

## CANADIAN COMPETITION RECORD

**THE ROLE OF ECONOMISTS IN MERGER CASES**

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**Introduction**

The purpose of this paper is to discuss the role of economists in merger analysis. Economists can either assist counsel in case preparation or serve as expert witnesses. I will discuss their respective roles in each function. I will also make some comments on the effect that recent Tribunal decisions might have on the type of economic evidence that may be required in future proceedings before the Tribunal and on whether and how better use could be made of economic experts.

**Economists as Advisors**

Economists may have their most useful role in case preparation. In fact, economists play an important role in case preparation within the Bureau of Competition Policy. Their retention should also be considered, at least on a limited basis, by the parties in larger mergers that appear to lie outside the "safe harbours" in the Bureau of Competition Policy's *Merger Enforcement Guidelines* (market share over 35% or four firm concentration ratio over 65%). Consultation with a competent economist in the early stages of case preparation can result in savings later on.<sup>1</sup> While the possibility that expert testimony will be required may be remote, the expert should be engaged with the expectation that he or she will testify. The possibility of cross-examination concentrates the mind wonderfully.

The role of the economic expert in case preparation is to assist counsel in developing a theory of the case and to specify the information required to support this theory. Much of the requisite information takes the form of market intelligence and the merging firms will have an advantage in gathering it. Indeed, for the merging firms, the ability to assemble current and historic market intelligence in a timely fashion is crucial. These data include:

- market shares and their variability over time;
- market concentration;
- the identity of recent entrants;
- marketing practices;
- major customers; and
- substitute products.

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The merging firms are also likely to be the best sources of information on supply conditions including rates of capacity utilization and the ability to expand production and secure distribution.

Similarly, counsel is likely to have ready access to schedules of tariff rates, import regulations, records of antidumping actions and records of past anticombiners infractions.

The expert's contribution is most likely to lie in developing a post-merger market scenario. This begins with the definition of the market and involves assessments of the vitality of remaining domestic competition, the size and power of customers or suppliers, the openness of the domestic market to imports, the availability of substitute products and the ease and speed of entry. In cases in which structural factors indicate the possibility of the exercise of market power the role of the economic expert may be expanded considerably. The expert may then be called upon to quantify the possible consequences of the exercise of market power and to compare them with cost savings arising from the merger. This is discussed in detail below.

### **Economists as Witnesses**

In his paper on expert witnesses, Dr. Roseman suggests that economists and expert witnesses in general may present three types of case-specific evidence and two types of general or background evidence to an adjudicative body such as the Competition Tribunal.

The two types of general or background evidence that experts may present are legislative facts and social framework facts. Legislative facts are scientific findings that serve to motivate legislation. As Dr. Roseman states, legislative facts are frequently embodied in legislation. This appears to be especially true of the *Competition Act* where, for example, sections 93 and 78 presumably reflect the state of economic thinking on the sources of market power and the nature of exclusionary conduct respectively. Nevertheless, expert testimony may be required to elaborate or assist in the interpretation of legislative facts. Dr. Roseman cites the concept of entry barriers in s. 93(d) as requiring elaboration that is informed by economic theory. Expert evidence on the definition of entry barriers was submitted to the Tribunal in *Southam*. This is discussed further below.

With respect to case-specific evidence, Dr. Roseman defines Type 1 evidence as consisting of the examination or manipulation of technical facts that are not before the Tribunal. The linear programming analysis of the efficiencies of joint refinery operation presented in *Imperial Oil* is an example of this type of evidence. Dr. Roseman is of the opinion that technical evidence that is specific to one of the parties is likely to be uncommon and, in any case, is better presented by the party involved (a respondent or an intervenor).

There remains a significant role for economic experts, however, in presenting evidence on the domestic market environment (such as estimates of the future rate of growth (or decline) of market demand or of the responsiveness of imports to changes in exchange rates or domestic prices) derived from more general

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econometric models. An example is the Ontario beef and pork slaughter forecast submitted in *Hillsdown*. While it is not technical in nature, evidence on market developments in other countries might also be classed as Type 1 evidence. Evidence on developments in relevant U.S. markets was presented and appears to have influenced the Tribunal's decisions in both *Hillsdown* and *Southam*.

Type 2 case-specific evidence is an opinion based on a proven or hypothetical set of facts presented to the witness. As Dr. Roseman notes, economists are very comfortable with this form of reasoning. Examples are:

whether, on a given set of facts, two firms are in the same antitrust market;

whether, on a given set of facts, acceptable substitutes for the product supplied by the merging firms are available;

whether, on a given set of facts, barriers to entry are high;

whether, on a given set of facts, a substantial lessening of competition has occurred; and

whether, on a given set of facts, the efficiency gains flowing from a merger are likely to be greater than and offset the effects of the lessening of competition.

