CANADA'S EFFICIENCY DEFENCE: WHY <u>IGNORING</u> SECTION 96 DOES MORE HARM THAN GOOD FOR ECONOMIC EFFICIENCY AND INNOVATION

Brian A Facey and David Dueck[1]

Canada has a defence that allows efficiency enhancing mergers and collaborations between competitors. In another paper published in this edition of the Canadian Competition Law Review, Chiasson and Johnson argue that the efficiencies defence should be repealed because it reduces innovation and causes inefficiencies. In our view, Chiasson and Johnson take an overly simplistic view of the relationship between market concentration and innovation that misses a fundamental point: mergers between competitors often increase efficiency and innovation. We also argue that efficiencies are not given enough weight and anticompetitive effects are overemphasized under the Competition Bureau's approach to merger review, which creates a bias against efficiency enhancing mergers. Removing this bias would help the Competition Act function as Parliament intended. In the words of the Supreme Court of Canada: "the efficiencies defence is Parliamentary recognition that, in some cases, consolidation is more beneficial than competition."

Au Canada, il existe une défense fondée sur les gains en efficience qui permet les fusions et les alliances entre concurrents importants dans certaines circonstances. Dans leur article qui paraît dans cette édition de la Revue canadienne du droit de la concurrence, Chiasson et Johnson font valoir que ce recours devrait être éliminé au motif qu'il étouffe l'innovation et induit des inefficiences. À notre avis, les auteurs offrent une vision trop simpliste du rapport entre concentration du marché et innovation, omettant ainsi une réalité fondamentale : les fusions entre concurrents sont, de fait, souvent porteuses d'innovation et de gains d'efficience. En outre, nous estimons que la méthode d'examen des fusions du Bureau de la concurrence accorde trop de poids aux effets anticoncurrentiels des fusions, et pas assez aux efficiences qu'elles induisent, ce qui crée un préjugé défavorable envers celles qui améliorent l'efficience. L'élimination de ce préjugé contribuerait à rendre le fonctionnement de la Loi sur la concurrence plus conforme à l'intention du législateur, que la Cour suprême du Canada résumait en ces mots : « le législateur reconnaît par la défense fondée sur les gains en efficience que, dans certains cas, le regroupement est plus avantageux que la concurrence. »

T he *Competition Act* is often considered one of the most economically sophisticated competition laws in the world, largely due to the recognition of efficiencies in Canadian merger review under section 96.[2] However, for over 20 years, a variety of inconsistent and contradictory statements from the Competition Bureau have made the role of efficiencies in merger review "disturbingly uncertain."[3]

Although the Supreme Court of Canada's decision in *Tervita* clarified the paramountcy of efficiencies in Canadian merger review,[4] recent speeches[5] and a draft *Efficiencies Guide*[6] from the Competition Bureau have heightened the uncertainty[7] associated with the application of the efficiencies defence.[8] A recent paper by Matthew Chiasson and Paul Johnson from the Competition Bureau advocating for the repeal of section 96[9]—and building on recent comments along the same lines from the previous Commissioner of Competition[10]—could increase the uncertainty surrounding the efficiencies defence.

Chiasson and Johnson's core argument is that "*competition spurs innovation and efficiency of enormous magnitude,*" and as a result, the efficiencies defence authorizes "*anticompetitive mergers in the name of economic efficiency even though such mergers are more likely to reduce efficiency overall.*"[11]

The fundamental premise of Chiasson and Johnson's paper, however, contradicts conclusions reached by the Competition Bureau, the U.S. Federal Trade Commission, and many commentators. Innovation takes place in a variety of market structures. Research shows that more competitive environments often have much *lower* levels of innovation. As the Competition Bureau concluded recently after hosting an innovation and antitrust workshop for over 100 participants, "*There is no definitive answer as to whether increased scale and consolidation affect innovation negatively or positively.*"[12] Likewise, a presentation on innovation at the Canadian Bar Association's Economist Roundtable with the Competition Bureau in 2017 stated, "*Does more competition lead to more innovation? Not necessarily.*"[13] Christine Wilson, a Commissioner at the U.S. Federal Trade Commission, recently suggested that the U.S. adopt a total surplus standard to emulate Canada's efficiencies defence, which would "*better capture dynamic efficiencies*" and promote the spread of "*innovations and cost-saving measures.*"[14] In fact, Commissioner Wilson went so far as to say:

> We should consider the experience of other jurisdictions that apply the total welfare standard. It has been noted that the welfare standard employed in Canada lies somewhere between a consumer welfare and a total welfare standard. The 1986 Competition Act of Canada expressly provides for an

efficiencies defense for mergers that may increase prices for consumers. Their experience could be instructive.[15]

In Part I of this paper, we focus on Chiasson and Johnson's arguments about competition and innovation,[16] explaining that they adopt an overly simplistic view of the relationship between economic concentration and innovation that misses half of the story. Mergers can promote innovation and productivity improvements through dynamic efficiencies, increased economies of scale, and greater incentives to develop new products and services. The empirical evidence shows a complex relationship between concentration and innovation, suggesting that more competitive environments may be less innovative in many circumstances. Competition in a narrowly defined antitrust market may also have no relationship to innovation across an industry as a whole. The complex relationship between competition and innovation has been widely recognized by the Competition Bureau, the U.S. Federal Trade Commission, and others.

In Part II, we focus on Chiasson and Johnson's arguments about X-efficiency in the context of the efficiencies trade-off, explaining that there is no evidence of a systematic bias in favour of efficiencies—if anything, the bias in practice is often *against* mergers likely to bring about net gains in efficiency to the Canadian economy:

- Chiasson and Johnson state that the Competition Bureau will be challenged to adduce evidence of X-inefficiency, which could be a future harm from a merger. However, a theoretical concern of unknown magnitude does not justify an approach that would ignore proven benefits from a merger through increased efficiencies. Moreover, the Competition Bureau has tools to collect evidence relating to potential X-inefficiencies under the SIR process for merger review, if in fact they are likely to arise.

- Mergers also generate dynamic efficiencies, improvements in product quality, and other benefits for consumers and the Canadian economy as a whole that are challenging for the merging parties to quantify *ex ante* and are often ignored. One cannot assume that potential X-inefficiencies will be greater than dynamic efficiencies, improvements in product quality, and/or other qualitative benefits from a merger, since the magnitude of each factor is often unknown in advance.

- In practice, the bias, if there is one, is *against* efficiencies in merger reviews. The Competition Bureau's methodology significantly

overestimates the size of potential anticompetitive effects in many cases, which we refer to as the "*X-deadweight loss reduction*."

- There is no evidence that any merger cleared on the efficiencies defence has reduced innovation and productivity in Canada. Based on our experience, mergers relying on the efficiencies defence are often likely to significantly increase innovation and productivity in Canada.

In Part III, we explain why the efficiencies defence remains an underutilized mechanism for promoting innovation and productivity in Canada.

I. The Other Half of the Story

a. Why More Competition Does Not Necessarily Promote Innovation and Productivity

Concentrated markets often have greater levels of innovation, not less, and mergers can be a powerful mechanism for promoting greater innovation and productivity. However, by largely ignoring the complexities of the relationship between concentration and innovation, Chiasson and Johnson's paper is missing an important part of the story. As discussed in greater detail below, the empirical evidence on innovation and market structure shows a complex relationship where greater competition can both increase and decrease the level of innovation in an industry depending on a range of factors. Opportunities and incentives for greater innovation may increase as competition decreases for a variety of reasons:

Dynamic efficiencies from mergers and acquisitions. Mergers and acquisitions can be an especially effective mechanism for fostering innovation and spreading better business practices throughout the rest of the economy. There are often broader economic forces bringing together merging parties, such as the growth of a highly productive competitor or removal of a stagnant competitor. In this way, mergers may generate dynamic efficiencies from greater innovation and productivity while also resulting in greater market concentration. As Roberts and Salop (1995) explain:

> Mergers can <u>increase the financial returns from investment in innovative activities</u> by increasing the speed and magnitude of cost savings. First, a merger may combine complementary assets in a way that increases efficient resource use. Second, a merger may allow the merged entity to spread unit cost savings over a larger output base. Third, a merger may reduce the risk associated with the investment. Fourth, a merger may allow the

combined firm to implement efficiency improvements more rapidly than the two firms could independently.[17]

Similarly, Jullien and Lefouili (2018) explain that mergers can reduce wasteful duplications in R&D efforts by better coordinating research projects, substantially increase investment (and the resulting likelihood of success) for key research projects, and increase incentives to develop innovations with spillover effects between the operations of the merging parties.[18] However, Chiasson and Johnson's argument does not take into account the fact that mergers can generate dynamic efficiencies that increase innovation following a merger.

