Not confidential - see letter of 1/07

[redacted]

CT-91/1

A-1

THE COMPETITION TRIBUNAL

IN THE MATTER of an application by the Director of Investigation and Research for orders pursuant to section 92 of the Competition Act, R.S.C. 1985, c.C-34, as amended;

AND IN THE MATTER of the acquisition by Hillsdown Holdings (Canada) Limited of 56% of the common shares of Canada Packers Inc.

BETWEEN:

THE DIRECTOR OF INVESTIGATION AND RESEARCH

Applicant

-and-

HILLSDOWN HOLDINGS (CANADA) LIMITED,
MAPLE LEAF MILLS LIMITED,
CANADA PACKERS INC. and ONTARIO RENDERING COMPANY LIMITED

Respondents

AFFIDAVIT OF THOMAS W. ROSS
(filed by the Applicant)

[redacted]

AFFIDAVIT OF THOMAS W. ROSS

I, Thomas W. Ross, of the Township of Rideau, in the Province of Ontario, make oath and say as follows:

I. Background and Qualifications

1. I am an economist currently employed as an Associate Professor in the Department of Economics at Carleton University in Ottawa.

2. I received a Ph.D. in economics from the University of Pennsylvania in 1981 and then worked as a Research Fellow in the Graduate School of Business in the University of Chicago before joining the faculty at Carleton University in 1984. A copy of my curriculum vitae is attached hereto as Appendix A.

3. In the academic year 1990-1991 I held the T. D. MacDonald Chair in Industrial Economics at the Bureau of Competition Policy. In this capacity I contributed to Bureau work in a number of areas including the evaluation of mergers. It was at this time that I began to study the merger involving Orenco and Rothsay.

4. In preparing this affidavit, I have reviewed the following documents: the Director's Notice of Application, the Respondents'

Response to that Notice and the Director's Reply; the Director's Affidavit and Books of Documents and the Respondents' Affidavit and Books of Documents; and the transcripts of the examinations for discovery of Joseph Kosalle, on behalf of the Respondents, and of Stephen Peters, on behalf of the Director. I have assumed the statements of fact in this affidavit to be true for the purposes of my opinions and conclusions.

5. For the reasons described below, I am of the opinion that the merger of Orenco and Rothsay in Ontario will very likely result in a substantial lessening of competition in a significant relevant market.

II. Defining the Relevant Market

II.1 General

6. Analysis of this industry is complicated by two characteristics that differentiate it from the stereotypical "textbook" industry. First, this is a classic case of joint products, but not just at one stage in the vertical chain. Renderers provide rendering services (collection and safe disposal) to packing houses and other meat processors, and convert the collected material into useful products such as tallow and meal that are sold in different markets.

7. Similarly, packing houses, slaughter houses, grocery stores and other suppliers of renderable material operate in two markets as

well. They produce and sell meat products for human consumption, and (as a sort of by-product) they produce material to be sold to renderers.

8. These joint product features complicate the analysis somewhat because they suggest that decisions about the quantities to be produced by renderers or suppliers of renderable material, will not be determined solely by the conditions of one output market. For example, the amount of renderable material produced by a packing house will be determined by the prices paid for the packing house's meat products and the prices paid by the renderers which will in turn depend, in part, upon the prices paid for the renderer's finished products.

9. The second unusual feature of this industry that complicates discussion is the fact that renderers sometimes pay for renderable material and in other cases they will charge for its collection. It would appear then that the price of rendering services is sometimes positive and sometimes negative. Though this does not pose any real problems for the economic theory of the case, it can create confusion. For this reason, I have adopted the following view of the industry.

10. Think of the renderers as acting as agents for the producers of renderable material (call them simply packing houses or "houses"), helping them sell their material to those wanting to buy

tallow and meal. For their material, the houses will get the established market price for the tallow/meal content of the material less the charges imposed by the renderers. For example, if one pound of fat and bones produced 10 cents worth of tallow and meal then the house will get 10 cents for every pound of fat and bone produced but will have to pay the renderer for facilitating this transaction. Viewed this way, rendering prices must always be positive.

11. Thus, prices for rendering services will be the difference between the final output value of the renderable material and what the supplier of the material actually receives.

II.2 Captive versus Free Market Material

12. While the Director and the Respondents, for the purposes of this Application, seem to consider the relevant market here to be that for free market supplies of renderable material, I would argue that markets should in general be defined to include both captive and free market supplies.

13. Market power comes from the control of a significant fraction of some scarce resource or commodity. The organizational structure has little to do with whether or not market power exists.

14. Captive and free market material is identical in this market. It comes from the same types of establishments, and it is processed

the same way to produce the same final products.

15. In this particular case the inclusion or exclusion of captive material will not materially affect the analysis. The "free market" market is not significantly different from the "total material" market in ways that are important to the review of this matter. In part this is a product of the fact that about three-quarters of material is free market, and of the fact that the major captive renderers, Rothsay and Orenco, are also the largest free market renderers.

II.3 The Product Market

16. Renderers process a variety of materials like red meat by-products, deadstock, blood, grease and poultry by-products (including feathers) into useful products such as tallow and various types of meal. While there is some specialization in the equipment used to process different materials there is also flexibility in some of the equipment. For example, equipment used to process red meat by-products and deadstock can be adapted to handle poultry by-products and vice versa. (Kosalle transcript, pp. 707-8) Blood can be processed with meat or separately. (Response, paragraph 29)

17. Two products or services should be included in the same relevant market when an increase in the price of one calls forward a significant shift of buyers toward the other and/or a significant

shift of sellers into the production of the good or service with the higher price. This view of market definition is clearly explained in the Bureau of Competition Policy's recently issued Merger Enforcement Guidelines (pp. 10-14).

