

## A REPLY TO CHIASSON AND JOHNSON, FACEY AND DUECK

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*In a recent article in this Journal Matthew Chiasson and Paul Johnson proposed a major reframing of Canadian enforcement policy on horizontal mergers towards the promotion of innovation and away from more established criteria based on static efficiency. As a vehicle for accomplishing this goal they propose the abolition of section 96, the efficiencies defense. In this article, which echoes the position taken by Brian Facey and David Dueck in an earlier reply, I argue against the Chiasson and Johnson proposal. I point out that Canada's enforcement policy on horizontal mergers has evolved over 30 years to become an exemplary framework for evaluating mergers based on economic efficiency, albeit static efficiency. Their proposal would abandon the current highly sophisticated framework in favour of a much vaguer non-consequentialist approach to merger policy. I show that such a change would introduce greater uncertainty into the enforcement framework, with the potential for both Type I and Type II errors to increase. I also argue that the debate over innovation and market structure has placed too much emphasis on the so called "inverse-U shaped relationship". I conclude that a better approach would be to keep the current statutory framework but to exercise the discretion already available under the Act to give consideration to the innovation effects of proposed mergers.*

*Dans un récent article paru dans ce Journal, Matthew Chiasson et Paul Johnson proposaient une réforme majeure de la politique canadienne d'application de la loi concernant les fusions horizontales tendant à la promotion de l'innovation plutôt qu'au respect de critères plus traditionnels fondés sur l'efficacité statique. En tant que moyen pour parvenir à cet objectif, ils proposent l'abrogation de l'article 96, la défense fondée sur les gains en efficacité. Dans cet article, qui fait écho à la position adoptée par Brian Facey et David Dueck dans une réponse antérieure, je présente les arguments contre la proposition de MM. Chiasson et Johnson. Je fais remarquer que la politique d'application de la loi du Canada en matière de fusions horizontales a évolué pendant 30 ans pour devenir un cadre exemplaire afin d'évaluer les fusions à la lumière de l'efficacité économique, même s'il s'agit d'efficacité statique. Aux termes de leur proposition, le cadre actuel hautement sophistiqué serait abandonné au profit d'une approche non-conséquentialiste beaucoup plus vague de la politique en matière de fusion. Je fais remarquer qu'un tel changement serait source d'une plus grande incertitude au sein du cadre d'application de la loi, et de possibilités d'accroissement du nombre d'erreurs du type I et du type II. Je soutiens en outre que le débat au sujet de l'innovation et de la structure*

*du marché a placé un accent trop prononcé sur la soi-disant « relation en U inversé » (inverse-U shaped relationship). Je conclus que mieux vaudrait conserver le cadre législatif actuel, mais exercer le pouvoir discrétionnaire déjà accordé par la Loi pour envisager les effets novateurs des fusions proposées.*

## Introduction

The Summer 2019 issue of the *Canadian Competition Law Review* included articles on the efficiencies defence by Matthew Chiasson and Paul Johnson<sup>1</sup> and by Brian Facey and David Dueck.<sup>2</sup> The former authors were advocating for, and the latter authors opposing, a major shift in the enforcement approach to horizontal mergers under Canadian Competition Law.

The central proposition from Chiasson and Johnson is to reframe the enforcement of mergers towards the promotion of innovation, and away from the promotion of static efficiency measures, the latter emphasis having prevailed since the implementation of the 1986 Competition Act (the “Act”). Chiasson and Johnson propose that one way to encourage this redirection is to abolish section 96 of the Act, which contains the efficiencies defense. The authors emphasize that their argument for abolishing the efficiencies defense is distinct from those that have been put forward by others, most notably that doing so would align Canada’s merger policy with that of other major OECD economies. They further argue that a significant fraction of the gains to be expected from abolishing the efficiencies defense would be gains in “X-efficiency”, the idea conceived by Harvey Leibenstein more than 50 years ago that describes production by firms within, rather than on, their production frontier.<sup>3</sup>

Facey and Dueck take the opposite view, and argue strongly for keeping the efficiencies defense. There are two major elements to their case. The first is the claim that many mergers stimulate innovation rather than stifle it. In effect, they support the efficiencies defense as being pro-innovation rather than against it. Second, they argue that quantification of efficiency gains by the Competition Bureau and the Tribunal tends to underestimate those gains, partly because they are likely to have a significant qualitative component, which is challenging to quantify.

