The Political Economy in Forest Policy-making: Economic Efficiency and Beyond

by

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Abstract

The development of political economy and studies of political economy in forest policy-making are reviewed and a case study of U.S. policy-making in restricting Canadian softwood lumber imports is presented. The analysis presented demonstrates that interest group politics and political contributions have worked in the U.S. political and institutional settings and that the results are an inefficient forest products trade policy. The implications are that policy-making does not exist in isolation of political and social structures, and that the outcomes of theoretical economic models are greatly influenced by these structures. Forest economists and forest managers can better explain, anticipate, and predict the outcomes of various forest policy developments with a better understanding of political economy.

Introduction

We forest economists have traditionally been concerned with the economic efficiency
and distribution of income associated with the allocation of resources in forest production and
conservation, forest products manufacturing, and forest products marketing. Our works are
concentrated in the areas of land use, multiple benefits, the valuation of non-market goods and
services, optimal rotation age, silvicultural investment, landowner behavior, harvesting
regulation and community stability, forest products trade, and forest-based industrialization.
When dealing with forest policy, we often provide *analysis of policy* for public policy-makers
and the public. Sometimes we use the results of our analysis to recommend and even advocate
certain policy choices, and thereby provide certain elements of *analysis for policy*. With a few
exceptions, we as group have not paid much attention to the details of the policy-making process
("politics") and institutional contexts ("polity"), and have thus largely ignored the political forces
that affect the choice of policies.

Nonetheless, the forest economics literature has recently started to expand beyond the
analysis of policy and into the political economy of forest policy and policy-making under
various institutional settings. This expansion has enhanced our understanding of the political and
institutional dimensions of forest policy and our collective professional contribution to society.
In this paper, I review the recent development of forest economics literature in the areas of
political economy and explore some frontiers in forest economics research. I draw attention to
the fact that forest economics and forest policy development do not exist in isolation of political
and social structures, and the outcomes of theoretical economic and policy development models
are greatly influenced by these structures. Forest economists and managers can better explain,
anticipate, and react to various forest policy developments if they understand and appreciate the

political and institutional structures under which forest policies are developed and political economy.

The next section provides a broad review of political economy, followed by a summary of recent studies in political economy of forest policies. Section 4 presents a case study on political maneuvers behind one of the most important forest policy issues in North America—the three decade-long U.S. restriction of Canadian softwood lumber imports—and highlights how interest groups use political campaign contributions to influence U.S. policy-makers. The final section concludes and identifies some areas for further research.

2. Political Economy

Political economy was developed in the 18th century as the study of the economics of the states, or polities. It was a term similar to economics we use today, covering the study of production, exchange, and consumption, and their relation with law, custom, and government, as well as the distribution of national income and wealth. Later, and perhaps because of the publication of Alfred Marshall's influential *Principles of Economics* in 1890, a shorter and more encompassing term, "economics" came to replace political economy.

Today, political economy may refer to many different things, including Marxian analysis of classes and class struggles and the public choice school of Buchanan, Tullock, and others that use economics to study politics, political process, and institutions. In this paper, I use the term political economy more closely to that used by scholars in the public choice school, which is the study and use of economic theory and methods in politics and political process. Here I focus on

policy-making, that is, how public policies are created and implemented and what the consequences are under certain institutional, social, and economic systems.[1]

Public policy-making may be explained by various theories. One of such theories is the public interest theory in which a democratically elected government serves as a representative and responsive agent and makes policy and decisions for the public. This is the ideal of "a government from the people and for the people." Thus, social planners in a representative government maximize the utility of a representative individual or the public as a whole. This public interest theory predicts efficient and effective government economic policies. Elected representatives, other politicians, and government agencies are assumed to be solely working for the interests of the general public and intending to maximize social welfare, public health, and social order. Thus, politicians and government agencies are benevolent guardians of public interest, hampered perhaps only by innocent ignorance as they search for the best policies.

However, experiences in various countries have often contradicted this theory. At the minimum, it is increasingly difficult to fit all of the complexities and varieties of experiences into this traditional representative agent model of government in economic policy-making. An alternative, the interest group theory, developed by economists in the public choice school, can better explain the continuing existence of bad economic policies.

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[1] One may argue that political economy is the interplay between economics, law and politics, and thus can also analyze how institutions develop in different social and economic systems. I view that how institutions develop is the subject of institutional economics. In any event, I am more interested in analyzing and explaining the ways in which governments affect the allocation of scarce resources in society through their laws and policies and the ways in which the nature of the economic system and the behaviour of people acting on their economic interests affect the form of government and the kinds of laws and policies that get made.

The interest group theory starts with the assumption that policy-makers are self-interest agents and seeks to explore how political forces affect the choice of policy by paying special attention to distributional conflicts and political institutions, which are absent in the public interest theory. In particular, Buchanan, Tullock, along with Hayek, have made contributions in constitutional theory and in modeling politicians as self-interest agents. Stigler (1971) and Peltzman (1976, 1984) further develop the theory of economic regulations. Backer (1983) posits the model of lobbies, and Nordhaus (1989) contributes to the political business cycle model.

As politicians are modeled as self-interest agents, their individual and collective decisions are based on the availability of government-produced scarcity rents and their ability to maximize their benefits they may receive for producing these rents (Stigler 1971; Peltzman 1976; Becker 1983; Zusman 1976). Rents are broadly defined and cover financial, political, or other personal gains. Because of self-interests, these politicians are subject to the influence of, and even captured by, special interest groups. In this case, special interest groups are the demander for, and the politicians are the supplier of, certain policies.

