International Agricultural Trade
Research Consortium

NATIONAL ADMINISTERED PROTECTION AGENCIES: THEIR ROLE IN THE POST-URUGUAY ROUND WORLD

by

Karl D. Meilke & Rakhal Sarker*

Working Paper # 96-1

The International Agricultural Trade Research Consortium is an informal association of University and Government economists interested in agricultural trade. Its purpose is to foster interaction, improve research capacity and to focus on relevant trade policy issues. It is financed by United States Department of Agriculture (ERS, FAS, and CSREES), Agriculture and Agri-Food Canada and the participating institutions.

The IATRC Working Paper series provides members an opportunity to circulate their work at the advanced draft stage through limited distribution within the research and analysis community. The IATRC takes no political positions or responsibility for the accuracy of the data or validity of the conclusions presented by working paper authors. Further, policy recommendations and opinions expressed by the authors do not necessarily reflect those of the IATRC or its funding agencies.

This paper should not be quoted without the author(s) permission.

* K. Meilke is a Professor and R. Sarker a Research Associate at the University of Guelph.

This paper was presented at the 1995 IATRC's annual meeting theme day, "Understanding Administered Barriers to Trade," Tucson, Arizona, December 14-16, 1995.

Financial support for this project was provided by the Ontario Ministry of Agriculture and Rural Affairs and the Social Science and Humanities Research Council.

Correspondence or requests for additional copies of this paper should be addressed to:

Dr. Karl Meilke
Department of Agricultural Economics and Business
University of Guelph
Guelph, Ontario N1J 1S1
Canada

January 1996

ABSTRACT

This paper reviews the role of national administered protection agencies, whose responsibility is the enforcement of national trade remedy laws. After reviewing four recent trade remedy cases we argue that the role of the national administered protection agencies should be changed. Given the additional responsibilities the WTO has assumed in administering the Agreement on Agriculture, the growth of regional integration agreements and the increasing use of anti-dumping and countervailing duty actions against fairly traded imports, we argue that all trade actions should be taken to the WTO for settlement. The role of the national administered protection agencies should be changed to make them agents for trade liberalization. This would involve them taking on three primary functions: 1) as transparency agents; 2) as investigatory agents; and 3) as advocacy agents.

INTRODUCTION

National trade remedy laws have a long, although perhaps not a particularly honourable history. Laws to govern "unfair" trading practices were put into place in the United States, early in the twentieth century, to deal with predatory pricing by foreign firms (anti-dumping law) and government subsidized foreign competition (countervailing duty law). In addition, the United States has trade remedy laws to protect domestic industries from fairly traded imports (Section 201 - Escape Clause of the Trade Act of 1974). National administered protection agencies (NAPAs) are charged with the application of these laws and they are the primary focus of this paper.

Internationally, the rules governing anti-dumping (AD) and countervailing duties (CVD) have been a continuous source of controversy in the GATT. The United States has generally taken a position in favour of more stringent (more protectionist) AD/CVD laws, while many other countries view these laws as simply a way to harass and impede imports. The GATT (1947) allowed for AD/CVD laws through Articles VI and XVI. While Article VI required an injury test - United States countervailing duty law, in 1947, did not and this departure from GATT rules was grandfathered into the Agreement. In accepting the Tokyo Round Subsidies Code, the United States agreed to an injury test for countervailing duty cases relating to dutiable imports(CBO). Significant changes were made in AD/CVD law as a result of the Uruguay Round of trade negotiations[1]. Schott argues that the Uruguay Round Agreement on countervailing duties represents considerable progress while the new

[1]Schott discusses these changes but for CVD investigations they include: 1) specific time schedules for decisions, 2) a higher de minimus level, 3) a five year sunset provision, 4) the opportunity for consumers of the foreign product to make representations, 5) different rules for developing nations, and 6) an appeals process. Most importantly, however, WTO panel reports cannot be blocked from adoption except by consensus. The WTO rules governing AD and CVD actions are not self-executing, hence these procedures must be incorporated into domestic legislation and applied by national administered protection agencies like the USITC.

rules on anti-dumping are a disappointment.[2]

National administered protection agencies not only take AD/CVD actions against the unfair trading practices of foreign exporters, but these agencies also provide input into the proceedings of other forms of trade remedy measures. The USITC has recently carried out Section 332 investigations of the Canadian beef cattle and durum wheat industries and it provided economic analysis of the U.S. Section 22 investigation of Canadian durum wheat exports.

Other papers in this conference provide an evaluation of United States anti-dumping law and the procedures followed by the United States International Trade Commission (USITC) in evaluating these cases (Wolak; Jabara). The focus of our attention is on countervailing duty law. Following a brief background statement we proceed 1) to evaluate countervailing duty laws from an economic perspective; 2) to provide a synopsis and commentary on the economic analysis undertaken in four recent trade disputes between the United States and Canada; and 3) to provide some suggestions for changing the dispute settlement role of the World Trade Organization (WTO) and national administered protection agencies.

BACKGROUND

It is instructive to begin by asking if AD/CVD laws are important in international commerce? There are some facts which would suggest that they are not. First, although 40 countries have AD/CVD laws, only a few countries are heavy users; namely, the United States, Canada, European Union and Australia. These laws are used only rarely by other developed countries and almost never by developing countries. Second, in agriculture they are seldom applied to the imports of major commodities, finding their most heavy use, in the U.S., against products like cut flowers, red raspberries, kiwi fruit and fresh asparagus. Third, of the 1,112 AD/CVD cases filed in the United States between 1980 and

---

[2] There are several excellent surveys of these issues available in the literature (CBO, USITC (1995), Schott).

1992 only 34.2% ended with affirmative outcomes and final duties being applied (DeVault). Fourth, in only one year (1982) did the subject imports account for more than 1% of total United States imports (USITC, 1995). Hence, based on this evidence one might argue that AD/CVD laws are of little consequence to anyone other than trade lawyers and of no real consequence to international commerce.

This would be an erroneous perception. Although only 34.2% of United States AD/CVD cases ended in final affirmative duties, DeVault calculates that fewer than 25% result in negative outcomes. The remainder of the cases involved the application of provisional duties or were concluded with price agreements and/or voluntary restraint agreements. All of these actions involve import harassment and import protection.[3] Second, the increasing use of AD/CVD laws in major industrial countries is a reflection of their advanced legal systems, and the sophistication of their rent-seeking producer groups. This is not an activity we necessarily want emulated in the developing world. Third, AD/CVDs have typically been used to impede the exports of developing nations, for example, the United States has brought fourteen separate cases against Colombia's cut flower industry(CBO). Fourth, there has been a substantial increase in the average duty applied to "unfair" imports by the United States. Between 1980-1986, the average duty was 21.6%, by 1987-1992 the average duty had increased to 47.2% (DeVault).

The evolution of United States AD/CVD law has almost eliminated the use of the Section 201 Escape Clause. There is little need for an industry to complain about fairly traded imports, only to receive temporary protection, when the standard of injury is lower for unfairly traded imports. With a finding that imports are unfairly traded, protection has historically been permanent, and unfairness can almost always be found. Even the U.S. Congressional Budget Office (p. 51) notes: "Proving dumping or subsidies is not much of a hurdle, ..., since Department of Commerce's procedures find dumping or subsidies in the vast majority of cases." The stringency of anti-dumping law has led Canada's Minister for

---

[3] It is generally accepted that simply bringing a AD/CVD case results in import harassment. The uncertainty surrounding the possibility of a trade action results in caution being exercised by foreign exporters, especially considering the cost of defending themselves, even when successful.

International Trade, Roy MacLaren, to suggest the "necessity of considerably tightening the international discipline on - if not the outright dismantling - of anti-dumping law." While the weakness of the Uruguay Round AD agreement has led Schott (p. 85) to state "the agreement provides a bandage to a festering sore of trade policy."

If AD/CVD laws are often used as a protective device, what are the economic principles underlying their application? Anti-dumping laws were originally put in place to prevent predatory pricing. Predatory pricing is the practice of a firm selling products below cost to drive out rival firms, thereby creating a monopoly for itself and enabling it to subsequently raise prices above those that prevailed before the predatory pricing began. This form of firm behaviour stifles competition and is welfare decreasing. However, there is a general consensus that successful predatory pricing is extremely rare. Shin, in her study of 282 anti-dumping cases, could find only 10% that were consistent with dumping behaviour. Some might argue that this behaviour reflects the "new trade theory" but even Krugman argues that such behaviour is rare in the real world. The probability of a firm creating a monopoly in the production of an agricultural good, unless it is government sanctioned through a domestic marketing board or marketing order, seems remote. Whatever its original intent, AD laws are now used primarily against international price discrimination, selling in a foreign market for less than in the home market. Behaviour, which if practised by domestic firms in the domestic market is perfectly legal.

In this paper, we will concentrate primarily on CVD actions. The economic basis for a CVD complaint is different than for an AD action. An anti-dumping action is brought by domestic producers against foreign firms who are alleged to be engaging in unfair pricing practices. A countervailing duty case is brought by domestic producers against foreign governments. As Horlick (p. 137) notes, there is "a grain of truth, which is the distortion caused by subsidies" lying behind the rational for a CVD, while AD actions are "90 percent pure protectionist". Essentially, domestic firms should not be expected to compete against the treasuries of foreign governments, or to use an overworked cliche the "playing field

should be level".[4]

The welfare effects of AD/CVD laws on the country imposing these duties are familiar to anyone with a passing acquaintance of welfare economics. Since the country imposing the AD/CVD is an importer, the duty acts like a tariff and will lower the economic welfare of the country imposing the duty.[5] Welfare is lowered because expensive home country production or "fairly" traded imports are substituted, for "unfairly" traded ones.[6] This is a "beggar your consumer" policy. It should be noted that from a welfare economics perspective it makes no difference if the "low" prices result from the actions of foreign firms or foreign governments. If someone offers to sell you butter for one-quarter of what it costs to produce butter at home, there is only one economically correct answer. Thank you very much!

The USITC in a comprehensive analysis of the economic effects of AD/CVD actions in the United States calculated a net welfare loss of $1.59 billion and job losses of 4,075 in the affected sectors (USITC, 1995). This amounts to about $39,000 per worker transferred from employment in the affected sector to alternative employment elsewhere in the economy.[7] However, these calculations were sufficiently troublesome to have two of the six USITC commissioners vote against the release of the USITC study.

Commissioner Newquist noted, "the estimates provided here are not "facts" or "findings" in the usual sense of Commission 332 studies; instead they are theoretical, untested results of certain modelling exercises undertaken by Commission economists and should be viewed with that understanding and limitation."

The dissenting Commissioners, as well as two others who had serious reservations

---

[4] A former Commissioner of the USITC once noted that countries should be concerned less about the tilt of the playing field and more about the quality of the team they put on the field.

[5] The exception is when the importing country is"large" and the duty approximates an optimal tariff.

[6] There is considerable evidence of trade diversion from unfairly to fairly traded imports as a result of AD/CVD actions in the United States (USITC, 1995).

[7] The CGE model employed by the USITC assumes full employment (USITC, 1995).

about the report, seemed to base their negative opinions on two assumptions. First, the results of the computable general equilibrium model used by the USITC can not capture the "localized" negative effects on the affected industries; and second, a political decision has been taken to discourage unfairly traded imports, regardless of their benefits, if they cause harm to competing domestic industries and workers. These views are consistent with Corden's description of a conservative welfare function and more flattering than Baldwin and Steagall's assertion that "in recent years President's have tended to nominate and Senate to confirm, individuals who do not apply strict injury or causation standards."

AD/CVD laws apply both to manufactured and agricultural products. In practice, these laws are designed to deal primarily with "fix price" markets rather than the "flex price" markets that generally characterize trade in agricultural commodities. This has implications particularly with regard to price under-cutting. Further, the Uruguay Round of trade negotiations continues the tradition of agricultural products being treated differently within the GATT/WTO than are manufactured products. This is an important point to which we will return.

Whatever the merits of countervailing duties on welfare grounds they deal with questions with which economists are comfortable. What are the effects of subsidies or pricing practices on the volume of trade, production, prices and industry welfare? Hence, it is instructive to compare the administrative procedures followed in CVD cases to what we teach our students in Economics 101. The time constraints national administered protection agencies work under, and the requirement in the U.S. to examine an exhaustive set of economic indicators often means that these agencies are attempting to apply basic economic principles to complex real world situations. Seldom will national administered protection agencies have the luxury of estimating crucial economic parameters, testing theory or applying the latest theoretical or econometric techniques. In addition, the task of obscuring the basics, in AD/CVD cases, is generally well managed by the economists employed by the defendants and the complainants in any particular case.

