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The importance of quantifying non-price effects in Canada

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Renée M. Duplantis

renee.duplantis@brattle.com

Principal, The Brattle Group, Toronto

Ian Cass

ian.cass@brattle.com

Consultant, The Brattle Group, Toronto

Renée M. Duplantis*

renee.duplantis@brattle.com

Principal, The Brattle Group, Toronto

Ian Cass

ian.cass@brattle.com

Consultant, The Brattle Group, Toronto

ABSTRACT

Evaluer les effets non tarifaires est un sujet international qui retient une attention particulière dans le contrôle des concentrations au Canada depuis les décisions Tervita et Treb, et particulièrement les affaires où des gains d'efficacité sont soulevés. Cet article traite de l'importance de cette évaluation au Canada et des moyens pour quantifier ces effets lorsque les méthodes classiques du droit de la concurrence ne sont pas suffisantes.

Quantifying non-price effects is a topic with global appeal in antitrust that has garnered particular interest in merger reviews in Canada in light of the recent decisions in Tervita and TREB, especially in cases that involve an efficiencies defence. We discuss the importance of quantifying non-price effects in Canada and some ways to quantify these effects when standard competition models are not helpful.

*While seconded to the Canadian Competition Bureau, Dr. Duplantis provided advice to the Competition Bureau on both the Tervita and TREB cases discussed below.

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The importance of quantifying non-price effects in Canada

I. Introduction

1. When we think about anti-competitive effects, whether they arise from a merger or anti-competitive behaviour by firms, we generally think in terms of price competition. In other words, we ask whether the merger or conduct will lead to higher prices for consumers. However, rivalry among firms is not limited to price. In fact, many factors other than price, such as service, variety and quality, are valued by consumers and can alter demand for a product. Further, and perhaps most importantly in today's economy, firms compete by innovating, whether it be by developing new technologies or reaching consumers in ways that improve a product's overall value proposition. Forms of competition that manifest in ways other than price are commonly referred to as non-price competition.

2. Interest in non-price effects is present in many jurisdictions, as evidenced, for example, by the American Antitrust Institute's recent Invitational Symposium on the Non-Price Effects of Mergers, which took place in June 2016,¹ as well as a 2016 Workshop on Emerging Competition Issues² hosted by the Canadian Competition Bureau ("Bureau"), which noted that "*there is a growing interest in developing methods to incorporate non-price effects into competition assessment frameworks*" and that price alone "*may not capture all of the outcomes flowing from competition.*"³

3. The 2010 US Horizontal Merger Guidelines stress the importance of non-price effects by acknowledging that "[e]nhanced market power can also be manifested in non-price terms and conditions that adversely affect customers, including reduced product quality, reduced product variety, reduced service, or diminished innovation. Such non-price effects may co-exist with price effects, or can arise in their absence."⁴ Several recent US merger cases have highlighted the inclusion of non-price effects when assessing anti-competitive effects, including reductions in product quality in *H&R Block* and reduced innovation in the proposed *AMAT/Tokyo Electron*

1 G. Gundlach, Non-Price Effects of Mergers: A Primer, American Antitrust Institute, Invitational Symposium on the Non-Price Effects of Mergers (June 15, 2016), Washington, DC, available at <http://www.antitrustinstitute.org/sites/default/files/Gundlach%202016%20NON-PRICE%20EFFECTS%20OF%20MERGERS.%20A%20PRIMER.pdf>. For a summary of the event, see: <http://www.antitrustinstitute.org/events/invitational-symposium-non-price-effects-mergers>. As outlined in an overview on the event's website, "[e]xperts from law, economics, and the business schools convened to offer insights on the nature and prospective role of non-price effects in merger analysis, challenges that they pose for antitrust enforcement, and suggested approaches for highlighting and integrating such analysis into enforcement decisions and competition policy."

2 Competition Bureau, Workshop Summary Report: Highlights from the Competition Bureau's Workshop on Emerging Competition Issues, March 4, 2016, available at <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/04030.html>.

3 The Bureau's Merger Enforcement Guidelines ("MEGs") and Enforcement Guidelines - The Abuse of Dominance Provisions ("AOD Guidelines") note that factors other than price, such as service, quality, and innovation, are also important determinants of whether a merger or anti-competitive conduct is likely to substantially lessen or prevent competition. See MEGs at § 2.2 and AOD Guidelines at footnote 5.