Stigler (1971) and Peltzman (1976, 1984) are among the first group of economists who posit full rationality and self-interest for all policy participants, including elected officials, bureaucrats, and private individuals and firms. They argue that all policy participants use the political process to seek wealth transfers and political and economic rents. In this model, policy analysis alone in the sense of Pareto efficiency would not be sufficient, since information on the size and distribution of economic impacts caused by a policy alone may explain the behavior of policy participants, but does not suggest how to change it.

Olson (1965, 1982) looks into the demand side for public policy and provides insights on how interest groups emerge, evolve, and function. He starts with the "logic of collective action,"

in which "free-rider" problems prevent the effective collusion of a large number of small losers or gainers. He then provides various hypotheses as to which pressure groups emerge and which groups are more effective. He points out that the characteristics of an industry that can organize itself and get its interests effectively represented include geographic, product, or market concentration.

Olson's model posits that economically inefficient outcomes arise because of free-rider problems. For example, it is rational for individuals not to join groups interested in consumer welfare, defined broadly, because the benefits to them are independent of their own activities. In other words, the cost of getting these individuals organized is prohibitively high, and consequently the demand for consumer welfare is diluted. On the other hand, industrial firms, even though they may be few in number, could be well organized if they are concentrated geographically, or in the products they make, or the inputs they need. When these firms focus on a single issue or issues that could bring them large benefits by imposing a small per capita cost on a large number of consumers, they as an interest group are more likely to successfully lobby elected officials and bureaucrats. Thus, issue-specific political participation is effectively precluded for large groups of small potential gainers or losers to represent their interests because high transaction costs prohibit them from becoming well organized.

This type of collective action problem has long been recognized by political economists. Pareto (1927) writes in reference to restriction measures in international trade, "A protectionist measure provides large benefits to a small number of people, and causes a very great number of consumers a slight loss. This circumstance makes it easier to put a protection measure in practice." Schattschneider (1935) puts it succinctly, "[b]enefits are concentrated while costs are

dispersed." Many other economic policies are made because of this asymmetry in per-capita gain and loss between interest groups and the public.

As demanders for certain economic policies, interest groups often enter the political market by helping political candidates who share their views get elected and re-elected and continue to support them while they are in public offices. In this political market, the interaction between suppliers and demanders of economic policies are in the form of lobbying, pressure, political action, campaign contribution, legislation, and administrative actions.

Politicians, on the other hand, make policy decisions based on their self-interests and their assessments of the benefits and costs of responding to the demand from various interest groups (or lack thereof). These politicians can be viewed as agents or brokers because the real suppliers of policies are the individuals and groups that do not find it worthwhile to get politically organized and to effectively resist having their wealth taken away. Becker (1983) looks into the interplay of the competing political interest groups and politicians who rationally choose (that is, supply) policies in response to the competing interest group pressures to secure their rents. With competition among groups and the assumption that anything that benefits one group must either be financed directly through a tax or indirectly by charging higher prices to another group (including deadweight losses), Becker (1983) argues that resources are allocated through the political process to maximize the benefits (which are negative for the losing group) each group expects to receive.

Once in office, legislators and other politicians may engage in "logrolling." Such vote trading by legislators is usually done to gain sufficient support for a particular piece of legislation that benefits their electoral districts. Logrolling, which results in the redistribution of income toward certain regions and industries, generally does not lead to a more productive

economy. Rather, it leads to unnecessary and costly public works projects and legislation that protects an inefficient domestic industry in certain districts.

This political logic is applicable to politicians in various political systems. In the U.S., it not only applies to individual members of Congress, but also to the presidents, even though U.S. presidents supposedly have a much broader constituency than individual members of Congress and would have less interest in favoring particular regions or industries. Firstly, these who help a presidential candidate get elected want and expect to get compensated in some forms from the president. Further, the U.S. Constitution based on the separation of powers doctrine limits presidential power. For example, Congress can greatly influence the president's trade policy, and U.S. trade remedies can be best understood by keeping clearly in mind the cooperation and tension between Congress and the executive branch over trade power. The president needs to act for the general good without offending certain congressional coalitions. On trade matters, this means that sometimes he must exercise his discretion for reasons not entirely related to the merits of a specific trade case. Often this give-and-take between the president and Congress in policy matters limits the options available for the president even if he wants to serve the public at large.

3. Studies of Political Economy in Forest Policy-making

Forest policy is a study of forest participants, forest policy-making process, and actual forest policy programs. The latter, including, laws and regulations, taxation, subsidies, public ownership of forest resources, technical assistance, and landowner education, is sometimes labeled as forest policy. All policy programs made through a political process create winners and losers. In this section, I look at a few studies of forest policy-making in North America and elsewhere.

Some of the earlier leaders in the forestry profession in North America, notably Gifford Pinchot, were skilled politicians. Yet, even though some studies on various forest policies have noted the key players and their motivations, they are often chronological and descriptive in nature. Further, as noted earlier, most economic studies of forest policy are analysis of policy (looking into the impacts of the policy programs) rather than analysis for policy.