18. Demand side substitution is limited in this case to the extent that a beef slaughterhouse (for example) cannot easily switch to chicken in response to an increase in the price of red meat rendering services.

19. However, the flexibility of the processing equipment described above means that supply side substitution is frequently possible. For example, if the prices for rendering poultry by-products rose, equipment devoted to rendering red meat by-products might be converted to render poultry.

20. Feathers (and hog hair) are a special case. To render this material properly requires more highly specialized equipment. Similarly, grease is most economically rendered in specialized equipment, though it can be processed with other material.

21. It could be argued that there may be as many as three different product markets here. The first and by far largest market involves the rendering of all red meat by-products, blood and deadstock, the second the rendering of poultry by-products and the third the recycling of grease.

22. The fact that poultry rendering equipment can be used to render red meat by-products and vice versa suggests that even if the merging parties did not compete for poultry supplies, poultry nevertheless belongs in the same market on the theory that they were significant potential competitors. Indeed, I understand that Orenco had recently considered expanding into poultry. (Respondents' Documents, Schedule 2, #14 and Kosalle transcript, pp. 469-470) Poultry rendering will only constitute a separate market if the processing of feathers is important to the success of a poultry operation and if the specialized equipment required to deal with feathers is expensive.

23. Based upon what I have seen, it is my view that poultry belongs in the same market with other meat by-products.

24. Grease may be a different matter for a number of reasons. It is my understanding that grease can be processed more economically with special equipment. Therefore an increase in the price of grease rendering might not encourage renderers to redeploy nonspecialized equipment to work with grease. Also, it appears that a rendering licence is not required to recycle grease, though environmental permits would still be required. In addition, it appears that grease can lawfully cross the border to the United States for recycling. Therefore, it is possible that grease prices are determined somewhat independently from prices for other rendering services.

25. Though there are strong arguments for the exclusion of grease from the relevant market, grease volumes are a small part (about 5%) of the total volume of renderable material and its inclusion or exclusion will not affect the analysis in any material way. For this reason the market share calculations presented below will include grease.

II.4 The Geographic Market

26. The Respondents have taken the position that the relevant geographic market includes at least those areas in both Canada and the United States that are within 200 miles from the Rothsay Moorefield and the Orenco Dundas plants. The Respondents also assert that a renderer will travel more than 200 miles to collect material from certain accounts and that the 200 mile boundary can be extended through the use of depots. (Response, paragraphs 23 and 24) Presently it appears that neither Rothsay nor Orenco use depots. (Kosalle transcript, p. 140) Very little renderable material is collected from sources beyond 200 miles from the plant locations. (Kosalle transcript, pp. 120-121) For the purposes of my opinions and conclusions a precise 200 mile boundary is not critical.

27. A strict application of the Merger Enforcement Guidelines' hypothetical monopolist test for market definition would probably find that there is not one, but perhaps several geographic markets

within the Southern Ontario area. Since the firms in each of these markets are the same, nothing is lost by collecting them together and calling it one market.

28. The most significant area of disagreement between the Director and Respondents has to do with the effectiveness of actual or potential competition from the United States, principally from Darling facilities in Detroit and Buffalo. The Respondents argue that the border does not matter; tariff and nontariff barriers are not significant. For this reason they would include Detroit and Buffalo in the relevant market.

29. In my opinion, the American facilities should not be included in the relevant market for a number of reasons.

30. First, it is clear that deadstock and condemned material cannot lawfully cross the border. It is very difficult to determine whether a particular load contains condemned material. (Kosalle transcript, p. 716)

31. Even material that can be shipped legally into the United States may not move easily. To cross the U.S. border under American law, renderable material from Ontario processors must receive a certificate from a federal inspector indicating that the material is of Canadian origin, that it has undergone ante-mortem and post-mortem inspections and has been found free of contagious

and communicable diseases. (Director's document #49)

32. Cross-border service is likely to be subject to delays and additional expense. One would expect customers who must have material removed to carry on their business to be particularly reluctant to commit to a renderer whose trucks could be held up at a border crossing for health or customs reasons.

33. Finally, in Ontario, provincial laws may make it difficult for American renderers to compete for some material. Provincial regulations are such that provincially licensed processors have their material rendered by provincially licensed renderers.

34. It is worth noting, in keeping with the product market discussion above, that these reasons are less relevant to the recycling of grease.

35. In support of the argument that the relevant market does not cross the border one can point to the very limited amount of material that has crossed in the recent past. (Kosalle transcript, pp. 172-175) Apparently, some grease goes to Detroit from Sault Ste. Marie, (Peters transcript, pp. 757-758) but grease may be different. There is no evidence of other material crossing the border currently. Darling moved some material to Detroit and Buffalo when its Toronto facility was involved in a labour dispute, but this does not establish that such movement can legally occur or

be profitable on an ongoing basis.

36. If the border were truly insignificant, one would expect to see Darling serving Windsor clients from its Detroit facility rather than from a Toronto facility that is nearly two hundred miles away. Similarly, Niagara region customers should have been serviced from Buffalo.

37. It should also be noted that defining the market to include American plants near the border will not likely make a great deal of difference in this case. This brings two other plants into the market both operated by Darling, a current market participant. One of these plants (Buffalo) has been shut, and if it has been dismantled at all, restarting it might not be a simple exercise.