Evidence of this nature has been submitted in all the merger cases dealt with by the Tribunal. The role of the expert in presentation of this type of evidence is threefold. First, the expert will be responsible for ensuring that the facts on which he relies are documented.

The second responsibility of the expert is to explain his reasoning, that is, to explain how he reached his conclusions. The expert's analysis may involve some formal economic modelling and the challenge is to make this as transparent as possible. This a difficult task which might be made easier if there were an examination-in-chief of expert affidavits.

Third, given the variety of possible assumptions on which economic models can be based, it is virtually certain that there will be conflicting opinions regarding the appropriate interpretation of a given set of facts. The expert should be prepared to show, either in rebuttal affidavits or by advising counsel on the cross-examination of other experts, that his assessment of the facts is superior.

Expert evidence submitted in Canadian merger cases has frequently involved the presentation of legislative facts and definitions of economic concepts and techniques (which Dr. Roseman calls Type 3 evidence) as well as Type 2 evidence. That is, evidence with respect to section 93 and section 96 factors has generally defined them as well as applying them to the facts.

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In instances where the interpretation of the *Competition Act* is well-settled and factual expertise lies in the hands of industry participants, the value added of an economic expert witness is questionable. Happily for economic experts, the interpretation of the merger sections of the *Competition Act* is not yet settled. Moreover, the quantification of the effects of any lessening or prevention of competition resulting from a merger requires some form of market modelling. This implies an additional role for economic experts. This is discussed further below.

### **Economic Experts and Market Definition**

The definition of the market in which the merging firms compete is a pre-condition for the determination of whether competition is likely to be substantially prevented or lessened as a consequence of the merger. Given the importance of the study of markets in economics, it is not surprising that economic experts can be of considerable assistance in this exercise.

While market definition is important, it should be seen as part of a broader section 93 exercise in determining who can effectively constrain the market power of the merged entity. As the Tribunal stated in *Hillsdown*, market definition is crucial only if market shares are the only indicators of market power.<sup>2</sup> If they are not (as subsection 92(2) stipulates), then who is in the market and who is not is less important.

The determination of who can effectively constrain the merged entity turns on the substitutability (cross elasticity of demand) and supply conditions (elasticity of supply) of competing products. While these elasticities are frequently estimated by economists, they are rarely available for the specific products or geographic areas at issue in merger cases in Canada. A number of indirect indicators, including equality and correlation of prices, have been proposed by economists. Statistical evidence on international price equality and price correlations was submitted to the Tribunal in *Imperial Oil* but was not found to be persuasive. In *NutraSweet*, however, the Tribunal cited several individual price observations in support of its definition of the geographic market.

Given that econometric evidence may not be available and, if available, may not be sufficient, other types of evidence including product characteristics, buyer characteristics, buyer and competitor views and industry expert views are required. These sources of evidence are listed by the Tribunal in *Southam*.<sup>3</sup> While presentation of this type of evidence would not likely require an expert economist, economic expertise is surely required to assess its implications for the extent to which the pricing of the merged entity is likely to be constrained by substitute products and/or suppliers in other locations.

The Tribunal stressed in *Southam* that it would also like to have available to it systematic sample evidence on the willingness of buyers to substitute among competing products.<sup>4</sup> This appears to imply an important role for expert economists and others, at least in cases where the merging firms are producing differentiated products.

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**Economic Experts and Section 93 Factors**

Section 93 directs the Tribunal to take a series of market characteristics into account when determining whether a merger is likely to prevent or lessen competition substantially. While some of these factors have apparently been defined to the Tribunal's satisfaction, there are others where expert guidance may be required.

Expert evidence on the definition of entry barriers was presented to the Tribunal in *Southam*. The Tribunal's response was that it had already defined barriers to entry appropriately in *NutraSweet*.<sup>5</sup> A conclusion by another expert economist that entry barriers were low was dismissed by the Tribunal as being unsupported by evidence before the Tribunal.<sup>6</sup> The Tribunal then proceeded to apply its definition to its findings of fact in *Southam* and concluded that entry on a scale that would discipline the pricing of an incumbent would be difficult.<sup>7</sup>

Terms used in section 93 that could be defined more precisely by expert witnesses include the availability of acceptable substitute products (subsection 93(c)), the extent of effective competition remaining (subsection 93(e)), the removal of a vigorous and effective competitor (subsection 93(f)) and the extent of change and innovation in the market (subsection 93(g)).<sup>8</sup>

Expert opinion will also be required as to whether, on the evidence, a sufficient number of the section 93 requirements for a substantial prevention or lessening have been met. This will involve the weighting and blending of the effects of each factor to yield an estimate of the extent to which the merged entity could profitably raise prices. The estimated effect of the merger on prices serves, in turn, as the basis for estimates of the effect of the lessening of competition against which efficiency gains are set in section 96 (see below).

