A THUMB ON THE SCALE FOR INNOVATION

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In this paper, I argue that a thumb should be placed on the scale for innovation in competition law. Innovation helps improve Canadians' lives by fostering economic growth, a key driver of wellbeing and living standards. I suggest that the long run welfare gains from focusing on dynamic efficiencies outweigh the welfare gains from focusing on reducing short run inefficiencies.

The balance between different types of efficiencies in competition analyses—allocative, productive, and dynamic—should be adjusted. Greater emphasis should be given to dynamic efficiencies. I am not arguing for any change in the law. Nor am I arguing for an expansion in the goals of Canadian competition law. An emphasis upon innovation falls squarely within the objective of efficiency.

A thumb on the scale for innovation may lead to different outcomes in merger reviews. Mergers that do not suggest any short run deadweight losses may still be blocked on the grounds that the merger stifles incentives to innovate. On the other hand, mergers that result in short run market power may be permitted on the grounds that innovation synergies will be created, leading to innovation-driven welfare gains.

When assessing acquisition of start-ups by large incumbents, the impact upon innovation should be given special attention. A nuanced approach is necessary to avoid stifling innovation, especially if merger review impacts the exit option for founders of start-ups.

Retrospective assessments of mergers may be used to verify alleged innovation benefits. An ex post approach may better evaluate whether mergers genuinely fostered innovation or if they instead were 'killer acquisitions' that harmed long-term economic dynamism.

Dans cet article, l'auteur maintient qu'il faudrait sciemment faire pencher la balance en faveur d'innovation en droit de la concurrence. L'innovation profite aux Canadiens puisqu'elle stimule la croissance économique, entraînant avec elle une hausse du bien-être et du niveau de vie. Il avance que sur le long terme, le bénéfice collectif que l'on pourra retirer des gains d'efficiences dynamiques surpassera celui de la chasse aux inefficiences de nature immédiate.

La pondération entre les différents types d'efficience dans les analyses concurrentielles—efficience d'allocation, efficience de la production, efficience dynamique—devrait être rajustée de façon à accorder plus d'importance aux gains d'efficience dynamique. L'auteur ne plaide pas ici pour une modification à la loi ni pour l'élargissement des visées du droit canadien de la concurrence. La mise de l'avant de l'innovation cadre déjà parfaitement avec le principe d'efficience.

Si l'on accorde plus de poids à l'innovation, cela peut nous mener à des jugements différents dans l'analyse des fusions. En effet, on pourrait bloquer une fusion, même si elle ne laisse pas présager de pertes à court terme pour l'économie, parce qu'elle viendrait étouffer l'incitation à innover. Ou inverse¬ment, un projet de fusion qui entraînerait une emprise à court terme sur le marché pourrait être admis au motif qu'il créerait des synergies propices à l'innovation pour le mieux-être général.

Ce souci de l'innovation est particulièrement important dans le cas de la potentielle acquisition par une grande entreprise d'une jeune pousse prometteuse. Il faut en faire une évaluation nuancée pour ne pas tuer l'innovation dans l'œuf, surtout si la situation se répercute sur les avenues de sortie des fondateurs de la société qui serait ainsi acquise.

On pourrait également mener l'évaluation rétrospective d'anciennes fusions pour juger si leurs avantages allégués sur le plan de l'innovation se sont matérialisés. Il sera probablement plus facile de juger après-coup si celles-ci auront été bénéfiques sur ce plan, ou encore anticoncurrentielles et nocives pour le dynamisme à long terme de l'économie.

1. Introduction

The 2022 amendments to the Canadian *Competition Act* attracted some controversy. The lack of consultation and the way in which the amendments were rushed through—via the *Budget Implementation Act*—were arguably the most contentious aspects of the amendments. The process was decried by former Commissioner John Pecman as "reckless and anti-democratic."[1] But the changes to the substance of the *Act* were also not without controversy. The criminalization of wage fixing and no-poach agreements, the significantly increased penalties, and the introduction of private rights to access to the Tribunal for abuse of dominance cases were not greeted with universal approval.

A less controversial change to the *Competition Act* added new language to the provisions dealing with abuse of dominance, competitor agreements,

and mergers. These amendments changed the set of factors which explicitly may be considered in determining whether there has been a substantial lessening or prevention of competition. These factors now specifically include "nonprice competition (including quality, choice, or consumer privacy)" and "innovation." These changes to the statutory language were largely met with indifference. Put simply, these amendments did not represent a substantive change to the law. The "new" factors are those that the Competition Bureau and the Competition Tribunal already consider when assessing unilateral conduct, competitor agreements, and in merger analysis.

But there is a more positive interpretation of these additions to the statutory language. While the changes may have appeared to simply codify current practice, the introduction of these factors into the legislative language perhaps suggest that the federal government is concerned that too much focus had hitherto been placed on price effects, and not enough on nonprice effects, including innovation. In this paper, I argue that *if* this seemingly anodyne statutory language nudges Canada toward a more innovation-centric competition policy, then this change would be good for Canadians.

I argue that policymakers and lawmakers *should*, in principle, place greater emphasis on innovation. There should be, as the title suggests, a thumb on the scale for innovation when weighing factors in competition analyses. More precisely, the *incentive* and the *ability* of firms to innovate should be given greater weight in abuse of dominance cases and merger review. Innovation, in this sense, can be thought of broadly. It does not just mean novel processes and products. It encompasses a range of improvements and efficiencies that may emerge over time.

I start with the premise that the purpose of law, *generally*, should be to make people's lives better. This includes competition law. When economists talk of the objectives of competition law being efficiency or welfare maximization, these are not narrow objectives that relate only to dollar values, prices, or squeezing the last juice out of every input. Rather, an efficient economy and maximizing welfare is about making people better off. It is about improving the livelihood of Canadians.

Countries that have higher economic growth have higher living standards. And innovation is the primary driver of economic growth. By promoting and fostering a culture of innovation, Canada can pave the way for continuous advancement in the quality of life for citizens. Consistent

with this aim, I posit that Canadian competition law should put extra weight on innovation.

There are a couple of different ways to view the argument I am raising in this paper.

First, the paper presents an argument for adjusting the weight that policymakers place on the different types of efficiency: allocative efficiency, productive efficiency, and dynamic efficiency. *Allocative efficiency* looks at the optimal allocation of economic resources at a particular point in time, ensuring that resources are used where they are most valued and can provide the most benefit to consumers. *Productive efficiency* is when goods and services are produced at the lowest possible cost. Output is as high as it can be given the inputs, or the amount of inputs used is as low as possible for a given output. In other words, the economy utilizes resources—such as labour, capital, technology—most effectively. Resources are not wasted. Productive efficiency is associated with allocative efficiency, but the two are distinct. An economy can be productively efficient while still allocating resources in a manner that does not align with consumer preferences, resulting in allocative inefficiency.