38. At best, allowing the relevant market to be expanded across the border will allow the argument that Darling can hold on to some of the business it already has. It does not remove concerns about the high levels of concentration.

II.5 The Market Participants

39. The hypothetical monopolist test employed in the Merger Enforcement Guidelines provides a means to determine which firms should be included in the market. The relevant market for competition policy purposes need not correspond exactly to what the lay person would think of as a market, or even to what an economist

might call an economic market. The focus of the hypothetical monopolist approach is on what groups of firms could profitably raise price if they acted together.

40. In my view, strict application of the hypothetical monopolist test for market definition in this case would likely result in the market being defined so as to include only the merged firms as they may post-merger have the market power necessary to raise price. Of course, this makes calculation of market shares quite trivial.

41. However, the Merger Enforcement Guidelines also provide for the inclusion of other firms when they "obviously compete, as a matter of commercial reality, with the products in the relevant market." (p.9) Because it helps to give a more complete picture of the market I think this is a sensible approach and in the market share numbers presented below I will include all the firms included in Schedules "C" and "D" provided by the Respondents. (Directors' document #12, letter to S. Peters from J. Kendry dated July 9, 1990)

II.6 Market Shares

42. Though never the sole basis on which to draw conclusions about the likelihood of competitive behaviour, market shares are still important data in these studies. High levels of concentration are no guarantee of uncompetitive outcomes, however, it is very

unlikely that markets with low levels of concentration will be significantly uncompetitive.

43. In what follows, I use the data from Schedules "C" and "D", as described above. Table 1 gives the market shares pre and post merger in the market for captive and free market rendering services. "Premerger" is not strictly speaking what it might seem. Since the merger, Fearmans was acquired by Canada Packers Inc. (now Maple Leaf Foods Inc.). In what follows, premerger refers to a situation in which Orenco has not been joined to Rothsay, but Fearmans has. This seems appropriate since the Director is not asking for the divestiture of Fearmans. "Post merger" refers to a situation in which Rothsay, Orenco and Fearmans are all joined: the merged entity is referred to as R-O-F. In calculating post merger shares I have assumed that the merging firms retain their combined share.

44. In the tables that follow, CR4 refers to the four-firm concentration ratio which represents the sum of the four largest market shares.

45. There are many ways to measure market shares. For example, shares can be measured with respect to dollar or unit sales (or purchases) or capacities or employment. In Schedules "C" and "D" the Respondents chose to report shares in (unit) purchases by weight. This is convenient in that it facilitates aggregation

across the different products and it is likely that any other method would produce similar results. It is worth noting however that if the merged firm has a larger share of higher value purchases than it does shares of the other materials, concentration measures based on market shares calculated with dollar values will suggest the industry is even more concentrated than is indicated here.

46. Table 1 tells us a few things. First of all, this is a very concentrated industry. The level of the combined market share of the merging firms, the amount of market share added by the acquisition and the four-firm concentration ratios are so large as to be well beyond all the "safe-harbour" thresholds contained in the Merger Enforcement Guidelines (p.21). The Guidelines indicate that the Director is unlikely to challenge a merger under a theory of unilateral market power if:

(i) the post merger market share of the merged entity is less than 35%.

and will not challenge under a theory of interdependent exercise of market power where:

(ii) the post merger four firm concentration ratio is less than 65%, or

(iii) the post merger share of the merged firm would be less than 10%.

Though the merger does not significantly raise the four firm concentration ratio (it is already very high, and well above the 65% threshold) it does significantly increase the share of the largest firm in the market (well above the 35% threshold). The

Table 1

Market Shares

Firm	Excluding Poultry (i) Share Total Market	Excluding Poultry (ii) Share Free Market	Including Poultry (iii) Share Total Market
Rothsay (incl. Fearmans)	32.7%	31.6%	45.6%
Orenco	31.3%	28.9%	23.7%
R-O-F	64.1%	60.4%	69.4%
Darling	13.5%	17.8%	12.3%
Banner	9.3%	12.2%	7.0%
Schneider	6.2%	1.2%	5.7%
Other	7.0%	8.4%	5.7%
CR4 pre-merger	86.8%	90.4%	88.6%
CR4 post merger	93.0%	91.6%	94.3%

post merger share of R-O-F will be between 60% and 70% and it will be at least three times (and maybe over 5 and a half times) larger than the next largest firm.

47. The industry is concentrated no matter how one defines the market. Whether total product or only free market, with or without poultry, four firm concentration levels and the size of the largest firm are very high. The market definition argued for by the Respondents, free market with no poultry (column (ii)) gives the smallest market share to the merged entity and the smallest increase in four firm concentration.

48. The definition of the market for which I have argued, free market plus captive and including poultry (column (iii)) gives the highest share for the merged firm, the highest post merger CR4 and the greatest gap between the post merger market shares of the largest and second largest firms.

49. The differences in market structure under these alternative market definitions are small in light of the very high levels of CR4 and R-O-F shares in all cases.

50. Highly concentrated markets such as these are a concern for at least two reasons. First, the largest firm(s) may be able to exercise market power unilaterally. This will be particularly likely if the firm is considerably larger than its rivals, if

rivals are capacity constrained and if barriers to entry are high.

51. Second, when a large fraction of output is controlled by relatively few firms, the opportunities for cooperation between these firms are present. This cooperation might take the form of overt collusion or more covert cooperative behaviour such as that which is referred to as conscious parallelism. Again, such an outcome is facilitated by the presence of barriers to entry.