Economies of scale. Economies of scale are an important driver of innovation and productivity, but increased competition can make it more difficult for firms to achieve economies of scale in their operations.[19] Economies of scale give firms the financial resources to make the significant investments in R&D required for innovation, as well as the opportunity and incentive to apply such technological improvements across their operations. Denicolò and Polo (2018) explain how mergers in particular can enhance incentives for innovation and productivity by increasing the size and scale of a firm.[20] As a firm's aggregate output increases by combining two firms, so does the value of innovation and process improvements over the merged firm's output, increasing incentives to innovate.[21] Consistent with this, Statistics Canada data shows a strong and positive relationship between firm size and innovation, with the smallest manufacturing firms (having less than 20 employees) reporting innovation at roughly half the rate of the largest firms (having more than 2000 employees).[22] Statistics Canada data also shows that large enterprises are significantly more likely than small enterprises to use advanced technologies and introduce organizational innovations.[23]

The extraordinary innovation carried out at Bell Labs in the middle of the 20th century provides a remarkable example of how economies of scale in the absence of competition can facilitate technological progress. Among its many achievements, Bell Labs created the transistor (which is the building block of all digital products today), the silicon solar cell, the first patent for a laser, the first communications satellites, the theory and development of digital communications, the first cellular telephone systems, the charge-coupled device that forms the basis for digital photography, the first fiber optic cable systems, and the Unix and C computer programming languages.[24] Researchers at Bell Labs published ground-breaking papers in the fields of physics, chemistry, astronomy, and mathematics, and nine Nobel Prizes were awarded for work completed at Bell Labs.[25] It is therefore hardly

an exaggeration to describe the research undertaken at Bell Labs as an "*effort that rivals the Apollo program and the Manhattan Project in size, scope and expense.*"[26] However, in discussing the many scientific and technological achievements at Bell Labs, what is sometimes overlooked is that Bell Labs was the research and development division at AT&T, a monopolist until its breakup by U.S. antitrust regulators in 1982. As a result, Bell Labs had a "*large and dependable income ensured by its monopoly status*" to devote to research and greater time and flexibility in the absence of short-term competitive pressure to pursue long-term research goals.[27]

In addition, a careful reading of a number of the studies discussed by Chiasson and Johnson suggests that the key driver of the increased innovation and productivity being analyzed was actually the achievement of economies of scale. For example, the study by Foster, Haltiwanger, and Krizan (2006) concludes:

> [T]he dominant role of net entry is associated with the entry of <u>more productive establishments that are part of large, national firms</u> displacing the <u>much less productive exiting establishments that are single-unit establishments</u>. Our results suggest that the enormous restructuring of the retail trade sector <u>towards large, national chains</u> has been at the <u>core of the productivity gains</u> in the retail trade sector.[28]

Chiasson and Johnson also refer to the entry of Uber as an example of competition improving quality, but it was actually Uber's economies of scale and network effects that gave it an important advantage over traditional taxi drivers and allowed it to provide such beneficial services for consumers.[29]

Greater incentives for innovation. As discussed above, mergers can enhance incentives for innovation by increasing the value of innovation as the size and scale of a firm's aggregate output increases.[30] Mergers will also increase incentives to develop innovations with spillover effects between the operations of the merging parties.[31] As Schumpeter first observed, greater competition reduces post-innovation profits, which reduces the incentive to innovate relative to an industry with fewer competitors,[32] and which, as Shapiro notes, must be considered in conjunction with Arrow's observation that competition may also motivate a firm to disrupt the status quo.[33] Firms will receive a greater benefit from innovation when they have a greater share of the market. Moreover, a firm developing an innovative product will be able to sell it at a higher price when there are fewer competitors, which increases the returns to investment in research and development and increases a firm's incentive to innovate.[34] In fact, this is a key reason why we grant "monopolies" in the form of patents to innovators who create

new inventions, as there would be less incentive to innovate if the benefits of such inventions were cannibalized by competitors.[35] The same principle also applies to new productive techniques, operational practices, or organizational structures that may generate critical gains in productivity and innovation but not necessarily qualify for patent protection.

Peter Howitt also points out that intensified competition is particularly likely to reduce innovation by technologically laggard firms, since such competition will reduce the anticipated profits from catching-up on innovation. The established technology leaders in the same industry, on the other hand, will continue to earn profits regardless of competition levels because rivals cannot match their cost structure and product offering, and therefore competition does not have a significant impact on the leaders' incentives to innovate. As a result, industry-wide innovation will fall as competition increases.[36]

### b. Empirical Evidence on Complex Relationship Between Innovation and Concentration

i. Selective Examples and the "Inverted-U" Relationship

A number of economists (including Johnson)[37] have noted that there generally appears to be a complex, non-linear relationship between innovation and economic concentration across an industry that resembles an upside down "U" shape (see the "inverted-U" illustrated in Figure 1 below). The ambiguous impact of concentration on innovation is a fundamental flaw in Chiasson and Johnson's argument that the efficiencies defence is unequivocally bad for innovation.

In a seminal paper titled *Competition and Innovation: An Inverted-U Relationship*, Aghion, Bloom, Blundell, Griffith, and Howitt (2005) carried out an empirical study showing this "inverted-U" relationship between innovation and competition/concentration in an industry.[38] More specifically, they found that competition may increase innovation in certain circumstances, but after a certain point, greater competition only decreases innovation. They also noted that this evidence is inconsistent with the theory (discussed by Chiasson and Johnson)[39] that a lack of competition may induce managerial laziness or "satisficing", since such a theory fails to adequately explain the half of the "inverted-U" where increased competition reduces innovation.[40] Bérubé, Duhamel, and Ershov (2012) applied the empirical approach of Aghion et. al. (2005) to the Canadian economy and also found the

existence of an "inverted-U" relationship between competition and innovation in Canada.[41]

Figure 1: The "Inverted-U" Relationship Between Competition and Innovation
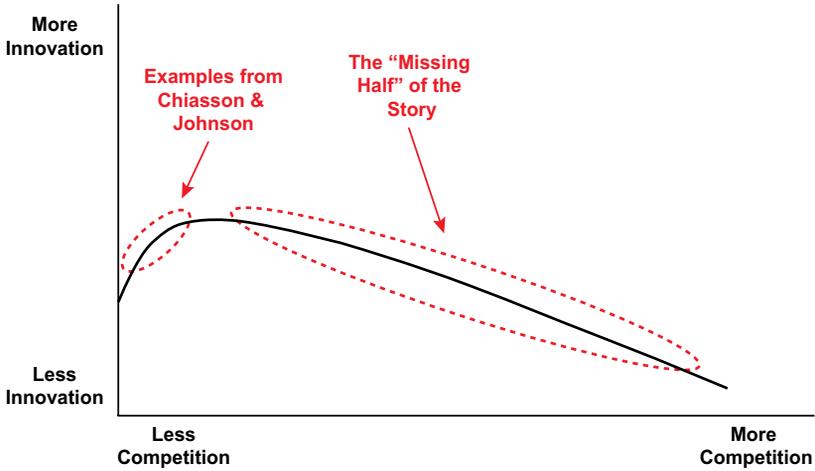
As a result, Chiasson and Johnson do not incorporate a key part of the story. The studies and various other examples referenced by Chiasson and Johnson—such as the impact of NAFTA, increased iron ore mining competition in the Great Lakes region in the 1980s, the elimination of a sugar cartel in the U.S. in 1974, etc.—all appear to come from only one-side of the "inverted-U" in Figure 1 (i.e., the half of the curve where innovation is increasing with greater competition). Chiasson and Johnson therefore appear to only focus on one part of the picture. Their story is accurate to the extent such examples simply reflect the fact that more competition may lead to more innovation in certain circumstances (a proposition we do not disagree with). However, relying on these examples to make a blanket claim for all industries in all circumstances would be a mistake, requiring one to extrapolate from a collection of examples on only one side of the "inverted-U" to claim that a certain relationship between competition and innovation always exists. Based on the empirical evidence, it clearly does not, and this should not be surprising given how concentration can promote innovation through increased incentives for innovation, economies of scale, and dynamic efficiencies from mergers and acquisitions.

Perhaps anticipating a possible counterargument regarding the existence of a complex "inverted-U" relationship between innovation and concentration, Chiasson and Johnson suggest that, if an "inverted-U" relationship

does exist, then "*the only portion of that relationship relevant for antitrust enforcement is likely that portion where innovation is increasing in competitive activity.*"[42] This assumption is flawed for several reasons.

