# In the Productivity Commission

## Inquiry into Pig and Pigmeat Industries: Safeguard Action Against Imports

## Submission of the Government of Canada

### Introduction

The Government of Canada now submits its further submission to the Productivity Commission for the purposes of this Inquiry. In so doing, it repeats and reiterates its earlier submission, [1] which should be read together with this submission.

### Canadian pork exports to Australia face yet another inquiry

This inquiry is the latest in a number of Australian government inquiries related to the Australian pig industry in general and to Canadian imports of frozen processed pork in particular.

In this context we note, in particular, reports concerning the restrictive sanitary limitations on imports of Canadian pork; Australian Customs Service [2] and Anti-Dumping Authority [3] reports into anti-dumping and subsidy complaints against Canadian pork; and the Industry Commission's research project report concerning pigs and pigmeat. [4]

Canada's pork trade with Australia has come under intense scrutiny through these inquiries and reports. At no stage in the past have the Australian authorities discerned any predatory conduct on the part of Canadian exporters, nor any causal link between Canadian imports and material or serious injury allegedly suffered by the relevant Australian industry.

The domestic pig growing industry has also conducted *"buy Australian"* campaigns against Canadian pork, including aggressive criticism of major retailers [5] and numerous allegations of inaccurate labelling by Australian smallgoods processors using Canadian pork. [6] In Canada's view, the industry has also misinformed the public about imported Canadian pork. [7]

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[1] Submitted under cover of letter from the Canadian High Commission dated 13 August 1998.

[2] *Frozen pork from Canada* (Report and Preliminary Finding No 92/20, 27 November 1992).

[3] *Review of the Australian Customs Service negative preliminary finding on frozen pork from Canada* (Report No. 90, January 1993).

[4] *Pigs and Pigmeat*, Industry Commission Research Project, 30 October 1995.

[5] For example, in a media release dated 16 July 1998, the Pork Council of Australia *("the PCA")* attacked Woolworths for accepting processed products containing imported pigmeat. In part, the President of the PCA said *"Will Woolworths be selling imported chicken, salmon or beef products if they become available - regardless of domestic supply?"*

[6] For example, in a media release dated 3 December 1996, the PCA accused Australian smallgoods manufacturers of *"possible breaches of the Trade Practices Act"*. Two months earlier, the PCA in a media release dated 28 October 1996 complained about an alleged *"absence of effective country of origin labelling laws in Australia"*.

[7] For example, in a media release dated 29 May 1998, the PCA claimed that Canadian pork was *"subsidised by 15%"*. US administrative reviews of alleged subsidies have led to a zero countervailing duty rate: see Section 5 of this submission. Also, the Australian Pork Corporation submission to the Productivity Commission refers to an *"11,000 metric tonne plateau"* of Canadian pork imports, whereas ABS statistics show that the 9,000 metric tonne volume for calender 1997, and that 9,000 metric tonne level has not been matched (on a rolling 12 month basis) in any month since then.

## Proper procedures must be followed by the Productivity Commission

This *"safeguards inquiry"* was commenced by way of Terms of Reference dated 26 June 1998. The *"general procedures"* for inquiries of this sort are contained in a Gazette notice of the previous day.[8]

Canada is concerned to ensure that due process is accorded to it as an interested party and member of the WTO, and that the requirements of the Agreement on Safeguards, both as to procedure and substantive issues, are carefully complied with. The degree of care required is increased by reason of a number of factors which are peculiar to this case.

First, there does not appear to be any established legal or administrative framework in Australia for conducting the inquiry. We make this submission with all due respect for the Productivity Commission which has been charged by the Australian Government with responsibility for the inquiry. The jurisdiction in Australia for conducting an inquiry under the Agreement on Safeguards is entirely new. The *"temporary assistance"* jurisdiction previously handled by the Industries Assistance Commission and the Temporary Assistance Authority prior to 1989 was prior to the Agreement on Safeguards, and the temporary assistance reports are vastly different in terms of criteria and industry policy.[9]

Secondly, the status of the Gazette notice is unclear. It is an incomplete rendition of the Agreement on Safeguards itself, although it seeks to incorporate that Agreement by reference to it. The Gazette notice does not have statutory legal status, although as a matter of administrative law a failure to comply with it may base a claim for prerogative relief or relief under the Administrative Decisions (Judicial Review) Act 1977. Canada trusts and expects that the entirety of the Agreement on Safeguards will be adopted and applied, notwithstanding the lack of implementation of it as a domestic Australian law and the incomplete replication of it by way of public gazettal.

Thirdly, Canada has indicated to the Productivity Commission the importance attached to the principle that proper procedures must be in place to enable interested parties to present evidence and their views, including the opportunity to respond to the presentations of other parties. Canada has some misgivings about the adequacy of the opportunity afforded to interested parties to respond, if seen as necessary, to submissions which may be lodged later in the inquiry period. The opportunity afforded to one or more interested parties to present a public submission after the date originally notified as being the due date for submissions was not advised as part of the investigation procedures at the commencement of the inquiry, and impacts on the time within which responses can be made and fairly considered by the Productivity Commission.[10]

## The keypoints of this submission

Safeguard action under Article XIX of the GATT 1994[11] allows a Member to derogate from the fundamental tariff binding commitments under the GATT 1994. Accordingly, the imposition of safeguard measures is a severe step. The definitional and threshold tests which must be met to justify such action, and the investigative procedures, specified under the

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[8] Special Gazette No S297, 25 June 1998.

[9] The Temporary Assistance Authority was abolished pursuant to the Industries Commission Amendment Act 1984, and the temporary assistance provisions which were transferred to the Industries Commission were repealed by the Industry Commission Act 1990.

[10] The Commission said, in Sydney on 20 August 1998, that there would be *"no further hearings to get elaboration"* on written submissions (*Transcript* at page 158).

Agreement on Safeguards must be strictly complied with. Adequate trade compensation must be offered to a Member adversely affected.

In considering the imposition of safeguard measures:

*"increased imports"* of a particular product into Australia must be found to have occurred;

that increase must have been such as to *"cause or threaten to cause serious injury"* to an Australian industry;

the Australian industry concerned is that which *"produces like or directly competitive products"*;

*"objective evidence"* must *"demonstrate"* the existence of this causal link between the increased imports and the serious injury, or the threat of that injury;

that serious injury must be of a magnitude to have caused a *"significant overall impairment in the position of [the] domestic industry"*;

injury caused by *"factors other than increased imports"* must *"not be attributed to increased imports"*;

the relief from the effect of imports must have the character of *"emergency action"* to remedy *"unforeseen developments"*; and

it must be considered *"whether or not the application of a safeguard measure would be in the public interest"*.

Canada believes that the Australian industry producing the *"like or directly competitive product"* has not been injured seriously, if at all, by Canadian imports. Certainly any injury falls well short of the *"significant overall impairment"* required under the Agreement on Safeguards. This belief is based on a comparison of the condition of the Australian industry, and the factors influencing its performance, with the requirements for establishing the relevant degree of injury under the Agreement on Safeguards. The understanding of the Government of Canada in respect of these matters is based on information provided to us about the Australian industry by our own agricultural authorities, and by the Canadian pork and pig growing industries with whom we have consulted for the purposes of providing this submission to the Productivity Commission.[12]

**Agreement on Safeguards issues addressed by this submission**

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[11] Marrakesh Agreement Establishing the World Trade Organisation.

[12] The Canadian pork and pig growing industries have advised the Government of Canada that they will be presenting information to the Productivity Commission on these factual issues by way of separate submission.

We refer the Commission to the submission of the Government of Canada lodged on 13 August 1998. We now provide further submissions for the assistance of the Commission in support of the primary submissions set out in that previous submission, namely:

- the correct approach to adopt to the question of determining the identity of the Australian industry producing *"like or directly competitive products"*;[13]
- the seriousness of the degree of injury mandated by the Agreement on Safeguards, and how that injury (*"a significant overall impairment in the position of a domestic industry"*) must be considered;[14]
- the methodology for evaluating whether there is a causal link between increased imports and the *"serious injury"* (if any is detected);[15] and
- the way the question of *"threat"* of serious injury should be approached.[16]

Additionally, this submission seeks to assist the Productivity Commission in its resolution of a number of specific matters identified by the Commissioner during the public hearings, namely:

- the interrelationship between GATT 1994 Article XIX and the Agreement on Safeguards itself, in particular in relation to the *"emergency"* character of relief, *"unforeseen developments"* and the meaning of the word *"industry"*;[17]
- the degree of increase in imports needed to justify any consideration of the imposition of safeguards measures;[18] and
- anti-dumping and countervailing. [19]

Lastly, this submission comments on and/or rebuts information contained in an economic analysis presented to the Productivity Commission during the course of the public hearing held on 19 August 1998 in Brisbane.[20]

## What is the domestic industry producing like or directly competitive products?

### The Terms of Reference refer to a specific category of goods

The Terms of Reference refer to specific imported goods, and not others. The relevant tariff item, 0203.29, can be expressed as follows:

> *"Frozen meat of swine, not being carcasses or half carcasses, nor hams, shoulders and shoulder cuts with bones in"*

Essentially, the item covers boneless frozen pork. Under the Agreement on Safeguards, it is the domestic industry producing goods which are *"like or directly competitive products"* to the relevant imports which must be the focus of consideration.

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[13] Section 2 of this submission.
[14] Section 3 of this submission.
[15] Section 4 of this submission.
[16] Section 5 of this submission.
[17] Section 6 of this submission.
[18] Section 3.1 of this submission.
[19] Section 7.
[20] Section 8 and Attachment 1.

