

IN THE MATTER OF
PETITIONS BY BELL CANADA, TELUS COMMUNICATIONS INC., BRAGG
COMMUNICATIONS INCORPORATED, COGECO COMMUNICATIONS INC.,
ROGERS COMMUNICATIONS CANADA INC., SHAW COMMUNICATIONS INC.,
AND VIDEOTRON LTD. TO THE GOVERNOR IN COUNCIL TO VARY

TELECOM ORDER CRTC 2019-288, *FOLLOW-UP TO TELECOM ORDERS 2016-396*
AND 2016-448 – FINAL RATES FOR AGGREGATED WHOLESALE HIGH-SPEED
ACCESS SERVICES

SUBMISSION OF CANADIAN NETWORK OPERATORS CONSORTIUM INC.

14 FEBRUARY 2020

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EXECUTIVE SUMMARY

Introduction and Background

ES-1. Canadian Network Operators Consortium Inc. (“CNO”) is hereby making its submission respecting the three Petitions made by Bell, TELUS and Cable Carriers (the “Petitioners”) to the Governor in Council concerning Telecom Order CRTC 2019-288 (“Order”).

ES-2. CNO is an industry association that represents the interests of service-based competitors and promotes greater competition in the provision of communications services in Canada,

ES-3. Since the 1990s, the Commission has required Canada’s largest incumbent telecommunications service providers to provide wholesale services to service-based competitors in order to enable competition in Canada’s wireline Internet market. Service-based competitors use aggregated wholesale HSA services to provide a variety of telecommunications services to Canadians including, broadband Internet access, VoIP, and IPTV.

ES-4. As required by the *Telecommunications Act*, the Order established just and reasonable final wholesale rates, for aggregated wholesale HSA services.

ES-5. The Petitions seek to refer the Order back to the Commission for reconsideration. In addition, all of the Petitions request that the Governor in Council direct the Commission to complete a series of unrelated proceedings prior to commencing a reconsideration of the Order, such that the Commission would not feasibly be able to complete its reconsideration of the Order before 2022. For the reasons that follow, granting the relief requested in the Petitions would undermine competition in the provision of telecommunications services in Canada and make broadband Internet access less affordable for Canadians. CNO urges the Governor in Council reject the Petitions in their entirety.

ES-6. For many years, CNO and other parties have raised concerns with the Commission that wholesale rates for aggregated wholesale HSA services were not just and reasonable and that they were based on incorrect costing information provided by the Petitioners. In 2016, the Commission,

upon reviewing costing information provided by the Petitioners, agreed and made the aggregated wholesale HSA rates then in effect interim pending the determination of final rates.

ES-7. A three-year regulatory process ensued during which the Commission gathered extensive costing and other economic information from the Petitioners in order to determine their true costs of providing aggregated wholesale HSA services and to determine an appropriate mark-up upon these costs that would incentivize them to continue to invest in telecommunications infrastructure.

ES-8. Throughout this proceeding, the Petitioners delayed the resolution of the proceeding by refusing to comply with clear directives from the Commission with respect to the information that they were required to provide. They refused to adhere to the Commission's directives to follow the Phase II costing methodology, which the Commission has used since the 1970s, to establish just and reasonable rates for telecommunications services.

ES-9. Another issue that contributed to the length of the proceeding was that many of the wholesale service providers inappropriately filed vast amounts of costing information in confidence such that interested parties, including CNOC, would not be able to test the evidence provided by the Petitioners in a meaningful manner. This inappropriate filing of information in confidence led to delays as CNOC and other parties were compelled to obtain disclosure orders from the Commission against the Petitioners in order to know the case they had to meet.

ES-10. Eventually, the Commission was able to obtain the information it sought from the Petitioners and additional disclosure was made to intervenors to enable them to comment in a more meaningful manner on the evidence provided by the Petitioners. The Commission with the aid of its expert staff, performed the necessary analysis for setting wholesale rates at levels that would both enable competition and incentivizing the Petitioners to invest.

ES-11. Finally, on August 15, 2019, the Commission issued the Order and established final rates for aggregated wholesale HSA services that were significantly lower than the interim rates established in 2016. The Order significantly reduced the rates for aggregated wholesale HSA services. In the voluminous reasons for the Order the Commission assessed each of the arguments

raised by the Petitioners and detailed the evidence underlying why it established the final rates. In addition to lowering wholesale rates, the Order required the Petitioners to refund to service-based competitors the amounts service-based competitors had overpaid to Petitioners during the period that rates were interim.

ES-12. The Order resulted in immediate benefits for Canadians as many service-based competitors, including CNOC members, lowered their retail prices and/or upgraded speeds and data limits for their customers.

The Petitions are moot

ES-13. Unfortunately, the Petitioners quickly sought to undo the positive benefits of the Order by immediately launching appeals to the Commission itself through review and vary applications, the Federal Court of Appeal, and the Petitions to the Governor in Council. The Federal Court of Appeal has issued a stay such that the Order is not currently in effect pending the disposition of the appeal in that forum. Moreover, the Commission is already reconsidering the Order as a result of the Petitioners' review and vary applications. As such, the present Petitions to the Governor in Council are moot as the Order is already being reconsidered by the Commission in accordance with the Policy Directions and is not in effect.

The Order will have no negative impacts on investment in infrastructure

ES-14. The principal argument of all the Petitions is that the wholesale rates established in the Order are too low and will result in the Petitioners being compelled to cut investment, particularly in rural and remote areas. In addition, the Petitioners claim that the magnitude of the refunds they must make to service-based competitors is too great. The Petitioners spend a significant amount of time in their Petitions highlighting the benefits for Canadians of broadband Internet access and argue that these benefits will be jeopardized unless the Order is rescinded.

ES-15. CNOC notes that while it fully agrees with the Petitioners that access to high quality, affordable, broadband Internet access can bring transformational benefits to Canadians, it strongly

disagrees with the suggestion that the Order in any way jeopardizes the realization of these benefits. There is no evidence that the wholesale rates established in the Order, or the requirement for refunds to service-based competitors of money that never belonged to the Petitioners in the first place will cause any negative impacts on investment in telecommunications infrastructure.

ES-16. Canadians agree with CNOC. Since the Petitioners launched their Petitions to the Governor in Council, over 125,000 Canadians have taken action and written letters to the Governor in Council, their Members of Parliament, and ISED to ask them to support the Commission and evidence-based policy by upholding the Order.

ES-17. The claims of the Petitioners that the wholesale rates established in the Order will somehow undermine investment in telecommunications infrastructure do not withstand scrutiny.

ES-18. First and foremost, it is important to remember that the Petitioners make spurious claims about catastrophic negative impacts on investment every single time that they are faced with a regulatory decision that increases the level of competition they face. These negative impacts have never materialized, even as the level of competition in Canada's telecommunications markets increases.

ES-19. One of the principal reasons that negative impacts on investment do not result from greater levels of competition, and will not result from the Order, is that Commission's costing methodology, which it has successfully applied for decades, ensures that wholesale rates are appropriately set such that Petitioners not only recover all of their costs for providing the wholesale service, but also receive a mark-up on those costs that incentivizes them to continue investing in telecommunications infrastructure. In the case of the Order, those costs were established after a three-year evidence gathering exercise by the Commission and the mark-up was set at 30%. The Order is the very definition of evidence-based ratemaking and policy formulation.

ES-20. Bell and TELUS put very little evidence forward to explain why the wholesale rates set by the Commission in the Order are somehow inappropriately low. The Cable Carriers did submit an economic report, but, as an expert report prepared by Dr, Zhiqi Chen of Carleton University ("Chen

Report”) explains, the Cable Carriers’ economic report is deeply flawed and cannot support its conclusions.

ES-21. Moreover, despite claiming that the Order will have catastrophic impacts on their abilities to invest, the Petitioners have downplayed the impact of the Order to their shareholders, stating that it is not material. The Petitioners have also continued to increase their dividends while at the same time stating that as a result of the Order, they will no longer be able to invest in rural and remote communities. Canadians living in these communities should be outraged that their broadband connectivity is being used as a pawn by the Petitioners in their battle to maintain unjust and unreasonable profit margins.

ES-22. The Petitioners also ignore the fact that even if they did scale back investments, which CNOOC does not believe for one second that they will do, other competitors and public funding will step up to fill the void and ensure that the digital divide between rural and urban Canada is bridged. In fact, many CNOOC members have already made extensive investments in facilities, including in rural and remote areas, and, if the Order comes into effect, they will have capital available for significantly greater investments.

ES-23. Overall, there is no basis for the claim that the Order will have catastrophic impacts on investment in broadband infrastructure in Canada. This is nothing more than the usual hyperbole and fear mongering from the Petitioners whenever they face greater competition.

The refunds required by the Order are just and reasonable

ES-24. The Petitioners also object to being required to refund to service-based competitors the amounts that were overpaid by service-based competitors during the period that aggregated wholesale HSA rates were interim. This objection is easily dismissed when one considers that the money in question never belonged to the Petitioners in the first place. These refunds represent overpayments that were made by service-based competitors due to wholesale rates that were unjust and unreasonable and resulted from the Petitioners' own failure to adhere to the Commission's costing methodologies. During the lengthy period that the Petitioners held these funds to which they were not entitled, they were effectively extending interest-free loans to the Petitioners.

ES-25. The Petitioners also cannot credibly claim that the period over which they are required to provide refunds, three years, is too long because, as described above, the rates only remained interim that long due to the Petitioners' intransigence and refusal to adhere to Commission directives.

ES-26. The Petitioners were at all times aware that retroactive refunds may result from the Order and indeed, made submissions to the Commission on what would be an appropriate period over which refunds should be provided if final rates ended up being lower than the interim rates.

ES-27. Consequently, the refunds that the Order requires the Petitioners to make to service-based competitors is entirely just and reasonable and does not even begin to compensate the Petitioners for the damage caused by three years of paying wholesale rates that were unjustly inflated.

The other arguments raised by the Petitioners are unfounded

ES-28. The Petitioners also raise other various arguments to try and have the Order referred back to the Commission. For example, the Petitioners claim that because service-based competitor market shares have slightly increased in the last few years, that it was inappropriate for the Commission to lower wholesale rates. This is an absurd argument. Firstly, despite the minor market share gains eked out by service-based competitors, they still make up a very small

proportion of the overall Internet access market in Canada. More importantly, regardless of the size of competitor market share, the Commission has a legal obligation under the *Telecommunications Act* to ensure that wholesale rates are always just and reasonable.

ES-29. The Cable Carriers also attempt to complain that they are unduly prejudiced because the Order requires them to provide wholesale services that enable a faster download speed than the wholesale services provided by the ILECs and because the Commission does not have a costing manual specific to Cable Carrier networks. With respect to the first argument, this speed disparity is in fact only a temporary situation as the Commission finalizes the wholesale regime for access to the FTTP networks of all the Petitioners. In any event, the wholesale rates established by the Order ensure that the Cable Carriers are fully compensated, and make a healthy profit, on any wholesale services that they provide. With respect to the second argument, this must be completely rejected as the Cable Carriers have had decades to file a cable carrier specific costing manual if they objected to the methodologies used by the Commission. The Cable Carriers have never availed themselves of this opportunity to file a Cable Carrier-specific costing manual and cannot now claim to be prejudiced because a costing decision did not result in the rates they wished.

Further delay is unnecessary and would cause further harm to competition

ES-30. The Petitioners are also requesting that, in addition to referring the Order back to the Commission for reconsideration, that the Governor in Council direct the Commission to only reconsider the Order once it has completed its upcoming costing methodology and wholesale wireline proceedings. This must not be permitted to occur. Based on past Commission precedents if the Commission were ordered to complete these proceedings first, it would mean that the Order would not be reconsidered until 2022, at the earliest. Service-based competitors have already been waiting for five years for final rates for these services and the delay has been so long that the wholesale services in question, while still vital to Canadians and competition, are entering their final life stage and are increasingly being replaced with services delivered over FTTP networks.

The Order advances the Government of Canada's telecommunications policy objectives

ES-31. The Governor in Council should not tolerate greater delay in the coming into force of the Order. Allowing the Order to come into force as soon as possible will advance several of the government's telecommunications policy objectives, including those articulated in the 2019 Policy Direction to the Commission. Notably, amongst other objectives, the Order advances all forms of competition in telecommunication and improves the affordability of telecommunications services for Canada's middle class and those working hard to join it. This was demonstrated by the fact that immediately following the release of the Order, many service-based competitors chose to reduce their prices and/or upgrade services at no cost. Others were no doubt making investment plans which have unfortunately been put on hold while regulatory uncertainty over final wholesale rates continues.

ES-32. In addition, by ensuring that the Petitioners are fairly compensated, and also providing service-based competitors with just and reasonable wholesale rates, the Order incentivizes both types of service providers to continue making investments in telecommunications infrastructure and work to bridge the digital divide between rural and urban Canada.

Additional measures are needed to discipline the Petitioners

ES-33. CNOC also urges the Governor in Council to begin investigating methods that may be taken to deter the ability and incentive of the Petitioners to continue delay, obstruct, and hinder the implementation of effective wholesale regulation in Canada. One solution that has worked well in other industrialized countries such as Australia, New Zealand, and the United Kingdom, is to functionally and/or structurally separate incumbent telecommunications service providers into separate wholesale and retail companies. This method of regulation dramatically changes the economic incentives of incumbents and, properly implemented, can make them view service-based customers as valued customers instead of competitors that must be stopped at all costs, including through multi-decade regulatory and legal battles that waste the resources of all parties, including the Government.

ES-34. CNOC believes that the time has come to begin investigating how the functional or structural separation of the Petitioners into separate and distinct wholesale and retail divisions may be accomplished in Canada and encourages the Governor in Council to direct ISED to investigate how functional and structural separation has been implemented in other jurisdictions and how it might be implemented in Canada.

Conclusion

ES-35. The Order is an example of evidence-based policy that advances Canada's telecommunications policy objectives. The Petitioners raise no credible arguments against the Order. CNOC urges the Governor in Council to dismiss the Petitions in their entirety and uphold the Order.

1.0 INTRODUCTION

1. Canadian Network Operators Consortium Inc. (“CNO”) is hereby making its submission respecting the Petitions to the Governor in Council concerning Telecom Order CRTC 2019-288¹ (“Order” or “TO 2019-288”) pursuant to the instructions provided in Gazette Notice TIPB-002-2019 published in the *Canada Gazette*, Part I, on December 14, 2019.

2. The present submission by CNO responds to each of the three petitions (collectively, “Petitions” and each individually a “Petition”) made respectively by Bell Canada² (“Bell”), TELUS Communications Inc.³ (“TELUS”), and the group of cable carriers comprised of Bragg Communications Incorporated (“Eastlink”), Cogeco Communications Inc. (“Cogeco”), Rogers Communications Canada Inc. (“Rogers”), Shaw Communications Inc. (“Shaw”), and Videotron Ltd. (“Videotron”) (collectively called “Cable Carriers”)⁴. Throughout this submission, Bell, TELUS and the Cable Carriers are collectively referred to as the “Petitioners”.