Dynamic efficiency refers to the optimal allocation of resources over time, considering improvements in production processes and technological advancements.[2] It considers the long-term adaptation and progression of the economy, ensuring that resources are allocated effectively not just at a single point in time, but across future periods. By focusing on dynamic efficiency, policy makers aim to continuously enhance the productive capabilities of the economy, adopting new technologies and fostering innovation to produce more and better goods and services over time.

The argument made here is that decision makers should put a thumb on the scale for dynamic efficiency. The competitive analysis in Canadian competition law and policy currently focuses heavily on short run allocative efficiencies. I argue that less (relative) weight should be placed on these allocative efficiencies in this competitive analysis. For the most part in this paper, I will leave productive efficiencies to one side, but if there are trade-offs between short-run productive efficiencies and long-run dynamic efficiencies, then the argument follows that less weight should be placed on the short-run effects.

None of this should be taken to say that allocative efficiency is not important. Short run welfare losses from market power are indeed costly. Reduction in output is harmful to society. But if there is a welfare loss today,

it needs to be balanced against the potential for welfare gains in the future from innovation. Should we be willing to incur 1% increase in welfare losses from deadweight losses today if it were to lead to an 10% increase in welfare gains from innovation in the future? I argue that we should.

The potential welfare gains that can be realized by technological progress and dynamic efficiency outstrip the potential welfare gains from a short run focus on allocative efficiency. A policy designed to encourage innovation would help the Canadian economy evolve and advance over time, leading to sustained improvements in societal welfare. Putting too much emphasis on short-run allocative efficiencies could have a negative impact on welfare in the long run.

Second, a different way to view the arguments in this paper is that law (generally) and competition policy (specifically) should use a lower discount rate than currently used. Every time a policy maker balances short-run effects and potential long-run effects a discount rate is being applied. This discount rate may be implicit. A lower discount rate signifies placing greater value on future benefits and outcomes. It demonstrates a commitment to ensuring the welfare of future generations. It helps shape policies that prioritize inclusive growth, rather than focusing heavily on immediate economic gains. A lower discount rate aids in the formulation of polices that promote a holistic long-lasting societal growth. In the context of competition policy, it would mean giving extra weight to welfare and efficiencies in the future, achieved through innovations, and putting less weight on the deadweight losses of today.[3]

In this paper, I explore how putting a thumb on the scale for innovation could affect merger review. I do not offer specific policy prescriptions. Nor do I put forward any precise rules or guidance on how to incorporate innovation into competition analysis in merger review. Rather, the central purpose of this paper is simply to reinforce the importance of innovation in competition policy. The example of merger review is offered as an illustration of how this might play out in practice. A more detailed exposition of the types of tools used by the Competition Bureau in incorporating innovation as a factor in merger review can be found in Andy Baziliauskas's paper in this volume.[4]

Placing a thumb on the scale for innovation means having a greater appreciation of the *incentives* for firms to innovate and the *ability* of firms to innovate. Merger review will be impacted in the following ways:

- A thumb on the scale for innovation may result in some mergers

being blocked *even if* there are no concerns about increases in deadweight loss in the short run. There may be evidence that the merger will dull the incentive to innovate, which would have negative consequences in the long run.

- A thumb on the scale for innovation may result in some mergers being allowed *even if* there are concerns about increases in market power in the short run. There may be evidence that a merger will create synergies that will lead to welfare gains from innovation. These positive long run gains may outweigh the negative short run consequences of reduced output and higher prices.

- A thumb on the scale for innovation could affect how we view acquisitions of small potential competitors. Start-ups are crucial for innovation. They bring fresh ideas to the market, but they may not have the ability to commercialize these innovations. Greater weight should be given to evidence about whether the acquisitions of start-ups are good for innovation or not. A more aggressive merger policy could stamp down on genuine killer acquisitions (those acquisitions that stifle innovation.) But by the same token, a more aggressive merger policy may have the effect of reducing the exit option for start-ups, thus quelling the incentive to innovate.

- A thumb on the scale for innovation may counsel in favour of an ex post approach to mergers. It may suggest a greater role for merger retrospectives. If the merging parties claimed that significant research synergies would emerge as a result of the merger, did these synergies *actually* emerge? Or was the acquisition a genuine killer acquisition that stifled the innovation of the acquired party? If the latter can be shown, this would provide additional evidence of an abuse of dominance.

At this point, it is also important to spell out what I am <u>not</u> arguing in this paper.

First, I am not arguing for any change to the law. Indeed, no change in the law is required. Placing less emphasis on allocative efficiency and greater emphasis on dynamic efficiency—or lowering the discount rate—does not require any legislative change. If the 2022 amendments were aspirational and signposted "innovation" as something that requires additional weight in the analysis of competitive effects, then this is a positive change. But such re-weighting could have easily been done without any intervention from the

legislature. Canada's *Competition Act* and the institutions that administer and enforce the law are sufficiently flexible in order to make such a shift.

Second, I am not advocating for an expansion in the goals of competition law. An emphasis upon innovation falls squarely within the objective of efficiency. The debate over the appropriate goals of antitrust has been particularly boisterous in the United States. Commentators have sought to expand the considerations of antitrust beyond efficiency, arguing that antitrust should seek to achieve other socio-political objectives. These commentators argue that there are other ills that emerge when economic power is concentrated in the hands of a few private corporations. These harms include the political influence of large corporations and the concomitant adverse impact upon democracy. But they also extend to the impact upon income inequality, effects on the rights of workers, environmental sustainability, the protection of smaller businesses, and the protection of local champions.[5]

While these objectives of policy are important and worthy, integrating them into antitrust laws poses significant challenges. Competition law would be a blunt instrument in seeking to achieve these objectives. Using competition law to try and reduce these harms can backfire. Using them may end up hurting those whom competition law is designed to protect. There are better, cleaner ways to achieve these diverse objectives. Competition law is just one of a whole suite or patchwork of laws and policies.[6]

If the criticism of contemporary competition policy is limited to the idea that competition law and policy should not focus too heavily on short term price effects or restrict itself to concerns over the immediate impact upon consumers, then I agree. An emphasis on such effects represents too narrow a view of efficiency. A focus on short-term price effects would ignore the very important compounding impact of long run growth. But it does not necessarily follow that we should introduce other (non-efficiency) objectives into competition law and policy.