## What are the "like goods" to imported boneless frozen pork?

The concept of *"like goods"* is not defined within the Agreement on Safeguards itself. The words are defined in the Agreement on the Implementation of Article VI of GATT 1994 ("the Anti-Dumping Agreement"), and despite the different context it is worthwhile to explain how those words have been defined in another part of the same international agreement, and also how the relevant Australian authorities have considered those words in that context.[21]

Under Article 2.6 of the Anti-Dumping Code:

> *" 'like product'... [means] a product which is identical, ie. alike in all respects to the product under consideration, or in the absence of such a product, another product which although not alike in all respects, has characteristics closely resembling those of the product under consideration."*

In *Review of the Australian Customs Service negative preliminary finding on frozen pork from Canada* ,[22] the Anti-Dumping Authority was faced with the question of extending the definition of the industry, for material injury assessment purposes, under the *"close processed agricultural goods"* provisions of Section 269T(4A) and (4B) of the Customs Act 1901. That was a decision made in a very different context to the *"directly competitive"* criteria under the Agreement on Safeguards. In respect of the *"like goods"* issue both Customs and the Anti-Dumping Authority focussed on pork cuts, and not on pig carcasses or pigs themselves. The Anti-Dumping Authority concluded that *"the frozen pork exported to Australia from Canada was a like good to both pork sold within Canada and pork produced within Australia"* .

We submit that this remains the proper approach, namely that the industry performing the activity of pork processing is the industry producing *"like goods"* which must be assessed by the Commission to determine whether the injurious effects of imported pork have been so serious as to justify the application of safeguard measures. It is submitted that there can be no real contest in respect of this conclusion. The question of extending the industry to include pig growers, in the belief that pig growers are part of an industry producing a *"directly competitive"* product, is the more contentious issue.[23]

## The onus of proving that other products are directly competitive

Canada submits that the burden of showing products are directly competitive with other products is upon the person asserting such a proposition. This needs to be demonstrated based upon objective evidence of the effect of such products in the marketplace. As safeguard measures operate to relieve a country from compliance with otherwise applicable obligations, it is appropriate that such a burden should fall on a party seeking to widen the scope of the deviation.

The Productivity Commission has not indicated that this burden has been discharged, and the questions asked by the Commission at the conclusion of evidence given on behalf of the Canadian Meat Council and Canadian Pork Council on 24 August 1998 in Melbourne indicate that the matter is still at large.

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[21] Special Gazette No S297 of 25 June 1998 adopts the same definition, however we are unsure about the implementation status of the Gazette: see Section 1.2 of this submission.

[22] Report No 90, January 1993.

[23] The Issues Paper points out that the *"close processed agricultural goods"* concept under Part XVB of the Customs Act 1901 does not apply to safeguard measures. In fact there is good reason to doubt the conformity of that concept with the Anti-Dumping Code in any event: see, eg, *Replies to Questions Posed by the European Communities Concerning the Notification of Australian Laws and Regulations* (G/SCM/W.121, 20 October 1995) at page 8, Q.B.

## How "directly competitive products" should be interpreted

Can it be said that pig growers produce a product which is *"directly competitive"* with cuts of pork? Before one considers that question, it must be remembered that *"horizontal"* competition is more readily comprehensible as a basis for finding that products are *"directly competitive"* with each other. There are a number of products which arguably are *"directly competitive"* with processed pork in this context. There is ample evidence that the prices of beef and other meats affect the market demand for pork and hence pork prices.[24] Thus Canada argues that the Productivity Commission must give no less consideration to the proposition that the domestic industry for the purposes of this inquiry should include processors of all meats than to the more difficult proposition that it includes upstream producers of input products.

GATT practice has been to examine questions of the similarity between products on a case by case basis. This practice under the predecessor treaty to the GATT 1994 has been followed by the WTO Appellate Body in *Japan - Taxes on Alcoholic Beverage*[25] ("the Japanese Liquor Tax case").

The Japanese Liquor Tax case is instructive for the purposes of this case in two respects. Firstly, the case continued the GATT practice of approaching issues of likeness and any extension of that term (in the Japanese Liquor Tax case *"directly competitive or substitutable"*) on a case by case basis. Secondly, the Appellate Body endorsed the approach taken in a Working Party Report on border tax adjustments that some of the criteria useful for determining, on a case by case basis, whether a product is similar, in the sense of being *"directly competitive or substitutable"* include the product's end use; consumer's tastes and habits; and the product's properties, nature and quality.[26]

## Is industry structure relevant to determining direct competitiveness of products?

At the hearing in Melbourne on 24 August 1998, the Commission suggested that interested parties might like to consider whether the degree of vertical integration evident in the Australian industry could lead to a broader definition of the relevant industry. More specifically, if there were a finding of fact that pig growers sold pig carcasses rather than live pigs, could one conclude that the pig growers themselves produce like or directly competitive goods?

Although there is some evidence of vertical integration both upstream and downstream from pork processors, the Australian industry is by no means totally integrated. In any event, we do not believe that vertical integration between two consecutive but distinct stages of production is a valid reason for declaring that the output of the second stage directly competes with the output of the first. Inputs and outputs are closely linked, and the price of one may affect the price of the other, but they are not like or directly competitive goods as the terms are used in the WTO simply by reason of some corporate or legal integration of productive processes by firms in an economy.

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[24] See eg *"Fierce competition between red and white meats",* ABARE media release dated 3 February 1994; *Australian Commodities,* June quarter 1998 at pages 161 to 168; *Pigs and Pigmeat*, Industry Commission Research Project (30 October 1995) at page 19; *"Medium term policy baseline",* Agriculture and Agri-Food Canada, April 1998 pages 11 to 16.

[25] WT/DSC/AB/R; WT/DS10/AB/R; WT/DS11/AB/R; AB-1996-2; 4 October 1996; at page 22 et seq.

[26] Tariff classifications were also considered relevant to this consideration. In this regard Canada notes that the imported processed pork cuts under inquiry fall within tariff item 0203.29; that carcasses and half carcasses fall within tariff items 0203.11 or 0203.21 (depending on whether they are fresh, chilled or frozen); and that live swine fall within tariff item 0103.

This view is supported by jurisprudence in respect of *"like goods"* in the anti-dumping and countervailing duty ("AD/CVD") context. It is generally standard practice in AD/CVD cases involving vertically integrated industries to look at the impact of imports on profits, prices, employment and other indicia on that part of the industry's activities that relates directly to the goods under investigation and to exclude from the analysis other business activities in which the firms in the industry are engaged. [27]

It must be accepted logic that the extension of the investigation under the Agreement on Safeguards to a consideration of *"directly competitive products"* is first a question of determining whether products are directly competitive, and only secondly a question of defining the industry which produces those products.

One striking aspect of submissions presented to the Productivity Commission by Australian interests has been the automatic or almost automatic assumption made that pig growers produce a product (dead or alive) which is entitled to be protected from the alleged effects of imports of a downstream but very different product.

At this point it is worthwhile to remember that Canadian imports are cut into particular shapes, boneless and frozen. The first question the Commission must ask itself is *"What product or products are like or directly competitive to these imports?"* The fact that there is an alternative available does not, without more, make that alternative directly competitive. There can be no direct competition, in the mind of an Australian buyer, between a live pig or a carcass on the one hand, and a deboned (and, in some cases, defatted) frozen pork cut. We remind the Commission that, as well as these differences, Canadian imports must be cooked in accordance with Australian quarantine regulations following importation.

Based on the above, Canada submits that the fact that pig farmers and slaughterhouses may have common ownership or that farmers may retain title to a pig until after slaughter does not transform the commercial activity of pig farming into an industry producing a product which is directly competitive with the different product produced by the pork processing industry. In case the Commission disagrees with this proposition, and thinks that pigmeat in carcass form is directly competitive, then in the alternative the commercial activity of pig slaughtering would be a possible candidate for inclusion since its output is pigmeat. However, Canada submits that it would be incorrect to somehow transform pig growers into an industry group producing pigmeat as a directly competitive product, as it is not that group which produces that product in the sense of slaughtering and eviscerating it and putting it in a condition where it is directly competitive with pork cuts.

If a company participating in the production and sale of pigs is vertically integrated, then the Commission's injury analysis will need to carefully isolate only that part of the company constituting the industry producing the like or directly competitive products. In the AD/CVD context, this is standard practice. In Australia, for example, production, distribution and other functions are carefully separated to assess the impact on the industry producing (in that context) the *"like goods"*. We are not aware of any case where the impact of dumped imports of a finished product is assessed by taking into account the financial performance of Australian suppliers of componentry to the Australian industry producing the *"like"* finished product. Our point is that integration of an industry cannot broaden the definition of the industry for safeguard purposes. The important question is whether goods are *"like"* or *"directly competitive"*, and once this is established the industry producing those goods is the relevant industry for injury analysis.[28]

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[27] In other words, it is the business activity in relation to the production of the like goods that must be considered.