3. CNO notes that all the Petitioners are amongst Canada’s large incumbent telecommunications service providers (“Incumbents”).⁵ When CNO refers to “Incumbents” in this submission, as opposed to just “Petitioners”, it is including Saskatchewan Telecommunications (“SaskTel”). SaskTel is subject to the terms of the Order and participated in the proceeding that led to the Order but has chosen not to appeal the Order and thus is not one of the Petitioners. Nonetheless, CNO’s concerns, described further below, about the anti-

¹ Telecom Order CRTC 2019-288, *Follow-up to Telecom Orders 2016-396 and 2016-448 – Final rates for aggregated wholesale high-speed access services*, 15 August 2019 [“Order”].

² Bell Canada Petition to the Governor in Council to Vary Telecom Order CRTC 2019-288, *Follow-up to Telecom Orders 2016-396 and 2016-448 – Final rates for aggregated wholesale high-speed access services*, 13 November 2019 [“Bell Petition”].

³ TELUS Communications Inc. Petition to the Governor in Council to Vary Telecom Order CRTC 2019-288, *Follow-up to Telecom Orders 2016-396 and 2016-448 – Final rates for aggregated wholesale high-speed access services*, 13 November 2019 [“TELUS Petition”].

⁴ Petition of Bragg Communications Incorporated, Cogeco Communications Inc., Rogers Communications Canada Inc., Shaw Communications Inc., and Videotron Ltd. to Vary Telecom Order CRTC 2019-288, *Follow-up to Telecom Orders 2016-396 and 2016-448 – Final rates for aggregated wholesale high-speed access services*, 13 November 2019 [“Cable Carrier Petition”].

⁵ The large Incumbents consist of both Incumbent Local Exchange Carriers “ILECs”, which consist of Bell (including the operations that were previously operated by Bell Aliant Regional Communications, Limited Partnership and Bell MTS / MTS Inc.), TELUS, and Saskatchewan Telecommunications (“SaskTel”), as well as the Cable Carriers.

competitive conduct of the Incumbents in the proceeding leading to the Order, and more generally, also apply to SaskTel.

4. CNOC urges the Governor in Council to reject the Petitions in their entirety.

5. The Order, which was issued after three years of careful evidence gathering, analysis and deliberations by the Canadian radio-television and Telecommunications Commission (“Commission” or “CRTC”) with the assistance of its expert staff, established just and reasonable rates for aggregated wholesale high speed access (“HSA”) services for the first time in decades. The Order also required the Petitioners to refund to their wholesale customers, who are also service-based competitors, amounts that had been unjustly and incorrectly paid to the Petitioners as a result of previously severely inflated wholesale rates that had applied on an interim basis.

6. The rates established by the Order are not a panacea to all the problems afflicting competition in Canada’s telecommunications markets, but they are a very positive development that will better enable service-based competitors to compete in retail markets.

7. The Government of Canada has rightly recognized that a variety of different forms of competition amongst telecommunications service providers is the most effective means of achieving its objectives of improving the affordability of telecommunications services.⁶ Unfortunately, the Petitions by the Petitioners seek to overturn the Order and compel service-based competitors to once again pay wholesale rates that are not just and reasonable. Overturning the Order would represent a significant step backward for competition. If the Petitioners are successful, Canadians will have fewer choices for telecommunications service providers and they will pay more than is necessary for telecommunications services.

8. The principal argument of all three Petitions is that the wholesale rates established in the Order are too low and will result in the Petitioners scaling back their planned investments in

⁶ Innovation, Science, and Economic Development Canada, News Release, “Directive aims to encourage all forms of competition and investment to bring down costs of Internet and cellphone bills”, 18 June 2019, <https://www.canada.ca/en/innovation-science-economic-development/news/2019/06/government-directs-crtc-to-place-consumer-interests-and-innovation-at-the-forefront-of-telecom-decisions.html>.

telecommunications infrastructure, particularly in rural and remote areas. The Governor in Council should not be persuaded by this spurious claim, which the Petitioners make every time they are faced with greater levels of competition. Not only is this claim wholly unsupported by the costing and economic evidence, including the more than three years of analysis conducted by the Commission, but it is unnecessary fear mongering and represents an inappropriate attempt by some of Canada's largest and most profitable companies to leverage the digital divide between rural and urban areas for the sake of profit margins.

9. Moreover, the Petitions are moot as Bell⁷, TELUS⁸, and the Cable Carriers⁹ have already filed applications with the Commission seeking to review and vary the rates that were established in the Order as well as remove the requirement to provide refunds to service-based competitors. Thus, the Governor in Council referring the Order back to the Commission for reconsideration would serve absolutely no purpose since such a reconsideration is already taking place and will be subject to the policy directions issued by the Governor in Council to the Commission.

10. Furthermore, the rates established in the Order to which the Petitioners object are not even in force today due to a stay issued by the Federal Court of Appeal in response to appeals of the Order by the Petitioners.¹⁰ As with their review and vary applications, the appeals of the Petitioners to the Federal Court of Appeal argue that the Commission made certain costing errors, as well as other errors of law. CNOC is contesting these appeals just as it is contesting the Petitions and review and vary applications of the Petitioners. The key point, however, is that the implementation of the Order, including the requirement for the Petitioners to refund to service-

⁷ Bell Canada Part 1 Application Seeking Order to Review and Vary Telecom Order CRTC 2019-288, Follow-up to Telecom Orders 2016-396 and 2016-448 – Final Rates for Aggregated Wholesale High-Speed Access Services, dated 13 December 2019, (“Bell R & V CRTC Application”).

⁸ TELUS Part 1 Application to Review and Vary Follow-up to Telecom Orders 2016-396 and 2016-448 – Final Rates for Aggregated Wholesale High-Speed Access Services, Telecom Order CRTC 2018-288 and Telecom Order 2019-288-1, 13 November 2019, (“TELUS R & V CRTC Application”).

⁹ Joint Part 1 Application of Bragg Communications Incorporated (carrying on business as Eastlink), Cogeco Communications Inc., Rogers Communications Canada Inc., Shaw Cablesystems GP and Videotron Ltd. (collectively, the “Cable Carriers”) for Review and Variance and a Stay of Telecom Order CRTC 2019-288, Follow-up to Telecom Orders 2016-396 and 2016-448 – Final rates for Aggregated Wholesale High-Speed Access Services, 13 December 2019, (“Cable Carriers R & V CRTC Application”).

¹⁰ Order of Justice Richard Boivin of the Federal Court of Appeal, 22 November 2019, Docket 19-A-59 [“FCA Stay Order”].

based competitors some of the overpayments made over the years, has been stayed by the Federal Court of Appeal pending the disposition of the appeals being heard in that forum.

11. The procedural relief requested by the Petitioners also reveals that the Petitions are nothing more than a delaying tactic to avoid having to provide wholesale services at just and reasonable rates for as long as possible. The Petitions request that, in referring the Order back to the Commission for reconsideration, the Governor in Council direct the Commission to commence its reconsideration only after it completes a series of unrelated regulatory proceedings. The effect of these requested changes means that the Order would not be reconsidered until late 2022, at the earliest.

12. Given that the Petitioners have been offering some of the services at issue in the Order to their own retail customers since at least 2004, further delay simply cannot be tolerated. The fact that competitors had to wait until the Order was issued in late 2019 to finally get just and reasonable rates for aggregated wholesale HSA services is indicative of a serious problem in Canada's regulatory system, which allow the Petitioners to delay offering just and reasonable wholesale rates for multiple years. Of course, as the Order is now under appeal before the Governor in Council, the Federal Court of Appeal, and the Commission itself, service-based competitors still do not enjoy regulatory certainty with respect to final wholesale rates for aggregated wholesale HSA services.

13. CNOC is concerned that the Petitioners will continue to launch interminable appeals with respect to the wholesale services at issue in the Order until such time as the wholesale services become obsolete. Indeed, as currently drafted, there is nothing in the *Act* that would prevent the Petitioners from launching another round of appeals to the Governor in Council and the Federal Court of Appeal if their review and vary applications currently before the Commission are rejected, as they should be.

14. Therefore, in addition to rejecting the current Petitions, CNOC believes that the Government of Canada should consider taking further regulatory measures. A more durable and long-lasting remedy to telecommunications regulation that has worked in other countries such as

the United Kingdom, Australia, and New Zealand, is functionally or structurally separating incumbent telecommunications service providers.

15. While the functional and/or structural separation of the Incumbents is an important medium-term goal, as a first step towards enhancing competition and affordability in Canadian telecommunications, the Governor in Council should reject the Petitions in their entirety and uphold the evidence-based Order of the Commission.

16. CNOC's submission consists of these written comments as well as Appendix A, which is an expert economic report prepared by Dr. Zhiqi Chen¹¹ assessing the economic evidence put forward by the Cable Carriers in their Petition ("Chen Report").

1.1 Structure of CNOC's submission

17. The remainder of Part 1.0 of CNOC's submission provides background information on CNOC, service-based competitors, and Canadians' growing frustration over the state of telecommunications in Canada.

18. Part 2.0 describes the regulatory and factual background surrounding the Order and how the Commission establishes rates for wholesale services.

19. Part 3.0 explains why the Petitions are moot and are merely a delaying tactic by the Petitioners.

20. Part 4.0 makes it clear that there is no debate between service-based competitors and the Petitioners over the transformative benefits of access to broadband Internet.

21. Part 5.0 explains why the Order will not have any negative impact on investment in telecommunications infrastructure in Canada.

¹¹ Dr. Zhiqi Chen, "Assessment of an Expert Report by the Brattle Group Regarding Telecom Order CRTC 2019-288", 31 January 2020 ["Chen Report"].

22. Part 6.0 explains why the refunds that the Order requires the Petitioners to make to service-based competitors are justified.
23. Part 7.0 explains why recent modest gains in market share by service-based competitors cannot be used to justify unreasonable wholesale rates.
24. Part 8.0 explains why the Cable Carriers are not uniquely prejudiced by the Order.
25. Part 9.0 explains why the Governor in Council should not make any modifications to the Commission's regulatory schedule.
26. Part 10.0 explains how the Order advances Canada's telecommunications policy objectives.
27. Part 11.0 explains why additional measures, namely functional and/or structural separation, are needed to restrain Canada's Incumbents.
28. Part 12.0 is the conclusion.

1.2 About CNOC

29. CNOC is a not-for-profit corporation, incorporated under the *Canada Not-for-profit Corporations Act*.¹² Its statement of purpose includes the following objects:
 - To represent the interests of those bodies corporate in Canada that own or operate communications networks, in whole or in part, and are involved in the competitive provision of communications services to the public over those networks;
 - To promote innovation and productivity in Canada, as well as Canada's international competitiveness through the removal of barriers to increased competition in the provision of communications services;
 - To influence the development of laws and regulations, regulatory and judicial determinations, as well as public policy affecting communications in Canada;

¹² S.C. 2009, c. 23.

- To be the recognized and visible authority on the Canadian provision of competitive communications services;
- To ensure that high levels of knowledge, training and ethics are adopted by Canadian competitive communications service providers; and
- To increase the level of competitive communications services business in the Canadian economy.¹³

30. CNOC currently has 31 members representing independent¹⁴ telecommunications service providers¹⁵ (“TSPs”) of all sizes, including the largest independent TSPs in Canada.¹⁶ While all CNOC members are also Internet service providers (“ISPs”) and many also provide voice over Internet Protocol (“VoIP”) services, a number of them also provide traditional circuit switched telecommunications services. Various CNOC members focus on residential markets, others focus on business markets and a few focus on both. CNOC members also include members that have entered the broadcasting distribution market via Internet Protocol television (“IPTV”) platforms. In addition to providing retail telecommunications and broadcasting services to consumers, some also serve as wholesalers to other TSPs. One member¹⁷ has even established a mobile wireless network operator affiliate¹⁸ to serve the three northern territories, the most rugged, sparsely populated part of Canada, featuring the harshest climate in the country.

31. In order to deliver downstream services, such as Internet access, VoIP and IPTV, are essentially applications that require an underlying broadband connection to function, CNOC members rely upon certain wholesale inputs provided by the Incumbents which the members combine with their own facilities to provide those downstream services.

32. All CNOC members, and hundreds of other independent TSPs that compete throughout Canada, rely on at least some wholesale inputs that can only be provided by the Incumbents.

¹³ Articles of Continuance of Canadian Network Operators Consortium Inc. dated May 15, 2013.

¹⁴ By independent we mean that they are not affiliated with any of the Incumbents.

¹⁵ Telecommunications service providers and TSP are used interchangeably throughout this submission.

¹⁶ Examples of these are Distributel Communications Ltd. (“Distributel”), Primus Management ULC and TekSavvy Solutions Inc. (“Teksavvy”).

¹⁷ Iristel Inc. (“Iristel”).

¹⁸ Ice Wireless Inc.

Accordingly, ensuring access to these wholesale inputs on reasonable terms and conditions is vital to the effectiveness of competition in the provision of communications services in Canada. While many issues, including regulatory delays and quality of service issues, outside the scope of the present Petitions continue to undermine the effectiveness of the wholesale regime, the Order was a significant step towards ensuring that wholesale access is provided on just and reasonable terms.

33. Due to the overwhelming importance of wholesale inputs to the business models of most of its members, CNOG will be referring to competitors such as its members that rely significantly upon wholesale inputs as “service-based competitors” throughout this submission. However, CNOG wishes to reiterate that, while it is using the term “service- based competitors” to refer to its members and the many other TSPs that rely upon wholesale inputs for their business models, its members and other competitive TSPs have deployed and own or operate other telecommunications facilities, and some have also deployed significant telecommunications transmission and access facilities as well.

34. For service-based competitors that operate as ISPs, the most important wholesale input is wholesale HSA service. Wholesale HSA service allows service-based competitors to connect the last mile access facilities (i.e., the wire, whether it be coaxial cable, copper twisted pair or fibre, that connects the customer premises with the Incumbent’s telecommunications network) to the networks of the service-based competitors so that they can provide broadband Internet access and other broadband services such as VoIP and IPTV to end-users.

35. The common denominator amongst all CNOG’s members is that they are both the customers of, and competitors to, Canada’s telecommunications Incumbents. As explained further below, service-based competitors such as CNOG members play a vital role in Canadian telecommunications and absent their presence the Incumbents would have free reign to abuse their dominant positions, resulting in less choice and higher prices for telecommunications services for Canadians.

1.3 Service-based competitors are not resellers

36. At the outset, it is important to address the incorrect and misleading use of the term “resellers” in the Petitions. All the Petitions by the Petitioners use the term “resellers” to describe competitors that rely upon wholesale services to compete.¹⁹

37. “Resellers” is an inaccurate description of competitors that use certain wholesale inputs, such as aggregated wholesale HSA service, to provide telecommunications services and compete against the Incumbents and other competitors. The Petitioners like to use this term as it wrongly implies that these types of competitors, which CNOC calls “service-based competitors”, merely resell the retail Internet services of the Petitioners to their own end-users.

38. Service-based competitors do not resell the retail Internet services of the Petitioners and in fact invest significant sums into their networks and businesses in order to offer unique and innovative service offerings to consumers. This fact, as well as the tendency of the Petitioners to attempt to mischaracterize service-based competitors as mere resellers, has been recognized in the Competition Bureau, which stated in its recent Broadband Market Study Report²⁰ that:

There is some misunderstanding about exactly how wholesale-based competitors deliver services to the marketplace. Wholesale-based competitors are not simply “resellers”, who sell existing internet plans on behalf of a telephone or cable company. Instead, wholesale-based competitors, through their investments, control a significant range of service variables, including the capacity limits and prices of their internet plans. Although wholesale-based competitors are often referred to in the industry as resellers, this is an inaccurate term that can have negative connotations in the eyes of consumers.²¹

39. CNOC notes that the Competition Bureau has chosen to use the term “wholesale-based competitors.” While “wholesale-based competitors” does not have the same negative connotation as “reseller”, CNOC’s preferred terminology is service-based competitor, as it better reflects the fact that many competitors rely on a mix of wholesale services as well as their own self-provisioned facilities and services in order to compete.