Third, I am not arguing that innovation is not currently or already an important part of Canadian competition policy. Indeed, recent cases illustrate a willingness on the part of the Competition Bureau and the Competition Tribunal to engage with the harms to innovation that may emerge in abuse of dominance and merger cases.[7] I am simply noting that there are good reasons to put a thumb on the scale for innovation when analyzing competitive effects, and that involves analyzing both the harms and the benefits to the incentive and ability to innovate.

Fourth, I am not arguing that innovation should *trump* price effects. Rather, I am simply arguing that the weighting of dynamic efficiencies and allocative efficiencies should be adjusted in order to better promote welfare in the long run.

Fifth, the call to put a thumb on the scale for innovation in merger review is not a call for a more aggressive merger policy *per se*. It may be that some mergers that would be permitted under our current approach will be blocked when we emphasize the harms to the incentive to innovate or the ability to innovate. But there may be situations where a merger promotes innovation. There are potential synergies for innovation that may emerge from acquisitions. And, moreover, a more aggressive merger regime may dull the incentive for entrepreneurs to innovate and blunt the incentive of those who funds entrepreneurship.

Sixth, nothing in this paper should be taken as a call for the burden of proof in competition law to be shifted. Some authors have argued for a rebuttable presumption against allowing a merger if the merger is between two of very few firms competing over research and development.[8] The debate over whether merging entities should be tasked with rebutting a presumption that the merger substantially hinders competition and innovation is outside of the scope of this paper. That debate essentially refers to the quantum of proof required in a close case, whereas I am arguing that different weights should be placed on efficiencies that improve welfare in the long run. My argument is orthogonal to the question of who bears the burden.

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The paper proceeds as follows. In Part 2, I lay out the claim that innovation improves welfare. I argue the law should be geared towards fostering innovation. In Part 3, I argue that Canadian competition policy should place greater emphasis on innovation. The welfare gains from increases in dynamic efficiency likely outweigh the welfare gains from increases in allocative efficiency. In Part 4, I discuss how putting extra weight on innovation may affect merger review in practice. While the paper does not offer specific policy prescriptions, it would be remiss to advocate in favour of increased focus on innovation without acknowledging some of the difficulties of this approach in practice.

2. The connection between innovation and welfare

Innovation has always been a driving force behind the advancement of civilizations. Innovative processes and ideas have led to monumental shifts

in our way of life. To appreciate the importance and power of innovation, one only needs to journey back to the past and consider how far our society has come. We live in a world that turned the science fiction of yesteryear into the science fact of today. Compare Canada today to that of 100 years ago and, even, 50 years ago.

Compared to previous generations, Canadians today live longer lives. The changes in life expectancy are remarkable. In 1889, when Canada passed its first competition law statute,[9] life expectancy was just 44.9 years. By 1920, life expectancy had risen to 59.7 years. By 1970, the number had increased to 72.5 years. Today, life expectancy of a Canadian at birth is 82.8 years, nearly double that of 130 years ago.

Importantly, far fewer Canadian children die. Child mortality informs part of the story of our increased life expectancy. In 1889, nearly 200 out of every 1,000 children born would not survive until their first birthday. By 1920, this number was 150 out of every 1,000 children. The number had plummeted to 21 out of every 1,000 children by 1970. Today, that number is fewer than four out of every 1,000 children. Again, how low we can push this number in the future—and how much suffering we shall avoid—will be a function of innovation.

Canadians today are not just living longer lives than previous generations. They are living better lives. The world of 1900 was characterized by horse-drawn carriages, limited medical knowledge, lack of sanitation, little access to electricity, less access to drinking water, and only rudimentary communication tools. Today, we are in an era of fast and cheap transportation, lifesaving and life-extending medical technology, and instantaneous global communication. This transformation was a culmination of successive innovations, each building upon the last, leading us to a world that our ancestors could only dream of. It is a testament to the endless possibilities that innovation can bring, enhancing the quality of human life.

The magnitude of the change is often underappreciated. The innovations of the 20th Century have had an enormous impact upon the lives of today's Canadians. Few people would seriously opt for the life of an average Canadian in 1900 compared to today.

Innovation is a key determinant of sustained economic growth. As economist Nathan Rosenberg noted: "It is taken as axiomatic that innovative activity has been the single, most important component of long-term economic growth."[10] In historical studies from the United States, at least half of

the growth rate in real output was attributable "solely" to technological and scientific progress.[11]

Economic growth, as measured by gross domestic product, is not the same thing as welfare or wellbeing. It is not an attempt to measure the wellbeing of a society. There are many things that contribute to economic growth that may not improve wellbeing. And there are many activities that promote wellbeing that do not factor into the economy. But as economist Tim Harford notes:

> "it is striking how countries with high GDP also have flourishing citizens. Pick your issue, from life expectancy to child mortality, from opportunities for women to protection of basic human rights, cleaner streets, lower crime, even better-quality art, from TV to opera. Somehow, people who live in richer countries are likely to be enjoying more of the good stuff."[12]

Countries that prioritize research, development, new ideas, new processes, and new products tend to outpace those that do not in terms of economic expansion and welfare.[13] Real GDP per capita in Canada has doubled over the past 60 years.[14] This growth of the Canadian economy has translated into real, meaningful impacts upon the day-to-day welfare of Canadians.

Across nearly all dimensions, from access to drinking water to sanitation, from food insecurity to access to capital, to access to life saving drugs and leisure time, the life of the average Canadian citizen is much better than it was 50 or 100 years ago. Medical innovations such as vaccines have eradicated some diseases and dramatically reduced the adverse impacts of other diseases.

Innovations in engineering and our understanding of safety have led to fewer injuries and deaths from accidents and even natural disasters. Other innovations have resulted in other beneficial social changes. The transcontinental railroad ushered in new innovations such as standard time zones.[15] And consider the impact of the contraceptive pill upon gender equality and women's access to the labour force.[16]

In short, innovation improves the lives of Canadians. And it can continue to do so. New technologies such as generative artificial intelligence and quantum computing may herald other innovations that result in enormous welfare gains. In the same way that today's science fact is the science fiction of yesteryear, today's science fiction may be the science fact of the near future.

But innovation does not emerge out of a vacuum. Innovation needs to be fostered and supported by government policy. Innovation is a function of the institutions that our government sets up. These institutions provide the necessary incentives and scaffolding to support innovative business conduct, new ideas, and ability to execute on these new ideas. Law is one such institution.