The implication is that an argument that the section 93 requirements for a substantial lessening of competition have or have not been met may have to be based on more than a recitation of market shares and concentration ratios and a qualitative assessment that substitutes are poor, entry barriers are high and foreign competition is weak. The questions are how poor, how high, how weak and how do these factors combine with increased market concentration to produce post-merger price increases and deadweight losses?

A merger that lessens competition gives the merged entity the power to raise the price of its product offering. As a consequence of this price increase, some customers who used to buy the product no longer do so. The loss in surplus on transactions that no longer occur is called a deadweight loss.<sup>9</sup> Deadweight loss is the standard measure of the inefficiency of resource allocation resulting from the distortion of price signals in a market economy. It is estimated by economists and used to evaluate the efficiency consequences of distortions arising from taxes, tariffs, quotas and subsidies as well as from the private exercise of market power.

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Simple market models, well-known to economists, can be helpful in providing estimates of the price increases and deadweight losses likely to result from a merger. These models could be categorized as follows:

- merger to monopoly;
- merger to dominance; and
- merger to effective interdependence.

In the monopoly model, the merged entity is constrained by the ability of customers to substitute (as reflected in the elasticity of market demand) and the possibility of new entry. In the dominant firm model, the merged entity is constrained, in addition, by the ability of existing foreign or domestic fringe suppliers to expand (as reflected in the elasticity of fringe supply). Less ambitious than a full dominant firm model but also providing summary evidence of the ability of the merged entity to increase prices, is the estimation of the elasticity of the merged entity's residual demand. This summarizes the combined effects of the merged entity's market share, the ability of customers to avail themselves of substitute products and the ability of remaining competitors or new competitors to expand. It gives meaning and weights to subsections 93(c) to (e).

The potential cartel or interdependent behaviour model may also apply in merger cases where there is a small number of competitors, none of which can be regarded as dominant. This is contemplated in the Director's *Merger Enforcement Guidelines* (1991, pp. 40-41). Additional detail regarding the factors conducive to interdependent behaviour is given in the U.S. Department of Justice 1992 *Horizontal Merger Guidelines*. Application of the cartel approach would involve predictions (perhaps using the simple monopoly model) as to what a cartel price might be as well as a qualitative assessment of the likelihood of reaching and maintaining it. One of the major achievements of the "new empirical industrial economics" has been the estimation of the degree of interdependence among sellers in a market using simple market models. Considerably less progress has been made in answering the more relevant question of how a merger might be expected to change the degree of interdependence in a market. Economic experts are likely to differ widely in their assessment of the effect of a merger on the ability of the firms in a market to collude.

A variety of other market models may also be relevant to the determination of whether a merger lessens competition substantially. In their commentary on the *Southam* decision, Goldman and Bodrug suggest that it might have been useful for the Director to place more emphasis on the effects of the merger on product choice, quality, variety and service. This suggests a role for market models allowing for product differentiation and technological change. While undeniably relevant, these models are relatively complex and ambiguous even in their qualitative implications (more variety or faster technological change is not always efficient). Their presentation and use would require considerable economic expertise. Whether this would over-burden the merger adjudication process as it is presently structured is discussed in the last section of this paper.

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**Section 96 Factors: Efficiencies and the Trade-off**

In the event that a merger is deemed likely to prevent or lessen competition substantially, the efficiency defence provided in section 96 of the *Competition Act* becomes relevant. Economic experts have an important role to play both in interpreting the meaning of the elements of section 96 and in providing opinions as to whether, on the evidence, the efficiencies resulting from the merger are greater than and offset the effects of the lessening of competition that also results from it.

Insofar as the meaning of section 96 is concerned, the most contentious phrase in the section is "the effects of any prevention or lessening of competition" (in subsection 96(1)). The Tribunal's interpretation of this phrase is discussed below. Expert economic evidence is also likely to be required to define the role of the subsection 96(2) factors (an increase in the real value of exports and the substitution of domestic products for imported products) in the determination of the magnitude and/or likelihood of efficiency gains.