The GATT (1994) Agreement on Subsidies and Countervailing Measures specifies a three step process for determining if a country may legally impose a countervailing duty

on the exports of another country:

Standing: Are the complainants representative of the domestic industry that produces the subject product? In making this determination, the Agreement on Subsidies and Countervailing Measures states that an application can be considered to have been made on behalf of the domestic industry if it is supported by domestic producers whose collective output constitutes more than 50% of the total production of the like-product and no investigation should be undertaken if the petition is supported by less than 25% of total like-product production.

Subsidy: Does a domestic or export subsidy exist in a foreign nation which influences domestic imports? GATT (1994) provides an illustrative list of export subsidies, a definition of non-actionable general (non-specific) subsidies and a short list of non-actionable specific subsidies. GATT (1994) also specifies a *de minimus* level for actionable subsidies of 1% ad valorem in countervailing duty cases. In addition, the Agreement on Agriculture contains a number of exceptions which apply to agriculture.

Injury/Causality: Is the complainant's industry materially injured or threatened with material injury as a result of the subsidized imports and, not by other factors which could be harming the industry? On this point, the Agreement on Subsidies and Countervailing Measures is quite specific. It says that "it must be demonstrated that the subsidized imports are, through the effects of subsidies, causing injury". In addition, "the demonstration of a causal relationship between the subsidized imports and the injury shall be based on an examination of all relevant evidence before the authorities - other factors (affecting the industry) should not be ascribed to the imports."

These three steps in evaluating the domestic effects of subsidized imports are generally consistent with the principles of economic policy evaluation. The rules on standing are designed to reduce frivolous complaints, although they are not sufficiently stringent to keep Canada's single producer of padded, perfumed ladies coat hangers from alleging injury resulting from imports of foreign like-products.

The calculation of the level of the subsidy is more problematic, but many of the subsidies provided to agricultural producers are fairly transparent. There will always be

disagreements about specificity and measurement techniques but the existence and value of particular subsidies is less controversial than the injury determination.[8]

The GATT (1994) allows for countervailing duties to be applied in the case of either foreign export subsidies or domestic subsidies, even though export subsidies are expressly prohibited on manufactured goods. The prohibition presumably reflects the more trade distorting impact of export subsidies, but given the way CVD's are normally calculated, domestic subsidies are treated more harshly.

It is instructive to consider first the trade effects of export subsidies as illustrated in Figure 1. Panel (a) in Figure 1 denotes the foreign country, panel © the home country and panel (b) the excess supply and excess demand curves whose intersection determines the free trade world market price of P_W. At this price the foreign country consumes D_F supplies S_F and the home country supplies S_H and demands D_H. The world trade volume is E, as illustrated in panel (b). The effect of a constant per unit export subsidy in the foreign country is to shift the excess supply function from ES_F to ES'_F. This results in the world price declining from P_W to P_H and the domestic price in the foreign country increasing from P_W to P_F. The quantity traded increases from E to E'. Clearly, foreign producers and home country consumers gain as a result of the export subsidy, while foreign consumers and domestic producers lose as a result of the export subsidy. If a countervailing duty equal to P_F-P_H is levied on imports it shifts the excess supply curve from ES'_F back to its original position ES_F. In effect, the countervailing duty exactly offsets the export subsidy so the free trade equilibrium price P_W, and the free trade equilibrium quantity traded (E) is restored.

Consider now Figure 2, which illustrates the effects of a domestic subsidy. In panel (a) the competitive supply curve S_F is shifted to the left, to S'_F, as a result of either an input subsidy or an output subsidy. This results in the excess supply curve shifting from ES_F to ES'_F. World prices decline from P_W to P'_W in both the importing and exporting regions. The

---

[8] The WTO and U.S. CVD law requires that a subsidy be specific to an industry in order for it to be countervailable.

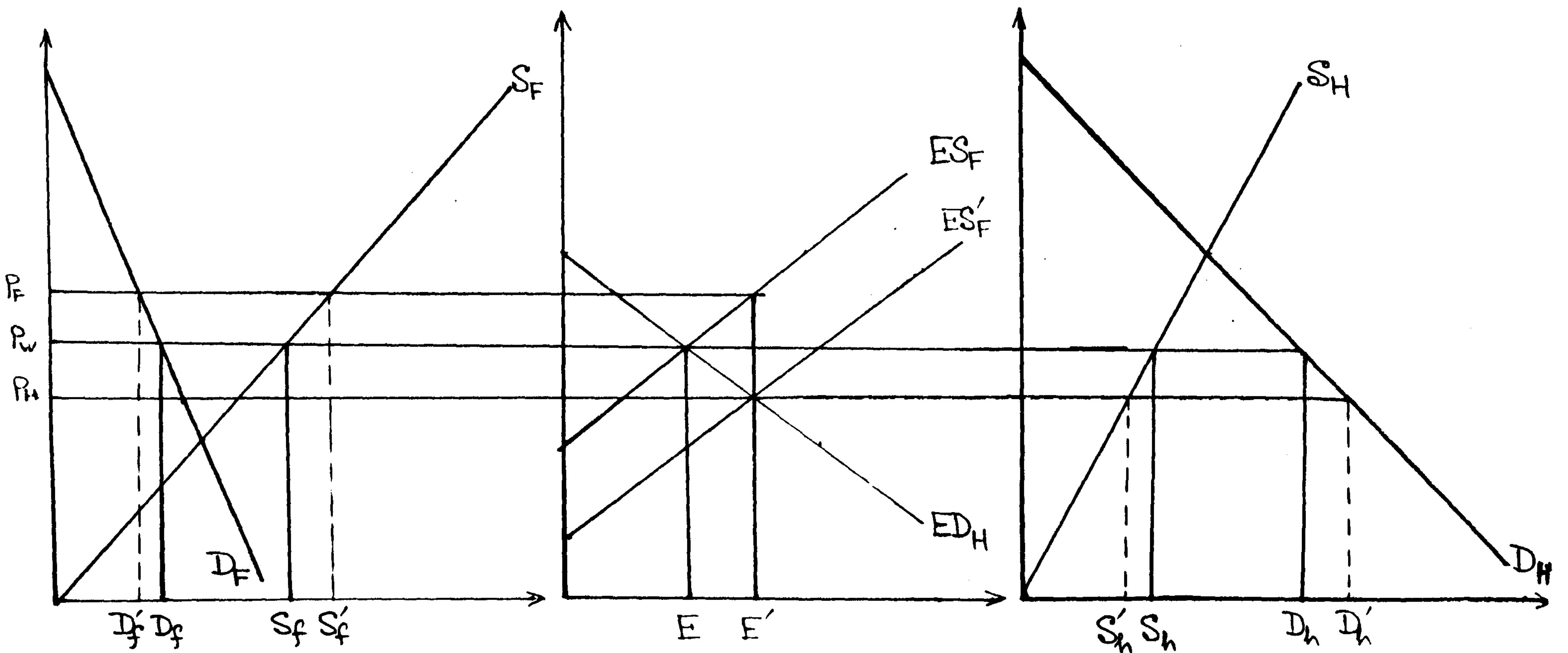

FIGURE 1: Effects of an Export Subsidy

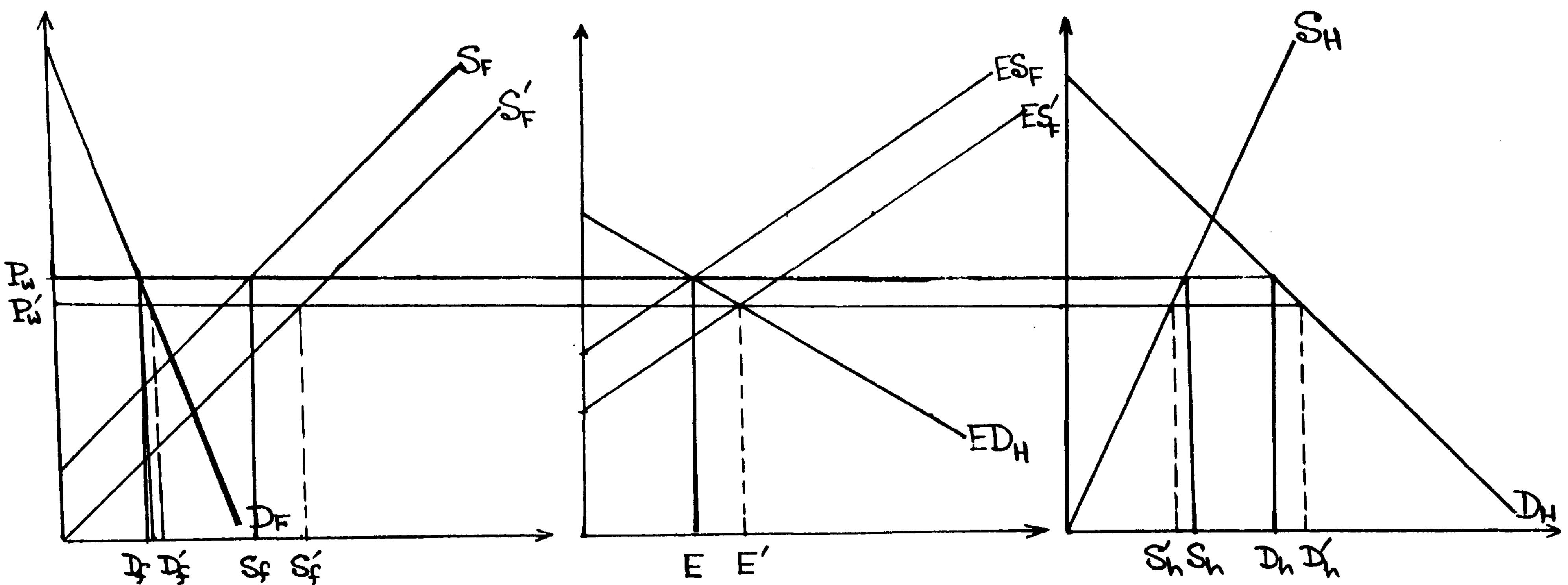

FIGURE 2: Effects of Domestic Subsidy

quantity traded increases from E to E'. If the home country imposes a countervailing duty equal to the per unit domestic subsidy (a-c) the new excess supply function will be shifted to the left of the competitive excess supply function (ES_F) resulting in higher world market prices and lower world trade volumes than in the free trade situation. The degree of the overestimation depends on the elasticity of the excess supply and excess demand curves. Only when the excess demand curve has an infinite elasticity would the countervailing duty be calculated correctly. However, in this case the foreign nation is a "small country" and its exports would have no effect on price in the home market and result in no material injury. The GATT rules clearly anticipate this potential situation when they discuss remedies for domestic subsidies.

Remedy: If an investigation uncovers subsidies above the *de minimus* level and material injury has occurred, the WTO allows a countervailing duty to be applied to the subsidized imports. The WTO allows the countervailing duty to be **up to** the level of the measured subsidy, and it goes on to say that "it is desirable that the duty should be less than the total amount of the subsidy if such lesser duty would be adequate to remove injury to the domestic industry." While calculating the proper level for the countervailing duty in the case of a domestic subsidy is more complicated than in the case of an export subsidy, because it relies on economic parameters (supply and demand elasticities), these parameters are often needed to determine injury. Hence, this information could be used in selecting a more proper remedy.[9]

In addition to the WTO rules and simple analytics discussed above, there are several key decisions that must be taken in every countervailing duty investigation that influence the potential for an adverse ruling. These decisions are a part of the standing determination but go well beyond the legal issue of who has the right to bring a case.

Article 11.4 of the Agreement on Subsidies and Countervailing Measures says

---

[9] This discussion assumes that the proper role of a CVD is to restore the competitive solution. An alternative explanation is that the CVD is simply the agreed upon penalty for a government which subsidizes production and it has nothing to do with the competitive solution. Under this viewpoint subsidizing countries have agreed to be over-penalized for their activities.

domestic producers have the legal right to bring a countervailing duty case if they produce a product "like" the one subsidized by the foreign government. The term "like-product" is not defined leaving this decision up to the complainant and national authorities to decide. In general, the complainant will have an incentive to reduce the size of the allegedly injured domestic industry. In this way, the effects of the subsidized imports are more concentrated making it easier to find injury. An example cited by the Congressional Budget Office relates to the CVD cases against cut flowers. When the industry was defined as cut flowers as a whole, or for broad segments of the flower industry, the USITC usually found no injury, but when the industry was defined for specific flowers injury was found.

A second key decision relates to the issue of whether the foreign subsidized product is similar to, or identical to the domestic product. Economists would tackle this question through the use of elasticities of substitution in final consumption for a consumption good, or production for an input. An infinite elasticity of substitution would imply homogeneous goods, while an elasticity of substitution greater than zero but less than infinity would signify differentiated products. An elasticity of substitution equal to zero would indicate that the goods are used in fixed proportions. In general, the complainant will argue that the imported goods are identical to the domestic good, while the defendant will argue that the imported product is differentiated. If no injury is found using the homogeneous good assumption it seems highly unlikely that injury could be proven if the goods are considered differentiated products. However, injury might be found for homogenous goods but not for differentiated products, hence the importance of the decision.