Government policy that promotes innovation is key. One obvious starting point is enforcing intellectual property rights. Intellectual property policy seeks to incentivize innovation by granting successful innovators monopoly power over their innovations. Such regimes help solve a public good problem when it comes to inventions and creative activity. But poorly calibrated and overly protective property rights regimes can stifle innovation. Patents and copyright, for example, can create or heighten barriers to entry. They can hinder the incentive of businesses to generate or utilize innovations that build upon the innovations of others.

The suite of policies used by a government to foster innovation should go beyond simply recognizing and enforcing intellectual property rights. Government prizes and research grants, funding innovative research in universities and by start-ups are also important. Unnecessarily red tape should be limited and regulatory barriers to innovation should be lowered.

In 2015, the Liberal federal government under Justin Trudeau prioritized innovation as part of its agenda. They introduced a raft of policies that funded innovative research, and emphasizing that "innovation is the path to inclusive growth."[17] The federal budget of 2017 described this aspirational vision in the following terms:

> "Innovation is, simply put, the understanding that better is always possible. It is the key that unlocks possibilities and opportunities. From urban centres to rural farms, from researchers looking to secure new patents to entrepreneurs working to bring their products to market, innovation is what allows Canadians to adapt to change and prepare for the future."[18]

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In the next part of the paper, I argue that the emphasis on innovation should extend beyond simply those government policies that are set up to *directly* promote inventive and creative activities. Competition policy should also place a thumb on the scale for innovation. In examining competitive effects, the Bureau and the Tribunal should place less focus on static efficiencies related to today's prices and today's output. They should

be prioritizing analysis that explores about how the unilateral conduct or the merger will impact upon the incentives to innovate and the ability to innovate. In short, if Canadian competition policy focuses on allocative efficiency and fails to emphasize innovation and dynamic efficiency, it would overlook the greatest source of social welfare enhancement.

3. Canadian competition policy should place greater emphasis on dynamic efficiency

The argument that competition policy should place greater emphasis on dynamic efficiencies or should be more innovation-centric is not a particularly novel argument. Several prominent legal and economic commentators have suggested that the weights currently placed on allocative, productive, and dynamic efficiency by antitrust authorities may not be optimal. These calls have been particularly prominent in the United States. When compared to Canadian competition law, antitrust law in the United States has been more explicitly focused on consumer welfare.

Take, for example, the work of Joseph Brodley. In a 1987 article, Brodley called for a reevaluation of the objectives of antitrust. Brodley argued that the antitrust policy of the United States had its "priorities backwards."[19] He contended that the focus on allocative efficiency in United States antitrust, emphasizing price competition, will not always best serve consumers or society in the long run. Instead, antitrust policy should "give priority to innovation and production efficiency."[20] Antitrust law, Brodley posited, should ensure that market structures and business conduct are conducive to innovation. Brodley contended:

> "Of the three types of efficiencies, innovation efficiency provides the greatest enhancement of social wealth, followed by production efficiency, with allocative efficiency—the main focus of current enforcement efforts—ranking last. Innovation efficiency or technological progress is the single most important factor in the growth of real output in the United States and the rest of the industrialized world."[21]

Brodley's argument can be read as a call to reduce the emphasis on allocative efficiency and short run effects on price and output. Allocative efficiency seeks only to maximize the consumption value of the existing stock of resources. But productive and dynamic efficiencies seek to increase the size of the pie.

> "As compared with allocative efficiency, production and innovation efficiencies make a more powerful contribution to social wealth because they comprise the growth factors by which social wealth increases over time."[22]

Brodley noted that the empirical evidence available at the time suggested the welfare losses from allocative inefficiencies were small compared to the potential welfare gains that emerge if the economy focused on dynamic efficiency and productive efficiency:

> "The conclusion that allocative efficiency is of lesser importance than the two other types of efficiencies is supported by empirical assessments of the estimated losses from monopoly pricing. While estimates vary, there is perhaps a consensus that the loss from monopolistic pricing is considerably less than one percent of the gross national product—a fraction of the welfare at stake in technological progress and productive efficiency."[23]

Richard Gilbert has also argued in favour an innovation-centric approach to antitrust in the United States. In his 2020 book, *Innovation Matters: Competition Policy for the High-Technology Economy*, Gilbert argues that antitrust enforcement should be more innovation focused than price focused.[24] Gilbert argues that "consumer welfare" should still be the main focus of antitrust, but the focus should be on consumers in the long run. To achieve this, regulators and courts should focus more heavily on innovation, rather than low prices in the short term. Gilbert spends little time defending the proposition. Much of the book focuses on the ways in which regulators and courts have considered innovation—or could consider innovation—in their analysis of anticompetitive conduct. Gilbert suggests innovation-centric competition policies are essential in order to better regulate the high-tech digital economy, while retaining the focus on consumer welfare.

In Canada, too, commentators have argued in favour of a greater emphasis on dynamic efficiency. For example, in a recent article in this journal, Ken Jull and Adil Abdulla, argue that dynamic efficiencies are given too little weight in the consideration of the efficiencies defence under section 96. They argue:

> "the most important efficiencies in the modern economy are dynamic efficiencies, which are arguably undervalued in the analysis. If we are serious about achieving the original purpose of the efficiencies defence, then the analysis should be refocused on those efficiencies, in recognition of the evolving Canadian economy including the new digital world."[25]

As noted above, there are good arguments for the government to place greater emphasis on innovation when developing policy. The government should provide legal infrastructure and support for innovative activities that will lead to longer term growth and welfare. I argue that this should include

competition policy. When analyzing the likely effects upon competition from unilateral conduct, competitors' agreements, and mergers, the Bureau and Tribunal should take care to make decisions that promote dynamic efficiency.

But some commentators have questioned whether antitrust policy is the appropriate venue to achieve greater innovation. Dennis Carlton and Robert Gertner, for example, suggest that there will be situations in which such concerns are more appropriately addressed through the lens of intellectual property policy rather than through merger review.[26] Competition policy may be a blunt tool to try and achieve the broader goals of improving innovation. According to Carlton and Gertner, attempts to adapt static antitrust analysis to a setting of dynamic R&D competition through the use of "innovation markets" are likely to lead to error. Antitrust is just part of a patchwork of tools used by the government that are geared towards greater dynamic efficiency.

While IP rights are crucial for incentivizing innovation, they can also be used anti-competitively, such as in strategic patenting to block rivals or in patent thickets that raise rivals' costs. As Richard Gilbert notes, an innovation-centric approach to antitrust would need to recognize this balance and should aim to ensure that IP rights promote innovation without stifling competition.

