown us how international economic policy can well be collusive. The U.S. government can claim that it had no choice but to react to the Canadian "subsidy"; the Canadian federal government can claim that given the options it was presented by the U.S. government, it had no choice but to implement the export tax transferring the revenue to Canada for discretionary spending. And the Canadian provincial authorities, who also appear to be ultimate beneficiaries of the rent transfers, can claim to have been passive agents throughout the entire affair.

Kalt computes estimates of the Harberger efficiency costs of government intervention. But to these costs of intervention one could add the value of the real resources expended in contesting the rents created and assigned at government discretion. Direct computation of the cost of rent-seeking activity is not possible in this instance because we are not in a position to observe the various rent-seeking outlays that have been made. However, we are able to observe the values of the rents assigned and transfers made as the consequence of intervention, and procedures (for example, reviewed in Hillman 1988) can be proposed for inferring the value of the resources expended in a rent-seeking quest from the observed value of the rent being contested. The addition of the real resource cost of rent-seeking activity would result in an increase over the estimates of social loss based on Harberger efficiency costs alone.

Finally, a straightforward application of a basic theorem from the theory of international trade demonstrates a difficulty with the initial basis of the U.S. timber industry's claim of "unfairness" in international trade practices. The U.S. timber industry complained that it was "unfair" that it did not have access to "cheap" Canadian lumber

because of the Canadian government's ban on the export of logs. However, the factor-price equalization theorem suggests that in a free trade equilibrium there would be no difference in price between Canadian and U.S. lumber, notwithstanding the Canadian export ban on logs. Kalt reports labor costs in the Canadian and U.S. timber industries to be more or less the same. Given a common technological coefficient on log/lumber, the price of logs is then equalized internationally if there is free trade in lumber. The complaint of the U.S. timber producers was therefore presumably not that they were denied access in the free trade equilibrium to "cheap" Canadian logs but that they were barred from access to competition for the rents associated with the assignments of rights to Canadian trees. The United States–Canada lumber intervention then proceeded to provide compensating rents for the U.S. domestic industry, and indeed it would appear there are gains all around, except for U.S. consumers.

References

Hillman, A. L. 1988. *The political economy of protection*. In the series, Fundamentals of pure and applied economics. New York: Harwood Academic Publishers.