52. Another development relevant to this characterization of market structure is the possible exit of Darling from the market by virtue of the nonrenewal of the lease of its Toronto facility. I have argued above that I find reason to doubt that Darling could serve the Ontario market effectively from Detroit and/or Buffalo. If Darling loses its Toronto facility and is not able to or interested in establishing a new facility in the market, the market will become further concentrated.

53. Under the assumption that Darling volume on its exit would go to the other firms based upon their market share, new market share numbers are presented for a market without Darling. These are given in Table 2.

54. Comparing columns (i) and (iii) with, respectively, columns (iv) and (v), we find a substantial increase in the market share of

Table 2

Market Shares Without Darling

	Excluding Poultry	Including Poultry
	(iv)	(v)
Firm	Share Total Market	Share Total Market
Rothsay (incl. Fearmans)	37.8%	52.0%
Orenco	36.2%	27.0%
R-O-F	74.1%	79.1%
Banner	10.7%	8.0%
Schneider	7.1%	6.5%
Other	8.1%	6.5%
CR4 pre-merger	91.9%	93.6%
CR4 post merger	93.0%*	94.4%*

* Includes Phil's Rendering as the fourth largest firm.

the merged entity; roughly 10 percentage points in each case. The four firm concentration ratios are slightly higher.

55. Probably the most significant difference here is that, absent Darling, the largest firm will be seven or ten times larger than the second largest firm (now Banner).

56. The combined effect of the merger of the two largest firms and the exit of the next largest firm in this market is likely to have a very significant effect on competition and price levels. Rather than having three major firms each providing full service (or very nearly) rendering throughout the market we will see one very large firm and several smaller specialized renderers.

57. As discussed below, barriers to entry may not be insignificant in this industry. It might also be true that the smaller renderers do not have a great deal of excess capacity between them. In this case, whether or not Darling exits there would likely be a substantial lessening of competition.

III. Barriers to Entry

III.1 General

58. The Competition Act makes specific reference to barriers to entry as a factor to be considered regarding the prevention or lessening of competition. In its list of such factors, Section 93 includes:

"(d) any barriers to entry into a market, including

(i) tariff and non-tariff barriers to international trade,

(ii) interprovincial barriers to trade, and

(iii) regulatory control over entry,

and any effect of the merger or proposed merger on such barriers."

59. It can be argued as well that barriers to entry are important to the evaluation of two of the other factors listed in this section (with emphasis added):

"(a) the extent to which foreign products or foreign competitors provide or <u>are likely to provide</u> effective competition to the businesses of the parties to the merger or proposed merger;"

and

"(c) the extent to which acceptable substitutes for products supplied by the parties to the merger or proposed merger are or <u>are likely to be</u> available;"

Both of these items contemplate the possibility of competition coming from sources not currently available: in (a) these sellers are located in other countries, in (c) they sell substitute products not currently available in the relevant market. In each case, the likelihood and significance of entry will depend upon the barriers to entry faced by these other firms.

60. Economists have defined barriers to entry in a variety of ways. Bain provided a definition that focused on the ability of incumbent firms to maintain prices above full economic costs (i.e.

costs that include an allowance for a reasonable return on investment) without attracting entry. (J. Bain, Industrial Organization, New York: Wiley, 1968) He went on to suggest that economies of large scale production, absolute cost advantages, and product differentiation affect the ease of entry.

61. Stigler defined barriers to be costs that must be borne by the entrant that are not or were not borne by the incumbents. (G. Stigler, The Organization of Industry, Homewood, Illinois: Richard D. Irwin, 1968) Thus Bain and Stigler would agree that absolute cost advantages, perhaps attributable to regulatory constraints, would be barriers. But they would not agree about economies of scale. Economies of scale and market demand together go a long way toward determining market structure. Suppose that economies of scale are such that there is not room for another efficient firm in an industry. According to Stigler, to say that entry is impeded by these economies is no more meaningful than saying that insufficient demand is a barrier to entry.

62. Due largely to Stigler's contribution, attention has increasingly focused on asymmetries between incumbents and entrants that allow the former to make supranormal profits without attracting the latter into the market.

63. The following are seen to give rise to barriers to entry:

(i) Regulatory barriers that favour incumbents over

entrants.

(ii) Tariff and non-tariff barriers to trade that add costs to sellers from outside the country but not to sellers within.

(iii) Asymmetric information, particularly when used strategically. When an incumbent knows more about (for example) the costs of production, it can take actions to try to convince the prospective entrant that entry will not be profitable.

(iv) Sunk costs.

64. Sunk costs represent investments that are fully committed once made. If I sign a lease to rent office space for $1,000 for the next month, and I cannot cancel that contract, the $1,000 will have to be paid whether or not I actually use the office. Even if I was to close down my firm, I must pay my landlord $1,000. "Sunk" refers to that portion of my investment that I could not extract should I choose not to continue. If I can sublet the office for $600 then only the remaining $400 are sunk.

65. Sunk costs impede entry two ways. First, to a considerable extent they represent the risk to which the entrant is exposed. In the event that entry is not successful, perhaps because the entrant was not able to get costs down to competitive levels, the sunk investment is what the entrant loses. The greater these possible losses relative to the prospective gains from successful entry, the

less attractive entry becomes.

66. Second, the fact that the incumbent firm(s) has committed resources to the industry that are now sunk means that the entrant will find it very difficult to force the incumbent out of the market. Sunk investments serve as a credible commitment to stay in a market. Even a more efficient firm will only force the exit of a rival once price falls below the level of non-sunk average costs.