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At this point, I wish to reiterate: Nothing in this paper should be taken as an argument that Canadian competition policy currently does *not* take innovation into account. As noted in the Introduction, the Competition Bureau and the Competition Tribunal already take innovation into account when examining the non-price effects on competition in abuse of dominance cases and in merger review. Two recent abuse of dominance cases and a recent merger case illustrate the point.

Innovation was a crucially important factor in the competition analysis in *Canada (Commissioner of Competition) v. Toronto Real Estate Board*.[27] There, the Competition Tribunal found that the Toronto Real Estate Board ("TREB") restricted access to certain Multiple Listing Services information on the password-protected virtual office websites of its real estate brokers and salesperson members and also restricted the manner in which these members could display and use the information. The Tribunal held that this conduct constituted an abuse of dominance under section 79. The harms to innovation were a core component of the Tribunal's reasoning.

The Tribunal noted that the disputed data was "very important, if not critical" in assisting innovative brokerages from distinguishing themselves from more traditional brokerages. The restriction on data represented a barrier to entry for innovative brokers in the real estate market in the Greater Toronto Area. The inability of innovative brokers to display and use these disputed data resulted in an inability to create and develop new and innovative products. The restriction prevented new and innovative players from entering the market. It hindered the growth and expansion of players who were already in the market from re-inventing their business model.

The Tribunal noted that market power was the ability to control price or non-price dimensions of competition for a significant time. And these non-price dimensions of competition included innovation.[28] The Tribunal ruled that, but for the restrictions, the overall level of innovation would be "considerably increased." The restrictions "stifled innovation" in the supply of Internet-based real estate brokerage services in the GTA.[29] These innovations would have resulted in benefits such as a more diverse range of products, improved versions of existing products, and lowered operating costs.

The Commissioner's argument was primarily concerned with dynamic competition and innovation. The Tribunal acknowledged that this innovation allowed newcomers to compete in the market, but it was also "forcing traditional brokerages to respond" to this new type of dynamic competition.[30]

The Tribunal reached its conclusion that there was a substantial lessening or prevention of competition despite the fact that the quantitative evidence on commission rates did not indicate that prices had been adversely affected. Net commissions for real estate brokerage services were not shown to be materially higher than in the absence of the restrictions on data.[31] The Tribunal decided the matter on the (mostly) qualitative evidence about exclusion and innovation.

Innovation was also raised as a factor of non-price competition in *Canada (Commissioner of Competition) v. Vancouver Airport Authority*.[32] There, the Commissioner claimed that, by limiting the number of providers of in-flight catering services, the Vancouver Airport Authority had engaged in a practice of anti-competitive acts that had prevented or lessened competition substantially.

The Commissioner noted that innovation should be interpreted broadly, encompassing a wide range of improvements and efficiencies, not just the development of novel processes and products:

> "The Tribunal also does not dispute that innovation can take multiple incarnations and that it encompasses more than the development of new products or novel processes or the introduction of cutting-edge new technology. It can indeed extend to competing firms coming up with different or improved business models."[33]

Ultimately, the Tribunal held that the Commissioner's claims about harms to innovation failed:

> "[T]he evidence pertaining on innovation falls short of the mark. The Tribunal is not persuaded that the evidence on the record demonstrates that, 'but for' the Exclusionary Conduct, there would likely have been, or would likely be, a realistic prospect of material changes in innovation linked to the arrival of new entrants in the Galley Handling Market."[34]

Innovation has also been examined in merger cases. In *Canada (Commissioner of Competition) v Rogers Communications Inc. and Shaw Communications Inc.*,[35] the Tribunal explored the effects of the merger on non-price competition, including innovation. The Tribunal concluded that there would not likely be a substantial lessening of competition over innovation in the provision of wireless services in British Columbia and Alberta. The Tribunal held that the evidence shows that the market is already in a "highly dynamic state," with innovative carriers "rapidly positioning themselves" for 5G.[36] The reasons behind these conclusions about innovation were not, however, fleshed out in detail.

Innovation was further discussed as an important factor in the context of the potential removal of a vigorous competitor. Shaw's success in the market for the provision of wireless services was in no small part due to innovation. The innovations were not limited to scientific or technological innovations. The Tribunal notes that Shaw offered new products and contracts, enabled customers to access free Wi-Fi in numerous locations, $0 contracts, and WiFi hot spots. These innovations forced the competition to change practices.[37] While the Tribunal accepted that Shaw has been a vigorous and effective competitor, they were persuaded by evidence that suggested Shaw was unlikely to be making similar investments in innovation in the wireless services market in the future.[38] The potential impact of the merger upon research and development of the two parties and how the merger would affect their incentive to innovate was again not discussed in detail.

4. Innovation as a factor in merger review

A) Market power and the incentive and ability to innovate.

It is one thing to contend that the law should be geared to achieve some objective, such as encouraging innovation to maximize welfare in the long run. It is quite another, however, to explain how this objective should be achieved in practice. I turn now to some of the issues that may arise when putting a thumb on the scale for innovation in merger review.

In this Part of the paper, I explore the academic literature illustrating the inherent complexity in finding a relationship between market structure and innovative activity. A thumb on the scale for innovation *may* result in a more aggressive merger policy. But, on the other hand, it *may* result in a more permissive merger regime.

Two large competitors in a concentrated market decide to merge. In the absence of any synergies resulting in productive efficiency, the impact upon prices and output will be fairly easy to forecast. We have a good sense that output will be restricted and that prices will rise. This will result in a short-run deadweight loss. Consumers lose out. Society is harmed. The link between market structure and allocative efficiency is well known. There is a typical, unidirectional relationship.

But what is the impact of this merger on innovation? Here, economics has provided a less clear answer. What impact will the merger have on the *incentives* of the merged entity to innovate? What impact will it have on the *ability* of the merged entity to innovate? And, more generally, what is the relationship between market structure and dynamic efficiency? Numerous empirical studies do not suggest a simple, unidirectional relationship. And much of the debate has been framed around the views of two prominent economists: Joseph Schumpeter and Kenneth Arrow.

Joseph Schumpeter argued in his 1942 book, *Capitalism, Socialism and Democracy,* that larger firms are more conducive to innovation than firms that operate in highly competitive markets. In describing the likely causes of innovation, progress, and growth, Schumpeter notes that:

> "a shocking suspicion dawns upon us that big business may have had more to do with creating that standard of life than with keeping it down."[39]

Firms with market power, according to Schumpeter, had the ability to attract superior talent and secure a high financial standing. He perceived technical innovation to be risky, and risk-bearing was more likely when

firms could deploy an array of restrictive practices to protect their investments.[40] Schumpeter's view was controversial. It challenged prevailing notions regarding the virtues of free-market capitalism. Schumpeter went beyond the accepted view that the *expectation* of a monopoly position (i.e., with patents) was necessary to make the venture worthwhile. Rather, he argued that monopoly power *already held* supported investment in technological progress.