4 US Department of Justice and Federal Trade Commission, Horizontal Merger Guidelines (August 19, 2010), section 1.

merger.⁵ Other jurisdictions are also considering how to incorporate non-price effects into their merger analyses, as evidenced by country submissions made during the course of recent OECD roundtables⁶ and by the inclusion of a plenary session on this topic at the International Competition Network's 2017 annual meeting.⁷

4. The consideration of non-price effects in competition assessments is a timely topic not only because of the rapid pace of change in our digital economy, but also, at least from a Canadian perspective, because of two recently litigated competition matters in Canada—*Tervita Corp. v. Canada (Commissioner of Competition)*⁸ (“*Tervita*”) and *The Toronto Real Estate Board*⁹ (“*TREB*”)—which have in different but related ways shed significant light on issues surrounding the consideration of non-price effects in Canadian competition enforcement.

5. As outlined in more detail below, the SCC's decision in *Tervita* reinforced the importance of quantifying all measurable anti-competitive effects, including non-price effects, in merger matters where an efficiencies defence is raised.¹⁰ In its decision, the SCC set out a framework that involves comparing measurable anti-competitive effects to measurable efficiencies, and then assessing non-price effects that are unquantifiable with lesser weight. This framework suggests that when an efficiencies defence is involved, both the merging parties and the Bureau should make every effort to quantify non-price effects. The Tribunal's redetermination decision in *TREB*, meanwhile, highlights the importance of preserving

non-price competition, noting that “*this case focuses on dynamic competition, including innovation, the most important type of competition.*”¹¹

6. With Canadian courts having recently emphasized both the importance of preserving non-price competition and the need for the Bureau to quantify the effects of such competition in certain merger matters, as well as the general interest in non-price effects globally, it raises two obvious questions: what tools do we have to quantify non-price effects and how can these tools be improved?

7. This paper seeks to address these questions. However, before doing so, it discusses the importance of *Tervita* and *TREB* and sets out the relevant legal framework in Canada, particularly the efficiencies defence in merger matters.

II. The importance of *Tervita* and *TREB*

8. On January 22, 2015, the SCC released its long-awaited decision in *Tervita*. In this matter, the Bureau alleged that *Tervita*'s acquisition of a hazardous waste landfill in northeastern British Columbia was anti-competitive and therefore challenged the merger before the Tribunal under section 92 of the Competition Act (the “Act”). The Tribunal allowed the Commissioner's application on the basis that the merger was likely to substantially prevent competition,¹² a decision that was upheld by the FCA.¹³ However, the SCC overturned the decision on the basis of a successful section 96 “efficiencies defence” despite agreeing with the lower court decisions and the Commissioner that the merger was likely to result in a substantial prevention of competition under section 92 of the Act. The SCC decision has important implications for the need to quantify all price and non-price effects in future cases, particularly in cases where the parties claim merger efficiencies.

9. For the purpose of estimating the anti-competitive effects when an efficiencies defence has been raised under section 96 of the Act, the SCC has made it clear that the Bureau must quantify all quantifiable anti-competitive effects, or they will be given a weight of zero.¹⁴ This zero weighting would apply even in circumstances where a substantial lessening or prevention of competition was found on the basis of non-quantified effects. In other words, the SCC has indicated that measurable effects that are not quantified will not be assessed qualitatively.¹⁵

5 Memorandum Opinion, *US v. H&R Block, Inc., et al.*, United States District Court for the District of Columbia, Civil Action No. 11-00948 (BAH), p. 69 (“the merged firm could accomplish what amounts to a price increase” by “limiting the functionality of TaxACT's products”); US Department of Justice, Applied Materials Inc. and Tokyo Electron Ltd. Abandon Merger Plans After Justice Department Rejected Their Proposed Remedy, Press Release (April 27, 2015), available at <https://www.justice.gov/opa/pr/applied-materials-inc-and-tokyo-electron-ltd-abandon-merger-plans-after-justice-department> (“the proposed remedy would not have replaced the competition eliminated by the merger, particularly with respect to the development of equipment for next-generation semiconductors.”) See also, D. Haar, Merger Enforcement and Non-Price Effects, American Antitrust Institute, Invitational Symposium on the Non-Price Effects of Mergers (June 15, 2016), Washington, DC, available at: <http://www.antitrustinstitute.org/sites/default/files/haarpresentation.pdf>.