Other than policy spillovers from macroeconomic policies and other sectors such as globalization, collapse of the housing markets, and global financial crises, there are two significant policy developments in the forest sector in North America in the last three decades. One is the listing of the Northern Spotted Owl as a threatened species in 1989 (which affords it to the same level of protection as an endangered species under the Endangered Species Act) in the U.S. This development has resulted in some 80% reduction in public timber sales in the U.S. Pacific Northwest, a major timber producing region in the country, and contributed to a high level of prices for timber as well as increased imports of forest products in much of the 1990s and 2000s. This policy development is often viewed as a battle between the environmental groups and forest industry. The environmental groups won the battle by cleverly using the U.S judicial system to force the U.S. Administration to comply with one of its environmental laws (the Endangered Species Act), much to the dismay of the forest industry. The involvement of forest economists in this case includes calculating the opportunity costs of preserving biodiversity (with the Spotted Owl as an indicator species) (e.g., Montgomery et al. 1994), evaluating various options (FEMAT 1993), and analyzing public timber harvesting policies on private forest management (e.g., Adams et al. 1996) and on timber-dependent communities (Burton and Berck 1996).

The other development is the U.S.-Canada softwood lumber trade dispute. Officially started in 1982 and still on going, it has been the longest and largest trade dispute between the two countries and largest trade dispute in forest products trade between any two countries. In the 1990s and 2000s, the dispute impacted some $5-7 billion softwood lumber exports from Canada to the U.S. per year. The involvement of forest economists in this case has expanded beyond the general market impacts of the trade remedies, which unequivocally show that free trade benefits the U.S. as a whole (e.g., Wear and Lee, 1993, Zhang 2001, 2006), and into much of its political economy. In particular, Fox (1991) provides a chronology, and Anderson and Cains (1988) and Kalt (1988) focus on the politics and economics of the early rounds of the dispute. Zhang and Laband (2005) look into two key events when a majority of U.S. Senators wrote letters, demanding the U.S. Administration to impose restrictions on Canadian lumber imports. They find that the signatures (or lack thereof) on these letters from U.S. Senators are highly correlated with the relative importance of the forest industry and housing industry in their states as well as some aspects of logrolling. Zhang (2007) integrates the most relevant work from multiple disciplines and explains the political economy of all forest products trade (including lumber, shake and shingle, and newsprint) between the two countries. By looking into the causes, participants and their motivations, processes, legal and institutional frameworks, and outcomes as well as analyses at various stages, Zhang (2007) tells a multifaceted story and suggests possible solutions to the dispute. I shall turn to the most recent works on the political economy of this dispute in next section.

Coincidentally, I have developed a graduate-level forest policy course since 1995 that covers 4 Ps—the subject of policy (*property rights*, as I view all policy programs seeking to define or modify property rights), policy *participants*, policy *process*, and policy *programs*.

Attentions have been paid to the theories and process of public policy formation as well as analysis of and for policy. A few students who took this course have since applied these theories to relevant forest policies and policy-making process. For example, Mehmood and Zhang (2001, 2002) study the Endangered Species Act amendments and the enactment of subsidies to state-level forest landowners and reveal that special interest group theory applies to both cases. Sun (2006a, 2006b) looks into the federal Healthy Forests Restoration Act and state prescribed fire liability laws in the U.S. and draw similar conclusions.

A few other students have followed Zhang and Laband (2005) and started to look into to the production process of non-voting legislative events such as speeches, letters, resolutions, and co-sponsorship of bills. Since most congressional bills are not voted on and never become laws, their production process is much understudied. Tanger and Laband (2010) find that the co-sponsorship of the federal TREE Act which benefits corporate forest landowners is highly related to the campaign contributions by forest corporations in the current legislative session. Zhang, Tanger, and Godwin (2011) take one step further and find a correlation between campaign contributions in previous legislative session and the co-sponsorship of the TREE Act. This confirms that interest groups make campaign contributions and help those share their perspectives to get elected. Further, Zhang, Tanger, and Godwin (2011) relate the timing of campaign contributions in the current session with co-sponsorship of the TREE Act. This is important because the interest groups (in our case, corporate forest landowners) cannot get all of their favored candidates elected, and they need other legislators to support their cases by strategically allocating campaign contributions to them right around the time when they are going to or have just signed on to the bills that these corporations want. By strategically allocating campaign contributions to these (core and other) legislators around the time these

legislators make an action, the interest groups are able to exert more political influences than they otherwise would have with a limited budget.

Outside North America, there are a few studies on the political economy of global forest policies, mostly by political scientists and scholars in international relations (e.g., Cashore et al. 2004). Forest economists have looked into the causes of tropical deforestation, forest-based economic development, trade, and the role of forests in protecting global environmental goods such as climate mitigation and biodiversity.

Global forest policies focus on the allocation of global forest resources in economic development and environmental protection. Based on per capita income as an indicator of economic development and per capita forest cover as an indicator of forest endowments, Maini (2003) proposes the four clusters of nations regarding their primary concerns of global forest management and the possible reasons that drive these concerns. The forest-rich developing countries, such as Brazil and Indonesia, view forests as an important instrument for economic development. The forest-rich industrialized countries, such as Canada and Finland, often have the capacity and political support to pursue sustainable development. Forest-poor developing countries such as India, Kenya, and the Philippines, often use forest for subsistence. Finally, forest-poor developed countries such as Denmark, the Netherlands, and the United Kingdoms, rely on forest-rich countries to meet their high demand for forest products and services and often place a higher value on the environmental aspects of forests than developing counties. This simple clustering of countries (Figure 1) may help explain why these countries have taken different positions in the international dialogue on forests and their attitudes on various international forest programs and proposals. Humphreys (1996) and Maini (2003) document

these dialogue and international programs such as Tropical Forest Action Plan and the Intergovernmental Panel (Forum) on Forests (IPF/IFF).