[28] In this regard, we note that the testimony on behalf of Bunge Meat Industries in Melbourne on 24 August 1998 indicated that a segmented view of the company was one shared by the witness: figures were

## The pork processing industry, perhaps extending to the pig slaughtering industry, is the relevant industry

The Productivity Commission rightly points out in its *"Issues Paper"* (Box 1) that the term *"directly competitive"* allows for a broader interpretation of an industry than does the term *"like goods"* used in AD/CVD cases. Canada submits that the relevant industry is the pork processing industry, and that this could only be extended to the pig slaughtering industry if the Commission believed that pigmeat was a directly competitive product. Common ownership of integrated production processes is irrelevant to this conclusion, and if there is such common ownership the Productivity Commission must separately identify that part of the economic unit which properly falls within the relevant industry.[29]

It would, in fact, make more sense to broaden the definition to include all meat processing and production than it would to include pig growers with processors as together constituting the domestic industry. Within the pigmeat sector, it is Canada's considered view that the definition of the Australian industry *"that produces like or directly competitive products"* that would be consistent with the Agreement on Safeguards would be the industry that produces and sells pigmeat. This would include pigmeat destined for the fresh market as well as that for further processing into bacon, hams and smallgoods.[30] It would be incorrect and incongruous to extend the industry to that producing pigmeat on the basis that pigmeat was directly competitive with imported pork, but then to try to divide the industry producing pigmeat on the basis of what later happens to it. Extending the industry any further would involve drifting well outside the *"directly competitive products"* focus of the Agreement on Safeguards.[31]

Canada does not agree that the Australian industry can include pig growers under the applicable Agreement on Safeguards tests. That may be an appropriate definition for the purposes of *"piggery to plate"* analyses, or research projects which are intended to consider factors impacting on a total production chain and levels within it, but it is not an appropriate definition for the purposes of safeguards measures targeted at particular products under the GATT 1994.

## The Agreement on Safeguards test of "serious injury"

## Not just increased imports, but increased imports having a particular effect

The cause of injury which must be identified to justify the application of safeguard measures under Article XIX is *"increased quantities of imports"*, coupled with the superadded requirement that these increased quantities are being imported *"under such conditions"* so as to have caused or threaten a particularly grave,

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presented *"all bar the processing segment"* (*Transcript*, page 76); reference was made to *"...our company now at the Don Smallgoods level"* (*Transcript*, page 83); it was concluded that *"...the processors are probably experiencing a reasonable time at this stage"* (*Transcript*, page 76); and reference was made to *"a wholesaling operation in Melbourne"* (*Transcript*, page 75).

[29] The Commission may also need to explore what is meant by so-called *"vertical integration"*. Companies or groups of companies which say they are *"integrated"* are nonetheless separated into corporate or divisional entities suited to the activities performed (see footnote 28).

[30] On this measure, imports from Canada in their peak in 1997 accounted for less than 5% of Australian production. Methodology: 1997 pigmeat production at 332,357 MT carcass weight, from ABS. Imports of boneless pigmeat from Canada at 9000 MT converted to carcass wt equivalent of 15,254 MT using a factor of .59. This factor has been calculated by the Canadian Pork Council and the Canadian Meat Council, and reference should be had to their submission to the Productivity Commission for details.

[31] In any event, Canada requests careful verification by the Commission of testimony on 24 August 1998 to the effect that *"normally the first change of ownership would be at the scale, where the animal has been slaughtered and eviscerated"* (Bunge Meat Industries, *Transcript* at page 74).

or *"serious"*, injurious effect on the domestic industry. In other words, it is not enough to point to increased quantities of imports: the conditions of their importation, and other conditions, must be taken into account in determining whether there is a causal link between their importation and the alleged injury.

In this regard, we note the Commissioner's postulation that any increase in imports might have the potential to trigger the requirement under the Agreement of *"increased quantities"*.[32] In isolation this may be correct, however we believe that the sense of *"emergency"* from Article XIX and the strong linkage which must be demonstrated between serious injury and imports imply that nothing short of imports with a reasonable potential of causing serious injury qualify as the type of increase to which the Agreement might apply. In this context normal or predictable variances could not be expected to trigger safeguard measures. Article 4.2(a) speaks of the need to evaluate *"the rate and amount"* of the increase in imports *"in absolute or relative terms"*, and the *"share of the domestic market taken by imports"*. We suggest that there would be no need to evaluate these factors if any increase, no matter how small, could trigger safeguards measures. Even if this is not clear to the Commission, the need to attribute serious injury to increased imports expresses the need for there to have been an increase of sufficient magnitude to cause such an effect. Essentially, it is the measuring of this effect which calls for an appreciation of the magnitude of the increase.

The Commission's suggestion that the Agreement on Safeguards does not specify how much of an increase in imports is required in order for the Agreement to apply was made in isolation to the questions of serious injury and the causal link which needs to be demonstrated between increased imports and that injury. The Commission accepted that an increase in imports was required but questioned whether this necessarily needed to be an increase of any particular quantum. The Commission noted that it did not see that any particular quantum was specified.

Canada concurs that the Agreement does not address the issue of the amount of increases in imports as a threshold question other than the fact that there must be an increase. The test in the Agreement is not the amount of increased imports but the effect that occurs as a result of increases in imports. The test as set out in Article 2.1 of the Agreement is that *"product is being imported... in such quantities... as to cause or threaten to cause serious injury to the domestic industry..."*.

Canada notes that the issue to be addressed is whether an increase in imports has occurred and whether there is a causal link to serious injury or threat thereof to the industry. However, Canada would suggest that the quantum of increased imports is an important fact to be determined. While each case needs to be considered on a case by case basis and with due regard to the facts in each case, it would be very unlikely that a minimal increase in imports would cause serious injury. Such a minimal increase would also not appear to be a situation which could be characterised as leading to an *"emergency"* or as an *"unforeseen development"*.[33] The actual conditions of the importation of the like products, and other conditions affecting the domestic industry, must be considered in their totality. We reconsider this proposition when dealing with the methodology for assessing the other competitive factors and causes of injury which impact upon the Australian industry.[34]

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[32] *Transcript* of Proceedings, Melbourne 24 August 1998 at page 114.

[33] See 6.4 below.

[34] See 4.3 below.

## The seriousness of "serious injury"

The Issues Paper correctly points out that the Agreement on Safeguards imposes a more stringent injury test than that which applies in the case of investigations as to whether injury has been caused by dumped or subsidised imports. Whilst little guidance is provided in quantitative terms within the text of the Agreement on Safeguards itself, there are a number of indications in the Agreement as to the way in which serious injury must be considered, and there are a number of aids to interpretation which can help with the task of defining an appropriate threshold.[35]

Under the Agreement, it is said that *"serious injury shall be understood to mean a significant overall impairment in the position of a domestic industry"* . The use of these words *"a significant overall impairment"* are instructive. They emphasise the pervasive impact that imports must be found to have had on the entirety of the domestic industry before safeguard measures might be applied. This test is to be contrasted with the lesser test of material injury in the dumping context.

Article 4.1(c) of the Agreement on Safeguards emphasises that the domestic industry, which must be significantly impaired in an overall sense, is all of the producers (ie *"the producers as a whole"*) of the like or directly competitive products, or those whose collective output constitutes a major proportion of the total domestic production of those products.

## Causal link, and non-attribution of other factors

## Serious injury must be caused by increased imports

Article 4.2(a) also emphasises how strict the causal link test is under the Agreement on Safeguards, requiring the competent authorities to *"evaluate all relevant factors of an objective and quantifiable nature"* . Article 4.2(b) says that the causal link must be demonstrated on the basis of objective evidence, and that if factors other than increased imports are causing injury to the domestic industry, such injuries shall not be attributed to increased imports.

Article 2 of the Agreement sets out a number of conditions that must exist for a member to apply safeguard measures. The structure of that Article is extremely significant as is the fact that the Article is entitled *"Conditions".* The title is part of the text and thus meaning must be ascribed to it. One of the common and ordinary meanings of the word condition is *"prerequisite".* That meaning is reinforced by the language of paragraph 2.1. This permits a WTO Member to apply safeguard measures *"only if"* the Member has determined the existence of certain factual matters. The three set out in that paragraph are:

- increased imports;
- under such conditions as to cause or threaten to cause; and
- serious injury to the domestic industry that produces like or directly competitive products.

The rules for the determination of serious injury are found in Article 4 of the Agreement. Article 4.2(b) further reinforces the necessity for there to be a causal link between increased imports and serious injury.

[35] In Stewart's *The GATT Uruguay Round, A Negotiating History (1986-1992) Vol. II: Commentary*, the author draws attention to the fact that of the 62 safeguard ( *"escape clause")* actions up to 1990 in the USA, there were affirmative US International Trade Commission decisions in fewer than half, and Presidential relief was ordered in only 11.

That subparagraph specifically directs that a determination of serious injury shall not be made unless *"the existence of a causal link"* can be demonstrated *"on the basis of objective evidence"*.

## The effect of other injury factors must not be attributed to increased imports

Subparagraph 4.2(b) gives further guidance to domestic investigating authorities with respect to other factors for which there is no causal link between increased imports and serious injury or threat thereof. The second sentence of the subparagraph reads as follows:

> *"When factors other than increased imports are causing injury to the domestic industry at the same time, such injury shall not be attributed to increased imports."*

In order to establish a causal link it is not sufficient for a domestic investigating authority to only consider whether the industry concerned is suffering injury. Rather, there needs to be an analysis of the factors which are causing the alleged injury. The Agreement recognizes that other factors could be causing, or at least contributing to injury being felt by the domestic industry. The Agreement requires that injury caused by factors other than increased imports is to be disregarded for purposes of attributing what is the injury which is attributed to increased imports.

What is it that is not to be attributed to increased imports? It is submitted that the second sentence of Article 4.2(b) is grammatically clear. The sentence begins with a discussion of factors other than increased imports that are causing injury. The sentence then states that *"such"* injury cannot be attributed to increased imports. To what does *"such"* refer? The Shorter Oxford Dictionary[36] gives this description:

> *"Standing predicatively at the head of a sentence or clause, and referring summarily to a statement or description just made;.Of the same kind or class as something mentioned or referred to;.Equivalent to a descriptive adj. or adv. on which it follows closely and the repetition of which is thus avoided."*

Black's Law Dictionary[37] notes:

> *"'Such' represents the object as already particularized in terms which are not mentioned and is a descriptive and relative word, referring to the last antecedent."*

In the context of the second sentence of subparagraph 4.2(b) it is clear that *"such"* injury in the concluding clause of the sentence is a grammatical link to the previous reference to injury. That reference occurs in the first portion of the sentence which is addressing injury caused by factors other than increased imports. In the result, injury that is caused by factors other than increased imports cannot be attributed to increased imports (ie cannot be part of the injury which is caused by increased imports).