6 OECD Policy Roundtables, The Role and Measurement of Quality in Competition Analysis (October 28, 2013).

7 International Competition Network, ICN 2017 Annual Conference Agenda, available at <http://icn2017.concorrenca.pt/agenda>.

8 *Tervita* was first decided by the Competition Tribunal (“Tribunal”) (2012 Comp. Trib. 14, CT-2011-002). On appeal, it was decided by the Federal Court of Appeal (“FCA”) (2013 FCA 28 (CanLII)). On subsequent appeal, it was decided by the Supreme Court of Canada (“SCC”) (2015 SCC 3, [2015] 1 S.C.R. 161).

9 The Tribunal initially dismissed the Commissioner's application on the basis that it did not meet the requirements of section 79 of the Act (2013 Comp. Trib. 9, CT-2011-003). However, the FCA set aside the Tribunal's order and referred the matter back to the Tribunal for reconsideration on the merits (2014 FCA 29 (CanLII)). The Tribunal then issued its redetermination decision (2016 Comp. Trib. 7, CT-2011-003). The matter remains in litigation, as the FCA heard *TREB*'s appeal of the Tribunal's redetermination decision in December 2016, but has not yet issued a decision.

10 In the SCC's decision in *Tervita*, the court noted that “[t]he Commissioner's burden is to quantify by estimation all quantifiable anti-competitive effects. Estimates are acceptable as the analysis is forward-looking and looks to anti-competitive effects that will or are likely to result from the merger. The Tribunal accepts estimates because calculations of anti-competitive effects for the purposes of s. 96 do not have the precision of history. However, to meet her burden, the Commissioner must ground the estimates in evidence that can be challenged and weighed.” See *Tervita* at § 125. Most economists would argue that almost any effects can be quantified with enough assumptions on the underlying consumers' utility functions. The question is whether those assumptions are reasonable in light of the facts of the case.

11 *TREB* redetermination, § 712.

12 See the Tribunal's decision in *Tervita*.

13 See the FCA's decision in *Tervita*.

14 *Tervita* SCC decision, § 128: “The failure to [quantify all quantifiable anti-competitive effects] is a failure to meet [the Commissioner's] burden and, as a result, the quantifiable anti-competitive effects should be fixed at zero. Quite simply, where the burden is not met, there are no proven quantifiable anti-competitive effects.”

15 *Ibid.*, § 124: “A failure to quantify quantifiable effects will not result in such effects being considered qualitatively (...)”

10. On April 27, 2016, the Tribunal released its redetermination decision in *TREB*.¹⁶ In this case, the Commissioner argued that TREB, Canada's largest real estate board serving approximately 42,500 real estate brokers and salesperson members,¹⁷ restricted its members from accessing and displaying important data (such as the sold prices of homes) and thus prevented the emergence of innovative internet-based business models. The Tribunal found that TREB had abused its dominant position in the market for residential real estate brokerage offerings by implementing rules that prevented innovative business models from operating in competition with TREB in the Greater Toronto Area. The Tribunal also found that TREB's actions resulted in a substantial lessening or prevention of competition in Canada. Notably, the Tribunal allowed the Commissioner's application even though the Bureau did not quantify the anti-competitive effects of TREB's policy.¹⁸ In its redetermination, the Tribunal emphasized the importance of non-price competition to the Canadian economy, particularly as it relates to promoting and encouraging innovation.

11. These two decisions have brought the issue of assessing and quantifying non-price effects in Canadian competition matters to the forefront. The SCC's decision in *Tervita* has established that all measurable anti-competitive effects must be quantified in cases where an efficiencies defence is raised, and the Tribunal's redetermination in *TREB* has indicated that non-price competition, particularly innovation and dynamic competition, is an important type of competition to preserve in the economy. What these cases should highlight, above all, is that it is more important than ever in Canada to understand what economic tools are available to quantify non-price effects, and for economists to continue to build on this area of study.