In addition to government-to-government initiatives and dialogues, environmental groups proposed, in the early 1990s, a forest certification program that includes forest management certification, chain-of-custody certification, and ecolabeling. These groups, as participants of global forestry policies, were not satisfied with the slow pace in the government-to-government cooperation towards global forest conservation and sustainable development in the later 1980s. Subsequently they developed a Forest Stewardship Council forest certification program. This move challenges the traditional government rule-making authorities (Humphreys 1996) and has since forced forest industry and landowners in various countries to develop their own forest certification programs. Cashore, Auld, and Newsome (2004) compare the politics of forest certification in five countries and reflect on why there are differences regionally, and assess the ability of private forest certification to address global forest deterioration.

The development of forest certification is based on the notion that, given a choice, consumers would prefer or pay more for eco-labeled forest products. If either were true, then forest industry firms would have a market-based incentive for independently verified, good forest management. Forest economists have initially looked at the willingness-to-pay and actual behaviour of consumers towards certified forest products (e.g., Smith 1999, Anderson and Hansen 2004, Anderson et al. 2005) and the cost of implementing various certification programs on private and public forest lands (e.g., Brown and Zhang 2004).

4. Money Matters: The U.S. Policy-making in Restricting Canadian Softwood Lumber Imports

In this section I present a case study of U.S. policy-making process in the U.S.-Canada softwood lumber dispute. It is based on Zhang (2007) and a recent study by Godwin and Zhang

(2011). The latter looks into all identifiable legislative actions in U.S. Senate in a 6-year period from 2001 to 2006 in the U.S.-Canada softwood lumber dispute. I note the political and institutional settings and highlight the role of political campaign contributions from interest groups in the U.S. policy-making of restricting Canadian softwood lumber imports.

The U.S.-Canada softwood lumber trade dispute started around 1980 when some U.S. producers saw that Canadian producers increased their share in U.S. markets. They alleged that Canadian lumber producers were subsidized by their federal and provincial governments, mostly through a low stumpage payment on public timber. Since then, there have been four rounds of trade dispute. Other than two short free trade periods between 1982 and 1986 and between 1994 and 1995, some forms of trade restrictions have existed for the last 30 years. The last restrictive trade agreement (the Softwood Lumber Agreement of 2006) does not expire until 2013 and has an option to extend another two years. U.S. producers were estimated to have gained US $3-5 billion (in 2000 constant dollars) each in economic rents as the result of the restriction measures between 1987 and 1991 (Wear and Lee 1993) and between 1996 and 2001 (Zhang 2001, 2006).

The major interest groups in the dispute are U.S. lumber producers (including timber producers), U.S. consumers (home builders and home buyers), and Canadian producers. U.S. producers want to restrict Canadian lumber thereby raising domestic lumber prices and their level of production and profits. U.S. consumers want affordable lumber for home building. Canadian producers prefer free trade and open access to the U.S. market. As Canadian producers cannot directly participate in the U.S. political market, they rely on U.S. consumer groups who have similar interests to influence the U.S. government. U.S. consumers, however, are at a disadvantage to U.S. producers, because under U.S. trade law they do not have a standing in the dispute and cannot participate in the negotiations and legal battles, even though they eventually

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pay most of the costs associated with any tariff or other restrictive measures on Canadian lumber imports. They do, as a competing interest group of the U.S. lumber industry, lobby U.S. Congress and Administration.

With a negative determination from the U.S. Department of Commerce in 1983, U.S. producers lost the first round of the fight. Shortly after that, U.S. producers re-organized and regrouped. They intensified their lobbying efforts to U.S. lawmakers who then turned up the heat on the Administration and Canadians in 1985 and 1986. They eventually won the second round of the war by securing a Memorandum of Understanding in 1986 that applied an export-tax on Canadian lumber, even though President Reagan was pro-free trade and intended to have a comprehensive free trade agreement with Canada.

The very first sign that U.S. producers lobbying worked was when U.S. Senators in the Finance Committee refused to grant a "fast track" authority to President Ronald Reagan to negotiate the free trade agreement with Canada.[2] Under pressure, the Reagan Administration promised to "get timber fixed" (Zhang 2007). It was on this promise that President Reagan's request for the fast track authority was not denied by a 10-10 vote in the Finance Committee. Since then, the U.S. timber industry has continued to secure support from a group of U.S. senators and the Administration.

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[2] The president needed the support of the Senate Finance Committee before the start of the free trade talks. Since Congress has jurisdiction over trade and commerce, the president cannot rely upon his inherent foreign relations power to negotiate an international trade agreement and ensure that it will be faithfully implemented by the Congress. So when the free trade negotiation process started, President Reagan made it clear to the Congress that he wanted a "fast track" negotiating authority, under which the Congress would not be allowed to offer amendments before voting to ratify the resulting agreement. If the request for a fast-track authority was approved by the committees of jurisdiction (the House Ways and Means Committee, which did not act on this request, and the Senate Finance Committee), the president could proceed with negotiations and the resulting agreement would then be put to the Congress for approval, which requires a simple majority.

So when the Softwood Lumber Agreement of 1996 signed by the two countries were set

to expire in March 2001, U.S. lawmakers began to write letters, make speeches, and introduce

bills and resolutions to influence the course of actions in the negotiations and legal processes

surrounding this dispute. These activities went on during the whole period of the 2001-2006 (4th)

round of the softwood trade dispute. Because this round of the dispute was a continuation of the

longer trade war, American lumber producers had already capitalized the economic rents of the

trade restrictions into their businesses. This gives legislators some power in extracting rents,

since businesses have grown to expect the additional income from the trade protection

(McChesney 1987). This is another possible explanation why legislators try signaling their

willingness to protect the lumber industry's economic rents.