Twenty years after Schumpeter's book, Kenneth Arrow took a different position. Arrow argued that a monopolist has less incentive to innovate than a firm in a competitive market.[41] A monopolist with lower costs will simply replace itself, whereas a competitive firm that is able to innovate and produce at lower costs will take the entire market, reaping profits where none had previously been forthcoming. Monopolists, therefore, have greater incentive to maintain the status quo than firms that compete with each other. By this theory, disruptive technological advances are, thus, more likely to come from competitive firms.

Arrow's theory implies that competition and rivalry are good for innovation. Incumbents may fear that introducing new innovations will take away sales from their existing product lines.[42] Disruptive entrants can shake up a market, bringing new fresh new ideas and enormous benefits to customers. The mere threat of competition can generate the incentive for incumbents to innovate.

The Arrow and Schumpeter debate sparked a large theoretical and empirical literature exploring the relationship between market structure and the incentive to innovation.[43] I shall not attempt a survey of this literature here, but suffice to say, the research is often described as not being conclusive either way. Massimo Motta summarizes a commonly-accepted view of the literature:

> "Both theoretical and empirical research on the link between market structure and innovation is not conclusive, even though a 'middle ground' environment, where there exists some competition but also high enough market power coming from the innovative activities, might be the most conducive to R&D output."[44]

Richard Gilbert contends that much of the empirical literature that seeks to measure the link between market structure and innovation fails to take into account the different market and technological conditions:

> "[The incentives to innovate] depend on many factors, including: the characteristics of the invention, the strength of intellectual property protection, the extent of competition before and after innovation, barriers to entry in production and R&D, and the dynamics of R&D. Economic theory does not offer a prediction about the effects of competition on innovation that is robust to all of these different market and technological conditions."[45]

But Gilbert continues, noting:

> "The many different predictions of theoretical models of R&D lead some to conclude that there is no coherent theory of the relationship between market structure and investment in innovation. That is not quite correct. The models have clear predictions, although they differ in important ways that can be related to market and technological characteristics. It is not that we don't have a model of market structure and R&D, but rather that we have many models and it is important to know which model is appropriate for each market context."[46]

Carl Shapiro offers reasons why the economics literature may lead some to incorrect conclusions.[47] The conflation of "more competition" with other phenomena such as "less product differentiation" or "more imitation" or "lower market concentration" has muddied the waters in the debate.[48] Instead, Shapiro contends, three important principles help explain the incentive and the ability to innovate:

1) **The Contestability Principle.** Firms are more likely to innovate if they have the prospect of increasing or protecting sales by providing additional value to consumers. If sales are highly contestable, the incentive to innovate will be greater.

2) **The Appropriability Principle.** Firms are more likely to innovate if they can capture the social benefits of their innovation, perhaps through intellectual property rights. (But note that greater appropriability by one firm can reduce appropriability of other firms, thus potentially stifling or harming innovation.)

3) **The Synergy Principle.** Firms are more likely to innovate if combining complementary assets enhances innovation capabilities. The Synergies principle emphasizes that firms generally cannot innovate in isolation.

The first two principles relate to the incentive to innovate. The Synergy principle relates to the ability to innovate. But, as Shapiro notes: "*None* of these principles relates directly to market structure."[49] This does not mean

that competition analysis has nothing to say about the effects on innovation from a merger. Shapiro contends that these three principles allow us to understand when "a merger between two of a very few firms who are important, direct R&D rivals in a given area is likely to retard innovation in the area."[50] And, moreover, Shapiro suggests we have a good enough understanding of the circumstances when innovation will be promoted and furthered by allowing two important, direct R&D rivals to merge.

Shapiro argues, in line with Arrow's theory, that "rivalry" is an important component of innovation. Shapiro's framework illustrates that there are potential harms to innovation from two competing firms merging. But the framework also suggests that there are circumstances when a merger between two firms with complementary R&D departments may result in greater innovation. This may arise where the two firms are not direct R&D rivals for a specific innovation, such as a drug designed to treat a specific disease.

A merger policy that puts greater weight on long run innovation will differ from a merger policy that puts greater weight on short run prices and output effects. In the remainder of this part, I illustrate situations where the two differ.

B) A thumb on the scale for innovation *may* block mergers that would otherwise be permitted to proceed.

Traditional antitrust analysis of mergers primarily focuses on overlaps in existing products and potential price and output effects. Richard Gilbert critiques this approach. He argues that the way in which courts have interpretated merger law in the United States likely downplays the potential harms to innovation. For example, merger analysis requires the explicit definition of a "relevant market." Gilbert contends that:

> "a rigid interpretation [of this market definition exercise] is fatal for the evaluation of mergers that may affect innovation or future competition in markets that do not presently exist. R&D is not bought and sold in a market, apart from contracted R&D, but that does not mean that mergers cannot harm innovation by reducing incentives to invest in R&D for new or improved products."[51]

An innovation-centric competition policy, on the other hand, would place greater emphasis on how the merger will impact the incentive and ability to innovate. A merger that reduces the incentives of the merged entity to

innovate might be harmful even if it does not raise immediate concerns about market concentration in terms of existing products.

Suppose two firms merge but there is no immediate adverse impact upon price or output. Under a merger review that focuses on the short-run effects such a merger would likely not be challenged. But under an innovation-centric approach, this merger could face additional scrutiny if likely harms to innovation can be shown. Richard Gilbert offers an example from his time with the Antitrust Division of the U.S. Department of Justice where a more innovation-centric approach was taken. In 1993, General Motors proposed to sell its Allison Transmission Division to ZF Friedrichshafen AG. ZF and Allison were the two largest manufacturers of automatic transmissions in the world, but ZF was not a major presence in the United States. The merger was therefore unlikely to significantly impact prices in the United States market. But the DOJ was concerned that eliminating competition between ZF and Allison in Europe would reduce their motivation to innovate. This would likely have a negative impact on United States consumers in the longer run. The DOJ challenged the proposed merger, and the parties dropped their merger plans in response.