67. In this way sunk investments can serve to convince potential entrants that the incumbents will not yield to their entry; threats to maintain output in the face of entry are then more credible. This will clearly make entry less attractive to the entrant who feels he/she needs some accommodation by incumbents to generate sufficient sales.

68. Sunk costs can take many forms. Most familiar are the investments in specialized capital (e.g. machinery) that has limited second hand value. For example, a robot programmed to perform one highly specialized function on an assembly line may be useless when removed from its designed place. A large fraction of the money spent to purchase that robot will be sunk.

69. Less obvious are sunk costs associated with human resources. Time spent planning and building a firm is forever lost should that

firm exit. The same is true of education and training specific to a certain firm.

70. A third general category of sunk cost involves the start-up losses that must frequently be endured by an entrant trying to establish credibility in its market. Seldom can a successful business claim to have earned profits from its very first day. More typically, firms must go through a start-up period in which costs exceed revenues; office or factory space is bought or rented, staff are put on the payroll, advertising begins and some products are produced to show prospective customers, all before a single unit is sold.

71. These losses are properly viewed as an investment to be repaid when sufficient customers are attracted to the firm. These losses also represent a largely sunk cost of entry.

72. Most firms in most industries will suffer losses of the sort described in paragraphs 70 and 71 above, and I would not argue that barriers to entry are high in most industries. Nevertheless, these are truly sunk costs that must be included in a prospective entrant's calculation of the risks and benefits of entry.

73. The barriers to entry that would seem most significant in this relevant market for rendering services are regulatory barriers and sunk costs.

III.2 Regulatory Barriers

74. Regulatory barriers exist that would hinder de novo entry, expansion by existing firms and service from the United States.

75. The barriers to service from the United States have been discussed above. They include inspection requirements and prohibitions on the importation of deadstock and condemned material into the United States.

76. New entrants must hurdle a number of regulatory barriers. To operate as a renderer in the Province of Ontario requires a licence from the Ministry of Agriculture and Food and approvals from the Ministry of the Environment. It is not clear how easy it is to get these licences and approvals, but at the very least they take time, perhaps a year or more. (Peters transcript, pp. 485-6 and Letter from R. Hughes to G. Leslie dated July 31, 1991) To collect renderable material requires another licence from the Ministry of Agriculture and Food. Given current concerns it seems reasonable to expect that environmental regulation will only get more stringent in the future.

77. Established firms wishing to expand their facilities must also get approvals from the Ministry of the Environment.

78. Another regulatory barrier to new entry comes from zoning regulations. Like landfill sites, no one wants a rendering plant

in their neighbourhood. Some municipalities prohibit them explicitly. For example, a consultant's study done for Rothsay reported that in Oakville rendering is considered an obnoxious use of land and is therefore prohibited. (Respondents' documents, Schedule 1, Part 1, document 91) In addition, even when not explicitly prohibited, a significant public concern about the establishment of a new rendering facility can lead the Ministry of the Environment to order public hearings on the proposal. (Peters transcript, pp. 305-6)

79. It is clear that the regulatory barriers are real, time consuming and costly. It could easily be the case that it would take years from the time a new entrant decided to enter until it was ready to render, as appears to be the experience of the new facility being built in Oxford county. (Peters transcript, pp. 756-7) With this in mind, significant entry within two years in response to an increase in the price of rendering services is unlikely.

III.3 Sunk Costs

80. The sunk costs associated with entry into the relevant market derive from at least four sources. While individually they may not seem extraordinarily large compared with those related to entry into other industries, added together and combined with the regulatory hurdles discussed above, they could create a significant impediment to new entry.

81. First, the specialized equipment that must be installed might command a significantly lower price if resold. The expense associated with installing it is also sunk. To the extent that equipment can be leased at competitive rates this cost can be minimized.

82. Second, the building housing the rendering operation is specialized in at least a couple of ways that make its second best use less valued. First, some of the construction will be specific to a rendering plant so any other use will require at least some renovation. Thus, a building that cost one million dollars to construct might fetch considerably less than that on resale for use outside the rendering industry. Second, the site selected for the rendering plant might be much less suitable for any other reasonable use of the building. For example, it might be very difficult to sell a large rendering plant located, due to zoning restrictions, in a rural municipality far from population centres.

83. I have seen estimates for the construction and equipping of a rendering plant of between six and ten million dollars. (Director's documents #14 and #26) Precisely how much of this investment would be sunk I wish I could say, but I cannot. It is clearly not zero however.

84. Third, like many other industries, entry into rendering may require significant expenditures before any revenues start to come

in. The plant must be built and equipped. Staff must be hired and trained. Losses incurred in the early months and years before revenues catch up to expenses can be thought of as a sunk investment. In this industry, given the amount of work that must be done prior to getting all regulatory approvals (and therefore before anything can be rendered) these early losses could be substantial.

85. Fourth, if the land is leased on a long term basis, any penalties associated with breaking the lease upon exit represent a sunk cost.

IV. Substantial Lessening of Competition

IV.1 General

86. Competition is a means to an end and that end is economic efficiency. Section 92 authorizes the Competition Tribunal to issue remedial orders if it determines that the merger would lessen or would likely lessen competition substantially.

87. Uncompetitive markets are characterized by prices that are above their competitive levels. As a price rises above its competitive level, there are two major effects on market participants. Consumers are clearly hurt by higher prices: they lose some of the consumers' surplus they had been receiving. A consumer's surplus is the excess of what he/she would be prepared to pay to consume a product over what was actually paid; a sort of

consumer "profit". At the same time, the sellers in the market will enjoy greater profits.