## The proper methodology for determining whether a causal link exists

Canada submits that the practical result is that a domestic investigating authority needs to analyse, in terms of causation, the injury from which the domestic industry is said to be suffering. If injury is being caused by factors other than increased imports then that injury cannot be attributed to imports. Its only relevance to the question of demonstrating injury caused by increased imports is that it contradicts the proposition that increased imports have themselves caused serious injury, and dilutes any injury caused by *"increased*

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[36] *"The Shorter Oxford English Dictionary on Historical Principles"* (3rd edition) prepared by C.T. Onions; Clarendon Press, Oxford, reprinted 1967.

[37] *"Black's Law Dictionary"* (6th edition) Henry Campbell Black and Sixth Edition by Editorial Staff, West Public Company, St. Paul, Minnesota, USA; 1990.

*imports"*. Similarly, if injury exists but it is unclear as to whether or not it has been caused by increased imports, Canada submits that such injury must be regarded as injury which cannot be attributed to imports. In the latter case it could not be said that the investigation has met the burden of *"demonstrating",* on the basis of objective evidence, the existence of a causal link.

It may be that increased imports are one factor among many that is causing (or threatening to cause) injury to the domestic industry. If the competent authorities reach such a conclusion, they must then consider whether that injury and only that injury (ie, injury attributable to increased imports) meets the test of *"serious injury"* which is set out in Article 4.1(a) of the Agreement. Injury attributed to other factors cannot be part of *"serious injury."* Having identified an injury attributable to increased imports, the next step that the competent authorities need to do is analyze whether the injury amounts to *"serious injury"*. That is, is the injury that has been determined to be attributable to an increase in imports such as to amount to a significant overall impairment in the position of the domestic industry?

During the Public Hearing at Melbourne the Commission gave some consideration to the methodology for determining whether there is a causal link between increased imports and serious injury. The Commissioner said that it must be established *"that any injury, the serious injury, that the industry is trying to establish.. must be serious injury attributable to an increase in imports"*. The Commissioner also ventured to suggest *"[t]hat doesn't mean that there may not be other causes of serious injury but there has to be enough, if you like, serious injury attributable to the increased imports in order to sustain the argument."* These observations may be technically correct, however Canada wishes to make a number of points in relation to them.

First, the Agreement on Safeguards requires a *"significant overall impairment in the position of the domestic industry"*. This would appear to suggest that an injury finding could not be made where injury was suffered by some parts of an industry,[38] but not other parts.

Secondly, it would be difficult to come to a finding that there were a number of competing causes of injury, each of which caused serious injury. If three or four separately identifiable *"injury"* effects could be identified, the fact that there were so many would seem to mitigate any reasonable conclusion that each injury effect was serious. Otherwise, the extreme nature of the *"serious injury"* requirement would be diluted. Furthermore, in the case of a number of factors all causing *"serious injury"*, the structural adjustment contemplated by Article 5.1 of the Agreement on Safeguards could not be achieved in the future because safeguard measures would not prevent or remedy serious injury.

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[38] Or, at least, that part o f an industry falling short of the *"major proportion"* referred to in Article 4.1(c).

In the dumping context, the principal authority on the question of the necessary causal link between dumped imports and material injury is *ICI Australia Operations Pty Ltd v Fraser and Ors*.[39] The salient quote from the Full Court's decision is the following:

> *"Where the Australian industry under consideration has suffered detriment from a number of causes, it will be necessary for the Minister to be satisfied that the industry has suffered detriment sufficient to meet the description "material injury" within the meaning of the legislation in consequence of the dumping of goods that have been exported to Australia, and to quantitatively separate that material injury from detriment caused by other factors. Whether the Minister is so satisfied as to the first matter involves a matter of judgement and degree, and is a question of fact... Understood in this way, it is correct to say... that [the relevant section] requires that the "material injury" referred to must be caused solely by the dumping the subject of the inquiry".*

Canada believes this is a legally correct methodology to adopt in deciding whether the causal link exists between serious injury and increased imports. However, it is even more stringent in the safeguard context because of the requirement that the injury entail *"a significant overall impairment in the position of a domestic industry"*. A finding of a causal link between increased imports and material injury in the anti-dumping context may be open where the material injury has occurred to one sector of the industry.[40] However, *"significant overall impairment"* adds a different dimension to the severity of the injury concerned.

## Threat

Article 4.1(b) requires any threat of serious injury to be *"clearly imminent"*. The determination of this threat must be *"based on facts and not merely on allegation, conjecture or remote possibility."*

No less rigour must be devoted towards the analysis of injury factors and their impact in respect of what might happen in the future than the rigour which is required in respect of a present *"serious injury"* determination. This is clear from the linkage between Article 4.1(b) and Article 4.2.

## The inter-relationship between Article XIX and the Agreement on Safeguards

On 24 August 1998 during the public inquiry in Melbourne in this matter, the Commission queried the relationship, if any, between Article XIX of the GATT 1994 and the Agreement on Safeguards which elaborates upon the substantive tests and procedural requirements of a safeguards investigation.

## The GATT 1994 is a carefully integrated trade agreement

By virtue of Article II:2 of the GATT 1994, the WTO Agreement together with the Multilateral Trade Agreements annexed thereto form an integral package.[41] In *Brazil - Measures Affecting Desiccated Coconuts*[42] ("the Coconuts case"), the WTO Appellate Body stated as follows:

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[39] (1992) 106 ALR 257.

[40] *Swan Portland Cement Limited & Anor v The Minister for Small Business and Customs & Anor* (1991) 28 FCR 135.

[41] Article II:2 of the WTO Agreement reads as follows:

> *"The agreements and associated legal instruments included in Annexes 1, 2 and 3 (hereinafter referred to as "Multilateral Trade Agreements") are integral parts of this Agreement, binding on all Members."*

[42] AB-1996-4; WT/DS22/AB/R; 21 February 1997.

*"The WTO Agreement is fundamentally different from the GATT system which preceded it. The previous system was made up of several agreements, understandings and legal instruments, the most*

*significant of which were the GATT 1947 and the nine Tokyo Round Agreement... Unlike the previous GATT system, the WTO Agreement is a single treaty instrument which was accepted by the WTO Members as a 'single undertaking'."*

The Appellate Body went on to add that:

*"The relationship between the GATT 1994 and the other goods agreements in Annex 1A is complex and must be examined on a case -by-case basis. Although the provisions of the GATT 1947 were incorporated into, and became part of the GATT 1994, they are not the sum total of the rights and obligations of WTO Members concerning a particular matter... The general interpretative note to Annex 1A was added to reflect that the other goods agreements in Annex 1A, in many ways, represent a substantial elaboration of the provisions of the GATT 1994."*

As such, Article XIX of the GATT 1994 cannot be viewed as being separate and distinct from the Agreement on Safeguards. Rather, the Article and the Agreement form an inseparable package of rights and obligations with the Agreement representing an elaboration of the provisions of the former. [43]

## Meaning and effect must be given to related provisions of the GATT 1994

Article 31:1 of the Vienna Convention on the Law of Treaties provides the following general rule of interpretation:

*"A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given the terms of the treaty in their context and in the light of its object and purpose."*

In *United States - Standards for Reformulated and Conventional Gasoline,*[44] the Appellate Body explained that:

*"One of the corollaries to the 'general rule of interpretation' in the Vienna Convention on the Law of Treaties is that interpretation must give meaning and effect to all the terms of a treaty. An interpreter is not free to adopt a reading that would result in reducing whole clauses or paragraphs of a treaty to redundancy or inutility."*

Therefore, in reading Article XIX of GATT 1994 in conjunction with the Agreement on Safeguards, one must try to ascribe a reasonable interpretation that gives meaning and effect to all the terms in both.

In the event of an unavoidable conflict, the general interpretative note to Annex 1A becomes relevant. That note reads as follows:

*"In the event of a conflict between the provisions of the General Agreement on Tariffs and Trade 1994 and a provision of another agreement in Annex 1A to the Agreement Establishing the World Trade Organisation (referred to in the*

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[43] The second recital in the preamble to the Agreement on Safeguards reads as follows:
*"Recognising the need to clarify and reinforce the disciplines of GATT 1994, and specifically those of its Article XIX (Emergency Action on Imports of Particular Products), to re-establish multilateral control over safeguards and eliminate measures that escape such control;"*

[44] WT/DS2/AB/R, 29 April 1996.

*Agreements in Annex 1A as the "WTO Agreement") the provisions of the other agreement shall prevail to the extent of the conflict."*

## The Agreement builds on Article XIX, and does not replace it

Canada submits that there is no reason to doubt that the Agreement is an elaboration and an amplification of Article XIX. Both the *"emergency"* character of Article XIX, and *"unforeseen developments"* circumstance contained in Article XIX:1(a) of the GATT 1994 are part and parcel of the Agreement. An interpretation which gives effect to all the terms in both instruments is clearly achieved by the linkage between Articles 1 and 2.1. Article 2.1 of the Agreement on Safeguards must be read in conjunction with the general provision set out in Article 1 of the Agreement, which states that:

> *"This Agreement establishes rules for the application of safeguard measures which shall be understood to mean those measures provided for in Article XIX of GATT 1994."*

In this regard, it can be seen that the measures provided for in Article XIX are, by necessity, measures in response to unforeseen circumstances, thereby avoiding any inconsistency between Article XIX and the Agreement on Safeguards.