III. Legal framework In Canada

12. Canada's merger regime generally employs a "total surplus" standard as a starting point, whereby the anti-competitive effects from an expected increase in price following the merger are measured as the total expected deadweight loss (i.e., the sum of consumer and producer deadweight loss) and any wealth transfer from producers to consumers as a result of that price increase

is considered neutral.¹⁹ In some cases, however, as set out in *Propane* and confirmed by the Tribunal in *Tervita*,²⁰ a portion of the wealth transfer may be considered an anti-competitive effect if, for example, the effects are garnered towards socially adverse consumers.²¹ This use of the total surplus standard as a starting point in merger assessments in Canada contrasts with the approach of many other jurisdictions, which gravitate towards a "consumer surplus" standard for merger reviews.

13. The treatment of the wealth transfer becomes particularly important when an efficiencies defence is raised. If the Bureau alleges that a proposed transaction would result in a substantial lessening or prevention of competition under section 92 of the Act, the merging parties can advance an efficiencies defence under section 96 to demonstrate that the gains in efficiency from the transaction would outweigh and offset any anti-competitive effects.²² Under this "trade-off" analysis, the anti-competitive effects estimated by the Bureau must be balanced by the Tribunal against the efficiencies claimed by the merging parties. In particular, section 96 of the Act requires that the Tribunal allow a merger that is found to prevent or lessen competition substantially if the Tribunal determines that the gains in efficiency attributable to the merger are greater than and offset the merger's anti-competitive effects: "*The Tribunal shall not make an order under section 92 if it finds that the merger or proposed merger in respect of which the application is made has brought about or is likely to bring about gains in efficiency that will be greater than, and will offset, the effects of any prevention or lessening of competition that will result or is likely to result from the merger or proposed merger and that the gains in efficiency would not likely be attained if the order were made.*"²³

16 See the *TREB* redetermination.

17 *Ibid.*, § 47.

18 As discussed below, the SCC's decision in *Tervita* and the *TREB* redetermination demonstrated that the requirement to estimate all quantifiable anti-competitive effects only exists where section 96 is invoked.

19 Given that the Act is silent on the appropriate welfare standard to apply in merger cases, it has been up to the Courts to determine the most appropriate standard to apply. The issue was thoroughly addressed in *Canada (Commissioner of Competition) v. Superior Propane Inc.* ("*Propane*"), which was the first contested merger in Canada allowed to proceed on the basis of a successful section 96 efficiencies defence. In *Propane*, the Tribunal initially allowed the merger and applied a total surplus standard (2000 Comp. Trib. 15, CT1998002), but the Federal Court of Appeal (2001 FCA 104 (CanLII)) sent the matter back to the Tribunal for redetermination (2002 Comp Trib. 16, CT1998002), noting that the welfare standard "*must be more reflective than the total surplus standard of the different objectives of the Competition Act.*" On redetermination, although the Tribunal once again allowed the merger to proceed, it acknowledged that "redistribution effects can legitimately be considered neutral in some cases, but not in others" (*Propane* redetermination, § 333).

20 In the FCA's and SCC's decisions in *Tervita*, there was no discussion of the appropriate welfare standard.

21 *Propane* redetermination, § 333: "*Fairness and equity require complete data on socio-economic profiles on consumers and shareholders of producers to know whether the redistributive effects are socially neutral, positive or adverse.*" In *Tervita*, the Tribunal's decision stated that if the Commissioner puts forth such arguments it will "*determine whether there are likely to be any socially adverse effects associated with the merger*" and "*if so, it will be necessary to determine how to treat the wealth transfer that will be associated with any adverse price effects.*" The Tribunal also noted that it expects the wealth transfer will be treated as neutral in most cases (*Tervita* Tribunal decision, §§ 282–283).

22 It is worth noting that in approving Superior Propane's proposed acquisition of Canexus Corporation in 2016, the Bureau demonstrated a willingness to clear an otherwise anti-competitive merger prior to filing an application with the Tribunal on the basis that there was sufficient evidence that the merger would have been allowed to proceed by the Tribunal on the basis of a successful efficiencies defence. See the Bureau's position statement, available at: <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/041111.html>.