¹⁹ See, for example, Bell Canada Petition, *supra* note 2 at para 1; TELUS Petition, *supra* note 3 at para 4; and Cable Carriers Petition, *supra* note 4 at para 5.

²⁰ Competition Bureau, *Delivering Choice: A Study of Competition in Canada’s Broadband Industry* [“Broadband Market Study Report”].

²¹ *Id.* at pp. 14-15.

40. It is important that the Governor in Council not be misled by the Petitions into thinking that service-based competitors that rely on the wholesale services that are the subject of TO 2019-288 are mere resellers. In reality, and as noted above, service-based competitors do far more, and contribute far more to Canada's telecommunications ecosystem, than merely reselling the retail services of the Petitioners.

1.4 Canadians are tired of unreasonable telecommunications prices

41. It is a well-known fact that Canadians pay more for telecommunications services than their counterparts in other industrialized countries. This pricing disparity is readily discernible by any Canadian that travels to Europe, Asia, or Latin America, on vacation, for example, and happens to spot an ad for telecommunications services in one of those locales or obtains a local mobile phone plan.

42. The pricing disparity between Canada and the rest of the world is also verifiable by data. Innovation, Science, and Economic Development Canada's ("ISED") 2018 price study confirms that Canadians pay far more for high-speed broadband Internet and mobile wireless services than their peers in other industrialized countries. For example, for a broadband package with download speeds of 101 to 250 Mbps, Canadians pay an average of \$102.76 compared to just \$60.00 in France and the United Kingdom, a difference of 42%.²² Similarly, ISED's 2018 study found that Canadians pay amongst the highest rates in the industrialized world for mobile wireless service.²³

43. The Order represents a significant step towards bringing Canadian telecommunications prices in line with the rest of the world.

44. For example, following the release of the Order, Distributel announced that it is undertaking to increase home Internet speeds for its customers at no extra cost to them. Distributel has also revised its pricing for Internet and bundled service offerings that include Internet services.

²² Wall Communications Inc., *Price Comparisons of Wireline, Wireless and Internet Services in Canada and with Foreign Jurisdictions, 2018 Edition*, 29 August 2018, at p 45. ["Wall 2018 Report"].

²³ *Id.* at p. 30.

As one example, Distributel's 250Mbps cable Internet service has been reduced from a promotional rate of \$85.00 per month for the first 12 months and \$95.00 afterwards to \$39.95 per month for the first 12 months and \$79.95 per month afterwards.²⁴

45. Similarly, TekSavvy, another CNOC member announced on September 13, 2019 that it would reduce prices or upgrade data plans for 85% of its customers following the Order.²⁵

46. Start.ca, also a CNOC member, stated that the Order has allowed savings to be passed on to customers with prices for some high-speed cable Internet end-users falling by \$20.00 to \$70.00 per month, with a speed upgrade.²⁶

47. Ebox, also a CNOC member, announced on September 20, 2019 that it was lowering prices, improving speeds, and making unlimited plans more affordable for more than 90% of its customers as a result of the Order.²⁷

48. Other CNOC members such as Oricom Internet Inc., Execulink Telecom Inc. and All Communications Network of Canada Co. also reduced prices for Internet services after the Order was issued.²⁸

49. Unfortunately, the Petitions, review and vary applications, and appeal to the Federal Court of Appeal all seek to reverse the progress that the Order made towards affordable telecommunications in Canada.

50. Since the various appeals by the Petitioners were announced, it has become apparent that Canadians are fed up with the state of telecommunications pricing. Already, more than 125,000 Canadians have sent letters to their Members of Parliament, the Governor in Council, the Chair of

²⁴ Affidavit of Christopher Hickey sworn October 15, 2019 ("Hickey Affidavit"), at paras 215-216, Responding Motion Record of Canadian Network Operators Consortium in Bell Canada et al v. British Columbia Broadband Association et al (Federal Court of Appeal Docket 19-A-59) and Bragg Communications Inc. et al v. British Columbia Broadband Association (Federal Court of Appeal Docket 19-A-58).

²⁵ *Id.*, at para 217.

²⁶ *Ibid.*

²⁷ Cision, "EBOX s'engage à baisser les prix des consommateurs suite à la décision du CRTC", 20 September 2019, <https://www.newswire.ca/fr/news-releases/ebox-s-engage-a-baisser-les-prix-des-consommateurs-suite-a-la-decision-du-crtc-879222738.html>.

²⁸ Hickey Affidavit., *supra* note 24, at paras 218-220.

the Commission, and the Minister of Innovation, Science, and Industry, requesting that the government support the Order with a view to ensuring competition, affordability and choice of broadband service providers.²⁹

51. In contrast, CNOC doubts that the Governor in Council will hear much, if any, support from Canadians for the proposition that the Petitioners should be able to maintain their inflated profit margins which would allow them to continue gouging Canadians on the cost of telecommunications services.

52. Canadians strongly support the Commission and its efforts to improve the affordability of telecommunications services through evidence-based policies. The swift rejection by the Governor in Council of the Petitions and the coming into the force of the Order will allow service-based competitors to offer affordable, high-quality, broadband Internet service to Canadians and work to ameliorate the growing discontent of Canadians with the state of telecommunications in Canada.

2.0 REGULATORY AND FACTUAL BACKGROUND

2.1 Wholesale access and Phase II Costing

53. It is important that, in deciding how to address the Petitions, the Governor in Council understand why the Commission requires the Incumbents to provide wholesale access to service-based providers and how it establishes wholesale rates.

54. The underlying rationale for requiring the Incumbents to grant wholesale access to service-providers was succinctly described by the Competition Bureau in its recent Broadband Market Study Report:

Given the significant costs of deploying wired networks, it is likely not economical for a new enterprise to “overbuild” a new network on top of existing telephone and cable networks. This is, in part, because simply placing wires does not come with any guarantee that those wires will be used. Once the wires are placed, that new network still must compete with existing networks in order to attract a sufficient number of customers at

²⁹ Canadians sent these letters supporting the Order to their Member of Parliament, and also filed them in these proceedings before the Governor in Council, as well as sending them to the Commission Chair, and Minister of Innovation, Science, and Industry.

sufficient levels of revenue to pay off their investments. At the current cost of deployment, it does not appear economically viable for additional wired networks to provide additional choice for Canadian consumers.

Accordingly, at this basic level, market forces will generally only deliver two wired internet choices into the homes of most Canadians. Along with this limited choice come obvious concerns whether choice between only two providers is enough to deliver competitive outcomes. The CRTC, recognizing these concerns, has historically opted to use regulation to increase competition and consumer choice in respect of broadband internet services. Since the advent of broadband internet in the late 1990s, the CRTC has mandated the largest telephone and cable companies in Canada to provide wholesale access to their networks. Using this wholesale access, independent competitors can then link in and use the network infrastructure of telephone and cable companies to provide broadband internet services to consumers in direct competition with those network owners.³⁰ [Footnotes omitted]

55. Thus, the requirement for the large Incumbents to provide wholesale access to service-based competitors so that service-based competitors may provide broadband Internet services to Canadians is long-standing, having existed since the late 1990s.

56. In order to set the rates for wholesale access, the Commission has used a long-standing costing methodology known as Phase II costing. Phase II costing relies on established principles, methodologies and assumptions that were developed four decades ago.³¹ The methodology has also evolved over time.

57. With Phase II costing, the Commission establishes rates that allow the Incumbents to recover costs causal to the service. The Commission also applies a mark-up on causal costs that contributes to the recovery of the Incumbent's fixed and common costs. The Commission explained this approach in the Order as follows:

When the Commission establishes a rate for a wholesale service, it typically adds a percentage markup to the service's costs, with the result that the service's rate equals its costs plus the amount of markup. The markup contributes to the recovery of the company's fixed and common costs, such as corporate overhead expenses. Markups have varied over time depending on a number of factors, including whether the

³⁰ Broadband Market Study Report, *supra* note 20, at p. 13.

³¹ *Tariff notice applications concerning aggregated wholesale high-speed access services – Revised interim rates*, Telecom Order CRTC 2016-396, 6 October 2016, at para 16.

wholesale service is essential and whether there may be additional risk to network investment if the wholesale service is mandated.

[....]

In Telecom Regulatory Policy 2011-703, the Commission noted that, in setting rates, it balances the need to ensure that network providers are reasonably compensated for their costs with the need to ensure that markups are not so high as to significantly impede competitors from providing competitive alternatives in the marketplace.

[....]

The Commission therefore approves a 30% markup for the wholesale HSA service providers' aggregated wholesale HSA services.³² [Emphasis added]

58. Therefore, by definition, Phase II Costing compensates a wholesale service provider for its costs, and then a mark-up is applied on those costs, which, in the case of the wholesale services at issue in the Order, is 30%. The mark-up ensures that the wholesale service provider will have an incentive to continue investing.

59. The Competition Bureau acknowledged the conceptual soundness of the Commission's costing approach, including for preserving Incumbent investment incentives, when it stated in its Broadband Market Study Report:

One way to maintain the investments is for facilities-based competitors to be compensated so that their stream of expected profits is sufficient to ensure that investments continue to happen. The CRTC rightly recognizes the need for such an incentive and, when setting the rates that wholesale-based competitors must pay to facilities-based competitors, includes rate components that are designed to maintain investment incentives.³³

60. CNOC notes that, except for one spurious argument raised by the Cable Carriers and discussed further below, none of the Petitioners challenged the principles underlying Phase II Costing methodology. The claims of the Petitioners are that the Commission applied it incorrectly in the present instance, a claim which is already being examined by the Commission in the

³² Order, *supra* note 1, at paras 284, 286 and 313.

³³ Broadband Market Study Report, *supra* note 20, at p. 48.

proceedings initiated by the Petitioners' applications to the Commission to review and vary the Order. CNOC fundamentally disagrees with these claims.

61. CNOC urges the Governor in Council not to be persuaded by the claims of the Petitioners that the Commission wrongly applied Phase II Costing in the Order. As the Competition Bureau notes in its Broadband Market Study Report:

Regulatory costing is a complicated and time-consuming exercise that requires a wide range of expertise and confidential business information [...]³⁴

62. The Commission has this expertise. The Commission has been applying Phase II Costing for over 40 years, and, in the case of the Order, only issued its costing decision after an exhaustive three-year investigation into the true costs of the Petitioners and what would be an appropriate mark-up to continue to incentivize them to invest.

63. CNOC urges the Governor in Council to defer to the Commission and advance evidence-based policy making by upholding the Order in its entirety.

2.2 The wholesale services at issue

64. The Order only addressed a wholesale HSA service, known as "aggregated". As the Commission describes in the Order:

The Commission regulates the wholesale high-speed access (HSA) services provided by incumbent local exchange carriers (ILECs) and cable carriers (collectively, the wholesale HSA service providers). Competitors (i.e. the customers that purchase wholesale HSA services) can use these services to provide their own retail Internet services and other services to their end-users.

There are two types of wholesale HSA service: aggregated and disaggregated. With the aggregated service, the competitor connects its network at a small number of points of interconnection (POIs) to reach all end-users connected to the wholesale HSA service provider's network. The wholesale HSA service provider's network transports traffic for the competitor between a POI and all head-ends or central offices (COs) it serves. The competitor provides or leases transport facilities from its network to the POI. With the disaggregated service, the competitor connects its network to one POI per head-end or CO. The ILEC or cable carrier does not provide transport – instead, the competitor provides or

³⁴ *Id.*, at p. 48.

leases transport to each head-end or CO serving end-users that it wishes to serve.³⁵
[Footnotes omitted]

65. The reason this distinction is important is that, at the present time, aggregated wholesale HSA services only allow competitors to access the legacy services of the Incumbents. Aggregated wholesale HSA service cannot be used to access the advanced fibre-to-the-premises (“FTTP”) networks of the Incumbents. Due to problems with the pricing and other terms of service of disaggregated HSA services, wholesale demand for these services, which constitute the only means of wholesale access to Incumbent FTTP facilities remains negligible while the Commission finalizes the wholesale regime, including the wholesale rates, for these facilities³⁶.

66. The Governor in Council should therefore view with suspicion claims by the Petitioners that the Order somehow poses a catastrophic threat to them, particularly as they continue to enjoy an unfettered monopoly over their FTTP networks.

2.3 The regulatory proceedings leading to the Order

67. In accordance with subsection 27(1) of the *Telecommunications Act*³⁷ (“Act”), the Commission must ensure that rates for regulated services, including wholesale HSA services, are “just and reasonable”. Furthermore, subsection 27(5) of the *Act* empowers the Commission with broad discretion to determine just and reasonable rates by adopting “...any method or technique that it considers appropriate, whether based on a carrier’s return on its rate base or otherwise.”³⁸ Subsection 37(1) of the *Act* goes on to authorize the Commission to “require a Canadian carrier ... to adopt any method of identifying the costs of providing telecommunications services...”

68. Consistent with the broad statutory discretion conferred by subsections 27(5) and 37(1) of the *Act*, the Commission applies the Phase II costing methodology to establish just and reasonable

³⁵ Order, *supra* note 1, at paras 1-2.

³⁶ CNOC Part 1 Application dated 13 November 2018 to Review and Vary *Review of Wholesale Wireline Services and Associated Policies*, Telecom Regulatory Policy CRTC 2015-326 and *Follow-up to Telecom Regulatory Policy CRTC 2015-326 – Implementation of a Disaggregated Wholesale High-Speed Access Services, Including Over Fibre-to-the-Premises Access Facilities*, Telecom Decision CRTC 2016-379 (CRTC File No. 8662-C182-201809534) (the “2018 CNOC Part 1 Application”).

³⁷ Subsection 27(1) of the *Telecommunications Act*, S.C. 1993, c. 38 [“*Telecommunications Act*”].

³⁸ Subsection 27(5) of the *Telecommunications Act*.

rates for wholesale HSA services. Phase II costing relies on established principles, methodologies and assumptions that were developed four decades ago.³⁹

69. Phase II costing allows the Incumbents to recover costs causal to the service and obtain a contribution towards its fixed and common costs. The result of Phase II costing is rates for regulated services that are compensatory and thus, by definition, maintain the Incumbents' incentive to invest in telecommunications facilities.

70. In the years leading up to 2015, CNOC expressed significant concern that the rates for wholesale HSA services were severely inflated and thus, no longer just and reasonable in accordance with subsection 27(1) of the *Act*. CNOC and other competitors submitted that several Phase II costing parameters that were applied in the setting of rates for wholesale HSA services at the time were no longer appropriate.⁴⁰ In response, the Commission initiated a proceeding to review the costing inputs and application process for wholesale HSA services.⁴¹ This proceeding triggered a series of successive Commission decisions from 2016 to 2019.

71. The regulatory history of these Commission proceedings leading up to the Order is set out below, in chronological order. This history underscores a clear and consistent pattern whereby the Petitioners have not adhered to the Commission's established and accepted costing principles and methodologies.