In summary, it is Canada's view that the Agreement on Safeguards builds on but does not replace Article XIX, and that therefore the concepts embodied in Article XIX are equally embodied in the application of the Agreement on Safeguards.

## "Emergency action" due to "unforeseen developments" is part of the Agreement on Safeguards

In respect of the *"emergency"* character to the action required, we see nothing in the Agreement on Safeguards to suggest that it is no longer directed at *"emergency action"*: to the contrary, there are clear indications that Article XIX's objectives are unchanged under the Agreement. The Recitals and Article 1 underpin the primacy of Article XIX. The second Recital refers to Article XIX, and sets out its full title of *"Emergency Action on Imports of Particular Products"*. The same Recital refers to the clarification and reinforcement of the disciplines of Article XIX, which implies that it is the emergency action which is to be clarified and reinforced, not that the emergency requirement is able to be dispensed with. Article 1 of the Agreement makes it clear that the Agreement amplifies, but does not derogate from, *"those measures provided for in Article XIX"*.

The only applicable GATT precedent on the matter of *"unforeseen developments"* is a Working Party report on *Withdrawal by the United States of a Tariff Concession under Article XIX.*[45] The Working Party, except for the United States, stated that:

> *"...the term 'unforeseen developments' should be interpreted to mean developments occurring after the negotiation of the relevant tariff concession which it would not be reasonable to expect that the negotiators of the country making the concession could and should have foreseen at the time when the concession was negotiated."*

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[45] GATT/CP/106, adopted on 22 October 1951.

### “Industry” clarifies ambiguities inherent in Article XIX’s reference to “producers”

During the August 24 hearing the Commission queried why Article XIX of the GATT 1994 used the term *"domestic producers"* while the Agreement on Safeguards used the term *"domestic industry."*

As the WTO Appellate Body noted in the Coconuts case, the WTO Agreement is a *"single undertaking"* and *"[w]ithin this framework, all WTO Members are bound by all the rights and obligations in the WTO Agreement and its Annexes 1, 2 and 3"*. As noted previously, the interpretation of this bundle of rights and obligations is to be done following the customary rules of international law and in particular, the Vienna Convention on the Law of Treaties. Paragraph 1 of Article 31 of the Vienna Convention on the Law of Treaties establishes the primary principle that treaties are to be *"...interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose."*

In the Coconuts case the Appellate Body, as noted earlier, stated that, *"[t]he relationship between the GATT 1994 and the other goods agreements in Annex 1A is complex and must be examined on a case-by-case basis".* Accordingly, one must interpret these two provisions together in accordance with their ordinary meaning in the context of the treaty and in light of its object and purpose.

Canada submits that a key contextual element is the preamble to the Agreement which noted that WTO Members recognised the need to *"clarify"* GATT Article XIX disciplines. It is Canada’s submission that the two terms should be read in the light of the Agreement clarifying the application of safeguards.

If one were only to read Article XIX of the GATT 1994 one would conclude that one of the applicable tests was that there needed to be a serious injury (or threat thereof) to domestic producers. However, there could be several interpretations of what test is to be applied. Do you merely need to show, for example, that there is a serious injury suffered by more than one domestic producer? On the other hand, is the remedy intended to be available only if all domestic producers as a class are suffering serious injury or are faced with the threat thereof? What if two producers are affected but they are statistically insignificant? Does the injury to these producers permit the application of safeguard measures? What if only 2% of domestic producers are affected but these producers produce 80% of the product in question?

The change brought about by the reference to *“industry”* rather than *“producers”* is meant to emphasise the requirement that injury be shown to the producers *“as a whole”,* as is stated under Article 4.1(c) of the Agreement. This terminology was borrowed from the Anti-Dumping Agreement to guard against complaints being assessed with reference to producers whose output was less than a major proportion of domestic production. *“Producers”* is amenable to a more selective group than the singular and collective expression *“industry”*. Together with the *“significant overall impairment”* requirement the modified terminology clarifies the high standard of injury to prevent abuse.

The Agreement clarifies this point by dealing with producers within the context of the *"domestic industry"* as set out in subparagraph 4.1(c) of the Agreement. By reading together the applicable provisions it is clear that the producers that are relevant are those whose output of like or directly competitive products constitute a major proportion of the domestic production of those products. The terms are not conflicting but rather complementary. Given the view of the Appellate Body that the WTO is a single undertaking, the terms should be read together if it is reasonable to do so and if to do so does not offend the normal rules of interpretation. Such an interpretation is also reasonable given that safeguards allows a Member to avoid otherwise applicable

obligations and this should only be permitted if the alleged injury is substantial. With respect to the interpretation of these terms, Canada submits that reading these provisions together is consistent with the object and purpose of the GATT 1994 and the Agreement as it clarifies the application of both of them.

## Anti-dumping and countervailing

The Terms of Reference do not embrace the question of whether imports are subsidised or dumped and consequently the Commission *"will not be considering whether anti-dumping action may be warranted"*. There are however some observations from this field which may be of assistance in the context of its inquiry.

The Australian Customs Service found in November 1992, and the Anti-Dumping Authority confirmed in January 1993, that:

- there was virtually no incidence or margin of dumping;
- there was no evidence that subsidies affected exports;
- Canadian pork imports caused no material injury; and
- the same imports posed no threat of material injury.

The standard of proof of injury in a safeguard action is higher than the material injury requirements in an AD/CVD case.

Prior to and since that finding, Canadian hog producers have been operating under the close scrutiny of US trade officials who annually review the level of alleged production assistance provided to the Canadian industry. While the US has applied countervailing duties on live hog exports from Canada the rates in recent years have been very small. The three recent US administrative reviews have resulted in *de minimis* (zero) deposit rates being applied to live hogs imported from Canada over the period 1 April 1994 to 30 March 1997. Consequently no cash deposits on future Canadian imports will be required.

## Rebuttal of economic impact study

On 19 August 1998 in Brisbane, the Commission heard testimony from Mr T Purcell of the University of Queensland concerning a report prepared for the Queensland Department of Primary Industries entitled *"The Impact of Trade Liberalisation and Increasing Imports on Australian Pig Prices"* .

Canada rejects the conclusions of that report. Attachment 1 is an independent analysis of the Purcell report commissioned by Agriculture and Agrifood Canada, a department of the Canadian government.

## Concluding comments

The Canadian pig growing and pork processing industries will be presenting information to the Productivity Commission about the position of the Australian industry and the domestic and international commercial environment within which it operates. On the basis of these submissions and that industry information, Canada is firmly of the view that there can be no grounds for the imposition of safeguard measures.

In particular, but without derogating from any other relevant matters, Canada believes:

- the Australian industry does not include the activity of pig producing prior to the processing stage of pigmeat production;
- the Productivity Commission has before it evidence of injury causing factors which together suggest that the small level of Canadian imports cannot be a cause of serious injury; and

- the small level of Canadian imports cannot be considered to be a development which is in any way unforeseen following the relaxation of quarantine controls or imports of Canadian pork in June 1990.

Accordingly, Canada respectfully requests the Commission to report to the Treasurer that circumstances do not justify safeguard measures to be imposed on imports of meat of swine, frozen, falling within tariff sub-heading 0203.29 of the Australian Customs Tariff under the WTO Agreement as referred to in Gazette S297 of 25 June 1998. It is unnecessary for the Productivity Commission to consider measures which would be necessary to prevent or remedy serious injury and to facilitate adjustment.

**Submitted for and on behalf of the**
**GOVERNMENT OF CANADA**
**by its Australian Counsel**

**Daniel Moulis**
**Partner**
**FREEHILL HOLLINGDALE & PAGE**

18 September 1998

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# In the Productivity Commission

# Inquiry into Pig and Pigmeat Industries Safeguard Action Against Imports

## Submission of the Government of Canada

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ATTACHMENT 1

# An Assessment of Tim Purcell and Steve Harrison' report entitled: "The Impact of Trade Liberalization and Increasing Imports on Australian Pig Prices"

by

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September 10, 1998

Report prepared for the International Trade Policy Directorate of the Market and Industry Services Branch of Agriculture and Agri-Food Canada

Acknowledgements: This assessment was prepared while I was on sabbatical leave. I would like to thank the department of Economics at Iowa State University for the resources made available to me. I also wish to acknowledge the useful discussions I had with Professors Harvey Lapan and Marvin Hayenga regarding safeguard issues, model specification and the hog/pork industry in Australia. The opinions expressed in my assessment are mine and need not be shared by Professors Lapan and Hayenga.