23 Competition Act, R.S.C. 1985, c. C-34, s. 96.

14. The SCC's decision in *Tervita* provides a framework for assessing both qualitative and quantitative effects and efficiencies under the section 96 trade-off. In particular, the SCC established a two-part test, whereby the quantitative efficiencies are first compared against the quantitative anti-competitive effects, and then the qualitative considerations are weighed, before a final determination is made on whether the total efficiencies offset the total anti-competitive effects: “(...) *the balancing test under s. 96 may be framed as a two-step inquiry. First, the quantitative efficiencies of the merger at issue should be compared against the quantitative anti-competitive effects (the ‘greater than’ prong of the s. 96 inquiry). Where the quantitative anti-competitive effects outweigh the quantitative efficiencies, this step will in most cases be dispositive, and the defence will not apply. (...) Qualitative considerations must next be weighed. Under the second step, the 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 (the ‘offset’ prong of the inquiry).*”²⁴

15. With regards to the consideration of qualitative evidence, the SCC stated that “[f]or the Tribunal to give qualitative elements weight in the analysis, they must be supported by the evidence, and the reasoning for the reliance on the qualitative aspects must be clearly articulated.”²⁵ The SCC also noted that “*the ultimate offset analysis does allow for consideration of both quantitative and qualitative effects*” and that “[t]he above [two-step] framework merely guides the structure of that inquiry to ensure that the Tribunal’s reasoning is as explicit and transparent as possible.”²⁶

16. It is important to note that while emphasizing the importance of quantifying all measurable anti-competitive effects for the purpose of a section 96 trade-off analysis, *Tervita* also demonstrated that there is no obligation on the Commissioner to quantify the anti-competitive effects for the finding of a substantial lessening or prevention of competition, in and of itself. In other words, if an efficiencies defence is not raised, the Tribunal should give weight to measurable anti-competitive effects even if those effects have not been quantified (although it may be advisable, nonetheless, for the Commissioner to quantify all anti-competitive effects in all cases). In *TREB*, the Tribunal reinforced this notion by stating that “[t]he Tribunal is of the view that such analysis similarly applies to a finding of substantial prevention of competition in the context of an abuse of dominant position” and that “[i]n contrast to merger cases in which the efficiency exception is invoked by the respondent(s), there is no obligation on the Commissioner to quantify the anti-competitive effects of an impugned practice of anti-competitive acts (*Tervita* at para 166).”²⁷

24 *Tervita* SCC decision, § 147.

25 *Ibid.*, § 147.

26 *Ibid.*, § 149.

27 *TREB* redetermination, § 469.

17. What does this mean for considering non-price effects under the Act?

18. In matters where an efficiencies defence is not available or not utilized, the case law has established that non-price dimensions of competition are not only important, but potentially sufficient or determinative in allowing an application by the Commissioner. Therefore, while it may be beneficial to do so, it is not necessary for the Bureau to have quantified anti-competitive effects (or even to have measurable effects) in order for it to prevail when an efficiencies defence has not been raised or is not available—in those cases, a qualitative assessment of likely price and/or non-price effects can be sufficient.

19. Conversely, in matters where an efficiencies defence is available and utilized, the Commissioner has the burden to quantify the measurable anti-competitive effects for the purpose of the section 96 trade-off analysis.²⁸ While non-price or qualitative evidence can still be a component of the trade-off analysis under section 96, this occurs within the more subjective “offset” aspect of the trade-off when weighing all quantified and non-quantified effects against all quantified and non-quantified efficiencies.²⁹ The SCC in *Tervita* rejected that a threshold can be applied to the magnitude of the efficiencies for a section 96 defence to prevail (i.e., the efficiencies can be minor or even insignificant in a successful defence).³⁰

20. Based on the recent case law in Canada, it is especially important for the Bureau to quantify any quantifiable anti-competitive effects when a section 96 efficiencies defence may be invoked. Similarly, merging parties should quantify all possible efficiencies, whether they are productive, allocative or dynamic efficiencies. This may be especially true in innovative industries or those with disruptive technologies, where the most important efficiency gains are dynamic in nature.

28 While the SCC's decision in *Tervita* focuses on section 96 efficiencies, it is probable that courts would have a similar interpretation of the burden to quantify all quantifiable effects should an efficiencies defence be raised under the civil competitor collaboration provision of the Act (section 90.1).

29 In *Tervita*, the Tribunal interpreted the meaning of “offset” in the Act to have a non-measurable aspect to it or a more judgmental component to the analysis. See *Tervita* Tribunal decision, § 144.

30 *Tervita* SCC decision, § 151.

IV. Economics literature on non-price effects

21. In the economic models most commonly applied in competition analysis, firms choose only price and/or output. However, in reality, non-price attributes may also be chosen by firms and can change as a result of a merger, just as the price/output calculus might change. In fact, for at least some firms, the non-price attributes can be more important than price.