An expert economist can be helpful in the preparation of evidence regarding the magnitude of gains in efficiency. Subsection 96(1) contemplates that efficiency gains be expressed as cost savings in per centage terms or in either annual dollar magnitudes or discounted present value terms. Savings must be real resource savings realized at a given level of activity and must be contingent on the merger. The precise organizational or technological changes giving rise to these cost savings are for the merging firms to determine as are the reasons why they could not be realized without the merger. Economists can be helpful in putting efficiency claims in a broader theoretical and industrial context and in the accounting exercise of aggregating their dollar values especially when supporting evidence is proprietary to individual firms. While outside economists can provide valuable assistance, the effectiveness of evidence on efficiency gains is founded in the operational expertise of officers of the merging firms themselves. The quality of their presentations will be decisive.

In addition to estimating the effects of the lessening of competition resulting from the merger and assisting in the estimation of efficiency gains, economists can also prepare and present evidence on the question of whether the magnitude of the efficiency gains "will be greater than and offset" the effects of any prevention or lessening of competition. This is a matter of comparing the respective present values of the deadweight loss and the efficiency gains attributable to the merger and is also known as the trade-off analysis.

Expert evidence comparing the respective present values of the deadweight loss and the efficiency gains attributable to the merger was submitted to the Tribunal in *Hillsdown*. Since it had found that the merger did not prevent or lessen competition substantially, the Tribunal was not obliged to consider whether the efficiency gains offset the effects of the lessening of competition.

The Tribunal did, however, consider at length the appropriate definition of "the effects of any prevention or lessening of competition".<sup>10</sup> It concluded that it had difficulty accepting the argument that the effects

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of any prevention or lessening should be limited to the deadweight loss in surplus resulting from the restriction of output (i.e. transactions that no longer occur) due to the merger. The Tribunal reasoned that its legislative mandate is not only to ensure efficiency (prevent deadweight losses in surplus) but also to provide consumers with competitive prices (prevent the redistribution of surplus to the merged entity from its customers).<sup>11</sup> While they generally regard them as cancelling out (the gain to one party is equal to the loss of the other), economists routinely estimate the redistributive effects of price changes and can also prepare and present evidence of this nature. The problem is that defining the effects of the lessening of competition to include the redistributed surplus as well as lost surplus severely limits the applicability of the efficiency defence and thus the need for evidence on both the cost-savings and deadweight loss resulting from a merger. The implications of this are discussed further below.

### **Cost/Benefit Analysis of Mergers: An Idea Whose Time Has Come...and Gone?**

The Tribunal has indicated in its decision in *Hillsdown* that it considers the effects of any prevention or lessening of competition to include both the redistribution of and the loss in surplus resulting from the exercise of market power by the merged entity. This would severely limit the applicability of the efficiency defence. For example, using the so-called naive trade-off model and assuming an elasticity of market demand of 2, a 1.25% decrease in unit costs is sufficient to offset the deadweight loss resulting from a 10% increase in the market price. Under the same assumptions, it takes a 11.25% unit cost decrease to offset the deadweight loss plus the redistribution of surplus resulting from a 10% increase in the market price. The required rate of cost saving increases further still as the assumptions of the naive model are relaxed. A whole class of mergers that would pass a social benefit: cost test would be forbidden (in the example above this would include mergers that resulted in 10% price increases and cost-savings of 1.25% to 11.25%). The efficiency defence would become virtually irrelevant.

The Tribunal argued in *Hillsdown* that the applicability of the efficiency defence could be maintained by giving the deadweight loss plus the redistribution a low weight relative to efficiencies when price increases are not "positively certain" to occur.<sup>12</sup> Of course, nothing is positively certain in merger analysis and the effects of the lessening and the efficiency gains would have to be weighted by their respective probabilities of occurring in any properly done trade-off analysis.<sup>13</sup> Mergers in which efficiencies were as probable or even considerably more probable than the lessening of competition could still not meet the Tribunal's standard.

This does not necessarily make evidence on efficiencies totally irrelevant. The realization of efficiency gains is a motive for merger as is the pursuit of market power. The larger the efficiency gains likely to be realized as a consequence of a merger, the less plausible are arguments that the merger is driven by the pursuit of market power. Thus, efficiency gains could play a role under section 93. Tribunal decisions might also evolve toward an approach which avoids an explicit trade-off in favour of establishing a high market power threshold in cases where there are substantial efficiencies and a lower threshold where efficiencies are not substantial.<sup>14</sup>

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The limited applicability of the efficiency defence under section 96 would obviate the need to estimate the price changes, deadweight loss and transfer of surplus resulting from a merger. With no formal trade-off, there is no need to express the effects of the lessening and the cost savings in common terms and a qualitative assessment of section 93 factors would be sufficient. This would require industry expertise more than economic expertise among both witnesses and lay members of the Tribunal.