## EXECUTIVE SUMMARY

In order to justify a safeguard action , it is necessary to show that imports of a product are increasing and that domestic producers of competitive products are seriously injured or threatened with serious injury, and that this injury or threat is caused by the increased in imports. As implied by the title of their report (i.e., "The Impact of Trade Liberalization and Increasing Imports on Australian Pig Prices"), Purcell and Harrision (P&H) produced a study narrowly focused on prices. Having gone in that direction, they cannot provide estimates about the degree of injury suffered. Their analysis should have been extended to measure the welfare effects of pork imports on Australia's hog/pork industry. This would have been a much more ambitious endeavor because it requires detailed modeling of all the components of the industry (retail, pork processing, hog production and feed supply). The authors failed to analyze the consequences of changes in imports, hog prices and production and therefore did not prove that serious injury was inflicted nor did they provide sufficient empirical evidence to guide policymakers. Economists have developed welfare measures that are well-suited to assess the extent of the injuries or benefits stemming from imports. These measures can be used to compute the welfare changes all along the marketing chain, from the consumers of meat products all the way down to hog producers and their input suppliers. By not providing the necessary elements to assess the degree of injury suffered by the Australian industry, the P&H report is of little utility to evaluate the merit of a safeguard action.[46]

The P&H report is long on econometric procedures but short on economic analysis. Nevertheless there are problems with the choice and implementation of econometric techniques but these tend to be minor in comparison to the model specification problems encountered. The lack of a solid theoretical foundation that led to the exclusion of relevant variables and the inclusion of irrelevant ones, make the interpretation of the models very difficult, the link with economic theory being lost. Also, the exclusion of relevant variables causes the estimated coefficients in a regression to be biased. P&H relied on single equation estimation techniques when there were obvious endogenous variables on the right hand side. As a result, their estimated coefficients suffer from an endogeneity/simultaneity bias that further erodes the confidence one might have in their results. The inappropriate model specifications and estimation problems of P&H produced unreliable results.

The results from the VAR modeling (p.76-77) and those of the single equation supply model (p.55-56) produced mixed results regarding the significance of the effect of Canadian imports on Australian economic variables (like the price of pork). However, both types of models suggest that Canadian and

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[46] Hoeckman and Kostecki (1995, p.193) argue that the injury criteria should be such as to ensure that the domestic industry as a whole is making substantial losses.

Australian pork prices are independent. The P&H interpretation of unit root tests is incorrect because testing whether innovations have a permanent effect on the level of a series, however interesting, is simply impossible to do. Finally, the discussion on the economics of safeguards and trade liberalization is flawed and incomplete. Overall the evidence presented in the P&H report is weak and unconvincing.

## 1. INTRODUCTION

The report prepared by Tim Purcell and Steve Harrison (P&H henceforth) was requested from the Queensland Department of Primary Industries, to investigate the impact of changes in regulations for pigmeat imports and increased import quantities on the Australian pigmeat industry. The report attempted to answer four questions (p.3): What has been the underlying pattern of change in Australian pigmeat prices? 2) Have pigmeat imports led to lower domestic prices? 3) How adequate have the methodology and conclusions drawn in previous studies of the impact of imports on the Australian pig industry been? Should the Government wish to provide assistance to the industry in the current state of extremely depressed prices, what considerations need to be taken into account?

The purpose of the P&H report is to provide documented empirical evidence to justify a safeguard action, a set of government actions responding to imports that are deemed to harm the importing country's economy or domestic competing industries. The safeguard action would allow Australia to use means to curtail imports of pork to protect its allegedly injured domestic industry for as long as eight years.[47] Canada is targeted by such action because it is the main supplier of pork imports in Australia.

According to the WTO agreement on safeguards, a Member may apply a safeguard measure to a product only if that Member has determined, pursuant to the provisions set out below, that such product is being imported into its territory in such increased quantities, absolute or relative to domestic production, and under such conditions as to cause or threaten to cause serious injury to the domestic industry that produces like or directly competitive products. Thus a country wanting to use Article XIX must show: 1) that imports have increased; and 2) that domestic producers of competitive products are seriously injured or threatened with serious injury, and that this injury or threat is caused by the increased in imports. Jackson (1997) argue that the application of this two-step rule is problematic because some of the key elements are ambiguously defined (i.e., industry, like and competitive products, injury, threat…). Sampson (1987) and Finger (1996) are less generous and contend that historic interpretations of these two conditions have made it possible for any increase in imports to be actionable under Article XIX prior

[47] The 1994 WTO agreement on safeguards stipulates that an importing country must progressively reduce the restrictiveness of its safeguard measures. The duration of safeguard measures is limited to four years with one possible extension.

to 1994. This loophole seems to have been closed in the wake of the 1994 WTO Agreement on Safeguards. It is important to note that in a safeguard case there is no need to establish the existence of unfair trade practices such as export subsidies or dumping as imports need not be 'unfair' to cause injury. Accordingly, lobby groups seeking protection might request safeguard actions when proofs of improper trade practices are not solid enough to support countervailing and antidumping actions. Indeed, such avenues had been unsuccessfully pursued by the Australian pig industry. However, not having to document unfair trade practices does not mean that protectionist interests can easily secure import protection through the escape/safeguard clause. One might hope that the escape-clause standard for injury should be the highest or most difficult to establish, given that the escape clause is designed to respond to situations that do not necessarily involve any unfair action by foreign exporters. However, it is the issue of compensation or reciprocity that has apparently restrained the number of Article XIX actions in the past (Finger, 1996, p.321). On that score, the new limits imposed on retaliation by the WTO agreement on safeguards (i.e., an exporter is prevented from retaliating for the first three years that a safeguard measure is in effect) may facilitate government capture by protectionist lobbies. It is hoped that improvements in procedural requirements embodied in the WTO agreement of safeguards will prevent abuses of Article XIX.

It is critical for the Australian pig industry to demonstrate that their industry was seriously injured and that imports were the main culprit if their quest for a safeguard action is to be successful. The P&H report brings empirical evidence of questionable quality to document that imports have had a negative impact on hog prices and production in Australia. In what follows, I will provide a detailed assessment of the theoretical and empirical evidence presented in the P&H report. In the next section, I address the theoretical effects of trade liberalization, adjustment policies and protection. The issues raised are critical to all countries concerned. My review of the literature of the economics of safeguards reveals that safeguard measures are rarely motivated by sound economic principles. Section 3 describes the content of the P&H report and the methodology chosen by the authors. It is argued that their framework cannot provide the necessary elements to establish that imports of pork have caused serious injury to the Australian industry. Section 4 critically reviews what P&H tried to measure and uncovered model specification and econometric problems. Section 5 concludes and summarizes my main objections to the P&H report.

## 2. TRADE LIBERALIZATION, ADJUSTMENT POLICIES AND PROTECTION

The optimality of a free trade policy for a small open economy is a proposition that makes unanimity among international trade experts. It is discussed in virtually all textbooks (e.g., Dixit and Norman, 1980) and it can be traced back to an early contribution made by Paul Samuelson (1939). In the absence of

externalities and market power, production and consumption decisions are most efficient when based on exogenously determined world prices. In other words, free trade maximizes the gains from trade. Of course, there are "accepted" exceptions to this general principle. Choi and Lapan (1991) have shown that when a public good can only be financed through commercial policy, a small tariff is likely to be optimal. This case does not apply to a developed economy like Australia's. Johnson (1951) and a few others before him have shown that when a country can influence its terms of trade, an optimal tariff can improve welfare. The so-called optimal tariff argument does not apply here for two reasons: Australia is not likely to be able to influence the international price of pork products and a tariff would most likely trigger (after three years) reprisals which would adversely affect its welfare. Corden (1984) in his review of the normative theory of international trade points out that tariffs and quotas are rarely first best policy instruments to address domestic market disruptions or to achieve non-economic objectives like sector specific production or employment targets. However, trade barriers are first best instruments to achieve the non-economic objective of import reduction (Corden, 1984; Vousden, 1990). In cases like that, a government is willing to trade off economic welfare to achieve a political target, hence the term non-economic objective.

Some economists have also analyzed specifically the economics of safeguards. For most, safeguard measures are difficult to justify on economic grounds.

> *Trade policy is usually inefficient in that it tends to create more distortions than it solves. Indeed, Deardorff and Stern have likened trade policy to doing acupuncture with a two-pronged fork; even if one of the prongs finds the right spot, the other prong can only do harm. This applies to protection to market disruption as well.*
>
> Hoeckman and Kostecki (1995, p. 194)

> *GATT safeguards make no economic sense… In economics, safeguards are nothing but ordinary protection with sufficient political muscle to prevent antiprotection forces from interfering.*
>
> Finger (1996, p.334)

There are essentially two approaches to the analysis of safeguard measures. There is a normative approach strictly concerned with efficiency and national welfare and a positive approach based on Corden's social welfare function which posits that a government is willing to trade off efficiency for equity. Economists have been concerned for some time about adjustment problems as the economy moves from one equilibrium to another. Usually, adjustment problems are linked to factor specificity or limited mobility, factor price stickiness, or congestion in job search. In cases like that, the first best policies are not trade policies. Mayer (1994, p.315) summarizes well the literature

when he states that "the efficiency argument (for safeguard) is quite weak, however, as it is valid under rather special circumstances only and no intervention is the general rule." He constructed a model (in which intervention can increase welfare) to compare tariffs, income transfers to workers of the injured industry and income transfers to people who opted for retraining. His ranking classifies the tariff as the third best instrument. Mussa (1982) on the other is less enthusiastic about the use of safeguard measures to ease adjustments. His objections are completely efficiency-related. He showed that private maximizing behavior will lead to socially efficient adjustement process provided that the prices of outputs and factors and the discount rate perceived by private agents correspond to their true social values, and provided that the expectations that influence private decisions are rational. In contrast, Deardorff (1993) espouses a purely normative/political economic approach by assuming that the motivation behind a safeguard action is to avoid (and not ease or facilitate) adjustments. The rationale is that increases in imports may be temporary and need not reflect permanent shifts in comparative advantage. He and Hoekman and Leidy (1993) favor the use of transferable export licenses to curb foreign export in an efficient and equitable manner. Deardorff's argument is similar to the well known "tariff as insurance" argument which has lost much support among economists (see Vousden, 1990). Furthermore, the ubiquity of revenue or income insurance programs to help agricultural producers cope with risk makes Deardorff's argument irrelevant. Revenue or income insurance programs for sure dominate tariffs or quotas in this case.