First, this ignores the fact that the shape and size of the "inverted-U" itself depends on the underlying structure and unique facts in each industry, as well as the fact that greater competition is particularly likely to have adverse effects on innovation in the Canadian context. Both Aghion et. al. (2005) and Bérubé, Duhamel, and Ershov (2012) found that the shape of the "inverted-U" differs depending on the nature of the industry in question.[43] Because every industry is different, it would be a mistake to assume that competition enforcement would always take place at the point of the "inverted-U" where innovation is increasing in competitive activity.

In particular, competition was found to have a more negative impact on innovation the more there exist certain firms that are technological laggards in their industry (effectively resulting in a flatter "inverted-U" that peaks at lower levels of competition).[44] Although competition may sometimes motivate firms to innovate to a greater extent when they are relative equals who are competing "neck and neck", if an industry is characterized by the presence of both technological leaders and laggards, then increased competition only decreases the incentive of firms to innovate by reducing the expected incremental profit they could gain from innovating.[45] In other words, "*competition intensity has a strong positive impact on business R&D only when competition in the industry is among equals,*"[46] and as Bérubé, Duhamel, and Ershov found, "*competition in Canadian industries is mostly not among equals.*"[47] This observation is very important: it indicates that greater competition is more likely to lead to reduced innovation in most Canadian industries and that the majority of antitrust enforcement in Canada may take place where innovation is *decreasing* in competitive activity.

Second, even a merger to monopoly can have a positive impact on innovation. As discussed above, mergers (including mergers to monopoly) can generate significant dynamic efficiencies that increase innovation, and innovation in one industry from dynamic efficiencies can generate positive spillover effects in other industries. Moreover, Jullien and Lefouili (2018) show that a merger to monopoly can increase innovation even without efficiencies or spillover effects.[48] For instance, innovation levels post-merger will be influenced by how the increased incentive to innovate in order to increase demand (as profit margins increase) compares to the reduced

incentive to innovate as output falls (from higher prices for a given innovation level).[49]

Third, concentration levels in a particular market are irrelevant where innovation is driven by factors outside of a relevant market. This is particularly likely to be the case given the distinction between concentration in an industry versus concentration in a "market" for purposes of competition law:

> Every product has some alternatives, if only because a consumer can keep the "cash" to purchase other commodities and services. Market power is a matter of degree, so a "monopoly" is not categorically defined … Under the Bureau's hypothetical monopolist test, products sold by two merging firms constitute a market if the merging firms, in the absence of a change in their unit costs, could profitably raise prices by five percent. This yields the following. Whatever the actual cost savings and resulting price effects, a merger is a "merger to monopoly" if the merging firms would have raised price by five percent with unchanged costs. This meaning of merger to monopoly … is important because it applies to a much broader range of circumstances than might appear to be the case for someone inexperienced in competition policy.[50]

An industry could have many competitors overall—and be well on the side of the "inverted-U" where innovation is decreasing with more competitors—while simultaneously also having high levels of concentration in certain narrow product or geographic "markets" from a technical competition law standpoint. Similarly, there are many circumstances in which a merger could reduce competition in an antitrust "market" without significantly impacting the overall level of concentration in an industry. For example:

- A merger could result in a monopoly for retail pharmacy stores in a particular community district (and generate significant efficiencies) without materially impacting overall concentration in the pharmaceutical industry as a whole. Innovation in the pharmaceutical industry is driven by global factors and certainly not concentration in a local Canadian antitrust market.

- A merger could lead to a monopoly for IT consulting in a particular city (and generate significant efficiencies) without materially impacting overall concentration in the IT industry as a whole.

- A merger could result in a monopoly for sales of chemicals in Canada (and generate significant efficiencies) without materially impacting

overall concentration in the chemicals industry worldwide, where Canadian firms also compete heavily.

Such mergers could generate large gains in efficiency to the benefit of the Canadian economy without having <u>any</u> material impact on overall industry concentration or innovation (whether positive or negative). When innovation is driven by factors outside the relevant market, competition in the market is irrelevant to innovation.

ii. Mergers Provide Additional Mechanisms to Promote Innovation and Productivity

Chiasson and Johnson also note that a debate has emerged following the European Commission's decision in *Dow / DuPont*, which ignored the literature on the "inverted-U" relationship on the basis that it was not readily applicable in the merger context.[51] While we agree that the "inverted-U" literature does not explicitly consider the impact of mergers, the key underlying mechanisms discussed in the literature that drive incentives for innovation are still relevant in the merger context.[52] Moreover, the dynamic efficiencies and spillover effects generated by many mergers create additional ways in which mergers may increase innovation relative to the static, non-merger context.[53] Although Chiasson and Johnson reference a paper by Federico, Langus, and Valletti (2017) with a simple theoretical model predicting that a merger will reduce incentives to innovate,[54] Jullien and Lefouili (2018) and Denicolò and Polo (2018) both point out many important factors left out of Federico, Langus, and Valletti's model.[55] For example, mergers can also reduce wasteful duplications in R&D efforts by better coordinating research projects, substantially increase investment (and the resulting likelihood of success) for key research projects, increase the development of products appealing to different customers than those of competitors, increase incentives to innovate in order to increase demand as profit margins increase, and increase incentives to develop innovations with spillover effects between the operations of the merging parties.[56]

Ultimately, Jullien and Lefouili observe that there is "*no consensus among economists about a presumed (negative or positive) sign of a horizontal merger's impact on innovation.*"[57] Chiasson and Johnson acknowledge that the "*theoretical relationship between innovation and competition is ambiguous,*"[58] but suggest that their examples constitute empirical evidence of the beneficial impact of competition on innovation. As discussed above, it would be a mistake to rely on a collection of examples to make a blanket claim for all industries in all circumstances. Moreover, none of the examples

discussed by Chiasson and Johnson analyze the impact of *mergers* on innovation and productivity (and certainly not any mergers cleared based on the efficiencies defence). The complex relationship between competition and innovation represents a fundamental flaw in the argument that the efficiencies defence should be repealed.

c. Wide Recognition of the Complex Relationship Between Innovation and Concentration

The evidence demonstrating that increased market concentration leads to *greater* innovation in many circumstances is not based on a fringe economic theory—in fact, it has been recognized by the Competition Bureau, the U.S. Federal Trade Commission, and many others.

Following a workshop on innovation and antitrust hosted on November 4, 2014 with approximately 100 participants, the Competition Bureau concluded: "*There is no definitive answer as to whether increased scale and consolidation affect innovation negatively or positively,*"[59] while noting that "*academics have found that the relationship between innovation and competition is an 'inverted U-shape', whereby innovation is lowest in markets either dominated by a single firm or fragmented among many, and is highest in markets where the number of firms is somewhere in between.*"[60]

The U.S. Federal Trade Commission has taken the same view, relying on studies in its review of the *Genzyme / Novazyme* merger finding that "*economic theory and empirical investigations have not established a general causal relationship between innovation and competition.*"[61] Moreover, Christine Wilson, a Commissioner of the Federal Trade Commission, recently suggested that the U.S. emulate Canada by adopting a total surplus standard for antitrust review, with the promotion of dynamic efficiencies as a key justification.[62]

Similar conclusions were reached by the Advisory Panel on Efficiencies cited by Chiasson and Johnson, which was commissioned by the Competition Bureau to assess the role that efficiencies should play in the merger review process with a particular focus on dynamic efficiencies and innovation. The Advisory Panel on Efficiencies came to the following conclusion about the relationship between concentration, efficiencies, and innovation:

> [C]ompetition policy by itself may not have a predictable and replicable impact on innovative capacity. In some cases, a merged firm's larger scale — and the resulting higher concentration in an industry — may lead to more innovation and benefit the economy; in other cases, increased

concentration may have a negative effect. <u>A one-size-fits-all approach to enhancing dynamic efficiency through competition policy will not work</u>.[63]

In addition, in a report on *Innovation and Dynamic Efficiencies in Merger Review* prepared for the Competition Bureau, Sanderson and Tepperman (2007) noted:

> When incorporating innovation issues into merger review several considerations arise. First, <u>there is no settled economic model that relates the extent of market concentration to the extent of innovation</u> and as a result, <u>we do not know how concentration today affects firms' levels of innovative activity</u>, which differs from the clear link that exists between concentration and pricing.[64]

Finally, a presentation by a senior Competition Bureau official at the Canadian Bar Association's Economist Roundtable in May 2017 stated the following:

> Does more competition lead to more quality? <u>Not necessarily</u>. As competition lessens, quality can go up or it can go down.
>
> …
>
> <u>Does more competition lead to more innovation? Not necessarily</u>.
>
> …
>
> Efficiency effect: <u>Competitive environments foster less innovation</u>.[65]

In summary, Chiasson and Johnson's argument that increased market concentration inevitably reduces innovation is not supportable. While we agree that competition may promote innovation in certain circumstances, this only tells half of the story. Research shows that greater concentration often promotes greater innovation through increased incentives for innovation, economies of scale, and the dynamic efficiencies generated by many mergers and acquisitions. Moreover, when innovation is driven by factors outside of a market, then competition in that market is irrelevant to innovation. These are fundamental flaws in Chiasson and Johnson's argument that the efficiencies defence is inherently bad for innovation because it enables greater market concentration. On the contrary, the efficiencies defence provides a useful mechanism to promote productivity and innovation in the Canadian economy, allowing for a consideration of each merger on its own merits to determine if the proven benefits of a merger on productivity and innovation outweigh its potential costs.