72. As then Chair and CEO of the Commission commented, the conduct of the Petitioners during this period was "very disturbing".⁴² The Petitioners repeatedly attempted to circumvent accepted costing principles and methodologies with a view to leading the Commission to approve severely inflated rates for wholesale HSA services. The Commission correctly identified such

³⁹ *Tariff notice applications concerning aggregated wholesale high-speed access services – Revised interim rates*, Telecom Order CRTC 2016-396, 6 October 2016, at para 16.

⁴⁰ *Review of costing inputs and application process for wholesale high-speed access services*, Telecom Notice of Consultation CRTC 2015-225, 28 May 2015, ("TNC 2015-225"), at para 9. Prior to the launch of the proceeding initiated by TNC 2015-225, the Commission had received a Part 1 application from CNOC, dated 30 April 2015, in which CNOC raised concern that usage-sensitive rates associated with certain wholesale HSA services were no longer just and reasonable. CNOC requested that the Commission make interim various wholesale HSA service rates that received final approval, pending a review by the Commission of the appropriateness of the existing approved rates. See *Review of costing inputs and the application process for wholesale high-speed access services*, Telecom Decision CRTC 2016-117, 31 March 2016, at para 7 ["TD 2016-117"].

⁴¹ TNC 2015-225, *supra* note 40.

⁴² Commission News Release "CRTC finds proposed wholesale high-speed access rates unreasonable", 6 October 2016 available at <https://www.canada.ca/en/radio-television-telecommunications/news/2016/10/crtc-finds-proposed-wholesale-high-speed-access-rates-unreasonable.html> ["Commission News Release October 6, 2016"].

proposals as inappropriate and instead applied a careful and principled approach to rate setting, resulting in the just and final rates for wholesale HSA services that were approved in the Order.

Telecom Notice of Consultation CRTC 2015-225

73. On May 28, 2015 the Commission issued Telecom Notice of Consultation CRTC 2015-225⁴³ (“TNC 2015-225”). This notice of consultation initiated a proceeding to review costing inputs for wholesale HSA services.⁴⁴ TNC 2015-225 acknowledged the concerns of service-based competitors that applicable cost parameters for wholesale HSA services were no longer appropriate.⁴⁵ The Commission invited interested parties to comment on six issues relating to the Commission’s costing approach for wholesale HSA services.⁴⁶

74. The proceeding attracted intense participation from the telecommunications industry, including the filing of detailed interventions and reply comments from the Petitioners.

Telecom Decision CRTC 2016-117

75. The Commission proceeding initiated by TNC 2015-225 culminated in the release of Telecom Decision CRTC 2016-117⁴⁷ (“TD 2016-117”) on March 31, 2016. This decision established a new simplified cost-based approach that allowed wholesale HSA providers to introduce new service speeds within set speed-bands without filing an associated cost study for each speed within a band.⁴⁸ The decision also revised specific costing parameters.⁴⁹ The Commission then directed all wholesale HSA service providers to file tariff applications reflecting the new costing parameters approved in TD 2016-117.⁵⁰

76. Most notably, the Commission confirmed that because changes were necessary to certain costing assumptions, then current wholesale HSA service rates were not likely just and reasonable.⁵¹ On this basis, the Commission made all wholesale HSA service rates interim as of

⁴³ TNC 2015-225, *supra* note 40.

⁴⁴ *Id.* at para 12.

⁴⁵ *Id.*, at paras 9-10.

⁴⁶ *Id.*, at paras 13-20.

⁴⁷ TD 2016-117, *supra* note 40, at paras 19-26.

⁴⁸ *Id.*, at paras 19-26.

⁴⁹ *Id.*, at paras 25-86.

⁵⁰ *Id.*, at para 105.

⁵¹ *Ibid.*

March 31, 2016.⁵² Importantly, the Commission also stated that it would assess the extent to which, if at all, retroactivity will apply when new cost studies are submitted in support of revised wholesale HSA service rates.⁵³

Telecom Order CRTC 2016-396

77. Forty-five days after the release of TD 2016-117, Bell⁵⁴, TELUS and the Cable Carriers, with the exception of Eastlink, (the Cable Carriers minus Eastlink hereinafter called “Four Cable Carriers”), filed tariff applications.⁵⁵ After reviewing these tariff applications, the Commission issued Telecom Order CRTC 2016-396⁵⁶ on October 6, 2016. In this order, the Commission determined that most of the wholesale HSA providers failed to comply with relevant Commission determinations and/or with Phase II costing principles.⁵⁷ Since Eastlink’s cost studies were filed later,⁵⁸ they were subject to a separate order of the Commission, which is described below.

78. In addition, the Commission determined that Bell, the Cable Carriers and TELUS did not justify their departures from the Commission’s accepted costing principles and methodologies.⁵⁹ The Commission also identified several other costing issues in TO 2016-396.⁶⁰

79. The Commission ultimately concluded that the tariff filings of Bell, the Cable Carriers and TELUS were, on a *prima facie* basis, not based on reasonable costs.⁶¹ In order to ensure that interim rates were based on proper costing principles and reasonable costs, the Commission made a number of adjustments to proposed wholesale HSA costs.⁶² Based on those costs, the Commission approved new interim rates for wholesale HSA services that were lower than previous rates by as much as 85.6%.⁶³

⁵² *Ibid.*

⁵³ *Id.*, at para 105.

⁵⁴ More specifically, the Bell Companies, which include Bell Canada and Bell MTS.

⁵⁵ TD 2016-117, *supra* note 40, at para 106.

⁵⁶ TO 2016-396, *supra* note 31, at para 10.

⁵⁷ *Ibid.*

⁵⁸ On September 9, 2016.

⁵⁹ TO 2016-396, *supra* note 31, at para 17.

⁶⁰ *Ibid.*

⁶¹ *Id.*, at para 19.

⁶² *Id.*, at para 23.

⁶³ *Id.*, at para 24.

80. Finally, the Commission once again addressed the matter of retroactivity. The Commission stated that it would assess the extent to which, if at all, retroactivity would apply when wholesale HSA services are set on a final basis.⁶⁴

81. Following the release of TO 2016-396, then Chair and CEO of the CRTC commented: “The fact that these large companies did not respect accepted costing principles and methodologies is very disturbing. What’s even more concerning is the fact that Canadians’ access to a choice of broadband Internet services would have been at stake had we not revised these rates.”⁶⁵

Telecom Order CRTC 2016-448

82. On November 10, 2016, the Commission issued Telecom Order CRTC 2016-448⁶⁶ (“TO 2016-448”), which adjusted Eastlink’s interim rates for wholesale HSA services.

83. Much like in TO 2016-396, the Commission found that Eastlink had not adhered to established Phase II costing principles and methodologies.⁶⁷ The Commission then determined that it was necessary to revise Eastlink’s interim wholesale HSA service rates to reflect more accurately accepted costing principles.⁶⁸ The Commission did so consistent with the approach that it applied in TO 2016-396 with respect to Bell, TELUS and the Four Cable Carriers and approved revised interim rates for Eastlink.⁶⁹

84. Finally, the Commission once again stated that it would assess the extent to which, if at all, retroactivity would apply when wholesale HSA services are set on a final basis.⁷⁰

⁶⁴ *Id.*, at para 28.

⁶⁵ Commission News Release October 6, 2016, *supra* note 42.

⁶⁶ *Bragg Communications Incorporated, operating as Eastlink – Revised interim rates for aggregated wholesale high-speed access service*, Telecom Order CRTC 2016-448, 10 November 2016 [“TO 2016-448”].

⁶⁷ *Id.*, at para 12.

⁶⁸ *Id.*, at para 14.

⁶⁹ *Ibid.*

⁷⁰ *Id.*, at para 18.

Telecom Decision CRTC 2017-167

85. Unhappy with the outcome of TO 2016-448, Eastlink filed with the Commission an application to review and vary that order.⁷¹ Eastlink claimed that there was significant doubt as to the correctness of TO 2016-448 on the basis that the Commission made errors of fact and law.⁷²

86. The Commission rendered its decision regarding Eastlink's application by way of Telecom Decision CRTC 2017-167⁷³ ("TD 2017-167"). The Commission determined that Eastlink had failed to demonstrate that there was substantial doubt as to the correctness of TO 2016-448 and dismissed Eastlink's application.⁷⁴

The Order (Telecom Order CRTC 2019-288)

87. As a result of TO 2016-396 and TD 2016-448, Bell, the Cable Carriers and TELUS filed revised cost studies for wholesale HSA services.⁷⁵ The CRTC issued an extensive process to build a factual record surrounding the revised cost studies. This process included multiple Commission issued requests for information to the Petitioners and other providers of wholesale HSA services. Parties were also given the opportunity to file final comments and replies.

88. Notably, interested parties, including the Petitioners, also filed submissions regarding the extent to which, if at all, retroactivity should apply when the CRTC would approve wholesale HSA rates on a final basis.⁷⁶

89. On August 15, 2019, the Commission issued the Order, setting out final rates for wholesale HSA services and related determinations. The Order is a voluminous and comprehensive ruling that references the factual record of the proceeding and provides detailed descriptions of the rationale underlying the Commission's determinations. In addition, Appendix 2 to the Order sets out a clear summary of: (1) every costing proposal of each of the individual Petitioners; (2) a

⁷¹ *Bragg Communications Incorporated, operating as Eastlink – Application to review and vary or stay Telecom Order 2016-448 regarding wholesale high-speed access service interim rates*, Telecom Decision CRTC 2017-167, 25 May 2017, at para 5 ["TD 2017-167"].

⁷² *Id.*, at para 7.

⁷³ TD 2017-167, *supra* note 71.

⁷⁴ *Id.*, at para 41.

⁷⁵ Order, *supra* note 1, at para 6.

⁷⁶ *Id.*, at paras 314-326.

description of the Commission's adjustment to those costing proposals; and (3) an explanation of the Commission's rationale for doing so.⁷⁷

90. The Order describes adjustments to Bell's costs that are necessary due to: (1) use of an alternate costing approach that overestimates costs;⁷⁸ (2) reporting of unreasonable costs compared to those of other ILECs;⁷⁹ (3) unreasonable allocation of costs to a narrow set of services without correct use of attribution factors;⁸⁰ (4) incorrect and unsubstantiated inclusion of productivity improvement costs;⁸¹ (5) Failure to provide evidence in support of forecasts projecting a need for additional facilities;⁸² (6) Failure to provide evidence to justify a departure from the Commission's previous cost determinations;⁸³ and more.⁸⁴

91. The Order describes adjustments to Cable Carrier costs that are necessary due to Cable Carriers': (1) failure to adhere to previous Commission determinations relating to costs;⁸⁵ (2) reporting of costs that were not substantiated by evidence;⁸⁶ (3) misclassification of cost elements;⁸⁷ (4) miscalculation of certain cost elements by ignoring applicable factors;⁸⁸ (5) use of inappropriately low cost factors;⁸⁹ (5) failure to provide company-specific data supporting proposed deviations from costing principles and methodologies;⁹⁰ (7) errors in calculations;⁹¹ and more.⁹²

92. Finally, the Order describes adjustments to TELUS' costs that are necessary due to TELUS': (1) failure to use company specific evidence that can provide a reliable forecast;⁹³ (2) use of financial parameters that were not approved by the Commission;⁹⁴ (3) inappropriate timing

⁷⁷ *Id.*, Appendix 2.

⁷⁸ *Id.*, at paras 206-212.

⁷⁹ *Id.*, at paras 187-188.

⁸⁰ *Id.*, at paras 224-233.

⁸¹ *Id.*, at paras 238.

⁸² *Id.*, at paras 250-252.

⁸³ *Id.*, at paras 256-257.

⁸⁴ *Id.*, at paras 266-270 and Appendix 2.

⁸⁵ *Id.*, at paras 64-67.

⁸⁶ *Id.*, at paras 167-169.

⁸⁷ *Id.*, at paras 156-161.

⁸⁸ *Id.*, at paras 129-135.

⁸⁹ *Id.*, at paras 156-161 and Appendix 2.

⁹⁰ *Id.*, at paras 20-24.

⁹¹ *Id.*, Appendix 2.

⁹² *Id.*, Appendix 2.

⁹³ *Id.*, at para 22 and Appendix 2.

⁹⁴ *Id.*, at para 272 and Appendix 2.

approach for calculation of present worth for all capital costs;⁹⁵ (4) inappropriate use of a 100% attribution factor despite the fact that other services benefit from the access;⁹⁶ and (5) proposed supplementary mark-up of 10% despite the fact that there was no longer a greater investment risk associated with the construction of FTTN facilities.⁹⁷

93. The Commission's adjustments ensure that the wholesale HSA service costs of the Petitioners are accurately identified in accordance with established costing principles and methodologies. These adjustments resulted in rate reductions to the Petitioners' wholesale HSA rates of between 15% and 43% for the CBB rate component between 3% and 82% for the access rate component.⁹⁸

94. As it had signaled in prior rulings, the Commission also issued determinations on the matter of retroactivity. The Commission found that to the extent that the interim rates for wholesale HSA services were based on inappropriate costs and assumptions, those rates are not just and reasonable.⁹⁹ Consequently, the Commission ruled that retroactive application of the final rates is necessary to ensure that wholesale HSA service providers apply just and reasonable rates.¹⁰⁰ However, the Commission determined that it would not be appropriate to apply retroactivity to a date that is earlier than the period that is captured in the cost filings that informed the proceeding leading to the Order.¹⁰¹ On this basis, the Commission determined that the final rates should apply retroactively to January 31, 2017 in the case of Shaw and March 31, 2016 in the case of the other Cable Carriers, Bell and TELUS.¹⁰²

⁹⁵ *Id.*, Appendix 2.

⁹⁶ *Id.*, at paras 223-233 and Appendix 2.

⁹⁷ *Id.*, at paras 306-313 and Appendix 2.

⁹⁸ *Id.*, Appendix 1.

⁹⁹ *Id.*, at para 329.

¹⁰⁰ *Id.*, at para 330.

¹⁰¹ *Ibid.*

¹⁰² *Id.*, at paras 331-332.

95. On August 22, 2019 the Commission issued Telecom Order CRTC 2019-288-1¹⁰³ to make two minor corrections to the Order.¹⁰⁴ For the purposes of this submission, when CNOC refers to the Order, this also includes TO 2019-288-1.

2.4 The Petitions and requested relief

96. In response to the Order, Bell, TELUS, and the Cable Carriers filed Petitions with the Governor in Council on November 13, 2019. While there are three separate Petitions, each one is nearly identical in its arguments and the relief requested is broadly the same, namely a referral of the Order back to the Commission for reconsideration and the removal of any requirement for refunds to service-based competitors.

97. Bell requests that the Governor in Council:

a) vary Telecom Order CRTC 2019-288 such that the interim wholesale HSA service rates for Bell Canada, Bell MTS, Cogeco, Eastlink, Rogers, SaskTel, Shaw, Telus, and Videotron set out in Telecom Decision CRTC 2016-117, as revised in Telecom Order CRTC 2016-396 and Telecom Order CRTC 2016-448, are established as the final wholesale HSA service rates as of the date of Order 2019-288;

b) vary Telecom Order CRTC 2019-288 such that the wholesale HSA service rates established in Telecom Order CRTC 2019-288 are not applied retroactively; and

c) direct the Commission to conduct a review of the wholesale wireline framework before a review of its approach to wholesale rate-setting.¹⁰⁵

98. TELUS request that the Governor in Council grant the following relief:

1. An Order pursuant to section 12 of the *Telecommunications Act* referring the Decision back to the Commission for reconsideration and setting out the following details, which are material to the reconsideration:

i. the Commission shall conduct its review of the wholesale high-speed access regulatory framework (the “Framework”) that it was already planning for 2020 before initiating any future review of wholesale wireline rates or issuing any

¹⁰³ *Follow-up to Telecom Orders 2016-396 and 2016-448 – Final rates for aggregated wholesale high-speed access services*, Telecom Order CRTC 2019-288-1, 22 August 2019 [“TO 2019-288-1”].