The P&H report does not dwell very much on trade theory and when it does it arrives at bizarre conclusions. For example on p. 104, the analysis of the gains from trade associated with the departure from autarky to free trade is plain wrong. In this partial equilibrium framework, the gains are to be evaluated in terms of changes in consumer and producer surpluses. The variation in consumer surplus is the area under the demand curve between the autarky (closed economy) price and the free trade price, that is area Pe, Pw, g, f. The loss in producer surplus is the area above the supply curve between the autarky and free trade prices, that is area Pe, Pw, e, f. The net gain (from trade) is positive and is defined by area f, g, e. The subsequent argument for subsidies (see 6.3.2) is also poorly justified. The argument made by P&H is that in the presence of externalities, it might be optimal to subsidize production. This is true if there are positive externalities associated with hog production. However, negative externalities are more likely than positive ones for the case of hog production in light of the potential social costs of pollution.

Finally, the allusion to strategic trade intervention on p. 110 needs to be backed up. It is unlikely that this game theoretic argument applies in this case. There is nothing in the P&H report to document strategic interactions between Canadian and Australian firms. Blocking imports is not likely to confer a strategic advantage to Australian firms (in a game theoretical sense), likewise for production subsidies. Such measures would

undoudtedly be appreciated by certain groups but they would lead to a net reduction in welfare for Australia.

## 3. AN OVERVIEW OF THE P&H REPORT: WHAT IT DOES AND WHAT IT SHOULD HAVE DONE

The P&H report is made up of seven sections: an executive summary, an introduction, a review of the 1995 Industry Commission Inquiry, two sections on econometric modeling, a review of possible assistance measures and a concluding section. If we go back to the necessary conditions for a safeguard action, it must be demonstrated: 1) that imports of a product are increasing; and 2) that domestic producers of competitive products are seriously injured or threatened with serious injury, and that this injury or threat is caused by the increase in imports. As implied by the title of their report (i.e., "The Impact of Trade Liberalization and Increasing Imports on Australian Pig Prices"), Purcell and Harrision (P&H) produced a study narrowly focused on prices. Having gone in that direction, they cannot provide estimates about the degree of injury suffered. Their analysis should have been extended to measure the welfare effects of pork imports on Australia's hog/pork industry. This would have been a much more ambitious endeavor because it requires detailed modeling of all the components of the industry (retail, pork processing, hog production and feed supply). The authors failed to analyze the consequences of changes in imports, hog prices and production and therefore did not prove that serious injury was inflicted nor did they provide sufficient empirical evidence to guide policymakers. Economists have developed welfare measures that are well-suited to assess the extent of the injuries or benefits stemming from imports. These measures can be used to compute the welfare changes all along the marketing chain, from the consumers of meat products all the way down to hog producers and their input suppliers. The welfare consequences of price, imports and production changes on the whole industry are not and cannot be estimated with their methodology used by P&H. Keeping in mind that worries over abuses of Article XIX have led international trade experts like Hoeckman and Kostecki (1995, p.193) to recommend that the injury criteria be such as to ensure that the domestic industry as a whole is making substantial losses, it can only be concluded that the evidence reported in the P&H is insufficient to justify a safeguard action.

In order to properly assess the extent of injury on the whole industry, one must gather information about the various elements of the marketing chain. It is essential to develop an understanding of how the linkages between the various elements of the marketing chain work. Unfortunately, a careful reading of the P&H report does not provide much insight about the structure of the Australian pork industry. The descriptive analysis of the Australian pork industry is lacking depth at all possible levels: feed supply, production, processing and retail. Basic information (e.g., the relative importance of the industry vis-à-vis other agricultural sectors, geographical concentration of the hog production and processing, industry concentration at the

processing and retail levels, competitiveness, cost structure at the processing and retail levels…) would have been useful. Also, such information might have shed some light as to why the retail pork price behaves so differently from the saleyard price for baconers. It is conceivable that the problem perceived by hog producers might have more to do with domestic market failures than with import competition per say even though imports might exacerbate the effects of the market failures. If that was the case, government actions should be aimed at correcting these market failures to make the marketing of hog/pork products in Australia more efficient. In many countries, the food retail and hog processing sectors are highly concentrated. Australia is probably no different but the P&H report does not have much to say about this. If retailers exercise market power in their dealing with local pork suppliers, then the opportunity that retailers have to buy from foreigners contributes to the erosion of the bargaining power of local pork suppliers. However, restricting or even banning imports would not solve this domestic problem.

It would have been insightful to get more detailed information about the composition of pork imports in terms of sources and product categories. As shown in Larue and Gervais (1996), changes in product composition may have strong effects on unit values/average price of imports. Furthermore, there is no reason to believe that the demand at the retail and processing levels is the same across product categories. There is a presumption that the substitution elasticity between Canadian and Australian pork products is high but not infinite in light of the persistence of the reported price differential. Knowing whether Australian and Canadian pork products are perfect or imperfect substitutes is germane. If the degree of substitution is very low, Canadian pork would not be a threat.

There is no model showing how imports affect the various components of the Australian pork industry (feed supply, production, processing, retail). This could have been done graphically or mathematically in a partial equilibrium framework. A theoretical model would have been useful for two reasons. First, it would have provided insights about the effect of imports on prices at all levels of the marketing chain. The impact of elasticities and market structures could have been easily explored. In a sense, the theoretical model would have refined our understanding of the Australian pork industry. Second, the structural theoretical equations could have been partially solved to derive a so-called reduced-form model of the industry. The latter could have been estimated empirically and comparative statics results, like the effect of a change in the Canadian price, could have been estimated. The advantage of this approach is that we would know how to interpret the coefficients of the variables entering the specification of the reduced-form model, that is we would know if a coefficient is supposed to be negative, positive or if it has an ambiguous sign.

## 4. MODEL SPECIFICATION AND OTHER ECONOMETRIC PROBLEMS

The lack of a solid theoretical foundation is evident in the specifications of the models estimated by P&H. For example, the 'model of supply in price dependant form' of p.48 is not properly specified. The specification is supposed to explain hog supply at the farm level. In a competitive setting (i.e., producers don't have market power), the supply function is obtained through Hotelling's lemma, that is the first derivative of the profit function with respect to price. Let the profit function be represented by $\pi(p,w)$ where p is a vector of output prices and w a vector of input prices. The first derivative of the profit function of hog producers with respect to the price of hogs $p_i$ is $\partial\pi(p,w)/\ \partial p_i=q_i(p,w)$ the supply function. This function can be inverted to be expressed in a price dependant form to give: $p_i=f(p_{-i},\ w,\ q_i)$, where $p_{-i}$ is a vector of output prices other than the hog price. This contrasts with the implausible specification used by P&H who failed to include input prices and wrongly included retail prices. What matters to hog producers is what they receive for their hogs and what they spend on inputs! Also, the aggregate supply curve alone does not explain the price determination of Australian pork. In order to analyze the effects of a change in the price of Canadian pork on Australian hog and pork production and prices, one needs also to estimate the demand side. A fall in the price of Canadian pork should shift downward the demand for Australian pork. This fall in one of the exogenous variables entering the demand equation moves the equilibrium along the supply curve. Thus, the resulting change in the Australian pork price cannot be estimated without knowing how the demand for Australian pork reacts to a change in the price of Canadian pork!

The incorrect specifications are not only difficult to interpret but they also lead to biases in the econometric estimations. This is the so-called missing variables bias which does not go away even if when the sample size for the regression analysis approaches infinity.

It could that the model described and estimated in p. 48-49 is not a supply function (even though P&H call it this way, they may interpret it differently). Perhaps their regression was meant to capture both supply and demand functions. If that was the case, then it is obvious that they have not properly estimated their model. Regardless of the interpretation given to the regression, the Chow test for structural change is improper,. The assumption that only SPQ, the saleyard price for baconers, is endogenous is unrealistic and the fact that the variables are I(1) warrants the use of a more complex estimation technique and test for structural change. The problem is one of simultaneity/endogeneity which introduces a bias in the estimation of the coefficients. P&H could have used Hansen's (1992) fully modified approach to regressions with I(1) processes to address this issue. This way, they could have estimated that regression (or possibly one with a proper set of explanatory variables) and the endogeneity of the variables on the right hand

side would have been corrected for. Hansen also provides three tests of structural change consistent with the fully modified estimator. For applications of this procedure in a context of price analysis, see Sabuhoro and Larue (1997). The FM system's approach developed by Peter Phillips (1995) would have been a good alternative as well.

Some of the arguments presented above also apply to the regressions reported on p.55-56. The biggest problem though remains the lack of a solid theoretical foundation to justify the specification of these models. If the model estimated is again a supply function, as claimed by P&H, then several variables included in the model are inconsistent with economic theory. For example, the price of Canadian pork should enter the demand specification for Australian pork, not the supply function! A glance at the results reveals that the coefficient on the price of Canadian pork is not significant (p.55-56). Does this mean that the prices of Canadian and Australian pork are unrelated? If so, how could Canadian imports injure Australian pork processors and hog producers? The inclusion of Canadian imports in P&H' model specification is also puzzling. This variable could enter the demand equation for Australian pork if there had been quantitative restrictions on Canadian imports but P&H never mention that an import quota (or a VER) was limiting pork imports. Nevertheless, let's assume that this was the case. Then, why is the price of Canadian pork included? An alternative is to assume that P&H really estimated a supply function and that that Canadian pork is used as a fixed input in the production process of Australian pork (i.e., some sort of intermediate good)? That does not make much sense.