In any event, all forms of legislative actions can be studied qualitatively and

quantitatively by looking at the demand-side and supply-side factors of these actions. Godwin

and Zhang (2011) look into 14 known pro-lumber restriction activities between 2001 and 2006.

These activities varied, but fell into three broad categories: sponsorship or co-sponsorship of

legislation, endorsement of letters sent to the Administration supporting the continued restriction

of Canadian lumber, and hearings and statements made on the Senate floor. They find that the

importance of the wood products manufacturing industry in a state, campaign contributions from

both forest and housing industries, logrolling, and ideology played a significant role in senators

deciding whether or not to signal their support through these activities.

Table 1 presents their Tobit regression results. The dependent variable is the 14 events

and is truncated at 0. The independent variables include the supply (such as a legislator's

ideology and voting record) and demand (such as the importance of forest industry and campaign

contributions from interest groups) sides for legislative actions. As expected, the amount of

campaign contributions that a senator receives from the forest industry had a positive impact while the amount of campaign contributions from the home building industry had a negative impact. More interesting, however, is that the coefficients (0.0335 vs. -0.0291) are nearly identical in magnitude but in opposite signs. This indicates that the amount and the source of campaign contributions are related to the willingness of senators to exercise political pressure and the type of actions that they take. Thus, all else being equal, a $30,000 contribution from the forest industry would likely to capture a senator by enticing him or her to participate in at least 1 pro-trade restriction event (30*0.0335=1) against Canadian lumber imports while an roughly equivalent amount of contribution from the housing industry would nullify this effect. Money apparently influenced the U.S. political decisions in the softwood lumber dispute.

The regression results also show that the importance of the forest industry, voting records (opposite to subsidies), and logrolling (as states bordering with Canada are more likely to produce similar products to Canadian provinces and thus senators from these states could support each other in various disputes with Canada) affect senators' actions. On the other hand, party affiliation, membership in the Finance Committee, and opposite to tariffs are not significant, although trade restrictions here mean actual subsidies.

Here I present five pieces of legislations—three pro-trade restriction, and two pro-free trade—and show graphically how money influences the senators' signatures on them. A senator receives a +1 for each piece of three pro-trade restriction legislations supported (Sen. Con. Res. 8: 2001; S.219: 2003; S.2992: 2004) and a -1 for each of two pro-free trade legislations (Sen. Con. Res 4: 2001; Sen. Con. Res 135: 2002). Figure 2 shows the relative importance of forest industry vs. housing industry in a state economy and its impact on a senator's signature on these legislations. The horizontal axis is simply an approximation of the ratio of forest industry's

contribution to gross state product and housing industry's contribution to gross state product, which is positively related to the signature on the pro-trade restriction legislations (and negatively to the pro-free trade legislations). This positive relationship, however, is a bit fuzzy and casts some doubts about the relationship between the relative importance of forest industry vs. housing industry and legislative actions.

When I replace the X-axis with difference in campaign contribution (Figure 3 where contribution from forest industry is positive and that from the housing industry is negative) or ratio of campaign contribution ((contribution from forest industry – contribution from housing industry)/(contribution from housing industry + contribution from forest industry)) from the two U.S. industries (Figure 4), this positive relationship becomes much clearer. The more the campaign contribution is from the forest industry, the more likely a senator would sign on one or more of the pro-trade restriction bills and resolutions. On the other hand, the more the campaign contribution is from the housing industry, the more likely a senator would sign on the pro-free trade bills. This relationship exists irrespective of the senators' party affiliation, which is an approximate for ideology. This result is supported by the Tobit regression results noted earlier.

Interestingly, the numbers of senators that have not supported either pro- or anti-trade restriction legislative events are quite large, and most of these senators do receive some campaign contribution from either or both industries. There are at least three explanations to this phenomenon. First, interest groups may make contributions to these senators for legislations other than softwood lumber trade. Second, interest groups may compete for political favour by making contribution to the same senators. These groups may want to hedge their bets and at least try to prevent these senators from going to the opposite side of their position. Finally, these

senators may have played their cards well and have appealed both interest groups on this and other issues.

Nonetheless, it is clear that money indeed matters in this case, and it perhaps matters more than the relative importance of an industry vs. its competing industry. In fact, Figure 2, 3, and 4 show that the relative importance of an industry (forestry vs. housing) in the state economy is not as a big factor in the decision making of senators as the political contributions from the industry. A small industry may gain more legislative supports than a bigger, competing industry if it raises enough political contributions and allocates them wisely to legislators.

These results support the interest group theory. The amount and sources of campaign contributions received are indicative of where a U.S. Senator stands and what he/she will do in the dispute. The policy reference is that U.S. policy-making follows money, and thus free trade in softwood lumber or any other goods and services could be greatly enhanced when the money trail is broken or restrained. Despite the overwhelming theoretical and empirical supports that show free trade in softwood lumber and other goods is economically beneficial to the U.S. as a whole, trade restrictions still happened and will exist in some forms and fashion for a long time because institutional setting and political system in the U.S. only change slowly. More broadly, we will continue to see various forest or other public policies that are either designed for, or influenced by, special interest groups that can make more political contributions than the opposing interest groups.

5. Summary and Further Studies

Forest economists have started to look more at the political economy in forest policy-making. I have shown that the political process and institutional settings affect the outcomes of the long-lasting U.S.-Canada softwood lumber dispute. In this case, the demand for re-

distribution of income has overwhelmed the considerations for economic efficiency, and political campaign contributions are more important than the size of the competing industries. The interest group of forest industry demands for such re-distribution and has skillfully utilized the political and institutional arrangements to its advantages. It has aligned itself with, and financially supported, a few key senators, and has outcompeted the often larger housing industry to get what it wanted—the restriction of Canadian lumber imports.