Finally, some agrifood products are traded in more than one form and at multiple levels of the market. This fact raises the issue of "upstream" subsidies. An upstream subsidy investigation requires two steps. The first step is to document the government programs that provide subsidies and to determine at which market level they most logically apply. The second step is to analyze the potential for the subsidies to injure the domestic industries at both market levels. An example will help to illustrate the point.

Suppose a price support scheme for raw product producers in country 1 results in increased production of the raw product in that country, and a lower market price for the

raw product in both countries. In this case, subsidies in country 1 injure the raw product producers in country 2, but the raw product subsidy does not injure the processing sector in country 2. The processing sectors in both countries gain access to a lower priced input, and both sell their output for the same price. Therefore, the processing sectors in both countries benefit while raw product producers in country 2 are injured and raw product producers in country 1 benefit.

Now suppose that country 1 provides an energy subsidy to its processors. Lower fuel costs allow processors in country 1 to bid up the price of other inputs including the raw product. This causes injury to country 2's processing sector and benefits raw product producers in both countries. Finally, suppose country 1 offers a subsidy on every unit of raw product purchased from domestic sources. In the long run, this scheme increases the supply of the raw product in country 1 and the raw product price in both countries declines. Therefore, raw product producers and processors in country 2 would be injured.

The variety of possible scenarios suggests that it is crucial to evaluate the potential effects of the existing subsidies on the various market participants before defining the domestic industry.

While the economic analysis of various stylized subsidy schemes is straight forward, "real world" CVD cases are messy. Seldom will the facts fit neatly into a textbook example. For that reason we briefly review the issues and economic analysis conducted in four recent trade disputes. Two CVD cases brought by the United States against Canada (softwood lumber and hogs/pork), one Section 22 investigation against Canada (durum wheat) and one CVD action brought by Canada against the United States (corn).

The purpose of these reviews is not to provide the definitive economic analysis of each case but instead to illustrate the range of issues which must be addressed and the types of economic analysis undertaken.

CASE STUDIES

CASE 1: The United States CVD Case Against Canadian Softwood Lumber

In 1991, Canada exported about 70% of its softwood lumber production and 77% of its exports were to the United States. Canada is essentially the sole foreign supplier of softwood lumber in the U.S. market. This bilateral softwood lumber trade was worth $2.82 billion (USITC, 1992) in 1991, and this figure illustrates the vigour of trade in the sector. However, despite its size, or perhaps because of its size, softwood lumber has been at the centre of a lengthy and heated trade dispute.

The market share of Canadian softwood lumber in the United States rose from 17% in 1975 to 33% in 1985 (Doran and Nostali) and has since stabilized at 29% (in value terms). The increased market share of imported Canadian softwood lumber, during the early 1980s, created concern among U.S. lumber producers. In October 1982, the U.S. Coalition for Fair Canadian Lumber Imports (a group of eight trade associations and 350 lumber producing firms) filed a formal CVD complaint against softwood lumber imported from Canada. The Coalition alleged that Canadian federal and provincial governments subsidized Canadian forest products through a number of programs and practices. In November 1982, the USITC found, in a preliminary ruling, that the U.S. lumber industry had been materially injured by allegedly subsidized softwood lumber imported from Canada. However, in May 1983, the International Trade Administration (ITA) of the Department of Commerce came up with a negative subsidy determination which terminated the case. The ITA argued that the benefits provided through Canada's provincial stumpage programs were not export subsidies and the domestic program benefits were "generally available" to all forest products.[10] Since the program benefits were generally available, Canada's stumpage programs could not be construed as domestic

[10] Stumpage programs in Canada are operated by the Ministry of Natural Resources in each province. Under these programs, individuals and companies acquire the right to cut and remove standing timber from Crown lands. The individuals and companies also assume the responsibility to regenerate the forest they harvest up to the stage of "free to grow". The royalty/price/rent paid to the provincial government for the standing timber is known as stumpage.

subsidies under U.S. countervailing duty law.

While the negative determination by the ITA was discouraging to U.S. interests, the Coalition did not give up. In May of 1986, after the market share of imported softwood lumber from Canada had risen to 33%, the Coalition filed a second countervailing duty petition. The Coalition alleged that the provincial governments in Canada sell standing timber at "below market value" prices which amounts to an "upstream" subsidy to Canadian softwood lumber producers. The Coalition argued that the growing market share captured by Canadian softwood lumber was a reflection of this subsidy and that these imports were causing material injury to the U.S. lumber industry. In July 1986, the USITCs preliminary investigation found that the U.S. softwood lumber industry was materially injured because of allegedly subsidized softwood lumber imports from Canada. In October 1986, the ITA in its preliminary determination ruled that softwood lumber imported from Canada was subsidized through administratively set stumpage prices and through the provision of public resources (eg. expenses for forest regeneration and construction of logging roads) to lumber producers. The subsidy was calculated to equal 15% *ad valorem*.

The Trade and Tariff Act of 1984 may have contributed to the reversal of the ITA's decision about softwood lumber imports from Canada. Two provisions of this act are particularly notable. First, the Act provided a reinterpretation of the statute which allowed the ITA to find a product to be subsidized and hence subject to CVDs if the subject product was produced from subsidized inputs (CBO, p. 28). Second, the Act required all agencies administering U.S. trade laws to give technical assistance to U.S. firms on how to make successful AD/CVD petitions (CBO, p. 28). This assistance may have helped the U.S. lumber coalition to redesign its complaint to be more consistent with a positive subsidy determination. No doubt, the fact that the market share of Canadian softwood lumber in the U.S. was growing at a faster rate between 1983 and 1986 than in the past (Doran and Nostali) also contributed to the decision reversal. Following the preliminary determination of subsidy by the ITA, the USITC ruled that the subsidized softwood lumber imported from Canada caused "material injury" to the U.S. lumber industry and immediately imposed a 15% countervailing duty (CVD) on all softwood lumber imported from Canada.

The final determination of the value of the CVD was to be announced by December 30, 1986. However, the CVD case was terminated when the governments of Canada and the United States negotiated a Memorandum of Understanding (MOU) on softwood lumber. Under the MOU, the government of Canada agreed to impose a 15% export tax on certain softwood lumber exports bound for the U.S. market. The export tax could be reduced or eliminated with 30 days notice, if provincial governments adjusted their stumpage fees upward and charged an appropriate fee for forest regeneration. The MOU took effect on January 8, 1987 and influenced Canada-U.S. lumber trade for almost five years.

On September 3, 1991, the government of Canada unilaterally announced that provincial stumpage charges had increased to the extent that it was no longer necessary to collect the export tax.[11] Following this action, U.S. trade representatives announced that the Department of Commerce would be self-initiating a CVD case involving softwood lumber imports from Canada. The U.S. government also imposed temporary import duties ranging up to 15% on softwood lumber imported from certain provinces of Canada. This duty was imposed as a contingency protection measure while the investigations for final subsidy and injury determination were undertaken.

In May 1992, the ITA reported the results of it's final subsidy determination. The ITA identified two domestic subsidies: provincial stumpage programs and log export restrictions in British Columbia. These two subsidies, according to the ITA, equalled a subsidy margin of 6.51% (2.9% for stumpage and 3.6% for provincial log export restrictions in British Columbia). Based on this ruling, the USITC started it's final investigation for determining material injury. In July 1992, it ruled that subsidized softwood lumber imported from Canada caused material injury to lumber producers in the United States. Accordingly, a 6.51% ad valorem duty went into effect on May 28, 1992.

Although the magnitude of final tariff was less that one-half of its initial value, the government of Canada appealed the ITA and ITC decisions to a binational panel under Article 1904 of the Canada-U.S. Free Trade Agreement (FTA). On July 26, 1993, the

[11] The MOU was terminated on October 4, 1991.

Binational Panel remanded the ITA and ITC decisions. In particular, the Panel asked the Department of Commerce to recalculate the softwood lumber dumping margin. The Panel also found that the record did not support the finding that Canadian softwood lumber imports had a significant price-suppressing effect on the U.S. softwood lumber market. It noted that the cross-sectoral comparison used by the USITC to support its positive determination of material injury was "seriously flawed". As a consequence, the Panel asked the USITC to provide additional statistical evidence to support its determination of material injury. Both the ITA and USITC responded to the request. The ITA revised its softwood lumber subsidy estimate to 11.54%, almost double its earlier estimate. The USITC (on the basis of the majority decision) also reaffirmed its original determination of material injury to the U.S. softwood lumber industry caused by subsidized softwood lumber imports from Canada. After reviewing the responses from the ITA and the ITC, the Binational Panel ruled that the analysis of the determination of subsidy was flawed and that the ITC's determination of material injury to the U.S. lumber industry was not based on sound statistical evidence. As a result, the Panel dismissed the CVD case against Canadian softwood lumber on January 28, 1994.[12]

While the case is complex, the softwood lumber dispute deals with the standard questions asked in every CVD investigation. Is Canadian lumber production subsidized? Do imports of allegedly subsidized softwood lumber cause material injury to the lumber industry in the U.S.?

In a competitive industry, which seems to characterize the U.S.-Canada softwood lumber market, price is determined by the intersection of supply and demand[13]. The supply

---

[12] After more than a decade the softwood lumber dispute may not yet be over. Currently, the Department of Commerce is investigating allegations of bias and conflict of interest on the part of some members of the Binational Panel. If it finds the allegations to be true, then the Panel's decision is likely to be challenged (USITC 1994a).

[13] According to the USITC (1982), there were 8,367 establishments in the United States and Canada involved in producing softwood and hardwood lumber during 1980. The concentration ratio in this industry is also modest. The five largest companies account for 30% of production in the U.S. and only 22% of production in Canada. These figures suggest that a competitive market model applies to the North American softwood lumber industry.

curve is the marginal cost function, but the supply of timber depends on a renewable natural resource, primarily second-growth forests. Given the soil and climatic conditions in Canada, a typical planting-harvest cycle takes from 60 to 120 years to complete. Thus, the current stock of timber is largely fixed. This is true even under the new forest management regime which allows large companies to lease crown land for 10-20 years for harvesting and regeneration.

The countervailing duty statute in the U.S. requires the USITC to determine if the softwood lumber industry in the United States is materially injured by reason of subsidized imports from Canada. Explicit in this statute is a requirement that the domestic and foreign products are "like products". Many people in the softwood lumber industry, both in the U.S. and in Canada, believe that the assumption of like products may not be appropriate for softwood lumber produced in Canada (the Spruce-Pine-Fur type) and softwood lumber produced in the U.S. (the Southern Yellow Pine). Most of the softwood lumber imported from Canada is considered of better quality because of its straightness, strength and superior nail holding ability (Wallace 1987, p.37). In many end uses, particularly in house building, softwood imported from Canada is used for inside framing. The southern yellow pine has the characteristic of absorbing chemicals (USITC 1992, pp. A-72-A-75). Consequently, SYP is used in building patio decks, side walls etc. At least in this end use, softwood lumber imported from Canada and softwood lumber produced in the U.S. appear to be complements rather than substitutes. This finding is consistent with econometric evidence that finds a positive coefficient for the U.S. lumber price variable in simple Canada-U.S. lumber trade models (Buongiorno et al. 1988; Sarker 1993). If Canadian and U.S. softwood lumber are complements, Canadian shipments cannot cause material injury.

The ITA found two countervailable practices in Canada in its final determination: provincial stumpage programs, and log export restrictions in the province of British Columbia. In calculating the subsidy implicit in the stumpage programs, the ITA compared the price of stumpage for softwood with the stumpage price for other types of timber. The benchmark price for Alberta and Ontario was the price of pulp logs; for B.C., the

competitively-bid price for softwood; and for Quebec, the price for private softwood stumpage. Note that, while the production processes of pulp and softwood lumber both use timber as an input, these are two different products in the output market. The demand and supply conditions for these two products in the North American market are quite different. Since the stumpage fee is determined as a residual value, the differences in output prices and the differences in operating expenses contribute to differences in stumpage rates. Hence, it is not clear how the differences in these two stumpage rates could be used to calculate an appropriate subsidy margin. Nevertheless, program benefits per unit of shipment for each of the four provinces were calculated and then the export shares of each province were used as weights to calculate the average country-wide subsidy margin.

In calculating the subsidy equivalent of the B.C. log export restriction, the ITA noted that this was an indirect domestic subsidy to the primary lumber producing industry. The log export restrictions in British Columbia, which also prohibits shipments to other provinces, could depress local log prices and give an advantage to local processors/companies in terms of higher rents. However, the log export restrictions have been in place since 1906 and it is unclear why such long standing restrictions have only recently become problematic.