II. The Bias Against Efficiency Enhancing Mergers

Chiasson and Johnson also claim that "*the efficiencies defence has a bias towards authorizing anticompetitive mergers in the name of economic efficiency*"[66] because there will often not be case-specific evidence available regarding the negative impacts of reduced competition generally. However, many of the positive impacts of a specific merger from dynamic efficiencies, improvements in product quality, and other benefits may also not be quantifiable, and, if anything, the bias in practice is often *against* mergers likely to bring about net gains in economic efficiency to the Canadian economy.

First, the statement by Chiasson and Johnson that the negative impacts of X-inefficiency "*are often not susceptible to ex ante prediction and so there often will not be case-specific evidence to lead in merger cases*"[67] acknowledges that the Competition Bureau will not be able to provide any actual evidence of the concerns they are raising. However, ignoring proven benefits to the Canadian economy through efficiency gains because of a theoretical concern about unprovable harms of an unknown magnitude is not good public policy. A theoretical concern—particularly one of unknown magnitude—does not justify an approach to merger review that would never take into account the potential positive impacts of a merger through increased efficiencies and innovation under section 96.

Second, many of the beneficial impacts of a merger on innovation and productivity are also very challenging for merging parties to prove. As discussed above, mergers can lead to significant dynamic efficiencies, improvements in product quality, and other benefits for consumers and the Canadian economy as a whole. However, like X-inefficiencies, these benefits of a merger are often challenging to quantify because the exact nature and timing of new or better products and processes—and the extent to which they will benefit consumers and/or result in cost savings—may not be known in advance.

One cannot assume that any potential X-inefficiencies will be greater than the dynamic efficiencies, improvements in product quality, and/or other qualitative benefits from a merger, since the magnitude of each factor will often be unknown in advance. Chiasson and Johnson provide no evidence of the magnitude of potential X-inefficiency in the merger context and no evidence as to how potential X-inefficiency compares to the dynamic efficiencies frequently created by mergers. As a result, it would be a mistake to suggest that the efficiencies defence should be repealed simply because certain negative impacts of mergers may not be quantifiable *ex ante*. Similar

reasoning could be used to suggest that the Competition Bureau must clear every merger raising the efficiencies defence simply on the basis that mergers often generate significant benefits for the Canadian economy that are not susceptible to *ex ante* quantification.

Third, there is already significant scope in the *Competition Act* to take into account the potential impact of a merger on productivity and innovation. For example, the Competition Bureau has significant powers to gather extensive evidence from merging parties and third parties through Supplementary Information Requests under section 114(2) and judicial orders under section 11 of the *Competition Act*. Using such powers, the Competition Bureau could readily uncover evidence in internal documents that the parties were innovating, improving production processes, and/or improving product quality in reaction to one another. Internal documents are often given significant weight before the Competition Tribunal,[68] and documents indicating that innovation was driven by competition with a specific competitor could constitute highly probative evidence of the impact of a merger on innovation.

Even if such evidence of the impact on productivity and innovation is not always capable of quantification, the Supreme Court of Canada's decision in *Tervita* requires that "*qualitative efficiencies should be balanced against the qualitative anti-competitive effects, and a final determination must be made as to whether the total efficiencies offset the total anti-competitive effects of the merger at issue.*"[69] This gives the Competition Tribunal a significant degree of discretion to assess the value of such evidence. Of course, as Chiasson and Johnson note, the Supreme Court of Canada also stated that the assessment should be as objective as possible.[70] We agree. As a matter of procedural fairness, merging parties must know the case they have to meet.[71] Moreover, any decision seeking to block a merger generating significant efficiencies for the benefit of the Canadian economy should be based on concrete evidence.

Fourth, the bias in practice is often actually *against* efficiencies in merger reviews. The Competition Bureau's methodology for estimating anticompetitive effects when carrying out the efficiencies trade-off systematically overestimates the size of those effects by assuming that short-term competitive dynamics will continue far into the future. The failure to take into account this bias—call it the "*X-deadweight loss reduction*", if you will—makes it significantly more difficult for merging parties to demonstrate that a merger will generate efficiencies offsetting the anticompetitive effects.

Consistent with the Competition Tribunal's approach in *Superior Propane*,[72] efficiency gains are typically compared to anticompetitive effects over a ten-year period when carrying out the section 96 trade-off analysis. However, the Competition Bureau assesses the impact of entry and expansion into an industry over a much shorter time frame (typically two years).[73] The practical result of this is that the impact of entry and expansion in an industry after the second year is completely ignored in the estimation of anticompetitive effects, and entry is ignored in its entirety if the Bureau is not convinced that it will take place on a sufficient scale within two years. This is despite the fact that significant entry and expansion is much more likely to take place over a ten-year period than a two-year period.[74] For example, the Competition Tribunal accepted the Commissioner's arguments regarding barriers to entry in *Superior Propane* and ignored the potential for entry and expansion in the industry when assessing the anticompetitive effects.[75] However, the *Propane Market Review* jointly prepared by the Competition Bureau and National Energy Board a number of years later found "*a significant amount of entry into local propane markets*" and noted that "*it appears likely that local propane markets are not subject to the same level of market dominance as may have been the case immediately following the Superior Propane-ICG Propane merger.*"[76]

Similarly, the Competition Bureau typically calculates the elasticity of demand based on consumer behaviour in the short-run. However, the elasticity of demand is almost always more elastic in the long-run than the short-run.[77] For example, consumers using electricity to heat their homes may be less likely to switch to natural gas when the price of electricity rises in the short-run (which could require a substantial investment in new equipment). In the long-run, though, consumers would be much more likely to switch to natural gas when their system needs replacement or a new system is being installed. As a result, using elasticity estimates based on short-run consumer behaviour is likely to significantly overstate the size of the estimated anticompetitive effects over the ten-year period typically used for the efficiencies trade-off.[78]

Moreover, a careful reading of the studies cited by Chiasson and Johnson[79] (and the Bureau's draft *Efficiencies Guide*)[80] on the likelihood of achieving efficiencies claims suggests that productive efficiencies are highly likely to be achieved, but anticipated revenue increases are in fact rarely achieved in practice. This is due to a conflation of cost savings (i.e., productive efficiencies) with revenue synergies, which often include anticipated price increases and are generally not counted as valid efficiencies under the *Competition Act*. For example, the McKinsey (2004) study they refer to finds that 75% of

mergers achieve more than 80% of their expected cost savings and that 36% of mergers achieve <u>more than 100%</u> of their expected cost savings.[81] Conversely, the study found that only 38% of mergers achieve more than 80% of their expected revenue synergies.[82] This suggests that anticipated productive efficiencies are much more likely to be achieved than anticipated price increases.

Fifth, the approach to the efficiencies trade-off in section 96 that is proposed in the Bureau's draft *Efficiencies Guide* would deepen the bias against efficiencies in merger reviews. Much of the Bureau's draft *Efficiencies Guide*[83]—in addition to being inconsistent with the *Competition Act* and jurisprudence from the Competition Tribunal and Supreme Court of Canada—is also internally inconsistent.[84] As explained in greater detail elsewhere, the draft *Efficiencies Guide* (i) fails to consistently follow the intention of Parliament and plain reading of section 96, (ii) adopts a "market-by-market" approach to the trade-off (explicitly rejected by the Competition Tribunal)[85] that will be inconsistently applied and often unworkable in practice, (iii) fails to consistently adopt an approach that would maximize total surplus, and (iv) fails to apply a consistent level of scrutiny to estimates of anticompetitive effects as compared to efficiencies calculations.[86]

We therefore disagree with Chiasson and Johnson's statement that "*[r] epealing the efficiencies defence would likely go some way towards simplifying merger reviews, clarifying goals, and reducing overall administrative burden on businesses.*"[87] Parliament intended the application of the efficiencies defence to be a simple and straightforward comparison of the overall gains in efficiency to the Canadian economy from a merger with the overall anticompetitive effects resulting from the merger.[88] However, this is not reflected in the draft *Efficiencies Guide*.