Carl Shapiro offers an example of a merger where innovation harms were not fully considered, to the detriment of welfare. The Federal Trade Commission reviewed the merger between Genzyme and Novazyme in 2003 and 2004. The two firms were the only pharmaceutical firms developing a treatment for Pompe disease, a rare but potentially fatal disease that affects mostly infants and children. The FTC elected not to bring any enforcement action, noting that "economic theory and empirical investigations have not established a general causal relationship between innovation and competition."[52] But Shapiro argues that where we have a merger to monopoly over R&D efforts in a given market, there should be a presumption that the merger will harm innovation. Applying the Contestability principle here, there will be less incentive for the merged entity to innovate. Prior to the merger, all sales and profits were contestable. But afterwards, far fewer sales are contestable. Innovation and progress will be slowed down under Shapiro's theory.

C) A thumb on the scale for innovation *may* permit mergers that would otherwise be blocked.

But mergers may also promote innovation. The two merging parties may have synergies from complementary assets that enable them to conduct research and development more efficiently and more effectively. The two

firms' research teams may complement each other well, and combining the two may spark innovative activity, what Carl Shapiro refers to as "cross-fertilization" of the research teams.[53] Further, the internalization of involuntary spillovers may result in increased investment in innovation. Claude d'Aspremont and Alexis Jacquemin illustrate how a merger can increase R&D investment and benefit consumers if the internalization of technological spillovers is large.[54] Synergies also arise when a merger facilitates voluntary technology and information transfers.[55]

Suppose a merger between two firms resulted in a substantial lessening of competition under our current approach to mergers. Let's say that a material increase in prices and reduction in output is likely. But also suppose that the synergies in terms of innovation that emerge from this collaboration are substantial. The Canadian efficiencies defence may offer some respite for the merging parties, but it may be difficult for the merging parties to quantify these effects.

By placing a thumb on the scale for innovation, and taking a more holistic view of innovation, one might imagine that merging parties could present arguments that the post-merger market power creates an incentive to innovate, if sufficient rivalry in the market remains. The long run welfare impacts of the dynamic efficiencies outweigh the short-run adverse competition effects.

Taking this more permissive approach to dynamic efficiencies in merger review would seem to run counter to the current direction being taken by the Canadian federal government.[56] Of course, as Shapiro notes, "merger synergies are far easier to claim than to achieve."[57] Further, one would need to ask whether a merger is needed in order to realize these synergies. Could, for example, the two firms realize these benefits through a joint research venture?

D) How a thumb on the scale for innovation would affect acquisitions of small potential competitors.

Start-ups are crucial for innovation. They introduce fresh ideas and create market dynamism by challenging established entities. They disrupt concentrated markets and force inefficient incumbents to improve operations or exit. But competition policy has, at least in the recent past, been quite permissive in relation to the acquisition of (relatively) small start-up firms. Courts in other jurisdictions have viewed the presence of start-ups primarily as indicators of low entry barriers or emerging competitiveness in a market. Raising alarms regarding the purchase of innovative start-ups was deemed

speculative and possibly seen as obstructing innovation, as the exit strategy of many, if not most, entrepreneurs is to sell to an incumbent.

But these views have come under fire of late. The concern about the serial acquisition of start-ups has been particularly acute in the context of big tech. Firms buy up other new firms before the newcomers have had a chance to become serious competitors. This has raised concerns about the stunting of innovation. For example, when Facebook bought Instagram in 2012 for $1 billion, Instagram only had 13 employees and no advertising revenue. The UK allowed the acquisition as it believed Instagram was not uniquely placed to compete against Facebook. But by 2018 Instagram was generating $7 billion in advertising revenue. Lear conducted an ex post assessment of merger by the Competition Markets Authority (CMA) in the United Kingdom.[58] Lear noted that Google, Amazon, and Facebook made a combined total of 299 acquisitions between 2008 and 2018 and very few of these mergers were reviewed by the CMA.[59] Similarly, very few were examined by the EU Commission.[60]

Concerns have also been raised in the pharmaceutical industry. Suppose a pharmaceutical company acquires a small competitor. The smaller company is in the process of developing a drug that could potentially compete with the products of the acquiring company. Given the uncertain future of the drug in development, proving that the merger stifles potential competition becomes a difficult task, as courts require clear and convincing evidence. Colleen Cunningham, Florian Ederer, and Song Ma provide evidence of incumbent pharmaceutical companies engaging in "killer acquisitions," where the smaller target firm is purchased by the incumbent and the target's innovative projects are discontinued in order to preempt competition.[61]

Putting the thumb on the scale of innovation in merger review may affect the way we think about the acquisition of start-ups. Currently, the Commissioner has a heavy burden to show that such a merger will substantially prevent or lessen competition in these types of cases. But if one takes the position that effects on innovation should be more heavily weighted, then the burden may be lighter. There may be cases where there is no effect on output or prices in current product markets, but there may be an effect on future markets. If the Commissioner can show that there is a likely harm to research efforts or likely harm to future inventive output—as was posited by Shapiro in the Genzyme / Novazyme merger—then this would counsel in favour of a finding that competition has been substantially prevented or lessened. That is, it may be easier to show that a particular, specific innovation will likely be delayed as a result of a merger.

But while it may be easier to show harms to innovation in this specific sense, a more aggressive policy against acquisitions of innovative potential competitors may itself cause harm to innovation in a more general sense. Acquisitions of start-ups can have pro-competitive effects. Start-ups may struggle to develop and maintain a product development and distribution strategy.[62] Large firms have a greater capacity to invest in development and to commercialize innovative ideas. These large firms may be able to carry out projects that start-ups would not be able to do on their own. One might view the acquisitions of start-ups by larger incumbents to be a fertile source of commercializing the ideas, ensuring that these innovations are acted upon sooner.[63]

Additionally, research has shown that founders of innovative start-ups are themselves incentivized by the prospect of being acquired by a large incumbent.[64] Innovative entrepreneurs may not be interested in running a company that competes in a fragmented and rapidly evolving market. The goal of being acquired may be the necessary incentive to innovate.

Research has also shown that the prospect of acquisition by a big tech firm also influences the ability of entrepreneurs to attract venture capital funding, without which an innovation may never see the light of day.[65] A merger policy that is more aggressive when it comes to the acquisitions of start-ups may cause harm to innovation by dulling the incentive of entrepreneurs and those that fund entrepreneurs.

There is, of course, great uncertainty in forecasting what the harms to innovation may be when a large incumbent acquires a small potential innovator. The specific harms to innovation may be speculative at the time of the merger. And, even if they are shown, the potential costs of a more aggressive merger policy here would need to be considered in light of the broader impact on the incentive to found an innovative start-up.

E) Demonstrating harms to innovation—an argument for an *ex post* approach?