The fact that the supply of timber is fixed and the way in which stumpage fees are determined is essential to understanding the economics of this case. In Canada, stumpage fees are set administratively using a "residual" approach. This residual is the difference between the output price and operating costs per unit. Essentially, the authorities use a cost of production procedure, where working backwards from the lumber price and subtracting transportation, processing and logging costs the "value" of standing timber can be determined. This is a rent and not profit, as competitive profit is built into the firm's operating costs. Under this formula pricing system, actual stumpage fees may deviate from competitive stumpage charges due to weak competition (constrained entry due to high initial capital investment) or overestimation of sawmills' costs. The question is: what is the supply effect of such underpricing? The answer is zero. Why?

Since stumpage is an economic rent, it's over or under collection by a resource owner does not alter supply decisions unless it is so high as to cause firms to shut-down. Ricardo (pp. 38-39) made this point when he noted,

> "[The price of] Corn is not high because a rent is paid, but a rent is paid because corn is high; it has been justly observed that no reduction would take place in the price of corn although landlord should forego the whole of their rent. Such a measure would only enable some farmers to live like a gentlemen, but would not diminish the quantity of labour necessary to raise raw produce on the least productive land in cultivation".

Therefore, the stumpage fees charged in Canada cannot have any price depressing effect in the U.S. market, since they do not influence the supply of lumber!

On a number of grounds it appears that the U.S. softwood lumber industries case was shaky. However, the statistical analysis of Baldwin and Steagall shows that the most important variable influencing a positive CVD determination is the ratio of total imports to consumption, and there is no question that Canada's share of the U.S. softwood lumber market was increasing.

CASE 2: The U.S. CVD Case Against Canadian Hogs and Pork

Canada, like many developed countries, has a long history of providing price and income support to farmers. Although agriculture in Canada is a shared responsibility of federal and provincial governments, the federal government was largely responsible for providing income stabilization programs until the early 1970s (Meilke and Warley). Following this time period, a number of provinces introduced farm income support programs which reflected province-specific desires. Among these were programs to

support the incomes of red meat producers. By the mid-1980s competitive subsidization of red meat producers, across provinces was a well recognized problem. An amended National Tripartite Stabilization Plan, which provided floor prices to hog producers and imposed negotiated ceilings on support to the red meat sector appeared to be a viable solution to the problem(Meilke).[14] While the formation of the NTSP helped to bring diverse provincial hog stabilization programs under one set of rules and some felt it would be considered generally available under U.S. trade law, in retrospect, it may have made hog stabilization payments an easier target for countervailing duty action by the United States.

However, the hog/pork trade dispute preceded the establishment of the National Tripartite Stabilization Plan, and like softwood lumber the dispute has stretched over more than a decade. In November 1984, the United States National Pork Producers Council along with a number of meat packers in the United States filed a CVD petition with the Department of Commerce and USITC against hogs and pork imported from Canada. After the preliminary investigation the ITA identified twenty-four federal and provincial programs providing countervailable subsidies to hog and pork producers in Canada. The calculated subsidy was $0.0439 per pound of liveweight. The ITA considered hogs and pork to be members of the same industry and based on its subsidy determination, the U.S. imposed preliminary duties equal to the subsidy margin on both hogs and pork imported from Canada.

In its preliminary investigation of material injury, the USITC overturned the ITA's

[14] Tripartite because it is funded jointly by producers and both levels of government.

preliminary decision that hogs and pork were members of the same industry and treated hogs and pork as separate industries. Based on its preliminary investigation, the ITC found that hog producers in the United States were materially injured by hog imports from Canada, but that there was no evidence of material injury or threat of material injury to the U.S. pork sector. This began a long series of appeals and remands. A chronology and discussion of the various judicial decisions made in the decade since the original investigation is beyond the scope of this paper, and has been well documented in the work of Meilke and van Duren; Meilke and Moschini; Veeman; and Ludwick. Suffice it to say, appeals have been heard by United States Court of International Trade, at least two binational panels formed under the FTA, two extraordinary challenge committees under the FTA and by the GATT. The result has been the continuous application of countervailing duties on Canada's exports of live hogs to the United States, with no permanent application of duties against imports of Canadian pork. There have been temporary duties applied to pork imports during various stages of the dispute.

Given the length of the hogs and pork dispute and the multitude of legal actions it is easy to lose sight of the basic economics of the case. Before proceeding, it is useful to recount four facts on which both the United States and Canada agree. First, the dispute involves domestic production subsidies, export subsidies were never an issue. Second, both hogs and pork are priced in competitive North American markets. Third, with the exception of technical regulations involving Canada's importing of hogs, no significant trade barriers inhibit trade between Canada and the United States in either the hog or pork markets. Fourth, of the domestic production subsidies identified by United States

authorities, almost all were paid to hog, not pork producers.

Given these facts there are three key questions that need to be answered in this trade dispute.

- **Subsidy:** *Is hog and pork production in Canada subsidized?*
- **Injury:** *If Canadian hog and pork production is subsidized do these subsidies materially injure United States hog and pork producers?*
- **Remedy:** *If hog and pork producers in the United States are injured as a result of Canada's domestic production subsidies, what is the appropriate remedy?*

On the subsidy question the issue hinges on the "specificity" of Canada's domestic production subsidies. The Department of Commerce ruled that the production subsidies given to Canadian hog producers through various federal and provincial programs are not generally available to all producers in agriculture and hence, can be considered specific to the hog sector. Canada argued that while the National Tripartite Stabilization Plan applied to only a limited number of commodities, nearly all other Canadian agricultural commodities were covered by some form of stabilization plan. At least one binational panel agreed with the Canadian point of view, but from an economic perspective it seems clear that the type of deficiency payment program used in the hog sector does have the potential to increase the output of hogs. More will be said about this when considering injury. Further, the Department of Commerce ruled the production subsidies given to Canadian hog producers were equivalent to subsidies being given to pork producers. On this point they were clearly wrong. Both Canadian and United States pork producers

benefit from Canadian hog production subsidies to the extent that they lower the price for their major input. Packers in both countries buy hogs on the open market and sell pork on the open market. The production subsidies in Canada, assuming perfect arbitrage and that Canada remains an exporter of both hogs and pork, provide no competitive advantage to pork producers located in Canada.

On the question of injury the economics are simple. First, have Canadian hog production subsidies increased Canadian hog production and exports? Most of the available econometric estimates on this issue would suggest the answer is either not at all, or to a very limited extent (Martin and Goddard). Second, has the increase in Canadian hog production and exports caused by the production subsidies, reduced the United States hog price to such an extent as to cause material injury to United States hog producers? Again, the available economic analysis would suggest the answer is no (Moschini and Meilke; Meilke and Scally). In essence, a proper economic analysis must trace the causal effect from the domestic production subsidies through to the increase, if any, in Canadian exports of hogs and pork to the United States, and then to the price impact in the United States market. Injury, if it has occurred, results from the marginal increase in Canadian production and exports resulting from the production subsidies - not from the entire quantity of hog exports into the United States market. To argue otherwise would suggest that Canadian exports of hogs would be zero in the absence of the production subsidies, a conclusion which has no support either in theory or in reality.

The USITC in some of their economic analyses appeared to accept this argument but applied it in a flawed manner. To analyze the effects of Canadian hog and pork

exports on the United States market, the USITC estimated injury to U.S. hog producers by: 1) calculating the ratio of Canadian hog marketings to total North American hog marketings; 2) determining the change in this ratio from year to year; and 3) using the change in this ratio to determine the impact of Canadian production subsidies on U.S. hog prices based on a range (-1.0 to -2.0) of domestic demand flexibilities. The USITC logic suggests that any increase in Canada's North American market share of hog production results from its domestic hog subsidies. Interestingly, it also suggests that a decline in Canada's North American market share is also a result of Canadian hog production subsidies! In fact, in one year of the USITC's analyses Canada's market share did decline.

We have already argued that it is difficult to see how Canada's hog production subsidies provide a competitive disadvantage or materially injured United States pork producers. However, based on simple correlations and trend analysis this was the USITCs conclusion. Both a GATT panel and a FTA binational panel agreed with the Canadian position that the United States would have to conduct an upstream subsidy investigation. An upstream subsidy investigation would require the United States to show that Canada's hog production subsidies provided a competitive benefit to Canadian pork producers and materially injured U.S. packers. It was simply incorrect to assume that 100% of the subsidies provided to swine producers were passed through to pork producers without establishing factually what proportion of the subsidy, if any, was passed through.

While the USITC was wrong to assume that the full impact of hog production subsidies applied to the pork production sector, the vertically linked nature of this market is important in determining the proper remedy for a domestic production subsidy. While

Canada's domestic production subsidies provide no competitive advantage to Canadian pork producers, a countervailing duty applied only to hog production does. A countervailing duty on hogs lowers Canada's hog prices below the free trade equilibrium price thus providing considerable effective protection to the Canadian pork producing industry. Moschini and Meilke show that an upstream subsidy investigation is required to determine the pass through of hog production subsidies to the pork sector. Using a vertically integrated trade model, Moschini and Meilke derive the analytical expressions for the proper CVDs for hogs and pork. The proper CVD differs depending on whether the objective of the complainant country is to protect the interests of hog producers only, or to protect the interests of both hog and pork producers. The CVDs in either case depend on the elasticities of supply and demand for hogs and pork. If the objective is to protect the interests of both hog and pork producers, the CVDs must be imposed on both products. However, the level of the CVD should be less than the subsidy margin in both cases and the CVD on pork should be less than that on hogs. While this analysis is relatively sophisticated, it would seem to have wide applicability in both the agricultural and manufacturing sectors.

CASE 3: The United States Section 22 Case Against Durum Wheat from Canada

Prior to the signing of the FTA, only a trickle of wheat crossed the border between Canada and the United States. Canada had a restrictive import licensing system for wheat, and the U.S. imposed a tariff of $0.21 per bushel. However, both countries agreed on a formula to eliminate these trade barriers during the FTA negotiations and on May 9, 1991

Canada removed its import licensing system. Although the U.S. is the world's dominant wheat exporter, it has recently become an important destination for Canadian wheat exports. This is particularly true for premium quality durum wheat produced in Western Canada. Since 1989, Canadian wheat exports to the U.S. have increased steadily, rising to over two million metric tonnes in 1993/94. While these shipments were only 3% of the total U.S. wheat availability, in 1993/94, wheat imports from Canada became a hot political issue (Loyns, Knutson and Meilke). In fact, political bickering and manouvering to protect the interests of durum wheat producers in the U.S. began almost immediately after the FTA was ratified.

Initially, durum wheat producers in North Dakota complained that the freight subsidy given to Canadian durum producers under the Western Grains Transportation Act (WGTA) constituted an export subsidy and hence, violated Article 701.2 of the FTA.[15] The U.S. Trade Representative investigated this complaint and determined that the wheat shipped to the U.S. did not receive the freight subsidy, and that any specific transportation subsidy was generally available to all grain shipments from Western Canada to Thunder Bay.[16] Consequently, Canada did not violate the FTA. After this determination, the U.S. Congress, which was under pressure from the wheat producers lobby, requested the

---

[15] Article 701.2 of the FTA states that: "*Neither party shall introduce or maintain any export subsidy on any agricultural goods originating in, or shipped from, its territory that are exported directly or indirectly to the territory of the other party.*"

[16] Small quantities of wheat destined for the U.S. have been shipped through Thunder Bay in order to be eligible for transportation subsidies to that point. The WGTA transportation subsidy was eliminated on August 1, 1995.

USITC to examine the "conditions of competition" between the U.S. and Canadian durum industries. In response to this request, the USITC initiated a 332 investigation and submitted its final report in June 1990. The USITC stated in its report that:

> *"it is not apparent from the data collected by the Commission in this investigation that prices paid by U.S. Millers for Canadian durum are significantly different than prices paid for U.S. durum. [USITC 1990, p. ix]..... For like quantities of wheat, U.S. prices and Canadian prices fluctuate, with no consistent price difference between U.S. and Canadian durum that explains the growth of durum imports from Canada between 1986 and 1989. [USITC 1990, p. 7-1]"*

The USITC concluded that the durum industries in U.S. and Canada are competitive and that the drought of 1987-89 was the main reason for the increased Canadian durum shipments into the United States. However, this did not bury the issue. Relentless lobbying by durum producers located in the Northern Plains states resulted in the U.S. government bringing the case of Canadian durum imports before a binational panel formed under Chapter 18 of the FTA. The U.S. government argued that the Canadian Wheat Board (CWB) had violated Article 701.3 of the FTA by selling wheat in the U.S. below acquisition cost (including storage, handling and freight). Article 701.3 of the FTA prohibits either of the signatories from exporting agricultural commodities to the other country at less than its acquisition price.[17] The Binational Panel made its final ruling in favour of Canada in January 1993. The panel could find no compelling evidence that the CWB was selling

[17]Article 701.3 states that: "*Neither party, including any public entity that it establishes or maintains, shall sell agricultural goods for export to the territory of the other party at a price below the acquisition price of the goods plus any storage, handling or other costs incurred by it with respect to those goods.*"

durum wheat in the U.S. market at prices lower than its acquisition costs. A number of weather related and political events have contributed to the most recent round of the wheat trade dispute. Adverse weather conditions in the U. S. during the Summer of 1993/94 resulted in higher demand for Canadian wheat in the U.S. market. Due to flooding in the Midwest, an increased quantity of Canadian wheat was transported by road to elevators in Montana and North Dakota. This made the trade more visible and the timing could not have been better, for U.S. wheat producers, because President Clinton was desperate for votes to gain Congressional approval of the NAFTA. As a consequence, some members of Congress, particularly those from the Northern Plain States, told the President that their support for the NAFTA hinged on his taking action against imports of Canadian wheat. After a successful NAFTA vote, President Clinton directed the USITC to initiate an investigation under Section 22 of the AAA to determine whether wheat, wheat flour and semolina imported into the United States from Canada was taking place "under such conditions or in such quantities as to render or tend to render ineffective, or materially interfere with, the price support, payment and production adjustment program conducted by the Department of Agriculture for wheat" (USITC 1994, p. A-3).