While I am supportive of the goal of encouraging innovation, I have doubts about the method of achieving it put forth by Chiasson and Johnson. Canada’s approach to merger enforcement has been refined steadily for more than three decades (longer if one goes back to an influential report by the Economic Council of Canada in 1969)<sup>4</sup> and is precise, coherent and

based on sound economic principles. It would be fair to describe Canada's merger enforcement methodology as an example for Competition Policy enforcement throughout the world.<sup>5</sup>

In the following sections I set out my concerns with the proposal advocated by Chiasson and Johnson.

### **Do we want Competition Policy to be Consequentialist, or not?**

The development of enforcement policy on horizontal mergers in Canada represents the culmination of a long evolution of steering competition law and policy toward solid *economic* foundations. The 1986 Competition Act itself was enacted with that same goal, and with the intention of putting economic efficiency in the forefront of policy under the new statutory framework.

In order to design competition policy within an economic framework, it is desirable that the framework be *consequentialist*. A consequentialist policy is one that is evaluated by its outcomes, and not by some vague wish embedded in the policy itself. As Ross and Winter put it in their authoritative survey of efficiencies in merger policy

A common argument that violates this principle is that competition policy is about "protecting competition," and, therefore, any merger negatively impacting competition should be ruled out. Such an argument is without economic foundation. What should ultimately matter in terms of approving or rejecting a merger is the impact that the merger has on individual welfare.<sup>6</sup>

Alternatively, as Kenneth Heyer of the U.S. Department of Justice is quoted as stating, "efficiency is the goal, competition is the process".<sup>7</sup>

With this in mind, some of the language used by Chiasson and Johnson is vague and seems to violate this principle. For example, in the *Abstract* they state that:

"the Competition Act has a bias towards authorizing anticompetitive mergers in the name of economic efficiency even though such mergers are more likely to reduce efficiency overall".<sup>8</sup>

In addition, they note that:

“it is worth asking whether there is a meaningful conflict between competition and efficiency to justify a defence for anticompetitive mergers in the first place”.<sup>9</sup>

The problem that I have with these statements is that they are not *consequentialist*. If we just consider the term “competition” itself, it is sufficiently vague that the precise meaning is unclear. This can be clearly seen through the following two examples. First, if firms are Bertrand competitors with homogeneous products, then two firms are sufficient to ensure an outcome of perfect competition.<sup>10</sup> So, what does adding another firm do – does it make the market more “competitive”? Judged by consequentialist criteria it does not. Second, consider a market that meets the conditions for a perfectly contestable market.<sup>11</sup> Now just one firm is sufficient for price and output to be set at competitive levels. Again, adding more firms would not make the market more competitive. In general, without defining the conditions of competition, it is impossible to say what “increasing competition” means.

Second, Chiasson and Johnson use the term “anticompetitive mergers” frequently and loosely. From an economic perspective, the term anticompetitive merger should be reserved for a merger that leads to a reduction in total economic surplus or economic welfare, compared with a but-for world absent the merger. Judged by this criterion, the enforcement of the Competition Act should not lead to the approval of any anticompetitive mergers, because the enforcement standard and the welfare standard would be the same.<sup>12 13</sup>

### **Type I and Type II errors**

Any enforcement strategy, not just in the field of competition law, has to consider the possibility of what statisticians call Type I and Type II errors. A Type I error occurs when an innocent person is convicted of a crime, and a Type II error occurs when a guilty person goes free. In the context of merger policy, a Type I error would occur when a merger that would increase long run total welfare is blocked, and a Type II error would occur when a merger that would decrease long run total welfare is permitted.