22. The relationship between competition and non-price factors—particularly innovation effects and quality effects—has been extensively studied in the economics literature. While the more traditional theoretical economics literature typically predicts that innovation should decrease with competition, the empirical evidence often shows increases in quality and innovation from increased competition.³¹ Significantly, a 2005 paper by Aghion et al. demonstrates that there is an inverted U-shaped relationship between competition and innovation: over lower levels of competition, the relationship is positive, while over higher levels of competition, the relationship is negative.³² The usual models of competition cannot easily account for such non-linearities. Shapiro (2012) provides a robust review of the findings from the theoretical and empirical literature on the relationship between competition and innovation, noting that “[t]he lack of robust results in this particular line of empirical work is understandable, given the measurement difficulties and conceptual complexities.”³³ Shapiro does note, however, that the “empirical evidence overall gives powerful support for the proposition that heightened competitive pressure causes firms to invest more to improve their efficiency.”³⁴

23. Non-price effects can manifest in many different ways, and very often are industry specific. In a number of studies and past cases, industry metrics of quality have been quantified and used to infer a relationship between concentration and relevant industry metrics of quality or innovation. In some industries, the relationship between competition and innovation or quality is generally positive (i.e., more competition leads to increased innovation or quality), while in other industries, it can be negative (i.e., less competition leads to increased innovation or quality).³⁵ A few of these studies are summarized below.

24. For example, several empirical studies have examined the effects of mergers in the radio broadcasting and newspaper industries on factors such as the variety of formats available to listeners and readers and the number of topics covered. A study by Berry and Waldfogel (2001) of mergers in the US radio broadcasting industry between 1993 and 1997 showed that, while increased concentration was correlated with a decline in entry by new stations, concentration was also correlated with greater variety (i.e., more formats) per station.³⁶ A similar study by Lisa George (2007) examined newspaper mergers in the 1990s and showed that consolidation in newspaper ownership led to more differentiation among newspapers and a larger number of topics covered per market.³⁷

25. In the airline industry, studies have focussed on the impact of consolidation on standard metrics of airline quality, such as wait times and flight delays. For example, Michael Mazzeo (2003) found that routes served by more than one airline with direct non-stop service had a significantly lower frequency of flight delays, as well as shorter delays.³⁸

26. In another paper, David Matsa (2010) studied the effect of Walmart’s entry in the US supermarket sector, and found that its entry caused a 33% decrease in inventory shortfalls at large grocery chains. Matsa found that many of Walmart’s competitors could not compete on price, and as a result had to compete on the basis of other factors, such as improving quality (by increasing inventory levels).³⁹

31 See, for example: K. R. Brekke, L. Siciliani, and O. R. Straume, Price and quality in spatial competition, 40 *Regional Science and Urban Economics* 471 (2010); and M. Gaynor and R. Town, The Impact of Hospital Consolidation—Update, *The Synthesis Project*, Policy Brief No. 9, Robert Wood Johnson Foundation (2012).

32 P. Aghion et al., Competition and Innovation: an Inverted-U Relationship, 120 *The Quarterly Journal of Economics* 701 (2005).

33 C. Shapiro, Competition and Innovation: Did Arrow Hit the Bull’s Eye? Chapter 7 of *The Rate and Direction of Inventive Activity Revisited* (2012), edited by J. Lerner and S. Stern, p. 382.

34 *Ibid.*

35 See also OECD Policy Roundtables, The Role and Measurement of Quality in Competition Analysis (October 28, 2013), which highlights several studies of this nature across a variety of industries, including some of those referenced below.

36 S. Berry and J. Waldfogel, Do Mergers Increase Product Variety? Experience from Radio Broadcasting, 116 *Quarterly Journal of Economics* 1009 (2001).

37 Lisa George, What’s Fit to Print: The Effect of Ownership Concentration on Product Variety in Daily Newspaper Markets, 19 *Information Economics and Policy* 285 at 290 (2007).

38 M. Mazzeo, Competition and Service Quality in the U.S. Airline Industry, 22 *Review of Industrial Organization* 275 (2003).

39 D. Matsa, Competition and Product Quality in the Supermarket Industry, 126 *Quarterly Journal of Economics* 1539 (2010).