Had we only looked at the economic efficiency aspect in this case, we would have been frustrated with an apparent paradox in this case—economic efficiency calling for free trade and the reality being persistent trade restriction. Further, by looking at the political process in the institutional setting, we find that money (political campaign contributions) is the "evil" and that the access of people with money to politicians needs to be curbed before things can get better.

The implications are that economic decision-making does not exist in isolation of political and social structures, and that the outcomes of theoretical economic models are greatly influenced by these structures. Thus, forest economists and forest managers can better explain, anticipate, and predict the outcomes of various forest policy developments with a better understanding and appreciation of the political and institutional structures under which forest policies are developed and political economy.

I call for more political economy studies in forest policy-making. These studies should go beyond economic efficiency and explore the political and institutional dimensions of forest policy in various countries and international arena. They can be done in traditional forest policy programs such as regulations, taxes, subsidies as well as emerging market-based instruments such as forest certification schemes, tradable emission permits, conservation easements, and Safe Harbor Program for endangered species. These studies can help understand why some policy

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programs work well and others do not in a jurisdiction and why similar programs have produced different results in different jurisdictions. They can also help the design, implementation and evaluation of various policies. For example, the cap-and-trade programs such as Acid Rain program implemented in the Great Lakes Regions of the U.S. and Canada and the NO_x Budget Trading Program in the US Northeast worked relatively well. So are the wetland mitigation banking and Safe Harbor Program in endangered species in the U.S. Yet the U.S. does not have a good program to reduce CO_2 emissions to combat climate change. Similarly, paying for ecosystem services has been implemented and works well in Costa Rica, but not other developing countries.

Further studies can also be applied to the responses of global forest sector to protect global commons, including climate mitigation, biodiversity conservation, the promotion of woody-based biomass production, and REDD+ (Reducing Emissions from Deforestation and Forest Degradation and the Role of Conservation, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks in Developing Countries) that is aimed at generating the requisite transfer flow of resources to significantly reduce global CO_2 emissions from deforestation and forest degradation. Exploring the political and institutional dimensions of these economic and policy issues will generate new insights into their design and performance and help expand coverage and contribution of the forest economics profession.

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Table 1. Tobit Regression results of factors influencing 14 pro-trade restriction activities in U.S. Senate from 2001 to 2006

Variable	Coefficient
Importance of Forest Industry (% of forest industry's contribution to state gross product)	0.9946*** (0.3310)
Total Forest Industry Campaign Contributions (in $1,000)	0.0335*** (0.0093)
Total Housing Industry Campaign Contributions (in $1,000)	-0.0291** (0.0134)
Opposition to Subsidies (1 for opposing trade barriers if a senator voted for subsidy bills at least 50 percent of the time over his/her career, and 0 otherwise	-2.5413*** (0.7771)
Opposition to Tariffs (1 for opposing trade barriers if one voted against trade barriers at least 50 percent of the time over his/her career, and 0 otherwise)	0.0324 (0.6525)
Finance Committee Membership (1 if a committee member, 0 otherwise)	0.8578 (0.6057)
Party (1 if Republican, 0 otherwise)	-0.0824 (0.6597)
Border (1 if a senator's state shares a border with Canada, 0 otherwise)	1.0250* (0.6183)
Constant	-0.6438 (0.6743)
Log Likelihood	-166.4924
AIC	3.190
Mckelvey & Zavoina's R^2	0.478
No. of observations	111

t, *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively. Numbers in parenthesis are standard deviation.

Note: The dependent variable is the number of pro-trade restriction events a senator participated in this period and ranges from 0 to 14. Since the dependent variable is truncated at 0, a Tobit regression is used.

Source: Godwin and Zhang (2011).

Figure 1. The influence of per capita income and per capita forest cover on areas of priority concern in different countries

Netherlands Denmark Germany Japan UK "Forest Environment"	Canada Finland Norway Sweden USA "Sustainable development"
China India Kenya Somalia Philippines "Subsistence"	Brazil Gabon Indonesia Malaysia PNG "Economic Development"

Source: Maini (2003)

Figure 2. The relative importance of forest industry and housing industry in a state and the co-sponsorship of pro-trade restriction bills (+ in Y-axis) and pro-free trade bills (- in Y-axis) from the U.S. Senators related to Canadian softwood lumber imports