A merger policy based around criteria of static efficiency, such as the one embedded in the Act, will of course still lead to occasional Type I and Type II errors. Good mergers will be blocked and bad mergers will be permitted. Such is the nature of the forward-looking and speculative nature of the merger review process, which involves decision making under uncertainty. However, the frequency of such errors would likely increase if merger policy is, as suggested by Chiasson and Johnson, reformulated for the purposes

of stimulating innovation, which is a dramatic change in the foundation of Competition Policy. The result would be two-fold. First, mergers that will likely increase innovation will be blocked (Type I errors). Second, mergers that would have likely decreased innovation will be permitted (Type II errors). And, most likely, these Type I and Type II error probabilities would increase, for the fundamental reason that innovation is subject to a high level of uncertainty, and predicting innovation is much more difficult than predicting changes in measures of static efficiency.<sup>14</sup>

The reasons that Type I and Type II errors will increase are straightforward and twofold. First, the payoffs concerning any policy towards innovation are inherently long-term—much longer term than the standard two-year horizon of conventional policy towards horizontal mergers. Second, the process of innovation involves great uncertainty, almost by its very definition. If we knew how to make a lighter and more powerful battery for electric cars, we would already be doing it. Adding innovation as a policy goal, no matter what the instrument is, will inevitably create more uncertainty in achieving successful outcomes.

Legal theorists will debate about the desired level of Type I and Type II errors, but they will always occur with positive probability. Accordingly, if we abolish section 96 of the Competition Act, as Chiasson and Johnson propose, we will have to accept that more pro-competitive mergers (which would have increased long-run static welfare) will be likely be prohibited (Type I errors).

A more sophisticated approach to the problem of the increased uncertainty that would be introduced by any competition policy aimed at promoting innovation would be to explicitly introduce the criteria of maximizing *expected total surplus* (rather than total surplus) as the goal of merger policy. An excellent discussion of how this could work in principle is offered by Federico, Scott Morton, and Shapiro (2019).<sup>15</sup> Expected total surplus means that even an innovation project with a low probability of success could have an important effect on the enforcement decision if the impact of a successful innovation would be large. As an example, a merger could be blocked when an innovation project will be shut down after the merger, but has a low probability of success even if it continued. This could increase expected total surplus because if the project was successful, the gains would be very large. But it is more likely that the innovation will not succeed in any case, whether the merger goes ahead or not.<sup>16</sup> A merger might also be approved where more and additional innovation would have taken place without the merger, but a completed merger had a higher expected surplus.

Serious doubt exists as to whether a merger rule based on expected total surplus would be judiciable (i.e., capable of being implemented by the Competition Tribunal). Such a rule would require the Tribunal to hear and validate evidence on the probability of success of innovation programs that are either in progress or planned by the merging parties. The additional surplus that would be created by a successful innovation would also have to be quantified and supplied in evidence. Both the surplus magnitudes and the associated probabilities are difficult to estimate with any accuracy and it is likely that experts would widely disagree. The Tribunal has found it challenging to adjudicate merger cases based on essentially the criterion of total surplus (e.g. *Superior Propane*) and a more elaborate methodology of expected total surplus is likely not feasible to implement.

### **The “Inverted U-Curve”: Would preventing more mergers actually increase innovation?**

Chiasson and Johnson are convinced that increasing “competition” will increase innovation and that preventing more mergers will increase competition. Neither of these propositions is particularly robust, however, and the link is a tenuous one on which to base a major shift in competition policy.

The first proposition had been debated by economists at least since the work of Schumpeter (who favoured monopoly) and Arrow’s pioneering article in 1962.<sup>17</sup> Arrow did not reach any firm conclusions. However, since that time a vast literature has expanded our knowledge of this topic, from both a theoretical and an empirical perspective.