The confidence intervals reported on p.56 are not computed at the standard level of significance, that is 5% (mean ± 1.96 SE). Using 1 SE instead of 1.96 SE makes P&H' quota on Canadian imports appear more damaging because the lower bound of the interval is then above zero.

The results of the VAR analysis in section 5 are strange. It could be because the VAR/VEC analysis is performed over a very short sample period (i.e, 30 observations/7years). Johansen's cointegration tests (Trace and Maximal eigenvalue) perform very poorly in small samples (see Hargreaves (1995) Monte Carlo results). The short sample period is problematic for the VAR as well because it imposes severe restrictions on the number of lags used in the specification of the model. Even though P&H failed to put a confidence interval around their impulse responses, it looks like the only variables that responds to shocks in Australian variables are the Canadian variables! For example, the impulse functions on p. 67 show that only the Canadian volume of imports react to a change in the price of Australian pork. The strange thing is that an increase in the Australian price brings about a large sudden decline in the volume of imports. Are Australian and Canadian pork complements? The policy implications of such a conclusion are rather interesting in the current context. On the other hand, the impulse functions on p.

77 show that none of the variables are responding to an increase in Canadian imports except Canadian imports. These results contradict those on p. 55-56 where Canadian imports appear to have a very large effect on the Australian pork price. As in p. 55-56, the impulse functions of the VAR model show that the effect of the Canadian pork price on the Australian variables is essentially insignificant. If Canadian variables do not trigger any adjustments in Australian variables, how could they cause injury?

The interpretation of unit roots in the P&H report is too strong. Hamilton (1994, p.445) argue that for any unit root process there exists a stationary process that will be impossible to distinguish from the unit root representation for any given sample size T. Also, unit root and stationary processes differ in their implications at infinite time horizons but for any given finite number of observations on the time series, there is a representative form of either class of models that could account for all the observed features of the data. Hence testing whether innovations have a permanent effect on the level of a series, however interesting, is simply impossible to do.

P&H discuss at great length the number of lagged variables to include in the specification of their models. For some models they rely on the Akaike Information Criterion (AIC) while for others they use Pierre Perron’s approach to compare a model of k lags to a model with k-1 lags starting with an arbitrary large k. Both approaches are fine but may suggest widely different specifications. Hall (1994), who favors the use of Information criteria, recommend using the Schwartz’s criterion. My point is that unit root and cointegration tests are often very sensitive to the number of lags selected and both procedures could have been used to determine a range of lags to use. This range could then have been used to assess the robustness of the unit root/cointegration results. This strategy is common, see Perron (1994) for example. By the same token, unit root/cointegration tests are also sensitive to non-linear data transformation. Frances and Koop (1998) argue that the usual practice of taking logs is not always warranted.

My experience with testing for unit roots is that different testing procedures often generates different results. Hence I usually do more than one test. For unit roots at the zero frequency (i.e., non-seasonal unit roots), I often run Augmented Dickey Fuller tests and the KPSS test developed by Kwiatkowski et.al., (1992). The reason for this is that the null hypothesis under the first test is that of a unit root or non-stationarity. In order to reject at say 5%, you need tremendous evidence and the probability of wrongly confirming the presence of a unit root where there is none is real in small samples. The second test has a null of stationarity. If I can’t reject the null of a unit root with a ADF test and that I can reject the null of stationarity with the KPSS test, I can then be confident that my series is non-stationary. If a series is potentially characterized by a change in trend, then the tests proposed by Perron or Zivot and Andrews (1992) are useful. Some of these

tests allow the date at which the structural break occurs to be endogenously determined. It is not clear that this is the case in the P&H analysis. This is an important point because events are sometime anticipated and they may, on other occasions, induce delayed adjustments. Hence fixing a date is usually not the right thing to do. The HEGY test for seasonal unit roots is the most popular of its kind. It is not very hard to implement and it allows for seasonal unit roots at different frequencies. I do not understand why P&H discusses it but do not implement it.

## CONCLUSION

Improvements from the WTO agreement on safeguards are very much dependent on the interpretation of what constitutes serious injury and the level of rigor required to demonstrate a causal link between imports and the degree of injury. In my view, P&H have not used a framework that enables them to measure and hence establish injury. This is so because they cannot measure variations in welfare. Reputable trade experts recommend that the injury test be administered on the whole industry and that substantial aggregate losses be necessary to justify safeguard measures. In this case, retailers probably benefit a great deal from the imports. P&H' analysis did not estimate the size of these benefits. Their models are improperly specified and produce results that cannot be interpreted in a meaningful way, at least from an economic standpoint. They relied on essentially three types of models in their attempt to demonstrate injury. Yet, the single equation supply models of p.55-56 showed that Canadian and Australian prices are independent from each other. However, these models indicated that Canadian imports had a negative effect on the Australian pork price. This result contrasts with the impulse responses derived from the VAR model. The impulse functions show that the Australian variables do not respond to shocks on Canadian variables. In short, the empirical evidence presented in the P&H report is mixed and of poor quality. It is my opinion that it is insufficient to establish serious injury.

**References**

Choi, K. and H.E. Lapan, "Optimal Trade Policies for a Developing Country under Uncertainty", *Journal of Development Economics*, 35,2, 1991, 243-60.

Corden, W.M., "The Normative Theory of International Trade", in Jones, R. and P.B. Kenen, eds., *Handbook of International Economics vol. 1*, Amsterdam: North Holland, 1984.

Deardorff, A.V., "Safeguards Policy and the Conservative Social Welfare Function", in Stern, R.M., *The Multilateral Trading System-Analysis and Options for Change*, Ann Arbor: The Univesity of Michigan Press, 1993.

Dixit, A. and V.K. Norman, *Theory of International Trade*, Cambridge: Cambridge University Press, 1980.

Finger, J.M., "Legalized Backsliding:safeguard provisions in GATT", in Martin, W. and L.A. Winters, eds., *The Uruguay Round and the Developing Countries*, Cambridge: Cambridge University Press, 1996.

Frances, P.H. and G. Koop, "On the Sensitivity of Unit Root Inference to Nonlinear Data Transformations", Economic Letters, 59,1998, 7-15.

Hall, A., "Testing for a Unit Root in Time Series with Pretest Data-Based Model Selection", *Journal of Business & Economic Statistics*, Oct., 1994, 461-470.

Hansen, B., "Test for Parameter Instability in Regressions with I(1) Processes", *Journal of Business and Economic Statistics*, July, 1992, 321-335.

Hamilton, J.D, *Time Series Analysis*, Princeton: Princeton University Press, 1994.

Hargreaves, C., "A Review of Methods of Estimating Cointegrating Relationships", in Hargreaves, C., ed., *Non-Stationary Time Series Analysis and Cointegration*, New York: Oxford University Press, 1995.

Hoekman, B.M. and M.P. Leidy., "Policy Responses to Shifting Comparative Advantage: Designing a System of Emergency Protection", in Stern, R.M., *The Multilateral Trading System-Analysis and Options for Change*, Ann Arbor: The Univesity of Michigan Press, 1993.

Hoekman, B.M. and M.M. Kostecki, *The Political Economy of the World Trading System-From GATT to WTO*, Oxford: Oxford University Press, 1995.

Jackson, J.H., *The World Trading System: Law and Policy of International Economic Relations*, 2nd ed., Cambridge: The MIT Press, 1997.

Johnson, H.G. "Optimum Welfare and Maximum Revenue Tariffs", *Review of Economic Studies*, 19, 1951, 28-35.

Kwiatkowski, D., P.C.B. Phillips, P. Schmidt, and U. Shin, "Testing the Null Hypothesis of Stationarity Against the Alternative of a Unit Root: How Sure Are We that Economic Time Series Have a Unit Root", *Journal of Econometrics*, Oct., 1992, 159-178.

Larue, B., and J.-P. Gervais, "The Impact of the Canada-U.S. Pork Trade Dispute on the Composition of U.S. Pork Imports" *Agricultural and Resource Economics Review*, Oct., 1996, 187-199.

Mayer, W., "Optimal Pursuit of Safeguard Actions over Time" in Deardorff, A.V. and R.M. Stern, eds., *Analytical and Negotiating Issues in the Global Trading System*, Ann Arbor: The University of Michigan Press, 1994.

Mussa, M. "Government Policy and the Adjustment Process", in Bhagwati, J.N., *Import Competition and Response*, Chicago: The Univesity of Chicago Press, 1982.

Perron, P. "Trend, Unit Root and Structural Change in Macroeconomic Time Series" in B. Bhaskara Rao, ed., *Cointegration for the Applied Economist*. New York: St-Martin's Press.

Phillips, P.C.B. 'Fully Modified Least Squares and Vector Autoregression' *Econometrica*, 63, 5, 1995, 1023-1078.

Sabuhoro, J.B. and B. Larue. "The Market Efficiency Hypothesis: The Case of Coffee and Cocoa Futures". *Agricultural Economics,* 16,3,1997,171-184.

Sampson, G. "Safeguards", in Finger, J.M. and A. Olechowski, eds., *The Uruguay Round: A Handbook for the Multilateral Trade Negotiations*. Washingtion D.C.: World Bank, 1987.

Samuelson, P. "The Gains from International Trade", *Canadian Journal of Economics and Political Science*, 5, 1939, 195-205.

Vousden, N., *The Economics of Trade Protection*, Cambridge: Cambridge University Press, 1990.

Zivot, E. and D.W.K. Andrews, " Further Evidence on the Great Crash, the Oil-Price Shock,and the Unit Root Hypothesis", Journal of Business and Economic Statistics, 10, 3,July 1992, 251-270.