88. In general, even if a dollar of seller's profit is viewed to have as great a social value as a dollar of consumer's surplus, the dollar value of the lost consumers' surplus will exceed the added profit going to firms. Thus, there is a net social loss from the higher prices, which is typically referred to as a "deadweight loss".

IV.2 The Market for Rendering Services

89. Higher prices for rendering can produce social harm two ways. First, the producers of renderable material will see their (marginal) costs rising and will respond by restricting output and raising prices on their products. This creates deadweight loss in the markets for grocery store and butcher meats, restaurant meals, and the outputs of slaughterhouses and packing houses.

90. Second, a higher price for an input induces buyers to substitute other inputs to some degree. This substitution can be socially inefficient. In the present case, higher prices for rendering services might encourage the burial of waste products or even illegal disposal. There might not be much of this substitution, but to the extent that these alternatives are less environmentally sound or less healthy, their use is even more socially costly.

91. The magnitude of price increase possible if the merger creates market power will depend upon the elasticity of demand facing the merged firm. If demand is very elastic, even a small price increase will lead to a sharp reduction in purchases and will therefore not be profitable.

92. The elasticity of demand for rendering services, like the demands for all inputs, is a derived demand. It is determined by the demand for the products produced by the suppliers of renderable material and by the technology by which these suppliers combine rendering services with their other inputs to produce output. Formally, the elasticity of demand is the percentage reduction in the quantity purchased of a product or service that would follow a one percent increase in its price.

93. In the not unlikely case in which rendering is used in fixed proportions to the amount of output produced by the supplier, these relationships are easy to describe. Assume there is only one material to render and only one type of supplier, a packing house. Then the elasticity of demand facing the renders, e_R, will be the elasticity of demand facing the house in its output market, e_H, multiplied by the share of total packing house costs attributable to the purchases of rendering services, s_R:

$$e_R = s_R \times e_H .$$

94. Ultimately, the determination of the elasticity of demand is

an empirical question and I have not attempted any estimations.

95. Though the elasticity of demand facing some of the suppliers of renderable material might be quite high, it may be true that the share of their costs attributable to rendering is small. Therefore even a very high e_H is consistent with a low value for e_R.

96. Many other classes of customers will likely not face very high elasticities of demand for their products. I am thinking here of grocery stores, butchers and restaurants.

97. Even if Darling remains in the market, in my opinion there is likely to be a substantial lessening of competition in the market for rendering services. The market will be left with only one major player and (assuming it loses its Toronto lease) since Darling will not be well positioned in Detroit (and maybe Buffalo) to compete effectively, its competitive impact will be reduced. Building a new facility (for Darling or anyone else) will take some time.

98. In the evaluations done of other proposed mergers (with Banner and Darling) it is clear that Rothsay officials expected reduced competition for raw materials to result from the acquisition and that they considered this a benefit. (Respondents documents, Schedule 5, Document D11, memo from J. F. Kosalle, Jr. to G. B. Ballantyne dated February 20, 1990; and Schedule 5, Document F22,

memo from G. B. Ballantyne to D. A. Newton, dated November 23, 1989) The elimination of such a large competitor as Orenco would promise even greater benefits of this type.

99. If Darling leaves, the structure of the market changes even more dramatically. The very large market share of the largest firm, combined with the relatively small sizes of all other renderers in the market suggest the very real possibility that the merged firm will be dominant in the sense used in relation to the dominant firm model of industrial organization theory.

100. In the dominant firm model, the dominant firm takes the supply of the competitive fringe of small firms as given and sets price to maximize profit on the demand left over. Fringe firms simply follow the price leader and if the fringe is collectively small enough, the dominant firm behaves much as a monopolist would.

101. The dominant firm model is less plausible if the fringe firms can easily expand output under the dominant firm's high price. This may not be possible in this market. It is not clear that the small firms have a great deal of excess capacity that they would be prepared to use if price increased. (Peters transcript, pp. 140-5) And expansion of facilities is not something that can be done quickly or inexpensively, as discussed above.

102. If these structural changes (the merger and the departure of

Darling) convert behaviour in this market from that best described by a competitive model to that of the dominant firm model, the price increases that follow could be very large indeed.

IV.3 The Future of the Market

103. The evidence regarding the future of this industry is somewhat mixed. On the one hand, the Respondents argue that beef consumption is falling and that more of the beef that is consumed comes boxed from the West. On the other hand, it appears that pork slaughtering and poultry processing are up (Director's document #26) and there is nothing certain about the permanence of a decline in the supply of renderable beef material. (Director's document #14)

104. A pessimistic outlook on the future of rendering in Ontario appears to be unwarranted for a few reasons. First, in neither of their recent strategic plans do either Rothsay or Orenco express concern about the long term future of their market. (Respondents' documents, Schedule 2, Document #14; and Rothsay Strategic Plan 1991) Second, and this is pointed out in the Canada Packers plan (p. 1.2), in an environmentally conscious society, rendering is a very valuable activity. One would expect that regulatory support for rendering will come when needed. In fact, that support is already there in the form of regulations requiring the rendering of material from certain facilities.

V. Efficiencies

105. There will be cases in which a merger generates sufficient efficiencies to offset the social costs created by a lessening of competition.

106. Section 96 of the Competition Act provides an efficiency exception that directs the Tribunal not to make an order (under Section 92) if "it finds that the merger or proposed merger... has brought about or is likely to bring about gains in efficiency that will be greater than, and will offset, the effects of any prevention or lessening of competition...".