¹⁰⁴ Namely, the CRTC specified a final wholesale HSA service rate that had been omitted from the original Order and also added Rogers Communications Canada Inc. to the list of parties that were subject to retroactive rate adjustments as of March 31, 2016.

¹⁰⁵ Bell Petition, *supra* note 2, at para 122.

decisions on wholesale wireline rate proceedings presently before the Commission;
and

ii. the Commission's approach to its review of the Framework proceedings and decisions that emerge from the Framework shall be informed by the need to:

a. ensure that facilities-based carriers in Canada have sufficient incentives to invest in the deployment of advanced telecommunications technologies that are fully competitive with the most advanced technologies used in other countries;

b. recognize the importance of facilities-based competition to progressive environmental policy, healthcare, agricultural policy, and the future economic and social development of rural and remote communities throughout Canada;

c. avoid the destabilizing effects of retroactive ratemaking; and

d. achieve the policy objectives set out in section 7 of the *Telecommunications Act* in a manner consistent with the *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives, SOR/2006-355* and the *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives to Promote Competition, Affordability, Consumer Interests and Innovation, SOR/2019-227*.

2. An Order pursuant to section 12 of the *Telecommunications Act* varying the Decision and establishing as final rates the rates for aggregated wholesale high speed Internet access in place immediately prior to the release of Telecom Decision CRTC 2016-117, *Review of costing inputs and the application process for wholesale high-speed access services* on March 31, 2016, which, for clarity, shall have no retroactive effect.¹⁰⁶

99. The Cable Carriers request the following relief:

The Cable Carriers therefore respectfully request that the Governor in Council issue an Order pursuant to Section 12 of the *Telecommunications Act* referring the CRTC Order of August 15, 2019 back to the CRTC for reconsideration, taking the following matters into account:

(a) the final rates for wholesale high-speed access services (aggregated and disaggregated) should be established in conjunction with the CRTC's pending broader review of the wholesale high-speed access regulatory framework, and not before that review is completed; and

¹⁰⁶ TELUS Petition, *supra* note 3, at para 65.

(b) the final rates should take into account the Canadian telecommunications policy objectives set out in section 7 of the *Telecommunications Act*, and particularly paragraphs 7 (a), (b) and (f), and the following matters that are relevant to achieving those objectives:

(i) all Canadians, including those in rural and remote areas, should have access to existing and next generation broadband technologies to enable them to participate fully in the digital economy and society;

(ii) the wholesale high-speed access regulatory regime should encourage innovation and ongoing investment in developing and deploying world leading broadband technologies that provide the foundation for Canada's digital development, innovation, economic growth and international competitiveness;

(iii) the regime should promote affordability for consumers in a balanced, symmetrical and sustainable manner that also provides all Canadians with reliable, high quality services and access to continually evolving technology, by allowing facilities-based competitors to:

(A) recover the actual costs associated with their actual wireline networks, rather than hypothetical costs associated with notional networks that would not be capable of providing high-speed access services to the same number of consumers and / or of the same quality; and

(B) realize a reasonable return on their investments;

(iv) Canadian companies should be able to finance and deploy advanced wireline technologies that are fully competitive with the most advanced technologies used in other countries.

The Cable Carriers also respectfully request that, to the extent necessary, the Governor in Council issue an Order pursuant to Section 12 of the *Telecommunications Act* varying the CRTC Order to stay or suspend its coming into force until:

(a) the final disposition of this Petition;

(b) completion by the CRTC of the framework review referred to above; and

(c) the issuance by the CRTC of any new or revised final wholesale rates for aggregated high-speed access services.

The Cable Carriers also respectfully request that the Governor in Council issue an Order pursuant to Section 12 of the *Telecommunications Act* varying the CRTC Order to state

that final wholesale rates established by the CRTC as a result of its reconsideration of the Order shall not apply retroactively, and instead shall only have prospective effect.

Finally, the Cable Carriers respectfully request that the Governor in Council issue an Order pursuant to Section 12 of the *Telecommunications Act* varying the CRTC Order such that during the pendency of the stay or suspension referred to in paragraph 137 above, the following wholesale rates for aggregated high-speed access services shall apply:

in the case of Cogeco, Rogers, Shaw and Videotron, the Interim Rates established in Telecom Order CRTC 2016-396; and

in the case of Eastlink, the proposed rates filed by Eastlink with the CRTC in Tariff Notice 37A dated March 6, 2017.¹⁰⁷

100. All these requests for relief are founded upon claims that the Order sets wholesale rates for aggregated wholesale HSA too low and that the refunds it requires wholesale service providers to make to service-based competitors are too large.

101. As CNOC will demonstrate below, these claims are without merit and the Governor in Council should therefore decline to issue the relief requested in the Petitions.

3.0 THE PETITIONS ARE MOOT

102. It is important that the Governor in Council understand that the Petitions are moot as the Petitioners have also chosen to pursue simultaneous appeals of the Order before the Federal Court of Appeal and the Commission itself.

103. Notably, the Federal Court of Appeal has issued a stay of the implementation of the Order until such time as it disposes of the Petitioners' appeal to that forum.¹⁰⁸ This is important context for the Governor in Council to consider when reviewing the claims of Videotron, for example, that it was compelled to withdraw one of its high-speed Internet retail services as a result of the Order, an unsubstantiated claim that CNOC examines in greater detail below.

104. The Petitioners have also filed review and vary applications with the Commission alleging that the Commission made certain costing errors and seeking corrections to those errors, which

¹⁰⁷ Cable Carrier Petition, *supra* note 4, at para 136.

¹⁰⁸ FCA Stay Order, *supra* note 10.

would have the effect of materially increasing the wholesale rates established in the Order.¹⁰⁹ In addition, as part of these review and vary applications, the Petitioners are all arguing that retroactive rate-setting was incorrectly applied by the Commission.¹¹⁰ The Commission is now in the process of considering these review and vary applications and the evidence of costing errors put forward by the Petitioners. CNOC notes that it disagrees that any costing errors were made by the Commission and will be making that case before the Commission in response to the review and vary applications.

105. The existence of these review and vary applications makes all the Petitions moot and a waste of scarce governmental resources. There is no point in the Governor in Council referring the Order back for reconsideration since: (a) the stay granted by the Federal Court of Appeal means that the Order is not even in force; and (b) the Order is already being reconsidered by the Commission as a result of the review and vary applications.

106. Overall, the fact that the Petitioners chose to simultaneously pursue appeals of the Order before the Federal Court of Appeal, the Commission, and the Governor in Council is pointless and inappropriate, as it results in unnecessary delay and is nothing more than an anti-competitive tactic designed to tie up the scarce regulatory resources of service-based competitors and the Governor in Council. CNOC urges the Governor in Council to send a strong message that it disapproves of the forum-shopping of the Petitioners by swiftly rejecting the Petitions in their entirety.

4.0 THERE IS NO DEBATE OVER THE BENEFITS OF BROADBAND INTERNET

107. The Petitions spend an inordinate amount of time highlighting the benefits of broadband Internet to Canada, as if the Petitioners expected a party to seriously argue against the importance of access to affordable and high-quality broadband Internet.

108. For example, TELUS went as far as to commission an expert report in order to demonstrate that information and communications technologies (“ICT”) can have significant benefits for rural communities, agriculture, healthcare, and the environment.¹¹¹

¹⁰⁹ Bell R & V Application, *supra* note 7 at Part 5.0 and Appendix 1; Cable Carrier R & V Application, *supra* note 9, at paras 47-65; and TELUS R & V Application, *supra* note 8, at Parts 3.0, 4.0, 5.0 and 7.0.

¹¹⁰ See for example, Bell R & V Application, *supra* note 7, at para 22; Cable Carrier R & V Application, *supra* note 9 at para 10; TELUS R & V Application, *supra* note 8, at Part 6.0.

¹¹¹ TELUS Petition, *supra* note 3, Appendix B.

109. Similarly, Bell’s Petition also emphasized the importance of broadband Internet access to Canada’s objective of transitioning to a green economy and lower its carbon emissions.¹¹²

110. The Cable Carriers stated the obvious fact that “[v]irtually every sector of the Canadian economy relies on access to reliable, high-speed internet services.”¹¹³

111. Of course, CNOC agrees with the Petitioners that access to high quality broadband Internet is vital to Canada’s future and all the government’s policy objectives, including strengthening the economy and meeting Canada’s environmental commitments. As telecommunications service providers themselves, service-based providers have no doubts about the transformative power of high-quality Internet access for Canadians.

112. In addition, and as explained further below, CNOC agrees with the Petitioners that it is important that wholesale rates be set at a level whereby the Petitioners are still incentivized to invest in telecommunications infrastructure. The Phase II costing methodology adopted by the Commission to set rates for aggregated wholesale HSA services accomplishes this objective.

113. While CNOC has chosen not to spend as much space as the Petitioners do in the Petitions extolling the benefits of broadband Internet access for the simple reason that this conclusion should not be controversial in 2020, the Governor in Council should not think for a moment that service-based competitors are any less fervent supporters of the idea that all Canadians must have access to affordable, high-quality broadband Internet access if Canada is to achieve its full potential in the twenty-first century. However, the best way of ensuring that this outcome materializes (including benefitting the sectors and activities identified by the Petitioners) is to ensure that there is a vibrant competitive environment for retail Internet access services, and that can only occur if the rates for upstream wholesale services provided by the Petitioners are just and reasonable rates. The levels at which the Commission set those rates ensure this to be the case. If the Petitioners got their way, those rates would be inflated, competition in downstream retail telecommunications

¹¹² Bell Petition, *supra* note 2, at paras 84-85.

¹¹³ Cable Carrier Petition, *supra* note 4, at para 111.

services would be stifled and the very benefits of broadband access that the Petitioners espouse would be suppressed.

5.0 THE RATES ESTABLISHED IN THE ORDER WILL NOT HURT INVESTMENT

114. The central premise of all of the Petitions is that the Order set wholesale rates too low, which will result in the Petitioners dramatically scaling back their investments in telecommunications infrastructure, particularly in rural and remote areas, which, in turn, will prevent the benefits of access to affordable, high-quality, broadband Internet from being realized.

115. As CNOC explains below, the Governor in Council should reject claims that the Order will result in any negative impacts on investment by the Petitioners. This is a tired argument that the Petitioners make each time they are faced with greater levels of competition. It has never materialized and each of the Petitioners remains amongst Canada's largest and most successful corporations.¹¹⁴

5.1 Investment must not be financed through unjust enrichment

116. The most prominent policy-based argument of the Petitioners is the hyperbolic claim that the Order will significantly reduce infrastructure investments.¹¹⁵ When making these claims, the Petitioners attempt to appeal to public sensibilities surrounding important policy priorities including: bridging the digital divide, achieving universal broadband service and deploying next-generation 5G networks.¹¹⁶ Such initiatives and end-goals are undoubtedly critical policy priorities. However, pursuit of these policy goals should not blindly trump all other considerations that must be carefully weighed by the Commission in the performance of its duties. It should not be lost on the Petitioners that the very purpose of mandated wholesale HSA services is to support retail competition for telecommunications services.¹¹⁷

¹¹⁴ For example, BCE Inc. reported an adjusted EBITDA of approximately \$2.5 billion in its latest quarterly report. BCE Inc., Q4 2019 Press Release, <https://www.bce.ca/investors/financial-reporting/2019-Q4/2019-q4-press-release.pdf> ["BCE 2019 Q4 Press Release"].

¹¹⁵ See for example, Bell Petition, *supra* note 2, Part 4.0; Cable Carrier Petition, *supra* note 4 at pp 35-42. and Report of Brattle Group appended to Cable Carrier Petition, "Analysis of the CRTC's Final Rates for Aggregated Wholesale High-Speed Access Services: Impact on Broadband Network Investment and Innovation" dated 12 November 2019, ("Brattle Group"); TELUS Petition, *supra* note 3, at Part 4.0.

¹¹⁶ See for example, Bell Petition, *supra* note 2, at Sections 4.2, 4.3 and 4.6.

¹¹⁷ See *Review of wholesale wireline services and associated policies*, Telecom Regulatory CRTC 2015-326, 22 July 2015 ["TRP 2015-326"] at preamble.

117. Adherence to subsection 27(1) of the *Act* via a Phase II costing approach ensures that regulated rates: (1) are not too low or too high; and (2) provide adequate investment incentives to the providers of those services. This strikes the appropriate balance that was described in the Competition Bureau Broadband Market Study Report, which emphasized “the importance of setting wholesale access rates at the correct level to ensure that investment incentives are maintained, while at the same time ensuring sufficient scope for wholesale-based competitors to continue to offer competitive discipline in the marketplace.”¹¹⁸

118. Even the Petitioners seem to acknowledge that the Commission’s chosen approach for rate setting is fully capable of leading to rates that ensure adequate investment incentives. For example, in its review and vary application currently before the Commission TELUS explains that “[i]f properly implemented, Phase II costing should lead to compensatory rates for facilities providers and maintain their incentive to continue to invest in their facilities.”¹¹⁹

119. Phase II costing is thus readily capable of setting rates that preserve appropriate investment incentives – and that is unquestionably what came to bear in the Order, as reflected in the rates listed in Appendix 1 thereunder and in the cogent and evidence-backed rationale that the Commission provided in defense of its findings. It therefore follows that the rates established by the Order are fully compensatory and ensure appropriate incentives to invest in telecommunications facilities.

120. As the Commission correctly determined, the Interim Rates, which remain in force due to the interlocutory injunction of the Federal Court of Appeal, are significantly above just and reasonable levels. Consequently, the Petitioners have been and will continue to be unjustly enriched so long as those rates remain in force.

121. Importantly, it should not be assumed that the Petitioners allocate the totality of this unjust enrichment to infrastructure investment. Like any other corporate entity, the Petitioners each make

¹¹⁸ Broadband Market Study Report, *supra* note 20, at p.8.

¹¹⁹ TELUS R & V Application, *supra* note 8, at para 2.

their own financial decisions regarding dividends, repayment of debt, operational and administrative expenditures, various other categories of expenditures – and investment. Thus, not only do artificially inflated regulated rates cause significant harm to competition (and by extension, consumers), they are also a highly inefficient means for achieving additional infrastructure investment.

122. Even if the Order were ultimately to lead the Petitioners to reduce investments on some level the inherent flaw in the Petitioners' position is obvious: they seek to perpetuate a level of investment that is funded by unjust enrichment.

123. Petitioners are not entitled to amounts that were (and continue to be) paid to them in excess of just and reasonable levels, which has amounted to a multi-year interest-free loan by service-based competitors to the Petitioners. To the extent that Interim Rates allow Petitioners to invest more, which is speculative, that increase in investment is directly subsidized by service-based competitors for the sole commercial benefit of the Petitioners. Not surprisingly, the Petitioners wish for this arrangement to continue. However, even if this arrangement might have the potential to lead to more raw investment in telecommunications infrastructure, the corresponding benefits to the Canadian public are greatly overshadowed by the economic distortions and significant harm to competition caused by wholesale HSA rates that are not just and reasonable.