**Conclusions**

Counsel in mergers that lie outside the Bureau of Competition Policy's safe harbours are well advised to engage a "trustworthy economist" to assist them. This need not be costly, perhaps involving only a conference call to discuss market definition, post-merger market scenarios and the application of section 93 factors.

Adjudication of merger cases in Canada is at a cross-roads. If the Competition Tribunal defines the effects of the lessening of competition resulting from a merger to include transfers as it did in *Hillsdown*, the evaluation of mergers in cost/benefit terms is effectively finished and the principal distinction between the Canadian and U.S. approaches to merger adjudication will have been removed. While economic literacy will continue to be important, the emphasis will be on specific industry expertise rather than economic expertise.

If the Tribunal were to define the effects of the lessening of competition in terms of lost surplus, the efficiency defence will remain relevant. This will require, in turn, quantification, market modelling and economic expertise. It may also require procedural changes.

The adversarial system is not well-suited to the evaluation of complex economic evidence in general and theoretical concepts in particular. The adjudication of mergers is, however, essentially an exercise in forecasting the future. A theoretical framework is essential. Facts are not enough. Even if it were to take a qualitative approach, the Tribunal might be well served by allowing examination-in-chief of expert witnesses and by having some research staff and counsel of its own.

*\* This paper was written largely while the author occupied the T.D. MacDonald Chair in Industrial Economics at the Bureau of Competition Policy. The opportunity to discuss some of the issues raised in this paper with the staff in Enforcement Economics is gratefully acknowledged. The opinions expressed in the paper are solely those of the author.*

*† An earlier version of this paper was presented at a conference of the Competition Law Section of the Canadian Bar Association held at Vancouver, British Columbia on October 1, 1993. It has been revised for publication in the Record and is published with permission of the CBA.*

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J. Greenfield, and M. Olinsky, *The Use of Economists in Antitrust Litigation* (American Bar Association, Section of Antitrust Law, 1984).

F. Roseman, "Expert Witnesses" (Competition Tribunal, Ottawa, 1990) [mimeo].

## Notes

<sup>1</sup> See Greenfield and Olinsky (1984) at 36-8.

<sup>2</sup> *Canada (Director of Investigation and Research) v. Hillsdown Holdings (Canada) Ltd.* 41 C.P.R. (3d) 310

<sup>3</sup> *Canada (Director of Investigation and Research) v. Southam Inc.* 43 C.P.R. (3d) 179

<sup>4</sup> *Ibid.* at 256

<sup>5</sup> The Tribunal was correct in asserting that economies of scale and sunk costs are sufficient conditions for entry barriers to exist. The existence of a fixed, sunk entry cost is, however, also sufficient. Accumulated losses from slow penetration of the market would qualify as a fixed, sunk entry cost. In my view, the Tribunal was incorrect in its apparent dismissal of the alternative definition. *Ibid.* at 281.

<sup>6</sup> *Ibid.* at 281.

<sup>7</sup> *Ibid.* at 283.

<sup>8</sup> The importance of the extent of effective competition remaining was emphasized in *Hillsdown* where the Tribunal concluded that the excess capacity in the hands of the fringe firms and their ability to expand would restrain the ability of the merged entity to raise prices.

<sup>9</sup> The buyer and the seller in any transaction must be better off with the transaction than they would be without it or they would not have entered into it. The amount by which they are better off is called the gain from exchange and it can be broken down into consumer surplus (the gain realized by the buyer) and producer surplus (the gain realized by the seller).

<sup>10</sup> *Supra*, note 2 at 336.

<sup>11</sup> The amount by which the parties in a transaction are better off for having entered that transaction is called the gain from exchange. The distribution of that gain between the buyer and the seller depends on the price at which the transaction occurs. The higher is the price, the greater is the seller's share of the gain from exchange and the smaller is the buyer's share.

<sup>12</sup> *Ibid.* at 343.

<sup>13</sup> In the trade-off analysis submitted in *Hillsdown* the efficiency gains and the deadweight loss were assumed to be equally probable but they had different time profiles.

<sup>14</sup> This suggestion is considered in the American Bar Association publication *Horizontal Mergers: Law and Policy* quoted at length in the *Hillsdown* decision, *supra* note 2 at 341.