A Section 22 investigation differs from a CVD investigation in that there is no need for the U.S. to demonstrate that foreign exports are subsidized, or that they are injuring U.S. producers. All that is required is to show that the imports are interfering with U.S. agricultural support programs. As directed by the President, the USITC started its investigation on January 18, 1994. The final report of this investigation was forwarded, along with a number of recommendations to the President on June 15, 1994. The USITC

determined (by the majority decision) that Canadian wheat, wheat flour, and semolina were not being imported under such conditions and in such quantities as to render, or tend to render, ineffective the USDA wheat program. While the determination was generally negative, the USITC provided the President with recommended levels of import restrictions should the President determine (contrary to its findings) that there was evidence of material interference (USITC 1994b, pp. b-1 - b-18).

On August 1, 1994, the wheat trade dispute came to an end as a result of a negotiated settlement. Canada agreed to limit wheat exports to the United States while the U.S. agreed not to pursue an Article XXVIII action under the GATT to restrict wheat imports. Under this agreement, tariff rate quotas were used to restrict U.S. imports of wheat from the CWB[18]. The voluntary export restraint agreement was for one year and expired in September 1995 (Alston et al.). A binational commission of nongovernmental experts has been appointed to examine all aspects of the Canadian and the U.S. grain marketing and support systems. During the Commission's investigation, the U.S. agreed to place no restrictions on Canadian wheat shipments and Canada agreed not to take action against the U.S. on wheat under the WTO or NAFTA. The Commission's mandate was to "assist the two governments in reaching long-term solutions to existing problems in the grain sector" (Canada-United States Joint Commission on Grains, p. 1). The Commission's preliminary report was delivered in June 1995 and its recommendations met

---

[18] For durum wheat the tariff rates were as follows: $3/t for the first 300 kt; $23/t for the next 150 kt and $50/t for imports above 450 kt. For "other" wheat from the CWB, the tariff rate was $3/t for the first 1.05 million tons and a tariff rate of $50/t for imports above that limit. There were no restrictions on wheat flour, semolina or Canadian soft red winter wheat imported from outside the CWB area.

with a largely hostile reaction in Canada. The Commission's final report was expected to be completed by September 1995, but the final wording of the report is still under discussion. The Commission's recommendations are not binding on either country and the wheat dispute seems to be off the front of the political burner for at least three reasons: 1) the U. S. gave up its Section 22 wavier in the Uruguay Round of trade negotiations; 2) the U.S. has cut-back on the use of export subsidies; and 3) international wheat prices have increased significantly.

Nonetheless the economic analysis used by the USITC to investigate the durum wheat dispute is interesting and illustrates their role in trade disputes not involving ADs or CVDs. In addition, this case is one of the few times the USITC has used an estimated econometric model to examine historical evidence of causal relationships embodied in data. Perhaps, the Commission had little choice. The evidence presented, by various parties, in the USITC hearings were based on a wide variety of formal and informal economic models. On behalf of the CWB, Sumner, Alston and Gray (SAG) presented results from a formal econometric model which was used to examine the effects of Canadian wheat imports on the U.S. wheat market, including an extensive discussion of the assumptions and parameters underlying the model. The Law and Economics Consulting Group made a submission on behalf of U.S. wheat producers arguing that imported Canadian wheat was underpriced in the U.S. market because its quality is understated. The USDA argued, based on expert opinion, that wheat imports from Canada increased wheat supplies in the U.S., and lowered domestic wheat prices. The lower price then resulted in higher deficiency payments and higher program costs. Hence, it argued,

Canadian wheat imports interfered with domestic price and income support programs under Section 22 of the U.S. Agricultural Adjustment Act of 1933 (amended). Abel, Daft and Earley presented economic analysis on behalf of the Millers National Federation, the National Pasta Association and the National Grain Trade Council arguing that imports of Canadian wheat increased because of lower wheat production in the U.S., than in previous years, attributable to weather and USDA farm policies. After reviewing all these arguments, models and results, the USITC staff concluded that the results of any quantitative analysis depend on assumed supply and demand elasticities and that the more elastic the relevant response functions, the lower the impacts on U.S. prices and program costs.

It is important to keep the legal issue involved in this case clearly in mind: what is the magnitude of the effect of Canadian wheat exports on U.S. wheat prices and hence on the costs of U.S. government support programs? The direction of effect is obvious, only the size of the effect is at issue. The import-induced program costs estimated by the USDA were $230.4 million ($0.12 per bushel), while SAG estimated the costs to be 25.9 million ($0.014 per bushel) and the USITC (1994b) $73.2 million ($0.038 per bushel), all for 1993/94. The USITC investigated this issue using the Vector Autoregression(VAR) methodology popularized by Sims (1980, 1986). They specified a five dimensional VAR with domestic supply, domestic demand, exports, ending stocks and average market price of wheat as the variables.[19] Note that in a VAR framework, all variables are endogenous.

---

[19] The USITC VAR-model did not account for the US-EEP program, a seemingly serious omission.

The USITC estimated this five-variable VAR using quarterly data from 1979:1 to 1993:2 and generated impulse responses from the model. Based on their analysis, the USITC concluded that since imports of Canadian durum wheat constituted only a small proportion of the entire U.S. wheat market, the changes in the supply of durum wheat due to Canadian exports had not influenced the average wheat price, in the U.S. and had not affected program costs to a "statistically significant degree".

This paper is not the proper forum in which to provide a detailed critique of agricultural commodity modelling and policy analysis. It is always easier to criticize empirical work than it is to conduct high quality analysis. However, this case illustrates the inherent limitations of empirical economics. If we knew the "true" economic model then perhaps we could determine if the effect of Canadian wheat exports was to lower U.S. wheat prices by one cent or twelve cents. Unfortunately, we never know the "true" model and discrepancies of a few cents in the prediction of any impact multiplier, from different economic models, is hardly surprising or cause for great concern.

In fact, even if we knew the "true" impact multiplier for Canadian wheat imports, the outcome may not have been different in the absence of an exact definition of "material interference." The determination of material interference is a decision made by the President, and it is beyond the USITCs jurisdiction. Consequently, in the absence of a precise definition of what constitutes material interference, does a difference of a few cents in economic estimates really matter? If there is a compelling political reason, a price depressing effect of even one cent per bushel could be interpreted as causing material interference with the operation of domestic support programs.

CASE 4: Canadian CVD Case Against United States Corn

Canada's CVD case against U.S. corn is interesting because it is the only example of a successful CVD action against the United States and because it illustrates the use of a public interest hearing to help set the final duty.

Grain corn is grown commercially in only three Canadian provinces : Ontario, Quebec and Manitoba. Ontario accounts for 75-80% of total Canadian corn production which reached 7.0 mmt by the late 1980s. During the 1970s corn production increased substantially, particularly in Ontario and Quebec due to the development of short season hybrids suitable for cooler climatic conditions. Between mid-1970s and mid-1980s, Canada moved gradually towards self-sufficiency in corn production. Imports declined from an average of 1.0 mmt, about 17% of domestic production during 1978-1980, to 0.48 mmt and 7% of domestic production by 1984-1986. In fact, by the 1980s Canada was becoming an occasional net exporter of corn. The increasing importance of corn in Ontario made producers more sensitive to U.S. corn prices and support programs. Although corn imports from the U.S. had gradually declined, Ontario corn prices are set in the U.S. market where Canada is the classic small country price-taker. Thus, if U.S. farm policies contribute to higher corn production and hence lower market prices for corn, the effect is quickly transmitted into Canada. For example, between the 1983-84 and 1986-87 crop years the average corn price in the U.S. declined from $3.25/bushel to $1.57/bushel. However, corn producers' in the U.S. were largely protected from income losses by a target price that remained at $3.03/bushel. While increased deficiency payments, $1.46/bushel in 1986-87, protected U.S. corn producers, Canadian corn producers received support

through a stabilization program where support was designed to ratchet downward (95% of the five-year moving average price). Although the stabilization program provided a safety-net for Canadian producers in the short-run, the future prospects were not very encouraging.

Faced with dim prospects for higher market prices, the newly formed Ontario Corn Producer's Association filed a countervailing duty action against the United States in the Fall of 1986. The Association alleged that U.S. farm programs for corn had increased production above what would have occurred in an unsubsidized market and that the lower corn prices resulting from these subsidies were causing material injury to Canadian corn producers. Under Canadian law, Revenue Canada determines if the alleged product is subsidized and the size of the subsidy[20]. The Canadian Import Tribunal then determines whether the subsidy has caused, is causing, or is likely to cause material injury to domestic producers.

After a preliminary investigation, Revenue Canada determined that U.S. corn subsidies led to higher than normal (i.e., market determined) production of corn and depressed corn prices. The countervailable subsidy was calculated to be $1.05/bushel, in U.S. currency. This calculated subsidy margin was lowered, in January 1987 to $0.85/bushel ($1.10/bushel Can.).

On March 6, 1987, the CIT determined that imports of subsidized grain corn in all forms, excluding seed corn, sweet corn and popping corn from the United States had

---

[20] Canada's procedures in this respect are very similar to those in the United States (van Duren).

caused, was causing and was likely to cause material injury to Canadian corn producers. While we are not going to review the economic arguments in this case the result is interesting because injury was found at the same time imports of corn, both in absolute and relative terms were declining. The ruling affirmed that domestic policies can "harm" foreign producers, even when imports are not increasing.

The corn case is interesting for another reason. It was the first time the CIT conducted "public interest" hearings where different groups, individuals and businesses made their views known about the likely impact of the countervailing duty on their economic interests[21]. Following these hearings, the CIT advises the Minister of Finance if it is in the public interest to impose a partial countervailing duty. The final decision is made by the Minister of Finance.

During the course of the public interest investigation, the CIT arranged public hearings and received representations from a number of corn users who claimed that imposition of the CVD would not be in the public interest. The CIT, after considering the evidence advised the Minister of Finance that the imposition of a CVD on corn imports from the U.S. in excess of $0.30/bushel Can. would not be in the public interest. On February 4, 1988, the Minister of Finance reduced the CVD to $0.46/bushel. Hence, the final CVD was set at less than one-half of the calculated subsidy. While this determination did not rely on estimated supply and demand curves or formal welfare analysis, the result is consistent with the argument that the proper CVD for domestic subsidies is lower than the

[21] Since 1984 the CIT has been required to hold public interest hearings in CVD cases.

subsidy margin and that the interests of other economic agents should be taken into account in a CVD investigation.

LESSONS TO BE DRAWN FROM THE CASE STUDIES

The preceding case studies provide considerable "food for thought." First, the arsenal that United States industries have to challenge imports they perceive as being unfairly traded is impressive. Second, the quality of the economic analysis used to address the issue of unfairly traded imports does not always meet professional standards. Third, national CVD laws, regional dispute settlement procedures developed within free trade areas, and improved dispute settlement procedures within the WTO have the potential to conflict and overlap with one another, creating different bodies of trade law and general confusion. There must be a better way, and we would like to offer a proposal which draws upon the strengths of the recent reforms, while eliminating some of the weaknesses of the current system. Any proposal for reform must be judged against its ultimate objectives. Our proposal seeks to move the world economy towards more liberal and predictable international trade in agrifood products. At the same time, it recognizes that domestic industries should have recourse against imports "unfairly" subsidized by foreign governments. However, these rules should be transparent, the economic analysis underpinning the decisions beyond reproach and the process as timely and as harassment free as possible. This is a tall order - but a worthy objective.

Before proceeding, it is useful to briefly review the current status of agriculture within the WTO. The WTO has taken on the responsibility of monitoring and policing the

Agreement on Agriculture. This will involve making sure countries live up to their export subsidy reduction commitments, do not exceed their calculated aggregate measure of support and that the minimum access commitments specified in the various country schedules are upheld. In addition, the WTO will be called upon to make rulings with regard to countries using innovative tactics to circumvent the commitments they have made. The WTO also sets the ground rules for national CVD investigations and it will get more heavily involved in these disputes as a result of its "policeman's" role with regard to the Agreement on Agriculture, which contains the exceptions for agricultural products from the Agreement on Subsidies and Countervailing Measures, which governs trade in manufactured products.