124. Implementing the Order as soon as possible is the only outcome in this proceeding that truly benefits Canadians, since it establishes just and reasonable cost-based rates that allow service-based competitors to compete effectively while also ensuring that the Petitioners generate a fair return on capital that can then be allocated to efficient investments.

125. For all these reasons, the Petitioners cannot credibly claim to be prejudiced by a reduction to investment levels that is financed by the unjust enrichment that the Order requires them to forgo. The interest of Canadians is furthered by timely implementation of the Order. Consequently, there is no merit to the Petitioners' criticisms of the Order as it relates to investment considerations.

5.2 The Brattle Report suffers from fatal flaws

126. The Brattle Report filed by the Cable Carriers is the most determined attempt by any of the Petitioners to support the notion that the Order will reduce investments. However, as highlighted throughout the Chen Report, the Brattle Report suffers from fatal flaws.

127. The Brattle Report purports to assess the impact of the wholesale HSA access rates approved in the Order relative to the interim rates established by TO 2016-396 and TO 2016-448 on the operating margins of the Cable Carriers for the five-year period between 2020 and 2024.¹²⁰ The Brattle Report presents three scenarios featuring different levels of: (1) service-based competitor market share growth relative to Cable Carriers; and (2) annual growth in Cable Carrier average revenue per user (“ARPU”).¹²¹ Scenarios A and B attempt to factor, respectively, “moderate” and “higher” service-based competitor growth scenarios.¹²² Scenario C purportedly measures an alternative to Scenario B that contemplates additional downward pressure on Cable Carrier ARPU resulting from service-based competitor growth.¹²³

128. The Brattle Report concluded that, in all scenarios, the Cable Carriers would experience material reductions in their ability to make capital expenditures (“CAPEX”) and thus, network investment.¹²⁴ Specifically, the Brattle Report calculated an impact varying from a net present value \$2.6B reduction in operating margins representing 38% of planned Cable Carrier CAPEX over the five-year period under the most conservative scenario, to a reduction of approximately \$3.7B in operating margins representing 54% of planned CAPEX over that period.¹²⁵ The Brattle Report also asserts that these estimates understate the impact of the Order for several of reasons.¹²⁶

129. As identified in the Chen Report, the cash flow analysis set out in the Brattle Report suffers from three significant deficiencies:¹²⁷ (i) inadequate disclosure of information about the method and data used in the analysis, (ii) unrealistic assumptions about the growth rates of service-based

¹²⁰ Brattle Report, *supra* note 115, at para 7.

¹²¹ *Id.*, at paras 8-9.

¹²² *Id.*, at para 9.

¹²³ *Id.*, at para 9.

¹²⁴ *Id.*, at para 11.

¹²⁵ *Id.*, at paras 11 and 43.

¹²⁶ *Id.*, at para 42.

¹²⁷ Chen Report, *supra* note 11, at para 11.

competitors' market share and the Cablecos' ARPU, and (iii) failure to consider increases in the growth rate of Internet service subscriptions caused by (assumed) price changes. Each of these deficiencies are addressed below, in turn, and in greater detail in the Chen Report. Thereafter, CNOC addresses the implications of these deficiencies with respect to the conclusions reached in the Brattle Report.

Inadequate Disclosure of Information

130. First, the methodology and data used in the Brattle Report's cash flow analysis is overly broad and ambiguous.¹²⁸ For example, the Brattle Report states that operating cash flows are calculated on the basis of "costs that are incremental to broadband only"¹²⁹, but does not provide any information about the cost items that are actually included in those calculations.¹³⁰ The Brattle Report also fails to disclose the assumptions that were used to estimate these costs in the five-year period between 2020 and 2024.¹³¹ Finally, the Brattle Report lacks disclosure of critical statistics associated with the *status quo* and the three scenarios used in the cash flow analysis: growth rate of service-based competitors' market share and growth rate of Cable Carrier ARPU.¹³²

131. From the perspective of the Commission and interested parties in this proceeding, the absence of the above-listed information is a significant impediment to testing the reasonableness of the assumptions embedded in the Brattle Report.¹³³ This is especially concerning given that other indicators reveal that certain assumptions made in the Brattle Report are not reasonable.¹³⁴

Unrealistic Assumptions

132. Scenarios A and B of the Brattle Report assume that the growth rate of the Cable Carriers' ARPU will be reduced by 4.95 percentage points,¹³⁵ which is a reduction of more than 72

¹²⁸ Brattle Report, *supra* note 115 at para 38 and footnotes 8 and 9; See Chen Report, *supra* note 11 at para 12.

¹²⁹ Brattle Report, *supra* note 115 at footnote 8; See Chen Report, *supra* note 11 at para 13.

¹³⁰ As noted in footnote 14 of the Chen Report, *supra* note 11, the Brattle Report, *supra* note 115, lacks a qualitative description of the cost items included in the calculations of operating cash flows necessary to assess the merits of the report, quite separate and apart from the actual confidential accounting data of individual Cable Carriers, which we would not expect to see.

¹³¹ See Chen Report, *supra* note 11, at para 13.

¹³² *Id.*, at para 14.

¹³³ *Id.*, at para 16.

¹³⁴ For example, the Brattle Report, *supra* note 115, assumes a 1.9 percent APRU growth rate for the Cable Carriers, which as indicated in the Chen Report, *supra* note 111, at para 16, is substantially lower than the recent Cable Carrier APRU growth trend.

¹³⁵ Brattle Report, *supra* note 115, at para 38.

percent.¹³⁶ The Chen Report concludes that the magnitude of service-based competitors' impact on the Cable Carrier ARPU growth rate assumed in each of the Brattle Group scenarios is grossly out of proportion with the relatively small market share of service-based competitors (8.9 percent as reported in the Commission's 2019 Communications Monitoring Report ["CMR"])¹³⁷. Put simply, it is not realistic to assume that the rates established in the Order will enable service-based competitors with 8.9 percent market share to drive down Cable Carrier ARPU by more than 72 percent.¹³⁸ The Brattle Report also fails to account for the fact that decreases in ARPU (relative to the *status quo*) caused by declines in prices will be offset by increased usage per user.¹³⁹

133. In addition to its problematic ARPU assumptions, the Brattle Report also makes plainly unrealistic assumptions with regards to service-based competitor market share growth. For example, the Brattle Report's Scenario A implies that service-based competitors' market share will grow at an annual rate of 10.84 percent in the five-year period of 2020-2024 – that is more than twice the growth rate of the *status quo*, which is 3.93 percent.¹⁴⁰ Worse yet, Scenarios B and C imply an annual growth rate of 16.65 percent – more than four times the growth rate of the *status quo*.¹⁴¹ Dr. Chen concludes that such market share assumptions are unrealistic and fail to account for the fact that facilities-based providers will respond to service-based competitors' retail price reductions. In this regard, it is important to emphasize the Competition Bureau's conclusion that service factors other than price are actually more important to consumers, in aggregate.¹⁴² Such non-price factors include upload and download speeds, monthly download limits, and whether the ISP is wholesale- or facilities-based.¹⁴³

134. Overall, the Chen Report concludes:

[...] the unrealistically large reductions in the growth rate of the Cablecos' ARPU and unrealistically large increases in the growth rate of service-based competitors' market share assumed in the three scenarios have led to a vast overstatement of the

¹³⁶ Chen Report, *supra* note 11, at para 20.

¹³⁷ *Id.*, at para 21.

¹³⁸ *Id.*, at para 21.

¹³⁹ *Id.*, at para 22.

¹⁴⁰ *Id.*, at para 24.

¹⁴¹ *Id.*, at para 25.

¹⁴² Broadband Market Study Report, *supra* note 20, at p. 23.

¹⁴³ *Id.*, at p.23.

negative impact that the Order may have on the operating cash flows of the Cablecos.¹⁴⁴

135. Looking solely at the effect of the unrealistic ARPU assumptions, Dr. Chen calculates the Brattle Report overestimated the negative impact of the Order on operating cash flows in Scenario A by approximately \$2 billion dollars.¹⁴⁵ This represents 79 percent of the Cable Carrier operating cash flow losses that the Brattle Report calculated under Scenario A – without even factoring the overstatement attributable to the Brattle Group’s unrealistic assumption about the growth rate of service-based competitors market share and the rate of subscription growth.¹⁴⁶

Failure to Consider Increases in the Rate of Subscription Growth

136. All three scenarios presented in the Brattle Report assume that the Order will cause retail prices to fall relative to the *status quo*. Thus, decreases in retail prices should lead to an increase in demand for Internet services. In other words, a competitive response by the Cable Carriers in terms of lowering prices will allow them to attract more subscriptions than they would otherwise.¹⁴⁷ Additional subscriptions won in this manner would serve to offset revenue reductions resulting from downward retail price adjustments. The Brattle Report does not contain any discussion about how this basic economic principle was factored into its analysis.¹⁴⁸ Failure to take into account the increase in the rate of subscription therefore overstates the estimated loss in operating cash flows in all three of the scenarios presented in the Brattle Report.¹⁴⁹

The Brattle Report’s Conclusions Regarding Investment Incentives are Unfounded

137. The Brattle Report relies on its cash flow analysis to conclude that the Cable Carriers’ incentive and ability to invest will be significantly decreased due to the Order.¹⁵⁰ However, as shown in the Chen Report and as summarized above, the Brattle Report’s cash flow analysis suffers from fatal flaws. Just as the Brattle Report drastically overstates potential effects (if any) of the Order on Cable Carrier cash flows, so too does it overstate the effects on investment incentives.

¹⁴⁴ Chen Report, *supra* note 11, at para 28.

¹⁴⁵ *Id.*, at para 30 and Appendix A.

¹⁴⁶ *Id.*, at para 31.

¹⁴⁷ *Id.*, at para 32.

¹⁴⁸ *Id.*, at para 34.

¹⁴⁹ *Id.*, at para 35.

¹⁵⁰ Brattle Report, *supra* note 115, at paras 43-44.

138. Even if a reduction in Cable Carrier operating cash flows could decrease the rate of return on investment, it does not mean that the lower rate of return is below the fair rate of return needed to ensure adequate investment incentives. Phase II costing results in cost-based rates that inherently provide the Petitioners, including the Cable Carriers, with adequate incentives to invest. As explained in the preceding Section 5.1, the Cable Carriers cannot credibly claim to be prejudiced by a reduction to investment levels that is funded by unjust enrichment (in the form of what is essentially a multi-year interest-free loan of funds to which they were not ultimately entitled) that has been eliminated by the Order.

139. On a final note, the Brattle Report concludes, by way of a quote from the Competition Bureau, that the strongest reduction in investment caused by the Order will most likely be felt in rural and remote areas where population density is relatively sparser.¹⁵¹ Yet, the Brattle Report provides no evidence to substantiate this conclusion.

140. Ironically, the Brattle Report's cash flow theory runs counter to the conclusion that rural and remote areas will face the strongest reduction in investment.¹⁵² Recall that this theory posits that lower wholesale rates will induce service-based competitors to become more aggressive with retail pricing, with the result of larger market share for service-based competitors and lower ARPU for the Cable Carriers.¹⁵³ However, as noted by the Competition Bureau, service-based competitors tend to "focus their marketing efforts on highly populated areas in Southern Ontario and Southern Quebec."¹⁵⁴ Consequently, the price discipline created by service-based competitors and the alleged corresponding impact on Cable Carrier ARPU will be lesser in rural and remote areas where service-based competitors have little or no presence. It is expected that this consideration, which favors investment, would undoubtedly be factored into the Cable Carriers' investment decisions.

141. In conclusion, the Brattle Report suffers from fatal flaws. Consequently, this report, which constitutes the most determined attempt by any of the Petitioners to substantiate their submissions

¹⁵¹ *Id.*, at paras 37 and 44.

¹⁵² Chen Report, *supra* note 11, at paras 57-78.

¹⁵³ *Id.*, at para 57.

¹⁵⁴ Broadband Market Study Report, *supra* note 20, at p.19.

with actual evidence, fails to establish a correlation between the Order and alleged drastic reductions to broadband network investment incentives.

5.3 Just and reasonable wholesale rates ensure efficient investment

142. The Petitions ignore important linkages between just and reasonable wholesale HSA service rates, overall broadband penetration rates, investment incentives and economically efficient investments from a societal perspective.

143. Mandated access to wholesale HSA services is a regulatory policy that promotes economic efficiency by utilizing the significant capacity of the underlying infrastructure to the greatest extent practicable. Wholesale customers contribute to the wholesale HSA service provider's overall broadband penetration. In doing so, mandated access to wholesale HSA services avoids inefficient duplication of facilities that would inevitably lead to increases in infrastructure costs that are eventually borne by consumers.¹⁵⁵

144. As demonstrated in the preceding section, the Brattle Report has not demonstrated that the Order will lower the Petitioners' ARPU or that those unsubstantiated reductions in ARPU would reduce investment incentives. To add to that, even if the Petitioners' ARPU is reduced due to the Order, the Petitioners fail to account for the countervailing effect of broadband penetration that is facilitated by wholesale connections. That significant additional level of broadband penetration that is subject to just and reasonable wholesale rates established by the Order ensures that Petitioners can generate a fair return on capital. In turn, these dynamics provide the Petitioners with strong investment incentives.

145. It is true that the business case for rural and remote investments is heavily influenced by the significantly lower penetration that is inherent in parts of the country with lower population density. However, as demonstrated in Section 5.10, this adverse factor to a positive business case can be completely offset by access to public funding through the expansive government programs supporting investment in rural and remote areas that are currently ongoing. Furthermore, according to the Brattle Report, service-based competitors will have a significantly reduced presence in rural

¹⁵⁵ This point was emphasized by Dr. Markus von Wartburg in the oral hearing in the proceeding leading to TRP 2015-326, See CRTC File 8663-C12-201313601, Transcript Volume 2, 25 November 2014, at paras 1658 to 1660 and 2286-2288 available at <https://crtc.gc.ca/eng/transcripts/2014/tt1125.htm>.

and remote areas. It therefore follows that, in accordance with the theory posited in the Brattle Report, service-based competitors will have little or no effect on the Petitioners' ARPU in these areas – thereby preserving investment incentives.

5.4 Petitioner investments are not hinged on the Order

146. The Petitioners suggest that their investment strategies are developed on a moment-by-moment basis. Investment decisions in this industry are based on a risk adjusted evaluation of future outcomes over an extended time horizon. Going back several years, the Petitioners priced the possibility of being required to provide a wide range of final aggregated wholesale HSA rate scenarios – including scenarios featuring substantial rate reductions. If they evaluated the risk as being too high, they would not have invested in 5G and other infrastructure. However, not only did the Petitioners continue to invest substantially leading up to the Order, they also continue to do so during the appeals of the Order. Indeed, the fourth quarter financial statements of each of the Petitioners boast expansive investment plans.¹⁵⁶ No portion of these investment plans are hinged on the outcome of the appeals of the Order. Rather, these decisions were made with full knowledge and appreciation of the possibility that all appeals of the Order will be denied.

5.5 Claims that competition will undermine investment are a tired and empty refrain

147. The Petitioners' threats of reduced investments are not novel. The Petitioners raise these concerns in all major proceedings to consider mandated access to wholesale services. The Petitioners also issue their investment threats in response to virtually any regulatory outcome that is unfavorable to their commercial interests. To date, these threatened consequences have not materialized.