The draft *Efficiencies Guide* also adopts a much more expansive view of the role of wealth transfers that increases the bias against efficiency enhancing mergers and decreases predictability for merging parties.[89] However, the Competition Tribunal has stated it "*expects that in most cases, it will be readily apparent that the wealth transfer should be treated as neutral in its analysis…*"[90] Justice Rothstein stated on behalf of the majority of the Supreme Court of Canada in *Tervita* that there were economic arguments in favour of a total surplus standard.[91] The literature cited by Justice Rothstein on this point explains how taking into account wealth transfers would lead to many absurd outcomes. For example, the acceptability of a merger could change if a teachers' pension fund bought the shares of the purchaser from a wealthy family. In addition, a merger involving wealthy consumers

and less wealthy shareholders (e.g. luxury goods) could be acceptable due to a positive wealth transfer to low income shareholders even if it led to negative efficiencies and a deadweight loss.[92] As a result, Justice Rothstein later stated he had intended *Tervita* to enshrine total surplus standard as the only standard but removed those paragraphs from the decision because a law clerk pointed out that "*no one in the case argued about that issue.*"[93]

Sixth, a common misunderstanding regarding the law on merger-specificity in Canada, which appears to be shared by Chiasson and Johnson, raises further obstacles for parties seeking to rely on the efficiencies defence. For example, Chiasson and Johnson suggest that merging parties relying on the efficiencies defence "*frequently claim substantial savings from headcount reductions*"[94] that may not be merger-specific because they "*can, in principle, be achieved without a merger.*"[95] Although Chiasson and Johnson then note that the remainder of their paper assumes the usual efficiencies claims are merger-specific, their references to a requirement that efficiencies not be achievable "*without a merger*" or "*in other less anticompetitive ways*"[96] reflects a common misunderstanding. The approach to merger-specificity in Canada is different from the approach in the U.S.[97] As the Competition Tribunal explained in *Superior Propane III*:

> [147] As stated in the [US] Horizontal Merger Guidelines, claimed efficiency gains must be "mergers-specific". Although those Guidelines do not elaborate, this requirement appears to mean that a claimed efficiency gain is not cognizable if it could be achieved in another, presumably less anti-competitive, way.
>
> [148] The Tribunal found that the gains in efficiency in the instant merger would not be achieved absent the merger (i.e. if the order were made) and hence could be included in the test under subsection 96(1) (Reasons, at paragraph 462). This requirement is not the same as the one used by the American enforcement agencies. After satisfying itself that the two approaches were not identical, the Tribunal noted the same distinction was addressed in Hillsdown, supra, which supported the view that the Act did not require that claimed gains in efficiency not be achievable in another, less anti-competitive way, although this was the requirement of the Commissioner's Merger Enforcement Guidelines ("MEGs") …[98]

In other words, the question in Canada is simply whether the efficiencies *would* likely be attained "but for" the merger (as opposed to whether the efficiencies *could* theoretically have been achieved some other way).[99] This approach also represents sound public policy given the goal of determining whether a merger will result in a net gain in efficiencies accruing to the

Canadian economy. As long as the cost savings are not likely to be achieved in the absence of the merger, it should be irrelevant if the cost savings could *theoretically* have been achieved in some other way—a way that may never even be a realistic consideration for the merging parties for a variety of reasons.

Finally, we are not aware of any merger in Canada that reduced innovation or X-efficiency but was still cleared on the basis of the efficiencies defence. While such instances would understandably be rare given the relatively small number of mergers that have explicitly relied on the efficiencies defence, the absence of such evidence is a fundamental weakness in their central argument that the efficiencies defence may be "*doing more harm than good.*"[100] In fact, there are often broader economic forces bringing together merging parties, such as efficiencies from opportunities to incorporate a stagnant business into the operations of a more dynamic firm, as discussed above. This makes mergers and acquisitions particularly likely to lead to gains in innovation and productivity. Mergers relying on the efficiencies defence are often likely to significantly increase innovation and productivity in Canada.

For example, Superior Propane offers high-tech SMART Tank sensors on their propane tanks, which creates significant benefits for the businesses and consumers using their products, including an ability to remotely monitor tank levels, greater control over fuel costs, and cost savings from fewer deliveries.[101] Canwest Propane and many other competitors did not offer similar products, and the vendor looking to sell Canwest Propane noted that although they had "*identified further growth opportunities within this business line, allocating resources to pursue these opportunities falls outside our corporate strategy …*"[102] As a result, the *Superior/Canwest* merger that was cleared by the Competition Bureau in 2017 had the potential to enable Superior to achieve significant efficiencies from applying its innovative technology to the business operations of a less advanced competitor. In fact, Superior has had even greater than expected success to date in achieving the efficiencies from that transaction.[103]

In addition, if Chiasson and Johnson's thesis was correct, one would have expected Superior Propane to be one of the least innovative propane distributors in the world following what the Competition Bureau alleged to be a "merger-to-monopoly" with ICG Propane in 1998.[104] Instead, Superior went on to become one of the most innovative and technologically advanced propane distributors in the marketplace.[105] Ironically, the fact that Superior was a far more innovative competitor than rivals like Canwest Propane may

have itself been a result of the economies of scale generated by the *Superior / ICG* merger many years earlier.

III. The Efficiencies Defence is Particularly Important for Innovation and Productivity in Canada

The efficiencies defence in section 96 remains a critical tool for promoting innovation and economies of scale in Canada, particularly given a number of unique characteristics of the Canadian economy.

As explained in the guidebook created by the Ministry of Consumer and Corporate Affairs when it tabled the Bill that introduced section 96 of the *Competition Act* before Parliament:

> The relatively small size of the Canadian market and the overall importance of international trade to the economy dictates that certain industries have to be concentrated in order to achieve scale or other efficiencies necessary to compete in world markets.
>
> …
>
> To the extent that a merger may result in efficiency gains … mergers in certain industries that lessen competition may, on balance, be beneficial to the economy.
>
> …
>
> It is important for the performance of the economy that significant cost savings brought about by mergers, for example, through scale economies or other efficiencies, be allowed.[106]

The importance of the efficiencies defence for a small, open, trading economy like Canada was also emphasized before the Canadian Senate in 2003, which ultimately failed to enact a Bill supported by the Competition Bureau to limit the application of the efficiencies defence by amending the *Competition Act*.[107]

As explained in Part I of this paper, economies of scale are an important driver of innovation and productivity by giving firms the financial resources to make the significant investments in R&D required for innovation as well as opportunities and incentives to apply new technologies across their operations. Greater economies of scale will help generate the R&D budgets necessary to develop large scale innovations that are deployable broadly across the Canadian economy. Moreover, Canada is a small, open economy, and for larger players looking to use it as a platform, any reduced

competition in domestic markets is especially unlikely to dampen incentives for the innovation needed to compete globally. On the contrary, economies of scale will provide such firms with the room necessary to properly invest and develop a strong global offering, which will also benefit Canadian consumers. Moreover, studies have shown that the smaller scale of Canadian firms is a key factor explaining the relatively slower productivity growth in Canada compared to the U.S.[108] Economies of scale are also critical for the survival of many key Canadian industries, including potash, refining, pulp and paper, and newsprint.