27. John Kwoka (2015) has conducted several retrospective merger analyses to assist with predicting future effects and several of those studies have focussed on non-price effects.⁴⁰ In a 2016 presentation at the above-referenced Invitational Symposium on the Non-Price Effects of Mergers, Kwoka highlighted that in many cases, retrospective merger studies have found that mergers resulted in a decrease in quality or innovation.⁴¹

28. One challenge with these industry-specific metrics is that even though they are quantifiable measures, they may not be easily compared to the idiosyncratic cost savings put forth by the parties under an efficiencies defence. As a result, agencies and firms could benefit from additional tools to quantify non-price effects in measures that can be compared to efficiencies and price effects (or deadweight loss calculations in Canada) on an “apples to apples” basis. In order to allow for direct comparisons of price and non-price effects (as well as efficiencies) in terms of impacts on consumer welfare, economists may be required to make structural assumptions to estimate the relative value consumers place on non-price factors.

V. Quantifying non-price effects: Some possible solutions

29. Stemming from the decision in *Tervita*, there is clearly a burden on the Commissioner of Competition in Canada to quantify all measurable anti-competitive effects in merger analysis. It is also clear that the tools economists use for quantifying non-price effects need further development. Some economists have urged the agencies to incorporate dynamic models into competition analysis, instead of relying on the standard static models of competition. Others, however, shed light on the limitations that agencies and courts face in considering dynamic aspects of competition given the current state of the economic theory and empirical evidence.⁴²

40 J. Kwoka, *Mergers, Merger Control, and Remedies: A Retrospective Analysis of U.S. Policy* (Cambridge, MA: MIT Press, 2015).

41 J. Kwoka, Non-Price Effects of Mergers: Issues and Evidence, American Antitrust Institute, Invitational Symposium on the Non-Price Effects of Mergers (June 15, 2016), Washington, DC, available at: <http://www.antitrustinstitute.org/sites/default/files/kwokapresentation.pdf>. In terms of effects on quality, there were a total of 14 measured quality outcomes from 182 mergers. These outcomes include impacts on airline flight frequencies and load factors, as well as hospital readmission rates and in-patient mortality. Of these fourteen measures, there was one case of quality improvement resulting from the merger, one case of no change, and twelve cases where quality declined post-merger, with an overall average effect of a quality decline of 4.2%. In terms of effects on innovation, there were 5 separately measured effects on innovation from 229 mergers, particularly research and development expenditures or productivity. Of these effects, none showed an improvement in research and development from the merger and in four cases innovation effort was found to have decreased, with an overall average effect of a decrease of 4%.

42 D. H. Ginsburg and J. D. Wright, Dynamic Analysis and the Limits of Antitrust Institutions (June 14, 2012), *Antitrust Law Journal*, Vol. 78, No. 1, 2012; *George Mason Law & Economics Research Paper* No. 12-48. Available at SSRN: <https://ssrn.com/abstract=2084355>.

30. Nevertheless, barring the development of new economic models that appropriately account for non-price effects and innovation, the agencies and the merging parties have some options for quantifying the non-price effects of a proposed transaction, like the introduction of new products or services or the discontinuation of existing products.

31. One opportunity that exists is to look to studies in fields of economics outside of antitrust that may assist with assessing non-price effects applicable to a particular matter or industry. For example, economic impact studies are often commissioned by businesses, policymakers and government agencies to assess the benefits to consumers or the economy from the deployment of new technologies, changes in environmental regulations or the introduction of or change in a government policy.⁴³ While these types of studies are not typically used when assessing the effects of mergers, they can be helpful when trying to quantify some non-price effects that could be incorporated into the necessary trade-off analysis in Canada, assuming the studies are robust and use sound assumptions.

32. To illustrate, if a merger were expected to result in the introduction of technology that benefits consumers by increasing their leisure time by a small amount per day, that benefit could be quantified by estimating the time value of money for consumers affected by this change in technology.

33. For a more concrete example, we can once again look to the *Tervita* case. In that matter, the Bureau argued that the merger would increase hazardous waste landfill tipping fees, which would result in more waste remaining in the ground (rather than being put in a secure landfill) or more customers switching to bioremediation, which was deemed to be more harmful to the environment. While the Tribunal initially assessed these effects qualitatively, the SCC found that the effects were quantifiable and therefore should have been quantified by the Commissioner if they were to be considered in the trade-off analysis.⁴⁴ One manner in which the Bureau might have attempted to quantify these environment externalities would have been through the use of relevant environmental impact studies.