Industry GDP Ratio
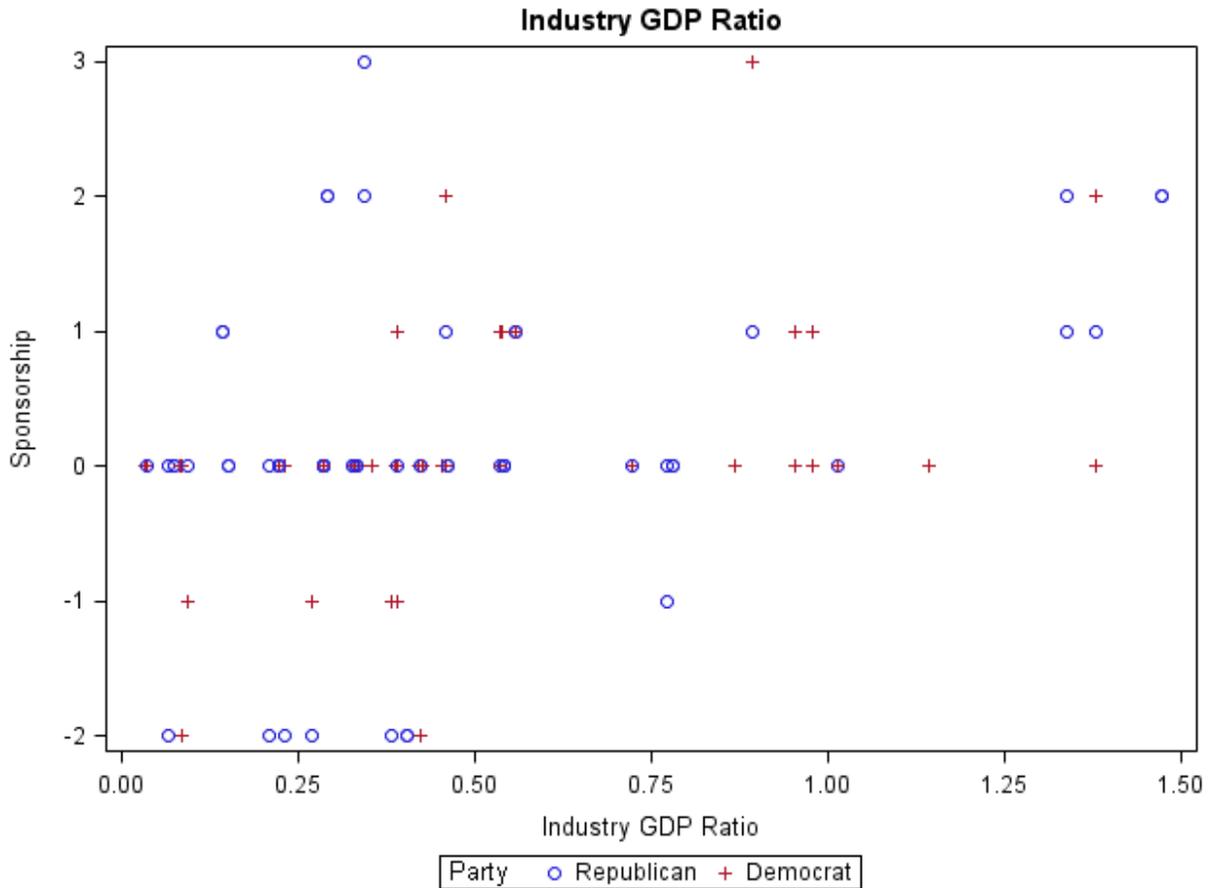
Note: The Y-axis is a measure of how many times a U.S. Senator sponsored legislation concerning Canadian softwood lumber imports. A Senator receives a +1 for each piece of pro-softwood lumber trade restriction legislation sponsored (Sen. Con. Res. 8: 2001; S.219: 2003; S.2992: 2004) and a -1 for each anti-softwood lumber trade restriction legislation sponsored (Sen. Con. Res 4: 2001; Sen. Con. Res 135: 2002). The X-axis is a ratio of the forest industry's (sum wood manufacturing industry, the paper industry, and 50% of the Forestry, Fisheries and related activities) contribution to gross state product for 2004 over the value of new housing as a percent of the gross state product for 2004.

Figure 3. Political campiagn contributions received by U.S. Senators and their co-sponsorship of pro-trade restriction bills (+ in Y-axis) and pro-free trade bills (- in Y-axis) related to Canadian softwood lumber imports
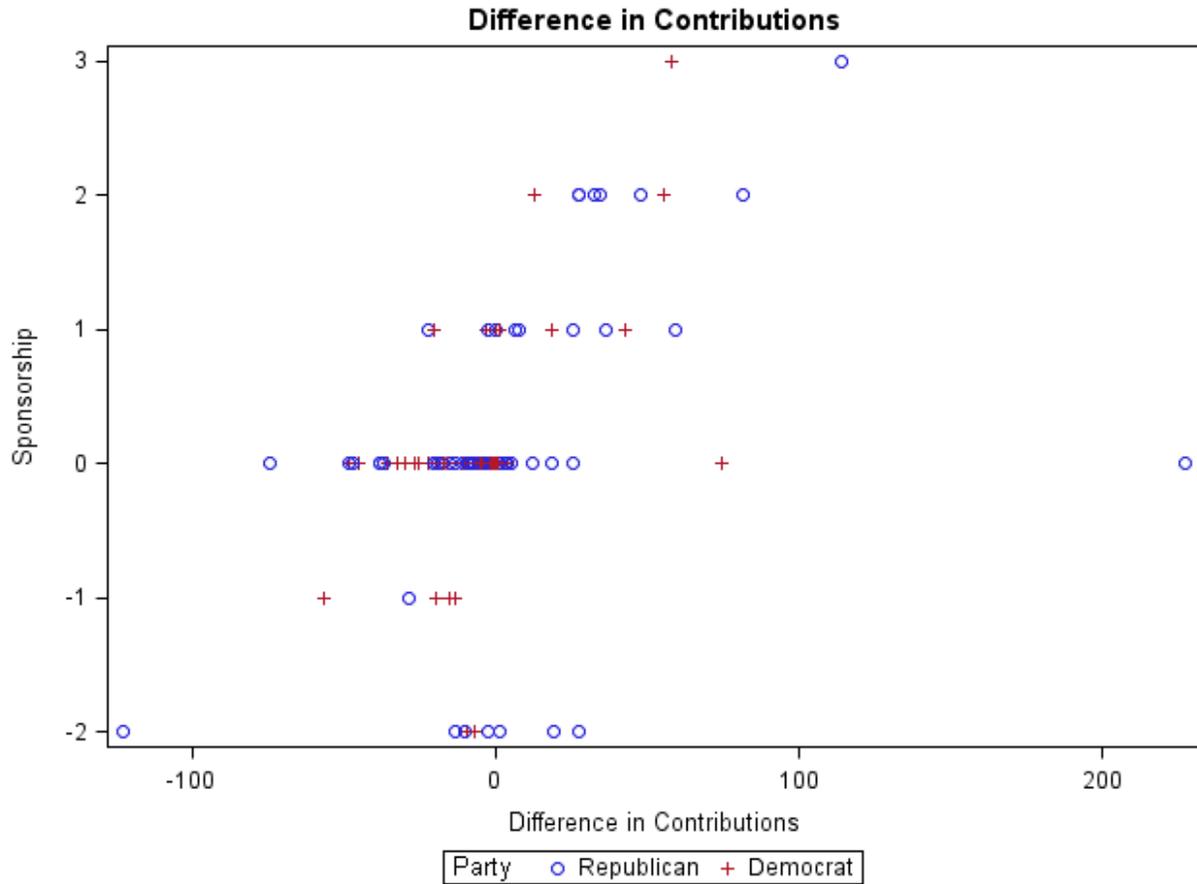