The Canadian government has therefore made achieving economies of scale a key policy goal, consistent with a key purpose behind Canada's efficiencies defence. It has discussed the importance of helping Canadian enterprises to "scale up, ensuring they are able to benefit from trade opportunities,"[109] and stated that these goals include "helping businesses scale up and go global."[110] An explicit aim of the Canadian government's recent Innovation Superclusters Initiative is to energize and grow the Canadian economy by helping to build industry superclusters that will operate at scale, attract foreign talent, develop intellectual property, and position the Canadian economy as part of integrated global supply chains. As the Canadian government explains:

> Funding is being delivered to industry-led consortia with strategic plans to … [i]ncrease business expenditures on research and development (R&D) and … commercialize new products, processes and services that position firms to scale, connect to global supply chains, transition to high-value activities and become global market leaders.[111]

The Competition Bureau recognized this in its 2017 Annual Report, stating that "Through our enforcement, promotion and advocacy work, we ensure a level playing field for innovative companies to attract funding, commercialize their ideas and scale up to compete globally."[112] As the Supreme Court of Canada stated in *Tervita*:

> A stand-alone efficiencies defence was considered "appropriate for Canada because a small domestic market often precludes more than a few firms from operating at efficient levels of production and because Canadian firms need to be able to exploit scale economies to remain competitive internationally" (Campbell, at p. 152; see also *House of Commons Debates*, vol. VIII, 1st Sess., 33rd Parl., April 7, 1986, at p. 11962; Minister of Consumer and Corporate Affairs, *Competition Law Amendments: A Guide* (1985), at p. 4). In the context of the relatively small Canadian economy, to which international trade is important, the efficiencies defence is Parliamentary

recognition that, in some cases, consolidation is more beneficial than competition (*ibid.*, at pp. 15–17).[113]

In line with this goal, the *Compete to Win* report prepared in 2008 by the Competition Policy Review Panel at the request of the Ministers of Industry and Finance suggested making a consideration of efficiencies central to all Canadian merger reviews:

> Indeed, the Panel is of the view that the <u>achievements of efficiencies through mergers is sufficiently important for the Canadian economy</u> that the Competition Bureau should <u>review mergers with this in mind from the outset</u>, rather than limiting its assessment of efficiency considerations to cases where it has determined that the merger is likely to prevent or lessen competition substantially.[114]

IV. Conclusion

The argument that greater competition inherently increases innovation is based on an overly simplistic view of the relationship between economic concentration and innovation that misses half of the story. Mergers can generate dynamic efficiencies, increased economies of scale, and greater incentives to develop new products and services that promote innovation and productivity. In fact, empirical evidence shows that more competitive environments often have much *lower* levels of innovation, particularly for economies similar to Canada's.

Moreover, the Competition Bureau's inability to prove X-inefficiency in the context of a specific merger does not justify an approach to merger review that would minimize proven gains in efficiency from a merger. As with X-inefficiency, merging parties face corresponding challenges proving dynamic efficiencies, quality improvements, and other benefits of unknown magnitude resulting from many mergers. The Competition Bureau's methodology significantly overestimates the size of the potential anticompetitive effects in many cases, creating a systematic bias against efficient mergers that we refer to as the "X-deadweight loss reduction."

Correcting this bias against efficiencies would go a long way towards ensuring the *Competition Act* helps Canadian companies to achieve economies of scale and to be better able to innovate and compete. The efficiencies defence enables a consideration of each merger on its own merits to determine if the proven benefits of a merger on productivity and innovation outweigh its potential costs. This provides an important mechanism to promote productivity and innovation in the Canadian economy, which is

why efficiencies should be given a more prominent role in Canadian merger review, as Parliament intended.

ENDNOTES

[1] Brian A. Facey is a partner and David Dueck is an associate in the Competition, Antitrust & Foreign Investment group at Blake, Cassels & Graydon LLP. The authors thank Renée Duplantis, Margaret Sanderson, Navin Joneja, Micah Wood, Joshua Krane, and anonymous reviewers for their comments, but the authors retain sole responsibility for any errors and the views expressed herein. The opinions expressed herein are those of the authors and do not necessarily reflect the views of Blake, Cassels & Graydon LLP or its clients. Brian Facey and David Dueck represented Superior Plus Corp. in connection with the Competition Bureau's review of its acquisition of Canwest Propane, and Brian Facey, along with Neil Finkelstein, represented Superior Propane Inc in proceedings relating to its acquisition of ICG Propane Inc.

[2] Michael Trebilcock & Ralph A. Winter, "The State of Efficiencies in Canadian Merger Policy," (Winter 1999–2000) Canadian Competition Record 106 at 106.

[3] *Ibid.*

[4] *Tervita Corp v Canada (Commissioner of Competition)*, 2015 SCC 3, at paras. 110–111 and 85 [*Tervita*].

[5] See e.g., John Pecman, "Populism, Public Interest and Competition," (Speech delivered at the C.D. Howe Institute, April 27, 2018), online: https://www.canada.ca/en/competition-bureau/news/2018/05/john-pecman-commissioner-of-competition---populism-public-interest-and-competition.html, and John Pecman, "Strengthening competition: Innovation, collaboration and transparency," (Paper delivered at the Canadian Bar Association's Competition Law Fall Conference, October 6, 2016), online: http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/04148.html.

[6] Competition Bureau, *A Practical Guide to Efficiencies Analysis in Merger Reviews* (March 20, 2018), online: http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/04350.html [Draft *Efficiencies Guide*].

[7] See Brian Facey & Joshua Krane, "Promoting Innovation and Efficiency by Streamlining Competition Reviews" C.D. Howe Institute E-Brief (March 2, 2017) at 6–7, online: https://www.cdhowe.org/sites/default/files/attachments/research_papers/mixed/e-brief_254_0.pdf.

[8] For detailed critiques of the draft *Efficiencies Guide*, see Blake, Cassels & Graydon LLP, "Blakes Comments on the Bureau's Draft Guide on Efficiencies," *Responses to the Consultation on a Practical Guide to Efficiencies in Merger Reviews* (May 2018), online: https://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/04379.html and the Canadian Bar Association, "Re: Practical Guide to Efficiencies in Merger Reviews," *Responses to the Consultation on a Practical Guide to Efficiencies in Merger Reviews* (May 3, 2018), online: https://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/04379.html.

⁹ 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 Canadian Competition Law Rev 1. Matthew Chiasson is a Senior Officer and Paul A. Johnson is the T.D. MacDonald Chair in Industrial Economics at the Competition Bureau.

¹⁰ John Pecman, "Unleash Canada's Competition Watchdog: Improving the effectiveness and ensuring the independence of Canada's Competition Bureau" (2018) 31:1 Canadian Competition Law Rev 1, and Pecman, "Populism, Public Interest and Competition," *supra* note 5.

¹¹ Chiasson & Johnson, *supra* note 9 at 2–3.

¹² Competition Bureau, "Highlights: Competition Bureau's innovation and antitrust workshop" (November 5, 2015), online: http://www.competitionbureau. gc.ca/eic/site/cb-bc.nsf/eng/03864.html ["Highlights"] [emphasis added].

¹³ Paul A. Johnson, "Competition, innovation, and quality" (Presentation delivered at the Economists Roundtable with the Competition Bureau, May 8, 2017), at 10 [unpublished] [emphasis added].

¹⁴ Christine S. Wilson, "Welfare Standards Underlying Antitrust Enforcement: What You Measure is What You Get" (Luncheon Keynote Address delivered at the George Mason Law Review 22nd Annual Antitrust Symposium, Arlington, VA, February 15, 2019), online: https://www.ftc.gov/system/files/documents/ public_statements/1455663/welfare_standard_speech_-_cmr-wilson.pdf.

¹⁵ *Ibid.* [emphasis added].

¹⁶ Note that much of Chiasson and Johnson's paper focuses on the introduction of better business practices, discussing the impact of competition on both innovation and X-efficiency. Technically, innovation and X-efficiency are distinct but closely related factors: innovation refers to the introduction of new products, services, and processes, while X-efficiency refers to the relationship between the theoretical maximum productive efficiency achievable by a firm and its actual productive efficiency. The development and introduction of better business practices represents both an improvement in innovation and in X-efficiency. In analyzing many of the arguments in Chiasson and Johnson's paper, we also discuss both innovation and X-efficiency, at times focusing primarily on one factor and at times discussing both. For instance, Part I of this paper focuses more heavily on Chiasson and Johnson's arguments about innovation, while Part II focuses more directly on their arguments about X-efficiency in the context of the efficiencies trade-off in section 96.

¹⁷ Gary L. Roberts & Steven C. Salop, "Efficiencies in Dynamic Merger Analysis: A Summary," (1995) 19:4 World Competition 5 at 8 [emphasis added], also noting that over time (i.e., in a dynamic framework) the implications of the total welfare and price-down standard converge.

¹⁸ Bruno Jullien & Yassine Lefouili, "Horizontal Mergers and Innovation" (2018) Toulouse School of Economics Working Paper No 18–892 at 11–26.

¹⁹ See e.g., Jeffrey R. Church & Roger Ware, *Industrial Organization: A Strategic Approach* (Toronto: McGraw-Hill, 2000) at 249–254.

20 Vincenzo Denicolò & Michele Polo, "The Innovation Theory of Harm: An Appraisal" (2018) IEFE Working Paper No 103 at 13.

21   *Ibid.*

22   See Statistics Canada, "Innovation Analysis Bulletin: Vol 5, No 3" (October 2003) at 5, online: https://www150.statcan.gc.ca/n1/pub/88-003-x/88-003-x2003003-eng.pdf, which measures innovation as reported by firms across a variety of industries, finding the effect is pervasive across most industries.