Tables 1 and 2 show the rules of the WTO, in condensed form, as they apply to CVD investigations of manufactured and agricultural products. For manufactured goods export subsidies and domestic use regulations are prohibited, while for agriculture only export subsidies on "new" goods not identified in a country's tariff schedule are prohibited.

For manufactured products actionable subsidies and a presumption of serious prejudice apply to *ad valorem* subsidies greater than 5%, government debt forgiveness and subsidies to cover an industry's operating losses. For agriculture, actionable subsidies include export subsidies and some forms of specific domestic subsidies.

The list of "non-actionable" subsidies for manufactured products is relatively short. It includes generally available subsidies as well as specific subsidies for research assistance to developed regions and assistance to promote the adoption of existing facilities to new environmental requirements. Even for these subsidies, there are

restrictions applied to the allowable expenditures. For agriculture, the list of non-actionable subsidies is much longer. Most notably, it allows subsidies to be made to agriculture through direct payments and financial participation in safety net programs, as long as these programs meet certain criteria. The result of these differences, in the way subsidies on manufactured goods and subsidies on agricultural products are handled, means that in many cases national administered protection agencies decisions on agrifood CVDs will be appealed to the WTO. Any new Canadian income stabilization plan will be developed with a close eye on the "green" criteria of the WTO. If these programs are treated as commodity specific, in a United States trade action, Canada will appeal the ruling to the WTO. While this makes work for lawyers and perhaps even economists, it is not a healthy situation for industries that are attempting to sell their products internationally. To a large extent this justifies our proposal that the WTO become the only dispute settlement body for CVDs.

If the WTO is going to become the primary judicial body to deal with CVDs - is there still a role for national administered protection agencies, like the USITC and CITT? We believe there is. In fact, a redefined mandate for national administered protection agencies would facilitate increasingly liberal trade compared to their current role as essentially a protector of national interests.

What do we perceive as the new role for the national administered protection agencies? Essentially we would envisage them having three primary functions: 1) as a "transparency" agent; 2) as an investigatory agent; and 3) as an advocacy agent.

The call for a "transparency" agency is far from original having been made by both

Leutwiler and Long. Leutwiler suggested the agency should operate at the international level and Long at the national level. The objective of these agencies would be to calculate and publicize the costs and benefits of various domestic and trade policies. Leutwiler called this a “protection balance sheet” and the national model generally held up a shining example is the Australian Industry Commission. The essential argument is that good economic policy can only be made in the full light of day - where the disparate costs of domestic and trade policies are made as apparent as the concentrated benefits of most policy actions (Spriggs). In the agrifood sector, the calculation and publication of producer subsidy equivalents has been helpful not only in exposing the horrendous international costs of agricultural support policies, but also in illustrating the comparative costs across commodity sectors within national economies. This is especially true where protection in some sectors is provided by hidden policies, such as import and tariff rate quotas, while the protection for other sectors is in the form of highly visible output and input subsidies.

It should be noted that the role we foresee for a national transparency agency is considerably different than that of the Trade Policy Review Mechanism created within the WTO. The WTOs trade policy reviews are designed to examine the impact of a member’s trade policies on the multilateral trading system. The transparency agencies mandate would be to examine the impact of its own countries domestic and trade policies on its own consumers, producers and taxpayers. In this way, the national agencies become advocates for trade liberalization. To properly fulfill this role, the national agencies need to be removed, to the extent possible, from the political process. At times, the economic analysis of the transparency agency will be popular with politicians, but many times it won’t.

For this reason, it is important that the analysis be undertaken by a domestic as opposed to an international body. It is just to easy to ignore "foreign" economic advice. However, in order to maintain political support the agency would need other roles[22].

The second role we foresee is as an investigatory agent. Domestically this is consistent with the transparency function since doing quality economic analysis requires top flight institutional knowledge. We would also envisage the agency undertaking studies of foreign governments and foreign government policies. This serves two purposes. First, like a section 332 investigation, it provides a bone to throw to domestic vested interests. It is also always helpful when the President or Prime Minister can say, "there is an investigation underway." In many cases these investigations may absolve the foreign government of any wrong doing. In other cases, the investigation might uncover unfair trade practices. Models for this type of activity could be the analyses that the Australian Bureau of Agricultural and Resource Economics undertook of the United States and European Community agricultural policies. It might also mirror the economic analysis undertaken by the Canada-United States Joint Commission on Grain.

Finally, we see a third role as an advocacy agent. This would most clearly mirror the current mandate of national administered protection agencies. Domestic industries that felt they were being harmed by foreign subsidies would approach the agency indicating they wanted to take action against a foreign government subsidy in the WTO. The

[22] We will leave it to those in public administration to decide if the separate roles we envisage can coexist in a single agency. We believe they can and that there are good reasons for doing so, eg. the sharing of common knowledge about economics, industries and institutions.

advocacy agency would undertake economic analysis of the industry's claim. Hopefully, the agency could filter out false or weak claims and refer enough others to the investigatory agency that only a relatively few cases would actually be taken to the WTO. At this point, the agency would become the spokesman for the domestic industry. It would prepare state-of-the-art economic analysis to back up the domestic industry's claims.

There are several potential shortcomings of our proposal. First, that the WTO would be overwhelmed by cases. This might be a problem even under the current rules, as more and more disputes are taken to the WTO. However, it is not clear that our proposal would result in more cases. In fact, if the advocacy agency is doing its job properly, it should filter out a large number of the smaller and less significant cases before they ever reach the WTO. A second objection, is that it might discriminate against poor, less developed countries. We believe this is a non-issue. What could be more difficult, for any country, than attempting to defend itself in a foreign nation under their unique rules and institutions? At least at the WTO everyone would be following a common set of procedures and rules. Poorer countries could pool resources to hire lawyers and economists to make their case in Geneva. They would not require different teams of lawyers in the United States, Canada and the European Union. Finally, our proposal would require that the WTO develop legal and economic talent to undertake the role we have suggested. This is essentially an institutional issue that can be handled with the proper provision of resources, training and manpower.

By far the biggest objection to our proposal is that national governments, particularly the United States, may never concede this authority to a foreign body. While it is difficult

to be optimistic on this score, we think there is some hope for progress. With the expansion of regional trading agreements and their attendant dispute settlement mechanisms, and the increasing propensity to take disputes to the WTO, it may become obvious that three different levels of dispute settlement are inefficient and counterproductive. We are hopeful that progress can be made in this area during the next round of multilateral trade negotiations.

REFERENCES

Alston, J.M., R. Gray and D. A. Sumner. 1994. "The Wheat War of 1994." Canadian Journal of Agricultural Economics 42(3):231-251.

Baldwin, R. E. and J. W. Steagall. 1994. "An Analysis of ITC Decisions in Antidumping, Countervailing Duty and Safeguard Cases." Weltwirtschaftliches Archiv 130:290-308.

Boltuck, R. and E. R. E. Litan. 1991. Down in the Dumps. Brookings Institution: Washington, D.C.

Buongiorno, J., J-P. Chavas and J. Uusivuori. 1988. "Exchange Rates, Canadian Lumber Imports and U.S. Prices: A Time-Series Analysis." Canadian Journal of Forest Research 18(12):1587-1594.

Canada-United States Joint Commission on Grains. 1995. Preliminary Report. June.

Canadian Import Tribunal (CIT). 1987. Public Interest Grain Corn: Report of the Canadian Import Tribunal Under Section 45 of the Special Import Measures Act. CIT, Ottawa, Ontario.

Canadian International Trade Tribunal (CITT). 1990. Grain Corn Public Interest: Preliminary Examination of Changed Circumstances. Canadian International Trade Tribunal, Ottawa, Ontario.

Congressional Budget Office (CBO). 1994. How the GATT Affects U.S. Antidumping and Countervailing Duty Policy? September.

Corden, W. M. 1974. Trade Policy and Economic Welfare. Oxford: Clarendon Press.

De Vault, J-M. 1993. "The Impact of the U.S. Unfair Trade Laws: A Preliminary Assessment." Weltwirtschaftliches Archiv 129(4):735-751.

Doran, C. and T. Nostali. 1987. U.S.-Canadian Softwood Lumber: Trade Dispute Negotiations. The Johns Hopkins Foreign Policy Institute, Washington, DC.

Horlick, G. 1991. "Comment." R. Bultock and R. E. Litan, eds. Down in the Dumps. Brookings Institution: Washington, D. C.

Jabara, C. 1995. International Trade Commission Decisions on Agriculture. Paper presented at the IATRC annual meeting Understanding Administered Barriers to Trade, December 14-16, 1995, Tucson, Arizona.

Krugman, P. 1992. "Does the New Trade Theory Require a New Trade Policy?" The World Economy 15(4):423-41.

Leutwiler, F. et. al. 1985. Trade Policies for a Better Future: Proposals for Action. GATT Secretariat, March, Geneva.

Long, O. et. al. 1989. Public Scrutiny of Protection: Domestic Policy Transparency and Trade Liberalization. Special Report 7. Grower: London.

Ludwick, D. E. 1994. "U.S.-Canadian Dispute on Swine and Pork Trade." Industry, Trade and Technology Review, February.

Loyns, R.M.A., R.D. Knutson and K. Meilke, eds. 1995. Understanding Canada/United States Grain Disputes. University of Manitoba: Winnipeg.

MacLaren, R. 1995. Notes for an Address by the Honorable Roy MacLaren, Minister for International Trade. 64th Annual Couchiching Conference, Orillia, Ontario, 13 March.

Martin, L. J. and E. W. Goddard. 1987. The Economics of Canadian Hog Stabilization Programs and U. S. Countervailing Duties. AEB/87/3, Dept. of Agr. Econ. and Business, Uni. of Guelph, October.

Meilke, K. D. 1991. "Methods of Measuring Net Benefits for Agriculture." Can. J. Agr. Econ. 39(4):823-34.

Meilke, K. D. and M. Scally. 1988. Trade in Vertically Related Markets: The Case of Hogs and Pork. Working paper WP88/17, Dept. of Agr. Economics and Business, University of Guelph, November, 59 pp.

Meilke, K. D. and E. van Duren. 1990. "Economic Issues in the U.S. Countervail Case Against Canadian Hogs and Pork." G. Lermer and K.K. Klein, eds., Canadian Agricultural Trade, Disputes, Actions, Prospects. Calgary: University of Calgary Press, 45-72.

Meilke, K.D. and T.K. Warley. 1990. "The Why, How and Consequences of Agricultural Policies: Canada." Agricultural Protectionism in the Industrialized World. ed. F.H. Sanderson, Resources for the Future: Washington D.C., 112-180.

Meilke, K. D. and G. Moschini. 1992. A Chronicle of Canadian Hog Stabilization Programs and U.S. Countervailing Duties on Hogs and Pork. GATT Research Paper # 91-GATT 5. Center for Agricultural and Rural Development, Iowa State University, Ames, IA.

Moschini, G. and K. D. Meilke. 1992. "Production Subsidy and Countervailing Duties in Vertically Related Markets: The Hog-Pork Case Between Canada and the United States." American Journal of Agricultural Economics 74(4):951-961.

Ricardo, D. 1817. The Principles of Political Economy and Taxation. London: Dent & Sons Ltd., 1962 reprint.

Sarker, R. 1993. "A Maximum Likelihood Cointegration Analysis of Canadian Lumber Exports." Canadian Journal of Agricultural Economics 41(1):97-110.

Schott, J. J. 1994. The Uruguay Round: An Assessment. Institute for International Economics, Washington D.C.

Shin, H.J. 1994. Antidumping Law and Foreign Firm Behavior: An Empirical Analysis. Ph.D. thesis, Yale University.

Sims, C. A. 1986. "Are Forecasting Models Useful for Policy Analysis?" Federal Reserve Bank of Minneapolis Quarterly Review, Winter: 2-16.

Sims, C. A. 1980. "Macroeconomics and Reality." Econometrica, 48(1):1-48.

Spriggs, J. 1991. "Towards an International Transparency Institution." The World Economy 14(3):165-180.

Sumner, D. A., J. M. Alston and R. S. Gray. 1994. A Quantitative Analysis of the Effects of Wheat Imports on the U.S. Market for Wheat Including the Impact on Deficiency Payments. Report prepared for the Canadian Wheat Board, Winnipeg, 25 April.

United States International Trade Commission (USITC). 1982. Softwood Lumber From Canada. USITC Publication No. 1320. Washington, DC 20436.

United States International Trade Commission (USITC). 1990. Durum Wheat: Conditions of Competition Between the U.S. and Canadian Industries. USITC Publication No. 2274, Washington, DC 20436.