148. For example, in Telecom Regulatory Policy 2010-632¹⁵⁷, the Commission determined, among other things, that the ILECs would be required to provide wholesale HSA services over

¹⁵⁶ See for example Rogers Communications Inc., Q4 2019 Press Release, <https://1vjoxz2ghhkclty8c1wjich1-wpengine.netdna-ssl.com/wp-content/uploads/2020/01/Rogers-Q4-2019-Press-Release.pdf>; at p.4 [“Rogers 2019 Q4 Press Release”]; BCE 2019 Q4 Press Release, *supra* note 114 at p.2.; Shaw Communications Inc., Q4 2019 Press Release, https://www.shaw.ca/uploadedFiles/Corporate/Investors/Financial_Reports/4th_qtr_2019_pr_10.25.19.pdf, at p.1 [“Shaw 2019 Q4 Press Release”].

¹⁵⁷ *Wholesale high-speed access services proceeding*, Telecom Regulatory Policy CRTC 2010-632, 30 August 2010 [“TRP 2010-632”].

their FTTN facilities.¹⁵⁸ This took place despite warnings from Bell and TELUS that “investment incentives would be reduced in all markets, regardless of size, for any broadband infrastructure subject to wholesale service requirements”.¹⁵⁹

149. In that same proceeding, the Cable Carriers submitted that “their investments in Internet infrastructure are driven by market opportunity and intense retail service competition from the ILECs. They also submitted that both they and the ILECs have been building fibre in their networks closer to homes and business premises for at least a decade...”¹⁶⁰

150. Since then, the ILECs have moved on from FTTN deployments to deploying FTTP facilities “given the important benefits associated with higher speeds and long-term service reliability”¹⁶¹. Their warnings in 2010 about reduced investment did not come to fruition.

151. In Telecom Regulatory Policy 2015-326, the Commission required ILECs to provide wholesale HSA services over their FTTP facilities in order to facilitate competition in the provision of retail broadband services at the greater speeds that ILECs can only provide over those facilities.¹⁶² The Commission made this determination despite warnings from Bell and TELUS that their incentive to invest in FTTP facilities would be reduced if wholesale access to FTTP facilities is mandated.¹⁶³

152. In October 2015, Bell even filed a petition¹⁶⁴ requesting that the Governor in Council vary TRP 2015-326 so that wholesale regulation does not extend to FTTP facilities (the “Bell 2015 Petition”).¹⁶⁵ The Bell 2015 Petition exclaimed: “[t]here should be no doubt that going forward, as a result of the CRTC's decision, each fibre-to-the-home investment opportunity will be reviewed and the pace and scale of our investment will unequivocally be affected”¹⁶⁶. The Bell 2015 Petition was rightfully **denied** by the Governor in Council. And yet, in the very Petition that is presently

¹⁵⁸ *Id.*, at para. 78.

¹⁵⁹ *Id.*, at para. 34.

¹⁶⁰ *Id.*, at para. 38.

¹⁶¹ Order, *supra* note 1, at para. 307.

¹⁶² TRP 2015-326, *supra* note 117, Exhibit 14, at paras. 97 and 143.

¹⁶³ *Id.*, Exhibit 14, at paras. 109-110.

¹⁶⁴ Petition of Bell Canada to the Governor in Council to Vary Telecom Regulatory Policy CRTC 2015-326, *Review of wholesale wireline services and associated policies*, 20 October 2015 [“Bell 2015 Petition”].

¹⁶⁵ *Id.*, at para 8.

¹⁶⁶ *Id.*, at ES22.

before the Governor in Council – Bell boasts of its accomplishments in FTTP investment and deployment since TRP 2015-326.¹⁶⁷ What’s more, the 2019 CMR reports that FTTP Internet services are available to 44% of homes.¹⁶⁸ That is up from 6.2% of homes passed by fibre in 2014.¹⁶⁹

153. Altogether, history shows that the Petitioners’ investment threat is a tired refrain that has lost all credibility.

5.6 Threats of investment reductions are inconsistent with analyst reactions

154. The release of the Order sparked commentary from Petitioners, service-based competitors, and third-party analysts alike. Except for certain cherry-picked sources cited by the Petitioners,¹⁷⁰ the near-unanimous assessment is that the rates approved by the Order will have little, if any, impact on the Petitioners’ market share and competitive position in the broadband market.

155. Specifically, third-party analysts opined that: “the cablecos and the telcos have many competitive advantages” which will limit the impact of new rates;¹⁷¹ the Order is “unlikely to have a large impact on the big publicly traded telecoms”;¹⁷² and “the ongoing financial impact on the bottom-line [will] be minimal”.¹⁷³ A Scotiabank note concluded that “[t]he facilities-based providers can also leverage their owners’ retail pricing flexibility, flex their marketing muscle, and take advantage of their distribution and scale to maintain share in the ISP market”.¹⁷⁴ Likewise, Desjardins determined that the Final Rates Order will not significantly change the industry’s competitive profile.¹⁷⁵ In an October 11, 2019 report, RBC predicted that Incumbents will, “through the use [of] discount and flanker brands, next-generation WiFi, television and smarthome

¹⁶⁷ Bell Petition, *supra* note 2, at para 56.

¹⁶⁸ Canadian Radio-television and Telecommunications Commission, *Communications Monitoring Report 2019*, at p.201 [“2019 CMR”].

¹⁶⁹ Canadian Radio-television and Telecommunications Commission, *Communications Monitoring Report 2015*, at Figure 5.1.6 [“2015 CMR”].

¹⁷⁰ For example, see Bell Petition, *supra* note 2, at para 24; Cable Carrier Petition, *supra* note 4, at para 80; TELUS Petition, *supra* note 3 at para 42.

¹⁷¹ Jeff Fan, Scotiabank Converging Networks, August 19, 2019, pg. 1.

¹⁷² “New rates to have marginal impact on big telecom bottom lines: analyst”, *The Wire Report*, August 16, 2019.

¹⁷³ David McFadgen & Siddhant Dilawari, “Q2/19 Wrap: Competitive Intensity Grows”, September 16, 2019, pg. 10.

¹⁷⁴ Michael Lee-Murphy and Ahmad Hathout, “On wholesale rates, companies cry foul, but analysts aren’t convinced”, *The Wire Report*, August 21, 2019.

¹⁷⁵ Yahgi and Dubrueil, Desjardins Express Pulse, August 15, 2019.

platforms and/or wireless/wireline bundling ... be capable of competing effectively” against service-based competitors after lower rates come into effect.¹⁷⁶

156. Numerous commentators have also disagreed with the Petitioners’ claims that the Order will cause them to reduce investments in rural areas:

- Byron Holland, the President of the Canadian Internet Registry Association, remarked that “[c]ompanies like Bell have benefited from decades’ worth of public subsidies and protections from competition, and now they’re threatening to abandon rural Canadians because the CRTC is forcing them to compete.”¹⁷⁷
- Former CRTC Commissioner Timothy Denton opined that “[t]he [incumbent] carriers have backed themselves into this corner by constantly proclaiming that rural investment depended on high rates of profit, and that the CRTC and wholesale competitors have or will cut into those high levels of profit. But the financial analysts do not seem to be concerned.”¹⁷⁸
- Rita Trichur for The Globe and Mail wrote that “[i]nstead of accepting the ruling, big communications companies had a collective conniption. Together BCE, Rogers, Quebecor, Shaw and Cogeco say they expect to fork out about \$325-million in retroactive payments as a result of the CRTC decision. That sum total is a minor inconvenience when one considers those same companies earned aggregate profits of more than \$5.8-billion last year alone.”¹⁷⁹

157. It also bears noting that Bell quotes an article by David Colville as evidence that the Order is short-sighted and will have the effect of reducing investment in Internet networks and stifle rural development.¹⁸⁰ However, CNOC has come to understand that Mr. Colville is not a neutral commenter with respect to this subject matter and that he is on the advisory board of Bragg

¹⁷⁶ RBC Dominion Securities Inc., “Canadian Telecommunications Services”, October 11, 2019, pg. 25.

¹⁷⁷ “More Telcos raise concern over CRTC’s new wholesale broadband rates”, The Canadian Press, August 21, 2019.

¹⁷⁸ Timothy Denton, “The crocodiles are thrashing in the river”, tmdenton.com, August 22, 2019.

¹⁷⁹ Rita Trichur, “Telecom companies are slashing broadband internet in rural communities, and Canadians should be furious”, The Globe and Mail.

¹⁸⁰ Bell Petition, *supra* note 2, at para 70.

Communications Inc.¹⁸¹, which is one of the Cable Carriers appealing the Order. Accordingly, the Governor in Council should accord no weight to the opinion of Mr. Colville.

158. In light of all of the above, there is no plausible explanation why the Petitioners, whose market positions are unchanged going forward, would not act on the appropriate incentives to invest that are inherent in the cost-based rates established by the Order.

5.7 The Petitioners play down the impact of the Order on their shareholders

159. The credibility of the Petitioners' investment arguments is further undermined by comments by the Petitioners' own corporate officers revealing that the wholesale HSA services market is ostensibly of little importance to these carriers.

160. Take for example, the following quote from Mr. George Cope, then President of BCE, in response to a question asking why Bell had removed wholesale subscribers, constituting 15% of its subscribers from its subscriber base:

“Yes, it is interesting. It is one of the things we did the last year, if you watch. I was very transparent with the investment community and talking to our retail subscriber base. The revenue will always be in our revenue. Wholesale subscribers are not strategic for us. It is not a market we approach. It is not a market that we have, frankly, any interest in pursuing, other than regulatory requirements. The ARPU from that base is literally 32% of what it is for retail. So, to compare that net addition to any of our actual performance, from our perspective, in the whole industry, creates bad behaviour, in terms of creating subscribers that are not of value to investors, and so, from our perspective, we will always be reporting retail net additions consistently going forward. Of course, it is always in our revenue numbers in wireline, so it is there, but the subscriber information. Finally, given it is immaterial from a revenue perspective, we, quite frankly, do not want our competitors to know what is happening in the wholesale sector through us.”¹⁸² (emphasis added)

161. When facing investors, Bell belittles the wholesale market as “not strategic” and not something that it has any interest in pursuing. However, when facing the Governor in Council,

¹⁸¹ This information was obtained from a tweet by Christine Dobby, a journalist at *The Globe and Mail*, dated August 29, 2019 in response to an article by Mr. Colville: <https://twitter.com/christinedobby/status/1167189804129366016>.

¹⁸² BCE Q1 2019 Results Conference Call, May 2, 2019.

Bell tells a wholly different story – one, where the wholesale market is critical to Bell’s ability to make investments in telecommunications infrastructure. Bell cannot have it both ways.

162. Bell is not the only Petitioner that has downplayed the significance of the Order when addressing shareholders while simultaneously making contradictory statements to the Governor in Council. Rogers’ Chief Financial Officer, Anthony Staffieri, also made revealing comments to investors in a Q&A session on 10 September 2019.¹⁸³ When asked to comment on the Order, Mr. Staffieri began by expressing disappointment on a number of fronts. Mr. Staffieri noted his view that: the rates were below costs; that the retroactive impact of the rates was disappointing; and that the Order “can’t be good for foreign investment in Canada”.¹⁸⁴ Then, Mr. Staffieri characterized the impact of the Order as follows:

“So, the retroactive impact we've disclosed is, as you said, [ph]Tim (00:24:49), up to the date of the announcement mid-August, the cumulative impact retroactive is CAD 140 million. **It's not significant on a go-forward basis. And the wholesale piece of it overall is not a big part of it...**”¹⁸⁵ (emphasis added)

163. Much like the comments of Mr. Cope, above, Mr. Staffieri’s statements underscore the fact that the Order will have little, if any, impact on the commercial position of the Petitioners, which continues to be a position of commanding market power. Such reassurances to the investor community simply cannot be reconciled with the ‘sky is falling’ tone and narrative of the Petitions. More specifically, the above-quoted statements are completely and incontrovertibly at odds with the Petitioners’ claims that the Order will result in serious investment reductions and material regulatory uncertainty and market destabilization.¹⁸⁶

¹⁸³ Rogers Communications Inc. BMO Media & Telecom Conference dated 10 September 2019, at p.8.

¹⁸⁴ *Id.*, at p.9.

¹⁸⁵ *Id.*, at p.9.

¹⁸⁶ Bell Petition, *supra* note 2, at paras 10-11; TELUS Petition *supra* note 3, at para 6; Cable Carrier Petition *supra* note 4, at pp 1-2.

5.8 Videotron's withdrawal of its 1 Gbps service

164. In an earnings conference call, Jean François Pruneau, Videotron's Chief Executive Officer, explained that Videotron has withdrawn its 1 Gig service (up to 940 Mbps download / 50 Mbps upload) as a direct result of the Order.¹⁸⁷ According to Mr. Pruneau:

We will no longer offer the one gig service because it requires investments. With the new regime, we can't afford it. We have to take decisions. We've taken that decision. It's probably the most material one that we've taken so far, but it's going to be followed by others.¹⁸⁸

165. In their respective Petitions, Bell¹⁸⁹, TELUS¹⁹⁰, and the Cable Carriers¹⁹¹ cite Videotron's 1 Gig service withdrawal as an example of investment reductions attributable to the Order.

166. CNOC seriously doubts that there is any correlation between Videotron's service withdrawal and the Order. Videotron undoubtedly has valid commercial reasons for withdrawing this service, but they are unrelated to the Order. Blaming the final HSA service rates approved by the Commission is a self-serving strategy that is intended to create leverage for Videotron and the Petitioners in the ongoing appeals of the Order. The evidence confirms this transparent motive.

167. In particular, Quebecor's securities filings undermine the credibility of claims surrounding Videotron's withdrawal of its 1 Gig service. For example, Quebecor's 2019 third quarter management discussion and analysis acknowledges the Order and the ongoing appeals as a contingency,¹⁹² but then makes the following representation with respect to Quebecor's financial position:

“Management of the Corporation believes that cash flows and available sources of financing should be sufficient to cover committed cash requirements for capital investments, working capital, interest payments, income tax payments, debt repayments, pension plan contributions, share repurchases, dividend payments

¹⁸⁷ Jean-François Pruneau, CEO of Videotron, during the earnings call relating to Quebecor's 3rd quarter of 2019, as cited in Bell Petition, *supra* note 2 at Footnote 8 and Cable Carrier Petition, *supra* note 4, para 79(e).

¹⁸⁸ *Ibid.*

¹⁸⁹ Bell Petition, *supra* note 2, at para 7.

¹⁹⁰ TELUS Petition, *supra* note 3, at para 43.

¹⁹¹ Cable Carrier Petition, *supra* note 4, at para 79(e).

¹⁹² Quebecor's 2019 Third Quarter Management Discussion and Analysis, at p. 27; Notably, an identical statement is made in Quebecor's Second Quarter Management Discussion and Analysis, at p. 20; These statements are also included in Videotron Ltd.'s Form 6-K filings with the United States Securities and Exchange Commission.

to shareholders, and dividend payments (or distributions) to non-controlling interest.”¹⁹³ [Emphasis added]

168. If Mr. Pruneau’s claims are to be believed, a consequence of the Order is that cash flows and financing **are not** sufficient to cover committed cash requirements for capital investments in Videotron’s 1 Gig service. And yet, this seemingly key financial impact of the Order is completely omitted from – and even contradicted by – Videotron’s securities filings. On this basis, CNOC submits that there is no correlation between the Order and Videotron’s withdrawal of its 1 Gig service. Videotron’s claim to the contrary is blatantly self-serving.