23 Statistics Canada, *Table 27-10-0054-01: Innovation and business strategy, types of organizational innovation introduced*, online: https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=2710005401, which measures the reported introduction of new business practices, new methods of organizing work responsibilities and decision making, and new methods of organizing relationships with other firms and institutions; and Statistics Canada, *Table 27-10-0122-01: Innovation and business strategy, advanced technology use by industry and enterprise size*, online: https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=2710012201, which measures the reported use of advanced technologies like computerized design and engineering, advanced communication technologies, advanced automated material handling technologies, etc.

24 Jon Gertner, "True Innovation," *The New York Times* (February 25, 2012), online: https://www.nytimes.com/2012/02/26/opinion/sunday/innovation-and-the-bell-labs-miracle.html [Gertner]. See also Jon Gertner, *The Idea Factory: Bell Labs and the Great Age of American Innovation* (Penguin Books Ltd, 2013).

25   *Ibid.* The Nobel Prizes were often awarded many years later for the work carried out at Bell Labs during this period.

26   *Ibid.*

27   *Ibid.*

28   Lucia Foster, John Haltiwanger & Cornell J. Krizan, "Market selection, reallocation, and restructuring in the US retail trade sector in the 1990s" (2006) 88:4 Rev Economics & Statistics 748 at 749 [emphasis added].

29   Judd Cramer and Alan B. Krueger, "Disruptive Change in the Taxi Business: The Case of Uber" (2016) 106:5 American Economic Rev 177.

30   Denicolò & Polo, *supra* note 20 at 13.

31   Jullien & Lefouili, *supra* note 18 at 11–26

32   Joseph A. Schumpeter, *Capitalism, Socialism & Democracy*, 5th ed (George Allen & Unwin Ltd, 1976).

33   Carl Shapiro, "Competition and Innovation: Did Arrow Hit the Bull's Eye?" in Scott Stern & Josh Lerner, eds, *The Rate and Direction of Inventive Activity Revisited* (Chicago: University of Chicago Press, 2012). Shapiro argues one should take into account the principles of Contestability, Appropriability, and Synergies in assessing innovation from mergers. The Contestability principle fits well with both the Schumpeter effect and the Arrow effect, while the Appropriability principle fits well with the Schumpeter effect. The Synergies principle recognizes the fact that combining assets can enhance a firm's ability to innovate, and as a result, the potential for synergies to enhance innovation

is especially critical to keep in mind when discussing the role of the efficiencies defence.

[34] See e.g., Jullien & Lefouili, *supra* note 18.

[35] See e.g., Competition Bureau, *Intellectual Property Enforcement Guidelines* (March 31, 2016), online: http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/04031.html ("*This claim on the rewards flowing from IP enhances the incentive for investment and future innovation in IP, just as it does for other forms of private property.*)

[36] Peter Howitt, "Mushrooms and Yeast: The Implications of Technological Progress for Canada's Economic Growth," C.D. Howe Institute, Commentary No. 433 (September 2015), at 5–6, online: https://www.cdhowe.org/sites/default/files/attachments/research_papers/mixed/Commentary_433.pdf.

[37] Johnson, *supra* note 13 at 10 [emphasis added].

[38] Philippe Aghion, Nick Bloom, Richard Blundell, Rachel Griffith & Peter Howitt, "Competition and Innovation: An Inverted-U Relationship" (2005) 120:2 Quarterly Journal of Economics 701.

[39] Chiasson & Johnson, *supra* note 9 at 7–8.

[40] Aghion et al, *supra* note 38 at 711.

[41] Charles Bérubé, Marc Duhamel & Daniel Ershov, "Market Incentives for Business Innovation: Results from Canada" (2012) 12:1 J Ind Compet Trade 47 at 58.

[42] Chiasson & Johnson, *supra* note 9 at 15–16.

[43] Aghion et al, *supra* note 38 at 717–718; Bérubé et al, *supra* note 41.

[44] See e.g., Aghion et al, *supra* note 38 at 717.

[45] Bérubé et al, *supra* note 41 at 58, 60–61.

[46] *Ibid.*, at 58.

[47] *Ibid.*, at 58 [emphasis in the original].

[48] Jullien & Lefouili, *supra* note 18

[49] *Ibid.*, at 3.

[50] Trebilcock & Winter, *supra* note 2 at 108 [emphasis added].

[51] European Commission, Case M.7932—*Dow/DuPont*, Annex 4 to the Commission Decision at para. 83 ("*Based on its review of the relevant economic literature, the Commission considers that the alleged inverted-U relationship depends on a specific theoretical model of innovation that cannot be readily applied to merger analysis to conclude that a merger between rival innovators is generally likely to have an ambiguous effect on innovation. The alleged inverted-U relationship is therefore not suitable to the analysis of the current Transaction.*")

[52] See e.g., Jullien & Lefouili, *supra* note 18 at 6.

[53] *Ibid.*, at 7. See also Roberts & Salop, *supra* note 17 at 8 [emphasis added].

[54] Giulio Federico, Gregor Langus &Tommaso Valletti, "A Simple Model of Mergers of Innovation" (2017) 157 Economics Letters 136.

[55] Jullien & Lefouili, *supra* note 18 at 11–26 and Denicolò & Polo, *supra* note 20 at 4–12.

[56] *Ibid.*

[57] Jullien & Lefouili, *supra* note 18 at 7.

58 Chiasson & Johnson, *supra* note 9 at 16.

59 Competition Bureau, "Highlights," *supra* note 12.

60 *Ibid.*

61 Timothy J. Muris, "Statement of Chairman Timothy J. Muris in the matter of Genzyme Corporation / Novazyme Pharmaceuticals, Inc" (January 13, 2004) Federal Trade Commission, online: https://www.ftc.gov/system/files/ attachments/press-releases/ftc-closes-its-investigation-genzyme-corporations-2001-acquisition-novazyme-pharmaceuticals-inc./murisgenzymestmt.pdf [emphasis added].

62 Wilson, *supra* note 14.

63 Report of the Advisory Panel on Efficiencies, Submitted to Sheridan Scott, Commissioner of Competition (August 2005) at 5, online (pdf): http://www. competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/01954.html [emphasis added].

64 Andrew Tepperman & Margaret Sanderson, "Innovation and Dynamic Efficiencies in Merger Review," Final Report Prepared for the Competition Bureau (April 9, 2007), online: http://www.competitionbureau.gc.ca/eic/site/ cb-bc.nsf/eng/02376.html [emphasis added].

65 Johnson, *supra* note 13 at 8, 10, and 11 [emphasis added].

66 Chiasson & Johnson, *supra* note 9 at 3.

67 *Ibid.*, at 20.

68 See e.g., *Canada (Director of Investigation and Research, Competition Act) v Hillsdown Holdings (Canada) Ltd*, [1992] CCTD No 4 and *Canada (Commissioner of Competition) v CCS Corp*., 2012 Comp Trib 14, [2012] CCTD No 14 at paras. 293–294 [*CCS*].

69 *Tervita*, *supra* note *4*. at para. 147.

70 *Ibid.*, at para. 146.

71 *Ibid.*, at para. 125

72 *The Commissioner of Competition v Superior Propane Inc*, 2000 Comp Trib 15 at paras. 370–372, 463, and 468 [*Superior Propane I*].

73 Prior to the 2011 version of the Merger Enforcement Guidelines, the Bureau's standard for assessing likely entry was clearly stated to be two years (see Competition Bureau, *Merger Enforcement Guidelines* (Ottawa: Industry Canada, 2004) at para. 6). The 2011 revisions to the Merger Enforcement Guidelines removed the explicit reference to two years, but state "*the beneficial effects of entry on prices in this market must occur quickly enough to deter or counteract any material price increase owing to the merger, such that competition is not likely to be substantially harmed*" (see Competition Bureau, *Merger Enforcement Guidelines* (October 6, 2011), at s. 7.4, online: https://www.competitionbureau. gc.ca/eic/site/cb-bc.nsf/eng/03420.html).

74 See e.g., Church & Ware, *supra* note 19 at 129 and 373; and *Director of Investigation and Research v Southam Inc*, [1992] CCTD No 7, 43 CPR (3d) 161 at para. 402. ("*While the barriers to the entry of these vehicles are less than for full-scale entry, the length of time required for them to achieve the same effects in disciplining the incumbent is also much longer.*")

75 *Superior Propane I, supra* note 72 at paras. 175 and 211.