Several effects interact and impinge on the relationship between innovation and market structure. These effects include:

- i) *The Replacement Effect*. Arrow (1962) showed that a monopolist would have less incentive than a competitive firm to invest in a given process innovation because the monopolist is replacing its own monopoly profit stream and the competitive firm is not.
- ii) *The Schumpeter Effect*. Schumpeter argued very early on that economies of scale in the R&D process meant that large firms have an inherent advantage.
- iii) *The Efficiency Effect*. The efficiency effect works in the opposite direction to the replacement effect. When a monopolist can beat an entrant to a given innovation, it will always have an additional incentive to do so, because it will be able to preserve its monopoly profits, whereas the

entrant will only get a share of duopoly profits if it is first to market with the innovation.

- iv) *Patent Racing Effects*. When a race among firms occurs to be the first to file a patent on a given innovation, there is a large “winner-takes-all” discontinuity in the payoff function, which increases the incentive to invest in R&D. In some cases, total investment in R&D can even exceed the socially optimal amount (Loury 1979).

It is not surprising, given the complex interaction between these effects, that there is not a consistent relationship between innovation and market structure. In an influential paper Aghion, Bloom, Blundell, Griffith and Howitt (2005) derived an “inverse U-curve” relationship between innovation and market structure, such that as competition increases innovation first increases for fairly concentrated markets but as competition continues to increase at some point the industry rate of innovation will start to decline. The authors also provided some empirical support for their conclusions with data from several industries.<sup>18</sup>

Facey and Dueck take the inverse U-curve as given and point out that, for any given merger, we do not know which part of the curve the industry is on, so that a merger might lead to more innovation (the downward sloping segment of the curve) rather than less innovation (the upward sloping segment, seemingly the segment identified by Chiasson and Johnson).

Although the relationship between market structure and innovation has been an active research field for at least 50 years, more recent work has thrown considerable doubt on whether an inverse-U relationship can be supported, either as a theoretical result or an empirical one. A good summary of recent work is provided by Haucap, Rasch and Stiebale, who also study this relationship in the pharmaceutical industry.<sup>19</sup> Their conclusion, broadly, is that in research intensive industries innovation tends to increase with the number of firms when there are a small number of firms (roughly from one to three firms). When there are a larger number of firms, the various factors at play make it impossible to find a consistent effect. Marshall and Parra also show in a theoretical model that increases in competition (measured by market structure in a differentiated market) may increase or decrease the rate of innovation and, as a result, increase or decrease measures of total welfare.<sup>20</sup> Finally, in a new empirical paper based on the hard disk drive industry, Igami and Uetake show that the data support a rate of innovation that initially increases with increasing competition but then steadily levels

off.<sup>21</sup> There is no indication of an inverted U-relationship in any of these recent papers.

As others have noted<sup>22</sup> the structural relationship between innovation and competition, if it exists at all, does not model the impact of *mergers*, but rather the general relationship between market structure and innovation. One key issue in any fully fleshed out theory of mergers is whether a merger will be more likely to encourage additional consolidation, or alternatively, whether a merger is more likely to encourage entry, which will tend to restore the pre-merger level of competition and mitigate any anti-competitive effects of the merger

### **If Section 96 is not the right vehicle for a greater emphasis on innovation in merger decisions, then how should this be accomplished in Canada?**

Several influential American scholars have recently argued for a greater emphasis on promoting innovation in antitrust policy in general and in merger policy in particular.<sup>23</sup> As Facey and Dueck point out, the Act already provides for consideration of innovation. The problem with addressing innovation through section 96 is that it would distort the current framework *away* from the efficiency promoting structure that is currently in place, in favour of the hope, and little more, that the new distorted framework would succeed in promoting a higher rate of innovation.