United States International Trade Commission (USITC). 1994a. Softwood Lumber From Canada. USITC Publication No. 2753. Washington, DC 20436.

United States International Trade Commission (USITC). 1994b. Wheat, Wheat Flour and Semolina: Investigation No. 22-54. USITC Publication No. 2794, Washington, DC 20436.

United States International Trade Commission (USITC). 1992. Softwood Lumber From Canada. USITC Publication No. 2530. Washington, DC 20436.

United States International Trade Commission. 1995. The Economic Effects of Antidumping and Countervailing Duty Orders and Suspension Agreements. Publication 2900, June.

van Duren, E. 1989. An Economic Analysis of Countervailing Duty Law: Cases Involving Agriculture. Ph. D. thesis, Dept. of Agr. Econ. and Business, University of Guelph, December.

Veeman, M. 1994. "Implications of NAFTA and GATT for the Canadian red meat sector." Canadian Journal of Agricultural Economics 42(4):473-483.

Wallace, P. 1987. "Southern Pine Dealt Setback by Costlier Canadian Lumber." Wall Street Journal, 27 January, p. 37.

Wolak, F. 1995. Use and Abuse of Antidumping Law. Paper presented at the IATRC annual meeting Understanding Administered Barriers to Trade, December 14-16, 1995, Tucson, Arizona.

Table 1: WTO Rules as they Apply to Subsides and Countervailing Measures: Manufactured Products

Prohibited Subsidies:

- Government Transfers of Funds, Revenue Foregone or Provision of Services other than General Infrastructure to a Specific Industry

- Income or Price Support

- Export Subsidies

- Domestic Use Regulations

Actionable Subsidies:

- Ad Valorem Subsidization Exceeds 5%[23]

- Subsidies to Cover an Industries Operating Losses[22]

- Forgiveness of Government Held Debt[22]

Non-Actionable Subsidies:

- Generally Available Subsidies

- Specific Subsidies Which Met the Following Conditions:

    - ad valorem subsidization less than 1%

    - assistance for research activities if the assistance covers not more than 75% of the costs of industrial research or 50% of the costs of pre-competitive development activity[24]

    - assistance to disadvantaged regions, based on specified development criteria[23]

---

[23] These subsidies must also be shown to have trade effects as described in the Agreement on Subsidies and Countervailing Measures

[24] Other conditions apply.

- assistance to promote adoption of existing facilities to new environmental requirements, provided the assistance is limited to 20% of the cost of adaption[23]

Table 2: WTO Rules as they Apply to Subsides and Countervailing Measures Agriculture

Prohibited Subsidies:

- Export Subsidies on Products not Identified in the Countries Schedule of Commitments

Actionable Subsidies:

- Ad Valorem Product Specific Support Exceeds 5%
- Ad Valorem Product Specific Support 1%-5%[25]
- Ad Valorem Non-Specific[26] Support Exceeds 1%[24]
- Direct Payments under Production Limiting Programs[24]
- Export Subsidies on Products Specified in the Countries Schedule of Commitments[24]

Non-Actionable Subsidies:

- Generally Available Subsidies
- Ad Valorem Subsidization Less than 1%
- General Services:
    - research
    - pest and disease control

---

[25] With a determination of injury and "due restraint" must be shown in bringing a case.

[26] The term non-specific is used in the context of Article 6 of the Agreement on Agriculture.

- training services
- extension and advisory services
- inspection services
- marketing and promotion services
- infrastructure

- Public Stockholding for Food Security Purposes
- Domestic Food Aid
- Direct Payments to Producers through Decoupled Income Support
- Government Financial Participation in income insurance and income safety-net programs
    - Payments for Relief from Natural Disasters
    - Structural Adjustment Assistance Provided through:
        - producer retirement programs
        - resource retirement programs
        - investment aids
- Payments Under Environmental Programs
- Payments Under Regional Assistance Programs
- Specific Subsidies which Meet the Following Conditions:
    - assistance for research activities if the assistance covers not more than 75% of the costs of industrial research or 50% of the costs of pre-competitive development activity
    - assistance to disadvantaged regions, based on specified development criteria
    - assistance to promote adoption of existing facilities to new environmental requirements, provided the assistance is limited to 20% of the cost of adaption.

February 9, 1996

INTERNATIONAL AGRICULTURAL TRADE RESEARCH CONSORTIUM*

Working Papers Series

Number	Title	Author(s)	Send correspondence or requests for copies to:
85-1	Do Macroeconomic Variables Affect the Ag Trade Sector? An Elasticities Analysis	McCalla, Alex Pick, Daniel	Dr Alex McCalla Dept of Ag Econ U of California Davis, CA 95616
86-1	Basic Economics of an Export Bonus Scheme	Houck, James	Dr James Houck Dept of Ag Econ U of Minnesota St Paul, MN 55108
86-2	Risk Aversion in a Dynamic Trading Game	Karp, Larry	Dr Larry Karp Dept of Ag & Resource Econ/U of California Berkeley, CA 94720
86-3	An Econometric Model of the European Economic Community's Wheat Sector	de Gorter, Harry Meilke, Karl	Dr Karl Meilke Dept of Ag Econ U of Guelph Guelph, Ontario CANADA N1J 1S1
86-4	Targeted Ag Export Subsidies and Social Welfare	Abbott, Philip Paarlberg, Philip Sharples, Jerry	Dr Philip Abbott Dept of Ag Econ Purdue University W Lafayette, IN 47907
86-5	Optimum Tariffs in a Distorted Economy: An Application to U.S. Agriculture	Karp, Larry Beghin, John	Dr Larry Karp Dept of Ag & Resource Econ/U of California Berkeley, CA 94720
87-1	Estimating Gains from Less Distorted Ag Trade	Sharples, Jerry	Dr Jerry Sharples USDA/ERS/IED/ETP 628f NYAVEBG 1301 New York Ave NW Washington, DC 20005-4788

Number	Title	Author(s)	Send correspondence or requests for copies to:
87-2	Comparative Advantage, Competitive Advantage, and U.S. Agricultural Trade	White, Kelley	Dr Kelley White USDA/ERS/IED 732 NYAVEBG 1301 New York Ave NW Washington, DC 20005-4788
87-3	International Negotiations on Farm Support Levels: The Role of PSEs	Tangermann, Stefan Josling, Tim Pearson, Scott	Dr Tim Josling Food Research Institute Stanford University Stanford, CA 94305
87-4	The Effect of Protection and Exchange Rate Policies on Agricultural Trade: Implications for Argentina, Brazil, and Mexico	Krissoff, Barry Ballenger, Nicole	Dr Barry Krissoff USDA/ERS/ATAD 624 NYAVEBG 1301 New York Ave NW Washington, DC 20005-4788
87-5	Deficits and Agriculture: An Alternative Parable	Just, Richard Chambers, Robert	Dr Robert Chambers Dept of Ag & Res Economics Univ of Maryland College Park, MD 20742
87-6	An Analysis of Canadian Demand for Imported Tomatoes: One Market or Many?	Darko-Mensah, Kwame Prentice, Barry	Dr Barry Prentice Dept of Ag Economics & Farm Mgmt University of Manitoba Winnipeg, Manitoba CANADA R3T 2N2
87-7	Japanese Beef Policy and GATT Negotiations: An Analysis of Reducing Assistance to Beef Producers	Wahl, Thomas Hayes, Dermot Williams, Gary	Dr Dermot Hayes Dept of Economics Meat Export Res Center Iowa State University Ames, IA 50011
87-8	Grain Markets and the United States: Trade Wars, Export Subsidies, and Price Rivalry	Houck, James	Dr James Houck Dept of Ag Econ Univ of Minnesota St Paul, MN 55108

Number	Title	Author(s)	Send correspondence or requests for copies to:
87-9	Agricultural Trade Liberalization in a Multi-Sector World Model	Krissoff, Barry Ballenger, Nicole	Dr Barry Krissoff USDA/ERS/ATAD 624 NYAVEBG 1301 New York Ave NW Washington, DC 20005-4788
88-1	Developing Country Agriculture in the Uruguay Round: What the North Might Miss	Mabbs-Zeno, Carl Ballenger, Nicole	Dr Nicole Ballenger USDA/ERS/ATAD 624 NYAVEBG 1301 New York Ave NW Washington, DC 20005-4788
88-2	Two-Stage Agricultural Import Demand Models Theory and Applications	Carter, Colin Green, Richard Pick, Daniel	Dr Colin Carter Dept of Ag Economics Univ of California Davis, CA 95616
88-3	Determinants of U.S. Wheat Producer Support Price: A Time Series Analysis	von Witzke, Harald	Dr Harald von Witzke Dept of Ag Economics Univ of Minnesota St Paul, MN 55108
88-4	Effect of Sugar Price Policy on U.S. Imports of Processed Sugar-containing Foods	Jabara, Cathy	Dr Cathy Jabara Office of Econ Policy U.S. Treasury Dept 15th & Pennsylvania Ave NW Washington, DC 20220
88-5	Market Effects of In-Kind Subsidies	Houck, James	Dr James Houck Dept of Ag Economics University of Minnesota St Paul, MN 55108
88-6	A Comparison of Tariffs and Quotas in a Strategic Setting	Karp, Larry	Dr Larry Karp Dept of Ag & Resource Econ/U of California Berkeley, CA 94720
88-7	Targeted and Global Export Subsidies and Welfare Impacts	Bohman, Mary Carter, Colin Dortman, Jeffrey	Dr Colin Carter Dept of Ag Economics U of California, Davis Davis, CA 95616

Number	Title	Author(s)	Send correspondence or requests for copies to:
89-1	Who Determines Farm Programs? Agribusiness and the Making of Farm Policy	Alston, Julian Carter, Colin Wholgenant, M.	Dr Colin Carter Dept of Ag Economics U of California, Davis Davis, CA 95616
89-2	Report of ESCOP Subcommittee on Domestic and International Markets and Policy	Abbott, P.C. Johnson, D.G. Johnson, R.S. Meyers, W.H. Rossmiller, G.E. White, T.K. McCalla, A.F.	Dr Alex McCalla Dept of Ag Economics U of California-Davis Davis, CA 95616
89-3	Does Arbitraging Matter? Spatial Trade Models and Discriminatory Trade Policies	Anania, Giovanni McCalla, Alex	Dr Alex McCalla Dept of Ag Economics U of California-Davis Davis, CA 95616
89-4	Export Supply and Import Demand Elasticities in the Japanese Textile Industry: A Production Theory Approach	Pick, Daniel Park, Timothy	Daniel Pick USDA/ERS/ATAD 1301 New York Ave. N.W. Washington, DC 20005-4788
89-5	The Welfare Effects of Imperfect Harmonization of Trade and Industrial Policy	Gatsios, K. Karp, Larry	Dr. Larry Karp Dept. of Ag & Resource Econ/U of California Berkeley, CA 94720
89-6	Report of the Task Force on Tariffication and Rebalancing	Josling, Tim Chair	Dr. Timothy Josling Food Research Institute Stanford University Stanford, CA 94305-6084
89-7	Report of the Task Force on Reinstrumentation of Agricultural Policies	Magiera, Stephen Chair	Stephen L. Magiera USDA/ERS/ATAD 1301 New York Ave., Rm 624 Washington, DC 20005-4788
89-8	Report of the Task Force on The Aggregate Measure of Support: Potential Use by GATT for Agriculture	Rossmiller, G.E. Chair	Dr. G. Edward Rossmiller Resources for the Future Nat'l Ctr for Food/Ag Policy 1616 P Street NW Washington, DC 20036

Number	Title	Author(s)	Send correspondence or requests for copies to:
89-9	Agricultural Policy Adjustments in East Asia: The Korean Rice Economy	Kwon, Yong Dae Yamauchi, Hiroshi	Dr. Hiroshi Yamauchi Dept. of Ag & Res. Econ. University of Hawaii 3050 Maile Way Gilmore Hall Honolulu, HI 96822
90-1	Background Papers for Report of the Task Force on The Aggregate Measure of Support: Potential Use by GATT for Agriculture	Rossmiller, G.E. Chair	Dr. G. Edward Rossmiller Resources for the Future Nat'l Ctr for Food/Ag Policy 1616 P Street NW Washington, DC 20036
90-2	Optimal Trade Policies for a Developing Country Under Uncertainty	Choi, E. Kwan Lapan, Harvey E.	Dr. E. Kwan Choi Dept. of Economics Iowa State University Ames, Iowa 50011
90-3	Report of the Task Force on The Comprehensive Proposals for Negotiations in Agriculture	Josling, Tim Chair	Dr. Timothy Josling Food Research Institute Stanford University Stanford, CA 94305-6084
90-4	Uncertainty, Price Stabilization & Welfare	Choi, E. Ewan Johnson, Stanley	Dr. E. Kwan Choi Dept. of Economics Iowa State University Ames, IA 50011
90-5	Politically Acceptable Trade Compromises Between The EC and The US: A Game Theory Approach	Johnson, Martin Mahe, Louis Roe, Terry	Dr. Terry Roe Dept. of Ag & Applied Econ 1994 Buford Avenue University of Minnesota St. Paul, MN 55108
90-6	Agricultural Policies and the GATT: Reconciling Protection, Support and Distortion	de Gorter, Harry Harvey, David R.	Dr. Harry de Gorter Dept. of Ag Economics Cornell University Ithaca, NY 14853
91-1	Report of the Task Force on Reviving the GATT Negotiations in Agriculture	Trade Update Notes	Dr. Maury E. Bredahl Ctr for Intl Trade Expansion 200 Mumford Hall Missouri University Columbia, MO 65211