76   Joint Report by the National Energy Board and the Competition Bureau, *Propane Market Review—Final Report to the Minister of Natural Resources and the Minister of Industry* (April 25, 2014) at 7.24 and 7.26, online: http://www.nrcan.gc.ca/energy/crude-petroleum/15927.

77   See e.g., Church & Ware, *supra* note 19 at 36–37.

78   See e.g., Michael Trebilcock, Ralph A. Winter, Paul Collins & Edward M. Iacobucci, *The Law and Economics of Canadian Competition Policy* (Toronto: University of Toronto Press Incorporated, 2003) at 153–154. As Trebilcock et. al. explain, although a more inelastic demand results in a lower deadweight loss for a given price increase, this effect is more than offset by the fact that a more inelastic demand also generates higher price increases, resulting in greater overall deadweight loss.

79   Chiasson & Johnson, *supra* note 9 at fn. 71.

80   Competition Bureau, Draft *Efficiencies Guide*, supra note 6, at fn. 13.

81   Scott A. Christofferson, Robert S. McNish & Diane L. Sias, "Where mergers go wrong," (2004) *McKinsey Quarterly*, online: https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/where-mergers-go-wrong.

82   *Ibid.*

83   Competition Bureau, Draft *Efficiencies Guide*, *supra* note 6.

84   For a critique of the Draft *Efficiencies Guide*, see Blake, Cassels & Graydon LLP, *supra* note 8 and Canadian Bar Association, *supra* note 8.

85   *Canada (Commissioner of Competition) v Superior Propane Inc*, 2002 Comp Trib 16 at para. 140, aff'd 2003 FCA 53 [*Superior Propane III*]. ("*By contrast, section 96 of the Act applies to the transaction in its entirety. There is no requirement that gains in efficiency in one market or area exceed and offset the effects in that market or area. Rather, the tests of "greater than" and "offset" in section 96 require a comparison of the aggregate gains in efficiency with the aggregate of the effects of lessening or prevention of competition across all markets and areas. Accordingly, the Act clearly contemplates that some markets or areas may experience gains in efficiency that exceed the effects therein, while others may not.*")

86   Blake, Cassels & Graydon LLP, *supra* note 8 at 11.

87   Chiasson & Johnson, *supra* note 9 at 5.

88   See e.g., Blake, Cassels & Graydon LLP, *supra* note 8, at 6–12 and Brian Facey et. al., "Mind the Gap: Merger Efficiencies in the United States and Canada" (2018), 32:2 *Antitrust*, at 66. The Canadian *Competition Act* also has nearly parallel efficiencies provisions in sections 86 and 90.1, and the language in section 86(1)(a) in particular is very clear that the efficiencies are to be considered in connection with the specialization agreement as a whole, and not just the part of the agreement subject to a hypothetical "order". We do not see any reason why Parliament would have intended for efficiencies generated by merger or competitor collaborations to be treated differently than efficiencies generated by specialization agreements.

[89] Competition Bureau, Draft *Efficiencies Guide*, *supra* note 6 at s. 2 ("… *the Bureau has, for example, considered wealth transfers from government-funded entities to constitute socially adverse wealth transfers.*")

[90] *CCS*, *supra* note 68 at para. 283.

[91] *Tervita*, *supra* note 4 at para. 99, citing Trebilcock et. al., *supra* note 78 at 146-151.

[92] Trebilcock et. al., *supra* note 78 at 146-151.

[93] Richard Vanderford, "Retiring Canadian high court justice attacks 'balancing weights' test in merger cases" (October 1, 2015), *MLex*. See also Marshall Rothstein, "Afterword" in Brian A. Facey and Cassandra Brown, *Competition and Antitrust Laws in Canada: Mergers, Joint Ventures and Competitor Collaborations*, 2d ed (Toronto: LexisNexis Canada Inc., 2017) at 412-413.

[94] Chiasson & Johnson, *supra* note 9 at 19.

[95] *Ibid.* at 5.

[96] *Ibid.*

[97] See Facey & Brown, *supra* note 93 at 286–287.

[98] *Superior Propane III*, *supra* note 85 at paras. 147–148 [emphasis added]. See also *Superior Propane I, supra* note 72 at para. 462.

[99] See e.g., *Competition Act*, R.S.C. 1985, c. C-34, s. 96 ("*has brought about or is likely to bring about gains in efficiency … and that the gains in efficiency would not likely be attained if the order were made*"); *CCS*, *supra* note 68 at para. 262 ("*The second screen narrows the claimed efficiencies to those that the Tribunal is satisfied are likely to be brought about by the Merger …*"); and *Tervita*, *supra* note 4 at para. 107 ("*A distinction should be drawn between efficiencies claimed because a merging party would be able to bring those efficiencies into being faster than would be the case but for the merger (what could be called "early-mover" efficiencies), and efficiencies that a merging party could realize sooner than a competitor only because the competitor would be delayed in implementing those efficiencies because of legal proceedings associated with a divestiture order (what the Tribunal identified as OIEs).*")

[100] Chiasson & Johnson, *supra* note 9.

[101] See e.g., Superior Propane, "For your Business: Tank Monitoring," online: https://www.superiorpropane.com/for-your-business/tank-monitoring/ and Superior Propane, "For your Home: Tank Monitoring," online: https://www.superiorpropane.com/for-your-home/tank-monitoring/.

[102] See e.g., Gibson Energy, "Gibsons to Explore a Potential Sale of Its Industrial Propane Business" (July 20, 2016), online: https://www.gibsonenergy.com/news/press-releases/2016/gibsons-to-explore-a-potential-sale-of-its-industrial-propane-business/.

[103] Superior Plus Corp., "Superior Plus Corp. Announces Record Fourth Quarter and Full Year Results, and Confirms 2018 Results at the Higher End of the AOCF per share and Adjusted EBITDA Guidance" (February 14, 2019), online (pdf): http://www.superiorplus.com/wp-content/uploads/2019/02/2018-Annual-Combined.pdf ("Superior exceeded its previous target of $15.0 million in run-rate synergies related to the Canwest Propane acquisition, achieving

$16.5 million in run-rate synergies exiting 2018. Superior now expects to achieve $21.5 million in run-rate synergies by the third quarter of 2019.").

104   See e.g., *Superior Propane I, supra* note 72 at para. 386.

105   See e.g., BCE Inc, "*Superior Propane implements advanced fuel tank monitoring solution from Bell,*" (June 14, 2018), online: http://www.bce.ca/news-and-media/releases/show/Superior-Propane-implements-advanced-fuel-tank-monitoring-solution-from-Bell-1?page=1&month=&year.

106   Consumer and Corporate Affairs Canada, *Competition Law Amendments: A Draft Guide* (December 1985), at 4, 15 and 17 [emphasis added].

107 Senate, Standing Committee on Banking, Trade and Commerce, *Evidence*, 37-2, No 32 (November 6, 2003) at 32:10—32:11 (Brian Facey).

108   See e.g., Andrew Sharpe, "Why Are Americans More Productive than Canadians" (June 2003) Centre for the Study of Living Standards, online (pdf): http://www.csls.ca/reports/10-03-03_can-us.pdf; Wulong Gu and Michael Willox, "Productivity Growth in Canada and the United States, Recent Trends and Determinants" (2018) 35 Intl. Productivity Monitor 73 at 78.

109   Office of the Prime Minister, Press Release, "Prime Minister Justin Trudeau meets with Mark Carney, Chair of the Financial Stability Board" (November 30, 2018) online: https://pm.gc.ca/eng/news/2018/11/30/prime-minister-justin-trudeau-meets-mark-carney-chair-financial-stability-board.

110   Campbell Clark, "Trudeau cabinet's voice of business aims to bridge needs of old and new economies" *The Globe and Mail* (November 22, 2015) online: http://www.theglobeandmail.com/news/politics/trudeau-cabinets-voice-of-business-aims-to-bridge-needs-of-old-and-new-economies/article27434937/.

111   Innovation, Science and Economic Development Canada, "Innovation Superclusters Initiative" (September 4, 2018) online: https://www.ic.gc.ca/eic/site/093.nsf/eng/home [emphasis added].

112   Competition Bureau, "Annual Report of the Commissioner of Competition for the Year Ending March 31, 2017" (March 2, 2018), online: http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/04328.html [emphasis added].

113   *Tervita*, *supra* note 4 at para. 87 [emphasis added].

114   Competition Policy Review Panel, "Compete to Win: Final Report" (June 2008) at 56, online (pdf): https://www.ic.gc.ca/eic/site/cprp-gepmc.nsf/vwapj/Compete_to_Win.pdf/$FILE/Compete_to_Win.pdf [emphasis added].