A further complication with the Chiasson and Johnson proposal is the direction given to the Tribunal by the Supreme Court of Canada in *Tervita*. In that decision, the SCC seemed to direct the Tribunal to adhere closely to a quantified, and static, yardstick of total surplus as a decision rule in evaluating mergers.<sup>24</sup>

Facey and Dueck argue that even the current framework does not give proper consideration to efficiency gains, so that repealing section 96 would move the needle further in the wrong direction, when more consideration should be given to efficiency gains in mergers under the current framework, rather than less, as is being proposed. The case made by Facey and Dueck is essentially twofold: first, that the Bureau overstates the SLC effects of a merger by assuming that they will remain in place over a long time horizon, when entry and product differentiation will typically mitigate these effects. Second, the efficiency effects of a merger are often of a qualitative nature, and hard to quantify as part of the computational exercise now required by the Tribunal in the wake of the *Tervita* decision.

A balanced assessment of these arguments is that Canada's framework does already allow for consideration of innovation effects of a merger, with significant discretion available to the Commissioner in how that consideration is exercised. This seems a preferable arrangement to tinkering with the Act in a way that is guaranteed to distort decision making, by not giving the appropriate weight to mergers that are expected to have large static efficiency gains.

## Conclusions

Several authors have proposed recently that merger policy should place a greater emphasis on innovation effects. As a general proposition this is not novel; for example Gilbert and Sunshine in 1995 proposed that "innovation markets" should be defined in addition to product and geographic markets when investigating a potentially anticompetitive merger.<sup>25</sup> Federico, Scott Morton and Shapiro propose something similar to Gilbert and Sunshine, suggesting that an *innovation diversion ratio* can be identified, which will isolate the likely effects of a proposed merger in reducing innovation relative to the but for world in which the merger did not take place. Such proposals are constructive and may indeed help to increase the emphasis put on innovation in merger review. The proposal by Chiasson and Johnson to repeal section 96 with the same purpose in mind is not in my view a helpful one, for the reasons I have set out in this article.

## ENDNOTES

<sup>1</sup> Matthew Chiasson & Paul A Johnson, "Canada's (In)efficiency Defence: Why Section 96 May Do More Harm Than Good for Economic Efficiency and Innovation" (2019) 32:1 *Can Competition L Rev* 1 [Chiasson & Johnson].

<sup>2</sup> Brian A Facey & David Dueck, "Canada's Efficiency Defence: Why Ignoring Section 96 Does More Harm Than Good for Economic Efficiency and Innovation" (2019) 32:1 *Can Competition L Rev* 33.

<sup>3</sup> There is an obvious irony in abolishing an "efficiencies defense" designed to promote efficiency, in order to promote efficiency.

<sup>4</sup> Canada, Economic Council of Canada, *Interim Report on Competition Policy*, (Ottawa: Queen's Printer, 1969).

<sup>5</sup> "Canada is the leading jurisdiction in which modern competition law has engaged with the problem of how to approach anticompetitive mergers where nontrivial efficiency gains are also expected". Roger Ware & Ralph Winter, "Merger Efficiencies in Canada: Lessons for the Integration of Economics into Antitrust Law" (2016) 61:3 *The Antitrust Bulletin* 365 at 375.

<sup>6</sup> Thomas Ross & Ralph A Winter, "The Efficiency Defense in Merger Law: Economic Foundations and Recent Canadian Developments" (2004) 72:2 *Antitrust LJ* 471.

<sup>7</sup> See William J Kolasky & Andrew R Dick, “The Merger Guidelines and the Integration of Efficiencies into Antitrust Review of Horizontal Mergers” (Paper delivered at the United States Department of Justice Antitrust Division, 20th Anniversary of the 1982 Merger Guidelines: The Contribution of the Merger Guidelines to the Evolution of Antitrust Doctrine, 10 June 2002), online: <<https://www.justice.gov/archives/atr/20th-anniversary-1982-merger-guidelines>> at 2 (quoting Kenneth Heyer of the U.S. Department of Justice as stating, “efficiency is the goal, competition is the process”).