107. Efficiencies, which are savings in real resources, can come from a variety of sources including economies of scope that come from producing and/or marketing some products together, economies of scale in longer production runs and the reduction of duplicative functions (e.g. savings in head office).

108. In evaluating claims of efficiencies, some caution is warranted. The Bureau's approach, which I find sound, is described in the Merger Enforcement Guidelines at pages 45-51. First, as required in Section 96, the gains must be attributable to the merger in the sense that they would not likely be attained if an order were made.

109. Second, not everything that is a cost saving for the merging parties is a true social saving worthy of consideration under Section 96.

110. Savings that are really just transfers of income from others (e.g. employees or suppliers) do not represent real resource savings and should not be counted. (Section 96 (3))

111. Savings that will not be achieved until some time in the future should be properly discounted to reflect their current value.

112. To the extent that certain costs must be incurred to realize these gains (e.g. retooling), these costs must be deducted from the efficiencies to be considered.

113. I have not had an opportunity to carefully review the Respondents' supporting material on efficiencies which I understand was delivered on July 25, 1991. As well, I understand there will be additional examination for discovery of the Respondents with respect to this material and the efficiency claims generally. Accordingly, I will defer my specific comments with respect to the Respondents' efficiency claims pending completion of that examination, as provided for in the Competition Tribunal's order dated July 26, 1991.

Sworn before me at the
City of Ottawa, in the
Province of Ontario, this
1st day of August, 1991.

A commissioner for the
Province of Ontario

[redacted]

APPENDIX A

July 1991

Curriculum Vitae

THOMAS WAYNE ROSS

Personal Data

Born:	September 20, 1955 Hamilton, Canada
Marital Status:	Married, two children
Home Address:	5586 Goddard St. Manotick, Ontario Canada K4M 1C5 (613) 692-2589
Office Addresses:	Department of Economics Carleton University Ottawa, Ontario Canada K1S 5B6 (613) 788-2600 ext. 3761 FAX 788-3906

Present Positions

Associate Professor, Department of Economics, Carleton University, since July 1987.

Director - Carleton Industrial Organization Research Unit, November 1985 to present.

Member, Board of Editors, Canadian Journal of Economics

Education

University of Western Ontario
Honours B.A. in Economics, May 1977

University of Pennsylvania
M.A. in Economics, June 1979
Ph.D. in Economics, August 1981
(Thesis supervisor: Almarin Phillips)

Professional Experience

Holder of the T.D. MacDonald Chair in Industrial Economics, Bureau of Competition Policy, Consumer and Corporate Affairs Canada, 1990-1991.

National Research Fellow, Hoover Institution, Stanford University, 1987-88.

Assistant Professor, Department of Economics, Carleton University, July 1983 to June 1987.

Research Fellow and Lecturer, Center for the Study of the Economy and the State, Graduate School of Business, University of Chicago, September 1981 - August 1984.

Instructor, Introductory Microeconomics, University of Pennsylvania, Summer 1979 and Summer 1980.

Research Fellow, Economics Research Unit, University of Pennsylvania, September 1977 to May 1980.

Teaching Assistant, Graduate Microeconomics, University of Pennsylvania, September to December 1978.

Publications in Scholarly Journals

"Communication in Coordination Games" (with Russell Cooper, Douglas V. DeJong and Robert Forsythe), forthcoming, Quarterly Journal of Economics.

"Selection Criteria in Coordination Games: Some Experimental Results" (with Russell Cooper, Douglas V. DeJong and Robert Forsythe), Vol. 80, American Economic Review, March 1990, pp. 218-233.

"Cartel Stability and Product Differentiation", forthcoming, International Journal of Industrial Organization.

"Communication in the Battle of the Sexes Game" (with Russell Cooper, Douglas V. DeJong and Robert Forsythe), Vol. 20, Rand Journal of Economics, Winter 1989, pp. 568-587.

"On the Relative Efficiency of Cash Transfers and Subsidies", Vol. 29, Economic Inquiry, July 1991, pp. 485-496.

"Canada's New Competition Policy", (with Christopher J. Maule), Vol. 23, George Washington Journal of International Law and Economics, 1989, pp. 59-109.

Publications in Scholarly Journals (con't)

"An Intertemporal Model of Warranties" (with Russell Cooper), Volume 21, Canadian Journal of Economics, February 1988, pp. 72-86.

"On the Price Effects of Mergers With Freer Trade", Vol. 6, International Journal of Industrial Organization, June 1988, pp. 233-246.

"Movements Toward Free Trade and Domestic Market Performance With Imperfect Competition", Vol. 21, Canadian Journal of Economics, August 1988, pp. 507-524.

"Brand Information and Price", Vol. 36, Journal of Industrial Economics, March 1988, pp. 301-313.

"Store Wars: The Chain Tax Movement", Vol. 29, Journal of Law and Economics, April 1986, pp. 125-138.

"The Costs of Regulating Price Differences", Vol. 59, Journal of Business, January 1986, pp. 143-156.

"Monopoly Provision of Product Quality With Uninformed Buyers" (with Russell Cooper), Vol. 3, International Journal of Industrial Organization, December 1985, pp. 439-449.

"Extracting Regulators' Implied Welfare Weights: Some Further Developments and Applications", Vol. 25, Quarterly Review of Economics and Business, Autumn 1985, pp. 72-84.

"Product Warranties and Double Moral Hazard" (with Russell Cooper), Vol. 16, Rand Journal of Economics, Spring 1985, pp. 103-113.