Number	Title	Author(s)	Send correspondence or requests for copies to:
91-2	Economic Impacts of the U.S. Honey Support Program on the Canadian Honey Trade and Producer Prices	Prentice, Barry Darko, Kwame	Dr. Barry E. Prentice University of Manitoba Dept of Ag Economics & Farm Management Winnipeg, Manitoba R3T 2N2 CANADA
91-3	U.S. Export Subsidies in Wheat: Strategic Trade Policy or an Expensive Beggar-My-Neighbor Tatic?	Anania, Giovanni Bohman, Mary Colin, Carter A.	Dr. Colin Carter Dept of Ag Economics Univ. California-Davis Davis, CA 95616
91-4	The Impact of Real Exchange Rate Misalignment and Instability on Macroeconomic Performance in Sub-Saharan Africa	Ghura, Dhaneshwar Grennes, Thomas J.	Dr. Thomas J. Grennes Dept of Econ & Business North Carolina State Univ P.O. Box 8109 Raleigh, NC 27695-8109
91-5	Global Grain Stocks and World Market Stability Revisited	Martinez, Steve Sharples, Jerry	Steve Martinez USDA/ERS/ATAD 1301 New York Av NW -#624 Washington, DC 20005-4788
91-6	The Export Enhancement Program: Prospects Under the Food, Agriculture, Conservation, and Trade Act of 1990	Haley, Stephen L.	Dr. Stephen L. Haley Dept of Ag Economics & Agribusiness Louisiana State University 101 Ag Admin Bldg Baton Rouge, LA 70803-5604
91-7	European Economic Integration and the Consequences for U.S. Agriculture	Gleckler, James Koopman, Bob Tweeten, Luther	Luther Tweeten Dept of Ag Economics & Rural Sociology Ohio State University 2120 Fyffe Road Columbus, OH 43210-1099
91-8	Agricultural Policymaking in Germany: Implications for the German Position in Multilateral Trade Negotiations	Tangermann, Stefan Kelch, David	David Kelch ATAD/ERS/USDA 1301 New York Ave NW-624 Washington, DC 20005-4788

Number	Title	Author(s)	Send correspondence or requests for copies to:
91-9	Partial Reform of World Rice Trade: Implications for the U.S. Rice Sector	Haley, Stephen	Stephen L. Haley Dept of Ag Economics & Agribusiness Louisiana State University 101 Ag Administration Bldg Baton Rouge, LA 70803
91-10	A Simple Measure for Agricultural Trade Distortion	Roningen, Vernon Dixit, Praveen M.	Vernon O. Roningen ATAD/ERS/USDA 1301 New York Ave NW-624 Washington, DC 20005-4788
92-1	Estimated Impacts of a Potential U.S.-Mexico Preferential Trading Agreement for the Agricultural Sector	Krissoff, Barry Neff, Liana Sharples, Jerry	Barry Krissoff ATAD/ERS/USDA 1301 New York Ave NW-734 Washington, DC 20005-4788
92-2	Assessing Model Assumptions in Trade Liberalization Modeling: An Application to SWOMPSIM	Herlihy, Micheal Haley, Stephen L. Johnston, Brian	Stephen Haley Louisiana State University Dept AgEc & Agribusiness 101 Administration Bldg Baton Rouge, LA 70803
92-3	Whither European Community Common Agricultural Policy, MacSharried, or Dunkeled in the GATT?	Roningen, Vernon	Vernon O. Roningen ATAD/ERS/USDA 1301 New York Ave NW-624 Washington, DC 20005-4788
92-4	A Critique of Computable General Equilibrium Models for Trade Policy Analysis	Hazledine, Tim	Tim Hazledine Bureau of Competition Policy - 20th Floor Economic & Intl Affairs Place du Portage I 50 Victoria Street Hull, Quebec CANADA K1A 0C9
92-5	Agricultural Trade Liberalization: Implications for Productive Factors in the U.S.	Liapis, Peter Shane, Mathew	Peter S. Liapis USDA/ERS/ATAD 1301 New York Ave NW-624 Washington, DC 20005-4788

Number	Title	Author(s)	Send correspondence or requests for copies to:
92-6	Implementing a New Trade Paradigm: Opportunities for Agricultural Trade Regionalism in the Pacific Rim	Tweeten, Luther Lin, Chin-Zen Gleckler, James Rask, Norman	Luther Tweeten Ohio State University Dept of Ag Economics 2120 Fyffe Rd Columbus, OH 43210-1099
92-7	The Treatment of National Agricultural Policies in Free Trade Areas	Josling, Tim	Tim Josling Stanford University Food Research Institute Stanford, CA 94305
92-8	Shifts in Eastern German Production Structure Under Market Forces	Paarlberg, Philip	Philip L. Paarlberg Purdue University Dept of Ag Economics Krannert Bldg West Lafayette, IN 47907
92-9	The Evolving Farm Structure in Eastern Germany	Paarlberg, Philip	Philip L. Paarlberg Purdue University Dept of Ag Economics Krannert Bldg West Lafayette, IN 47907
92-10	MacSherry or Dunkel: Which Plan Reforms the CAP?	Josling, Tim Tangermann, Stefan	Tim Josling Stanford University Food Research Institute Stanford, CA 94305
93-1	Agricultural and Trade Deregulation in New Zealand: Lessons for Europe and the CAP	Gibson, Jim Hillman, Jimmye Josling, Timothy Lattimore, Ralph Stumme, Dorothy	Jimmye Hillman University of Arizona Dept of Ag Economics Tucson, AZ 85721
93-2	Testing Dynamic Specification for Import Demand Models: The Case of Cotton	Arnade, Carlos Pick, Daniel Vasavada, Utpal	Dr. Daniel Pick USDA/ERS/ATAD 1301 New York Av NW-#734 Washington, DC 20005-4788
93-3	Environmental & Agricultural Policy Linkages in the European Community: The Nitrate Problem and Cap Reform	Haley, Stephen	Stephen L. Haley USDA/ERS/ATAD 1301 New York Av NW-#740 Washington, DC 20005-4788

Number	Title	Author(s)	Send correspondence or requests for copies to:
93-4	International Trade in Forest Products: An Overview	Puttock, G. David Sabourin, Marc Meilke, Karl D.	David Puttock Faculty of Forestry University of Toronto 33 Willcocks St Toronto, Ontario CANADA M5S 3B3
93-5	Measuring Protection in Agriculture: The Producer Subsidy Equivalent Revisited	Masters, William	William A. Masters Purdue University Dept of Ag Economics West Lafayette, IN 47907
93-6	Phasing In and Phasing Out Protectionism with Costly Adjustment of Labour	Karp, Larry Paul, Thierry	Larry Karp Univ of Calif-Berkeley Ag and Resource Economics Berkeley, CA 94720
93-7	Domestic and Trade Policy for Central and East European Agriculture	Karp, Larry Spiro, Stefanou	Larry Karp Univ of Calif-Berkeley Ag and Resource Economics Berkeley, CA 94720
93-8	Evaluation of External Market Effects & Government Intervention in Malaysia's Agricultural Sector: A Computable General Equilibrium Framework	Yeah, Kim Leng Yanagida, John Yamauchi, Hiroshi	Hiroshi Yamauchi University of Hawaii Dept of Ag & Resource Econ 3050 Maile Way-Gilmore 104 Honolulu, HI 96822
93-9	Wheat Cleaning & Its Effect on U.S. Wheat Exports	Haley, Stephen L. Leetmaa, Susan Webb, Alan	Stephen L. Haley USDA/ERS/ATAD 1301 New York Av NW-#740 Washington, DC 20005-4788
94-1	The Economics of Grain Producer Cartels	Gleckler, James Tweeten, Luther	Luther Tweeten The Ohio State University Dept of AgEcon & Rural Soc 2120 Fyffe Rd Columbus, OH 43210-1099

Number	Title	Author(s)	Send correspondence or requests for copies to:
94-2	Strategic Agricultural Trade Policy Interdependence and the Exchange Rate: A Game Theoretic Analysis	Kennedy, Lynn P. von Witzke, Harald Roe, Terry	Harald von Witzke University of Minnesota Dept of Ag & Applied Econ 1994 Buford Ave - 332h COB St. Paul, MN 55108-6040
94-3	Declining U.S. Tobacco Exports to Australia: A Derived Demand Approach to Competitiveness	Beghin, John Hu, Fan	John Beghin OECD Development Centre 94 Rue Chardon-Lagache 75016 Paris FRANCE
94-4	Alternative Oligopolistic Structures in International Commodity Markets: Price or Quantity Competition?	Carter, Colin A. MacLaren, Donald	Donald MacLaren Department of Agriculture University of Melbourne Parkville, Victoria 3052 AUSTRALIA
94-5	Labor Adjustment and Gradual Reform: Is Commitment Important?	Karp, Larry Paul, Thierry	Dr. Larry Karp University of CA-Berkeley Dept of Ag & Res Economics 207 Giannini Hall Berkeley, CA 94720
94-6	The Economic Implications of Chemical Use Restrictions in Agriculture	Hartmann, Monika Schmitz, P. Michael	P. Michael Schmitz Johann Wolfgang Goethe-Universität Institute of Ag Economics D-60325 Frankfurt am Main Zeppelinallee 29 GERMANY
95-1	Intra-Industry Trade in Agricultural Products in the Western Hemisphere: Preliminary Evidence and Implications for Economic Integration	Roberts, Donna	Donna Roberts USDA/ERS 1301 New York Ave NW Washington, DC 20005-4788
95-2	U.S. Imports of Canadian Wheat: Estimating the Effect of the U.S. Export Enhancement Program	Haley, Stephen	Stephen L. Haley USDA/ERS/CAD 1301 New York Av NW-#740 Washington, DC 20005-4788

Number	Title	Author(s)	Send correspondence or requests for copies to:
95-3	Restricting Wheat Imports from Canada: Impact of Product Differentiation and U.S. Export Policy Goals	Haley, Stephen	Stephen L. Haley USDA/ERS/CAD 1301 New York Av NW-#740 Washington, DC 20005-4788
95-4	Analysis of U.S. Export Enhancement Targeting and Bonus Determination Criteria	Haley, Stephen Skully, David	Stephen L. Haley USDA/ERS/CAD 1301 New York Av NW -#740 Washington, DC 20005-4788
95-5	Challenges in Quantitative Economic Analysis in Support of Multilateral Trade Negotiations	Meilke, Karl D. McClatchy, Don de Gorter, Harry	Harry de Gorter Cornell University Dept of Ag, Res & Mngr Econ 102 Warren Hall Ithaca, NY 14853-7801
95-6	Wheat Buffer Stocks and Trade in an Efficient Global Economy	Makki, Shiva S. Tweeten, Luther Maranda, Mario J.	Luther Tweeten Ohio State University Dept of Ag Econ & Rural Soc 2120 Fyffe Road Columbus, Ohio 43210
95-7	U.S. Trade Threats: Rhetoric or War?	Mylène Kherallah John Beghin	John Beghin N Carolina State University Box 8110 Raleigh, NC 27695
96-1	National Administered Protection Agencies: Their Role in the Post-Uruguay Round World	Meilke, Karl D. Sarker, Rakhal	Karl Meilke Dept of Ag Econ & Business University of Guelph Guelph, Ontario N1J 1S1 Canada

*The International Agricultural Trade Research Consortium is an informal association of university and government economists interested in agricultural trade. Its purpose is to foster interaction, improve research capacity and to focus on relevant trade policy issues. It is financed by the USDA, ERS and FAS, Agriculture Canada and the participating institutions.

The IATRC Working Paper Series provides members an opportunity to circulate their work at the advanced draft stage through limited distribution within the research and analysis community. The IATRC takes no political positions or responsibility for the accuracy of the data or validity of the conclusions presented by working paper authors. Further, policy recommendations and opinions expressed by the authors do not necessarily reflect those of the IATRC.

Correspondence or requests for copies of working papers should be addressed **to the authors** at the addresses listed above.

A current list of IATRC publications is available from:

Laura Bipes, Administrative Director
Department of Applied Economics
University of Minnesota
231 Classroom Office Building
1994 Buford Ave
St. Paul, MN 55108-6040, U.S.A.