<sup>8</sup> Chiasson & Johnson, *supra* note 1 at 1.

<sup>9</sup> *Ibid* at 4.

<sup>10</sup> The Bertrand model of price-setting oligopoly is one of the most basic models employed in antitrust economics. With two firms producing identical products, the Bertrand equilibrium has both firms producing at marginal cost, i.e. mimicking the equilibrium in perfect competition.

<sup>11</sup> In a perfectly contestable equilibrium a single firm (i.e. a monopolist) is forced to price at marginal cost by the threat of entry which could substitute the entrant’s production for the entire supply of the incumbent.

<sup>12</sup> The recent decision by the Supreme Court of Canada in *Tervita Corp v Canada (Commissioner of Competition)*, 2015 SCC 3 (*Tervita*) is supportive of a more mainstream adoption of the total surplus criterion.

<sup>13</sup> Perhaps some blame should accrue to the term Substantial Lessening of Competition, which despite more than 30 years of experience with the Competition Act, still lacks a clear definition. There is little clarity from either the Tribunal or the Bureau as to whether an SLC is defined solely from the demand side, or whether the Bureau should take into consideration any variable cost savings before identifying a lessening of competition. The Tribunal in *The Commissioner of Competition v Superior Propane Inc*, 2002 Comp Trib 16 seemed to favour the former approach, but Chief Justice Crampton in *The Commissioner of Competition v. CCS Corporation et al.*, 2012 Comp Trib 14 (the Competition Tribunal’s decision in the *Tervita* case) and comments from the Bureau in their “Practical Guide to Efficiencies Analysis in Merger Review” seem to favour the latter approach.

<sup>14</sup> There is another reason to expect errors to increase: the long history of government involvement in promoting innovation has taught us that governments are not actually very good at it.

<sup>15</sup> Giulio Federico, Fiona Scott Morton & Carl Shapiro, “Antitrust and Innovation: Welcoming and Protecting Disruption” in Josh Lerner and Scott Stern, eds, *Innovation Policy and the Economy, Volume 20* (Chicago: University of Chicago Press, 2019) 125 [Federico, Scott Morton & Shapiro].

<sup>16</sup> As Federico, Scott Morton and Shapiro explain, this is why a rule of “more likely than not” as a criterion for considering the innovation will lead to errors in decision making. *Ibid* at 16.

<sup>17</sup> Kenneth J Arrow, “Economic Welfare and the Allocation of Resources for

Inventions” in Richard R Nelson, ed, *The Rate and Direction of Inventive Activity* (Princeton: Princeton University Press, 1962) 609.

<sup>18</sup> Philippe Aghion, Nick Bloom, Richard Blundell, Rachael Griffith & Peter Howitt, “Competition and Innovation: An Inverted U-Relationship” (2005) 120:2 *Q J Economics* 701.

<sup>19</sup> Justus Haucap, Alexander Rasch & Joel Stiebale, “How Mergers Affect Innovation: Theory and Evidence” (2019) 63 *Intl J Industrial Organization* 283.

<sup>20</sup> Mitsuru Igami & Kosuke Uetake, “Mergers, Innovation, and Entry-Exit Dynamics: Consolidation of the Hard Disk Drive Industry, 1996-2016” (2019) SSRN Working Paper, online: <<https://ssrn.com/abstract=2585840>>.

<sup>21</sup> Guillermo Marshall and Alvaro Parra, “Innovation and competition: The role of the product market” (2019) 65 *Intl J Industrial Organization* 221.

<sup>22</sup> Federico, Scott Morton & Shapiro, *supra* note 15.

<sup>23</sup> *Ibid.*

<sup>24</sup> See e.g. *Tervita*, *supra* note 12 at para 131 *et seq.*

<sup>25</sup> Richard Gilbert & Stephen Sunshine, “Incorporating Dynamic Efficiency Concerns in Merger Analysis: The Use of Innovation Markets” (1995) 63:2 *Antitrust LJ* 569.