"Winners and Losers Under the Robinson-Patman Act", Vol. 27, Journal of Law and Economics, October 1984, pp. 243-271.

"Prices, Product Qualities and Asymmetric Information: The Competitive Case" (with Russell Cooper), Vol. 51, Review of Economic Studies, April 1984, pp. 197-207.

"Uncovering Regulators' Social Welfare Weights", Vol. 15, Rand Journal of Economics, Spring 1984, pp. 152-155.

"The Cyclical Variation of Wage Premiums in the Canadian Manufacturing Industries" (with William J. Milne), Vol. 39, Relations Industrielles/ Industrial Relations, Vol. 39, 1984, pp. 762-773.

Other Publications and Reports

"Comments on 'Strategic Trade Policy, Technology Spillovers and Foreign Investment' by Richard Harris", forthcoming in a volume to be published from the Investment Canada Conference on Foreign Investment, Technology and Growth, held in Ottawa, September 1990.

"Product Warranties and Moral Hazard" (with Russell Cooper), in Issues in Pricing: Theory and Research, T. Devinney (editor), Lexington Books, 1988, pp. 83-98.

Solutions to Problems in the Theory of Price, fourth edition (with George J. Stigler), Macmillan, 1986.

"The Role of Competition Policy in an Economy Moving Toward Free Trade", prepared for the Bureau of Competition Policy, Consumer and Corporate Affairs Canada, June 1986.

Other Papers

"Proposals for a New Canadian Competition Law on Conspiracy", mimeo, June 1991.

"Cooperation without Reputation" (with Russell Cooper, Douglas DeJong and Robert Forsythe), mimeo, October 1990.

"On Vertical Integration of Successive Monopolies", mimeo, Department of Economics, Carleton University, August 1990.

"Imperfect Competition and Pareto-Improving Strategic Trade Policy" (with Aslam Anis), CIORU Working Paper #89-14, Department of Economics, Carleton University, Revised August 1990.

"Forward Induction in the Battle of the Sexes Games" (with Russell Cooper, Douglas V. DeJong and Robert Forsythe), mimeo, Revised July 1991.

"Raising an Army: A Positive Theory of Military Recruitment", Working Paper E-88-46, Domestic Studies Program, Hoover Institution, Stanford University, revised October 1990.

"Warranties Without Commitment to Market Participation" (with John Bigelow and Russell Cooper), Working Paper E-88-3, Domestic Studies Program, Hoover Institution, Stanford University, revised November 1990.

"When Sales Maximization is Profit-Maximizing: A Two-Stage Game", CIORU Working Paper #87-01, Carleton University, January 1987.

Other Papers (con't)

"International Oligopoly and Domestic Market Performance With a Falling Tariff", mimeo, Carleton University, October 1986.

Grants Received

1990-92, Social Sciences and Humanities Research Council of Canada ($25,120), for "Long Term Contracts Without Commitment to Market Participation" (with Russell Cooper, Boston University).

1988-90, National Science Foundation ($140,000 U.S.), for "Experiments on Equilibrium Selection in Coordination Games" (with Russell Cooper, Douglas DeJong and Robert Forsythe, all at the University of Iowa at that time).

1986-1988, Social Sciences and Humanities Research Council of Canada ($22,950), for "Product Warranties: Insurance, Incentives and Signals" (with Russell Cooper, University of Iowa at that time).

1985-1986, Consumer and Corporate Affairs Canada (Bureau of Competition Policy), ($5,000) for "Competition Policy With Freer Trade".

1985-1986, Carleton University, through the GR-6 programme funded by the Social Sciences and Humanities Research Council of Canada, ($1,500) for "A Positive Theory of Military Recruitment".

1984-1985, Carleton University, through the GR-6 programme funded by the Social Sciences and Humanities Research Council of Canada, ($2,000) for "Moral Hazard, Insurance and Product Warranties".

In addition, a number of grants have been secured to fund the activities of the Carleton Industrial Organization Research Unit. Details available upon request.

Doctoral Thesis Supervisor For

Dr. Aslam Anis
Simon Fraser University
Completed January 1990

Professor Philippe Cyrenne
University of Winnipeg
Expected completion Summer 1991

Papers Presented - Invited Seminars and Conferences (Recent years only.)

1987-88: Stanford University, University of British Columbia, University of California - Berkeley, University of California - Los Angeles.

1988-89: University of Chicago, University of Alberta, University of Saskatchewan, University of Guelph, Laval University, Allied Social Sciences Association Meetings (New York City), Canadian Economics Association Meetings (Quebec City)

1989-90: University of Toronto, University of Waterloo, University of Winnipeg, University of Manitoba, University of Illinois, Allied Social Sciences Association Meetings (Atlanta), Canadian Economics Association Meetings (Victoria - June 1990)

1990-91: University of Maryland, University of Guelph, University of Windsor, University of Waterloo, McGill University, University of Toronto, University of Michigan, Canadian Economics Assoc. meetings (Kingston, June 1991), Western Economic Assoc. meetings (forthcoming, Seattle, July 1991)

Professional Affiliations

American Economic Association
Canadian Economics Association
Western Economic Association

Refereed Submissions For

American Economic Review
Canadian Journal of Economics
Economic Inquiry
International Economic Review
International Journal of Industrial Organization
Journal of Business
Journal of Law and Economics
Journal of Industrial Economics
Journal of International Economics
Journal of Political Economy
National Science Foundation
Social Sciences and Humanities Research Council of Canada