Note: The X-axis is the difference in the total contribution received from the forest industry and housing industry in $1,000. The contributions represent the total real amount for the 2000 through 2006 election cycles, using 2000 as the base year for inflation indexing purposes.

Figure 4. Ratio of political campiagn contributions received by U.S. Senators from forest industry and housing industry and their co-sponsorship of pro-trade restriction bills (+ in Y-axis) and pro-free trade bills (- in Y-axis) related to Canadian softwood lumber imports
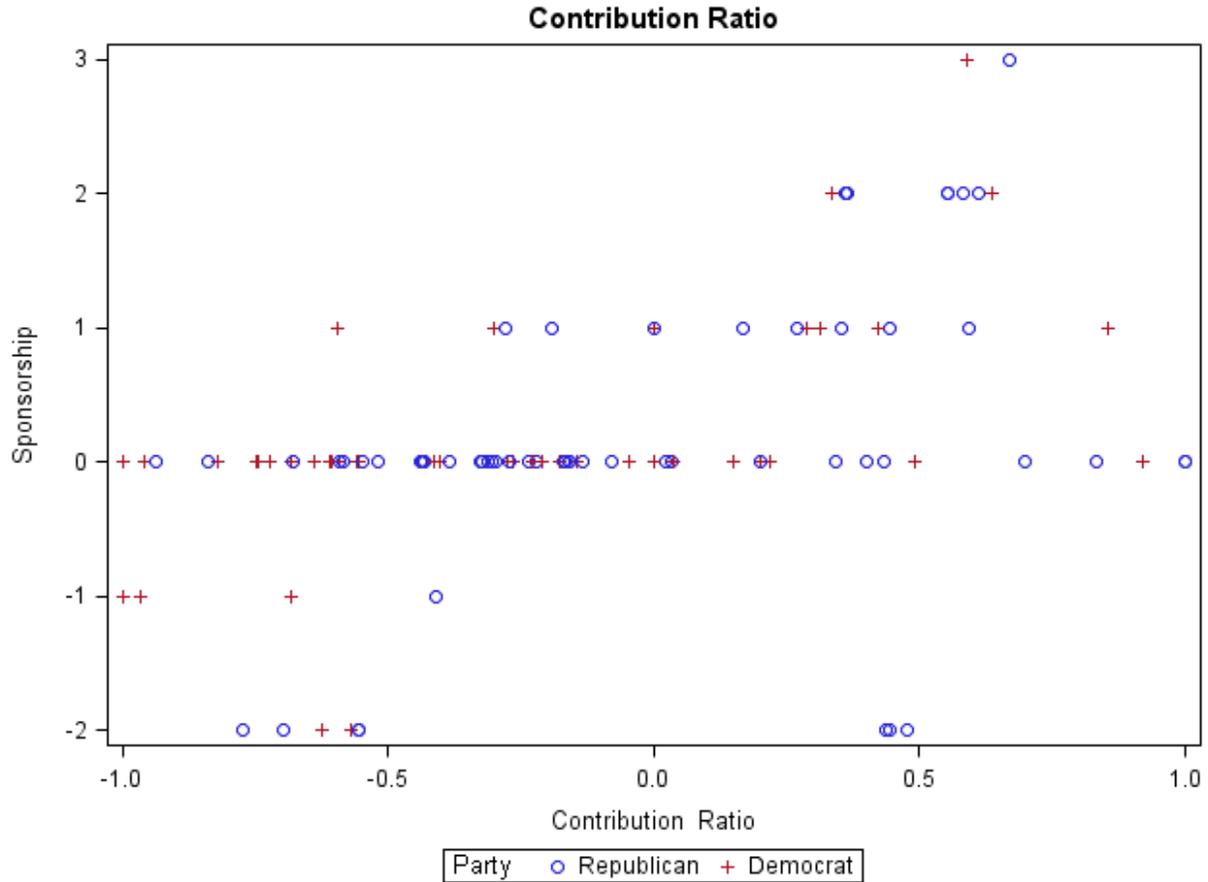

Note: The X-axis is a ratio of the difference in the total contribution received from the housing industry and forest industry over the total contribution received from the housing industry and forest industry. The contributions represent the total real amount for the 2000 through 2006 election cycles, using 2000 as the base year for inflation indexing purposes.