43 For examples of these types of economic impact studies, see: H. Singer, Economic Impact of FTTH Deployment in Toronto, *Economists Incorporated* (2015), available at: [https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/TRP-CRTC-2015-326-Bell-Canada-Attachment1.pdf/\\$file/TRP-CRTC-2015-326-Bell-Canada-Attachment1.pdf](https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/TRP-CRTC-2015-326-Bell-Canada-Attachment1.pdf/$file/TRP-CRTC-2015-326-Bell-Canada-Attachment1.pdf); D. Sunding, M. Rogers, and C. Bazelon, The Farmer and the Data: How Wireless Technology is Transforming Water Use in Agriculture, The Brattle Group, prepared for CTIA Wireless Foundation (April 22, 2016), available at: <http://www.ctia.org/docs/default-source/default-document-library/ctia-wireless-foundation-green-agriculture-final.pdf>; and Deloitte, What is the Impact of Mobile Telephony on Economic Growth? A Report for the GSM Association (November 2012), available at: <http://www.gsma.com/publicpolicy/wp-content/uploads/2012/11/gsma-deloitte-impact-mobile-telephony-economic-growth.pdf>.

44 *Tervita* SCC decision, § 164.

34. Another possible means for quantifying non-price effects in a merger context would be to use properly defined consumer surveys or conjoint studies. Conjoint studies use statistical techniques to determine the values consumers place on different product features or attributes and are typically conducted in an online survey setting.⁴⁵ Conjoint studies are a standard tool that firms use to predict demand for new products before they are introduced. Conjoint analyses could be used to quantify a consumer's willingness to pay for the introduction of a new product feature or to prevent the elimination of a product as a result of a merger. This quantification of willingness to pay could be incorporated into the quantified trade-off analysis required in Canada.

35. From a policy perspective, Katz and Shelanski (2006) offer several suggestions for how competition agencies can incorporate non-price effects into their analysis, specifically the effects of innovation in the case of merger reviews.⁴⁶ A few of their policy recommendations include the agencies “develop[ing] and articulat[ing] guidelines for drawing inferences of potential product-market competition from evidence of ongoing innovation”⁴⁷ and “develop[ing] the expertise that would allow case-by-case, fact-intensive inquiries to assess the welfare effects posed by mergers where innovation is at stake.”⁴⁸

VI. Conclusion

36. Given the SCC's guidance in *Tervita*, there is an increased burden on the Commissioner to quantify all measurable aspects of the anti-competitive effects from a merger, including any non-price effects that can be measured, when an efficiencies defence has been raised. If non-price effects are left unquantified, the Commissioner risks that these effects will be given no weight (if the effects were deemed to be quantifiable) or relatively lower weight in the more subjective “offset” portion of the section 96 trade-off analysis. Similarly, the merging parties should quantify all efficiencies that result from a merger, including those that are difficult to quantify, as the SCC has demonstrated that even a *de minimis* amount of efficiencies can be enough to overcome an anti-competitive merger.

37. While some economic tools exist for quantifying non-price effects, it will be important to continue to develop new methods. To add to the challenge, these tools will likely be unfamiliar to the courts and legal practitioners, and will be underpinned by structural assumptions that will need to be defended. While there are a number of accepted economic models for estimating price effects, it has yet to be seen whether the courts in Canada (or, indeed, in other jurisdictions) will place significant weight on models used to quantify non-price effects and how these estimates will interplay with quantified price effects and efficiencies in the context of a section 96 trade-off analysis. ■

45 In a 1986 study, Dan McFadden showed how conjoint experiments could be conducted in a format that resembled decisions consumers make in real-world markets, and hence could be analyzed using the tools that he had developed for analyzing individual choices in markets. (See D. McFadden, Estimating Household Value of Electric Service Reliability with Market Research Data, *Marketing Science* 5.4 (Oct 1986): 275–297). This approach is now standard in the use of conjoint analysis in marketing.

46 M. L. Katz and H. A. Shelanski, Mergers and Innovation, *Antitrust Law Journal*, Winter 2006. Available at SSRN: <https://ssrn.com/abstract=894346>.

47 *Ibid.*, p. 87.

48 *Ibid.*, p. 88.

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