The problem of ex ante demonstrating harm to innovation is pervasive. Dynamic efficiencies are difficult to prove. This is especially true when compared to productive efficiencies. While dynamic efficiencies are the "most important" to Joseph Brodley, he readily acknowledged the practical difficulties in trying to measure them. It is not only difficult to forecast how innovation will be affected, but it is also difficult to ex post assess the impact of a merger on innovation:

> "The measure of a transaction's innovation efficiency [is] the superiority of the observed research outcome over the research outcome that would have resulted if the transaction had been barred. It follows that assessment of innovation efficiency, even after the fact, requires a difficult comparison between actual and hypothetical events. Moreover, innovation is highly stochastic, so that the absence of innovation success from a single undertaking does not necessarily indicate that the original prospects of success were not high."[66]

Richard Gilbert also acknowledges that acquiring credible empirical data on the future impact of a merger on innovation is often not feasible. This, Gilbert argues, is problematic because the current approach in U.S. antitrust law leans heavily on the quantitative analysis of competitive effects. This quantitative bias can lead to overlooking the subtle yet substantial impacts on innovation, allowing anticompetitive practices and harmful mergers to fly under the radar.

A similar argument has been raised by Matthew Chaisson and Paul A. Johnson in the context of Canada's efficiencies defence.[67] Chaisson and Johnson argue that the defence has a perverse impact, allowing mergers that harm innovation to proceed because of the way that the efficiencies defence has been interpreted. Chaisson and Johnson argue that when two firms merge, this will dull the incentive of the merged entity to engage in innovative activities (under Shapiro's Contestability principle above). The merged entity will become "sluggish or complacent with less competitive pressure."[68] But given the jurisprudence of section 96, they argue that the benefits to innovation that competition brings are often overlooked "because the dynamic process through which they occur makes them less susceptible to ex ante prediction or quantification."[69] Productive efficiencies are easier for the merging parties to identify. As such, Chaisson and Johnson argue that too many mergers that harm innovation will be allowed. But this is likely the case even if section 96 is repealed as mergers without short-run price and output effects may be allowed, even if they are likely to harm innovation, unless close attention is paid to the harms to innovation. The 2022 amendments to the *Competition Act* directed the Tribunal to pay close attention to these innovation effects.

If the effects on innovation are inherently difficult to ex ante forecast, does that mean that we should give up on this objective? Absolutely not. Perhaps a better path forward, then, is one suggested (separately) by Edward Iacobucci[70] and Gordon Milne.[71] It may be fruitful to use the abuse of dominance provisions to challenge the acquisition of potential innovative competitors, rather than relying on speculation with merger review.

There may be an argument here for greater use of merger retrospectives and ex post audits to assess how innovation has been affected by allowing mergers where innovative synergies were claimed. Joseph Brodley advocated for ex post audits of mergers in 1996:

> "A two-stage procedure is especially necessary for innovation efficiencies. If efficiencies review is limited to ex ante determination, the antitrust decisionmaker faces the heroic task of predicting whether a new combination of inputs will produce knowledge that does not yet exist. It is precisely in this situation that an ex post audit can make recognition of innovation efficiencies prudent. If, despite ex ante promise, efficiencies are not forthcoming, the transaction can be restructured to remove antitrust risk."[72]

Of course, the problem of the counter-factual remains, but an ex post review likely provides more clarity than the inherent difficult of ex ante predicting whether incentives and ability to innovate will be affected. The ex post audit might involve an assessment of how the two research departments were integrated. It might involve an assessment of the different innovations that the merged entity undertook. If it is the case that the acquisition was a genuine "killer acquisition," then this would counsel in favour of finding that there was an abuse of dominance.

5. Conclusion.

Suppose the potential welfare gains in the long run from innovation and technological progress vastly outweigh any welfare losses from allocative inefficiency. In this world, there would be good reasons to put a thumb on the scale for innovation when making policy decisions. This, I believe, is the world we are in.

Innovation should play a greater role in the competition analysis of merger review and unilateral conduct cases. In the context of merger review, this may result in a more aggressive regime, with the Commissioner challenging mergers that would otherwise be permitted. But situations where the dynamic efficiencies from synergies are sufficiently compelling to permit what would otherwise be anticompetitive may also arise. The focus on harms to innovation does not necessarily suggest a more aggressive approach to acquisitions of nascent competitors.

Much of the debate on Canadian competition policy in recent years has been about the *purpose* of competition law. But there is a starting point where most of us would agree: Competition law in Canada should be geared toward improving the livelihood of Canadians. I argue that the best way to

achieve this is to put greater focus on innovation. The payoffs from fostering innovation in the past have been great. And the law should be geared to ensuring that the payoffs are realized to an even greater extent in the future.

ENDNOTES

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1 John Pecman, "Rapid passage of Competition Act amendments through Budget Implementation Act process can cause more harm than good" (10 June 2022), online: *Competition Chronicle* <https://www.competitionchronicle.com/2022/06/rapid-passage-of-competition-act-amendments-through-budget-implementation-act-process-can-cause-more-harm-than-good/>.

2 In this paper, I use the term 'dynamic efficiency' as used in the economic literature. It is not limited to the way in which it may have been defined under section 96 of the *Competition Act*.

3 Deadweight loss refers to the reduction in economic efficiency that occurs when a market is not in competitive equilibrium due to market power (amongst other inefficiencies.) When firms have greater market power, they cut back on output to maximize profits. Cutting back on output is privately optimal, but socially sub-optimal. The deadweight loss is surplus that is not realized by consumers or producers, as it is neither consumed nor provided, that results from cutting back on output.

4 Andy Baziliauskas, "Innovation Effects in Canadian Merger Analysis", Can Competition L Rev [forthcoming in 2023].

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6 See Susan M. Hutton & Lawson A. W. Hunter, "In favour of a Doctrinal Approach to Canada's Competition Act Reforms" (2023) 67:1 Can Bus LJ.

7 See e.g. *The Commissioner of Competition v The Toronto Real Estate Board*, 2016 Comp. Trib. 7 [*TREB*]; *The Commissioner of Competition v Vancouver Airport Authority*, 2019 Comp. Trib. 6 [*VAA*]; *Canada (Commissioner of Competition) v Rogers Communications Inc and Shaw Communications Inc,* 2023 Comp. Trib. 1 [*Rogers and Shaw*]. For deeper discussion of cases and consent agreements in Baziliauskas, *supra* note 4.

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[12] Tim Harford "Liz Truss's Growth Delusion", *The Financial Times* (27 October 2022), online: <www.ft.com/content/08a7134c-7a40-4bfd-b85d-a8f52208143c>.

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