169. It also bears noting that the tariff proceeding concerning Videotron’s 1 Gig service withdrawal is still ongoing at a time when the Federal Court of Appeal has granted a stay of the Order. Even under an expedited Federal Court of Appeal schedule for the appeals of the Order, it will take several months for the Court to issue a decision in the consolidated appeals. Throughout this lengthy delay, the stay of the Order will remain in effect. If Videotron truly had a strategy and positive business case for its 1 Gig service before the Order, then effectively nothing has changed for the extended period during which the Federal Court of Appeal’s interlocutory injunction is in effect.¹⁹⁴ Videotron could have cancelled its tariff application as soon as the Federal Court of Appeal granted the stay of the Order. This would have allowed Videotron to continue providing its retail 1 Gig service while also offering its equivalent wholesale service pursuant to Interim Rates. Instead, Videotron has decided to proceed with the withdrawal of its 1 Gig service. Its decision in this respect strongly suggests that Videotron’s tariff notice is not at all motivated by the implications of the Order.

5.9 The curious matter of the Petitioners’ dividend payouts

170. The Bell Canada Petition recounts that Bell, in response to the Order, immediately announced that it would reduce broadband deployment by 200,000 households in rural areas.¹⁹⁵ And yet, in its fourth quarter investor call, BCE announced that it would increase its common

¹⁹³ *Id.*, at p.22.

¹⁹⁴ The matter of retroactivity for interim rates was raised repeatedly beginning in 2016, as outlined in Part 2.0 of this intervention.

¹⁹⁵ Bell Canada Petition, *supra* note 2, at para 15.

dividend by 5% in 2020.¹⁹⁶ This begs the question: what portion of the investment pulled from rural areas is being redirected to shareholders in the form of dividends?

171. Bell is not the only Petitioner that boasts of significant dividends in the wake of the Order. For example, Rogers reported that it returned \$1,671 million in 2019 to shareholders through dividends and share repurchases, up 69%, including \$655 million in share repurchases.¹⁹⁷ After the release of the Order, TELUS also increased dividends by 3.5%.¹⁹⁸

172. The Petitioners raise dividends while simultaneously claiming that the Order has left them with no choice but to reduce investments. This conflicting behavior greatly undermines the credibility of the Petitions.

5.10 Service-based competitor deployments and public funding will ensure healthy investment levels

173. The preceding sections of CNOC's intervention clearly demonstrate that the Petitioners' investment claims do not withstand scrutiny. Phase II costing with a reasonable mark-up ensures that the just and reasonable final rates established by the Order provide the Petitioners with a fair return on capital, which ensures an appropriate incentive to invest. In these circumstances, any conceivable reduction to investment by Petitioners would be proportionately limited to the unjust enrichment that these carriers enjoyed while Interim Rates were higher than just and reasonable levels. Fortunately, there are other notable sources of investment that can offset the reductions that are claimed by the Petitioners.

174. The Petitioners strategically voiced their threats of reduced investment in the immediate aftermath of the Order. In response to such threats, The Honourable Navdeep Bains, then federal minister of ISED and now federal Minister of Innovation, Science, and Industry, said in a statement: "This will not distract from our government's commitment to connect every Canadian

¹⁹⁶ BCE Q4 2019 Results, *supra* note 114, at p.7.

¹⁹⁷ Rogers Q4 2019 Press Release, *supra* note 157, at p. 1.

¹⁹⁸ TELUS Communications Inc., "Dividend Information", <https://www.telus.com/en/about/investor-relations/dividend-information>.

to affordable high-speed internet by 2030, and I am confident new competitors will step up to make these investments.”¹⁹⁹

175. Indeed, service-based competitors like CNOG members make investments in various telecommunications infrastructure, including fibre-based networks, and will continue to do so. Bell’s Petition attempts to belittle these investments by contrasting service-based competitor investments with those of facilities-based carriers.²⁰⁰ In support of this argument, Bell Canada cites CMR data from 2013 to 2017.²⁰¹ Bell’s submissions fail to discredit the investments of competitive-service providers for at least the four reasons that are set out below.

176. First and foremost, Bell is comparing the investments of facilities-based carriers and service-based competitors during a period where wholesale HSA service rates were not just and reasonable.²⁰² This factor alone completely undermines the validity of the comparison. On the one hand, inflated rates suppressed the ability of service-based competitors to invest. On the other hand, facilities-based carriers enjoyed a level of unjust enrichment that ostensibly financed additional broadband investment.

177. Second, it should be plainly obvious that Bell’s comparison conveniently ignores the size disparity between facilities-based carriers and service-based competitors. Facilities-based carriers account for 91.1% of all residential Internet subscriptions. Service-based competitors account for only 3.6% of total telecommunications revenues in Canada.²⁰³ It is little wonder that the radical size and scale disparity between these two classes of providers translates into a markedly different capacity to invest.

¹⁹⁹ Emily Jackson, “Telcos threaten to pull rural internet investment after CRTC lowers wholesale rates”, Financial Post, August 21, 2019, <https://business.financialpost.com/telecom/telecos-threaten-to-pull-rural-internet-investment-after-crtc-lowers-wholesale-rates>.

²⁰⁰ Bell Petition, *supra* note 2, at paras 88-94.

²⁰¹ *Id.*, at para 88.

²⁰² While the Commission only set interim rates as of TO 2016-396, *supra* note 39, and TO 2016-448, *supra* note 66, rate issues were apparent long before those decisions. For example, CNOG filed an Application identifying rate issues in April 2015 (CRTC File No. 8661-C182-201503946) [“CNOG 2015 Part 1 Application”] and the Commission identified possible areas of concern in TNC 2015-225, *supra* note 40, which resulted in adjustments to costing parameters in TD 2016-117, *supra* note 40.

²⁰³ 2019 CMR, *supra* note 169, Infographic 8.2.

178. Third, the comparison does not account for other valuable investments made by service-based competitors in non-transmission facilities, systems, equipment, the establishment of points of presence and more.

179. Fourth and finally, the 2019 CMR reported that growth in wholesale-based provider investments in telecommunications plant and equipment increased by 66.7% from 2017 to 2018.²⁰⁴ This significant increase demonstrates that service-based competitors are poised to step up and invest in accordance with Minister Bains' expectations.

180. For many service-based competitors, the Order will allow them to operate on a cost structure that, for the first time, opens the door to investment in more capital-intensive facility deployments. For other competitors whose investments have long been artificially suppressed by the effect of inflated wholesale HSA rates, the Order will serve as a catalyst for new deployment projects, expansions and upgrades. By denying the Petitions and reaffirming its commitment to the rates established in the Order, the Commission will pave the path to a future marked by consistent growth in service-based competitor investments to the ultimate benefit of Canadians.

181. CNOC notes that many of its members have already made, and are continuing to make, substantial investments in telecommunications infrastructure, including in rural and remote areas.

182. For example, Iristel, through its affiliate, Ice Wireless, has built a mobile wireless network throughout Canada's northern territories and recently spent over \$2.5 million acquiring additional spectrum that will allow it to serve Newfoundland and Labrador.²⁰⁵

183. Similarly, the Competition Bureau in its Broadband Market Study highlighted the examples of CNOC members Start.ca, which is deploying a fibre-network in London, Ontario, and TekSavvy, which is deploying a fibre network in Chatham, Ontario, as further examples of service-based competitors investing in facilities.²⁰⁶

²⁰⁴ *Id.* Infographic 8.2.

²⁰⁵ ISED, "600 MHz Auction – Final Results", <https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf11499.html>.

²⁰⁶ Broadband Market Study Report, *supra* note 20, at p. 53-54.

184. Execulink Telecom, another CNO member, has operated as a telecommunications service provider since 1904 and has deployed extensive facilities, including a mobile wireless network, in many rural communities throughout Ontario.²⁰⁷

185. Storm Internet, another CNO member, has deployed an extensive fixed wireless network in order to provide wireless Internet service to rural Canadians in Eastern Ontario who would not otherwise be able to access high-speed Internet.²⁰⁸

186. CNO emphasizes that these are just a few examples of the innovative and exciting investment projects undertaken by its members. As CNO noted above, service-based competitors across Canada have invested in facilities and will continue to do so where there are gaps in coverage, including in underserved rural and remote areas. The example of the investments of CNO members shows that Minister Bains' assessment is completely correct: new competitors are stepping up to make investments in the void left by the Petitioners' decision to prioritize dividends over investment in underserved communities.

187. The investment reductions threatened by the Petitioners would also be offset by public funding programs. The Commission is well underway in its administration of the \$750 million broadband infrastructure development program that is expressly intended to facilitate the participation of Canadians in the digital economy.²⁰⁹ In parallel, ISED is also managing an initiative to deliver \$5 billion to \$6 billion in investments to help every Canadian access high-speed Internet at minimum speeds of 50 Mbps download and 10 Mbps upload.²¹⁰ ISED's Connect to Innovate program will also have a significant impact. As described in the Broadcasting and Telecommunications Legislative Review Panel's recently released final report, the Connect to Innovate Program, "... will install over 19,500 km of fibre. That is approximately the distance from St John's to Vancouver, through Whitehorse, Yellowknife, Iqaluit, Labrador City, and back

²⁰⁷ Execulink Telecom, "Why Execulink", <https://www.execulink.ca/about-us/why-execulink/>.

²⁰⁸ Storm Internet, "Residential/Rural Wireless", <https://www.storm.ca/residential-wireless/>.

²⁰⁹ *Modern telecommunications services – The path forward for Canada's digital economy*, Telecom Regulatory Policy CRTC 2016-496, 21 December 2016 at paras 143-147 ["TD 2016-496"].

²¹⁰ See "Universal Broadband Fund" at https://www.ic.gc.ca/eic/site/139.nsf/eng/h_00006.html.

to St John’s. These projects are intended to improve connectivity for more than 900 communities, 190 of which are Indigenous.”²¹¹

188. All of the above-listed public funding programs will further stimulate private investment from a diverse group of funding recipients that includes the Petitioners and service-based competitors. This consistent influx of investment now and into the future will greatly overshadow any speculative investment reductions resulting from the Order.

5.11 The Petitioners mischaracterize flat access rates

189. One of the many mischaracterizations made by the Cable Carriers in their Petition is the idea that the Commission eliminated any difference in wholesale rates for different Internet speeds.

190. For example, the Cable Carriers state that:

by creating flat wholesale access rates for all broadband speeds, the decision removes the financial capability of and incentives for Cable Carriers to invest in and introduce higher speed broadband services.²¹²

191. This is a stunningly misleading statement by the Cable Carriers, and it is important that the Governor in Council understand exactly how the Commission decided to set wholesale rates for aggregated wholesale HSA services.

192. It is true that the Commission set flat wholesale access rates for all broadband speeds. The Commission correctly justified this finding on the basis that “...different access rates should not be applied to different service speeds at the wholesale level **if these service speeds do not have different access-related costs.**”²¹³ (emphasis added). In other words, if the Petitioners’ access-related costs are flat for different speeds – the corresponding access portion of wholesale HSA rates should therefore also be flat across different speeds. This is outcome is simple, logical and correct.

193. Importantly, the access portion is only one component of the overall wholesale rate. For example, while the Commission established an access rate of \$14.30 for each of Videotron’s speed

²¹¹ Broadcasting and Telecommunications Legislative Review Panel, *Canada's communications future: Time to act*, 29 January 2020, at p.76 (footnote omitted) [“BTLRP Final Report”].

²¹² Cable Carrier Petition, *supra* note 4, at p. 2.

²¹³ Order, *supra* note 1, at para 159.

bands, it also established for Videotron a monthly capacity rate per 100 Mbps of service of \$227.05.

194. Generally speaking, end-users that subscribe to faster Internet speeds also use more capacity. As a result, the more end-users of a service-based competitor that are subscribing to faster speeds, the more capacity that the service-based competitor will need to purchase from a wholesale service provider.

195. Eastlink attempts to address the fact that service-based competitors must purchase more capacity at higher speeds by stating:

While the Resellers do pay a capacity rate, generally the cost of capacity will not increase in proportion to the speed, given that many end customers will continue to use the services in the same way as they always had. For instance, a customer who generally uses internet today for social media, email, some video usage is not likely to change their consumption in any significant manner.²¹⁴

196. Eastlink's argument is not plausible as the subscribers who only make light use of the Internet, such as for email or social media, are unlikely to subscribe to a 1 Gbps download speed plan as such a plan would be far more expensive than what they require. The subscribers who need these faster plans are likely to be those who engage in significant amounts of video streaming, gaming, and other bandwidth intensive applications and service-based competitors will need to purchase additional amounts of capacity to service these customers on higher speed plans.

197. Eastlink, suggests, however, that under the Commission's flat-access rate structure, a service-based competitor could theoretically choose to offer the highest available speed to all its customers "at one flat low rate" with "no material increase to their costs on the wholesale side" and that Eastlink would be unable to compete against such an offer.²¹⁵ This scenario does not make sense.

198. If a service-based competitor were to choose to offer the highest available speed "at one flat low rate", as Eastlink puts it, it would likely be immediately inundated with the gamers, streamers, and other heavy-bandwidth users described above, who would flock to such an offering

²¹⁴ Cable Carrier Petitions, *supra* note 4, at Appendix B, p. 13.

²¹⁵ *Id.* at Appendix B, p. 13.

if it was more affordable than their current ISP. The result would be that this service-based competitor would become inundated with heavy-bandwidth users that would necessitate it purchasing vast amounts of capacity to service these end-users. The fact that some of its end-users may be “light-users” as well would not change the fact that the heavier users would require it to purchase significant amounts of capacity. As a result, Eastlink or any other wholesale-service provider, would be fully compensated for their costs through capacity rates that are established via Phase II costing.

199. Consequently, the claim that flat access rates will somehow suppress investment incentives is incorrect as the access rate only forms one portion of the overall wholesale rate, the other portion being the capacity rate. As end-users that subscribe to higher speeds generally require more capacity, a service-based competitor purchasing wholesale access to higher speed tiers will need to purchase more capacity to properly service those end-users than end-users subscribing to lower-speed tiers. Thus, there is still a wholesale price differential between higher and lower speed tiers, service-based competitors needing to purchase greater amounts of capacity for higher speed tiers.

5.12 Conclusion on investment impacts

200. In summary, the Petitioners have not presented any grounds that could persuade the Commission to adopt the bleak infrastructure investment outlook depicted in the Petitions. The Order will ensure healthy investment and innovation levels by providing the Petitioners with appropriate incentives to invest while also empowering service-based competitors to make more investments.

6.0 THE REFUNDS REQUIRED BY THE ORDER ARE JUSTIFIED

201. The Petitioners argue that the Commission’s retroactivity determinations are incorrect and request relief that would eliminate the retroactivity obligations established by the Order.²¹⁶ The Petitioners provide no evidence in defense of this untenable position.

202. The Commission’s jurisdiction to apply adjustments to interim rates retroactively is unassailable. In *Bell Canada v. Canadian Radio-Television & Telecommunications Commission*

²¹⁶ See for example, Bell Petition, *supra* note 2, at para 122; Cable Carrier Petition, *supra* note 4, at p. 1.; TELUS Petition, *supra* note 3, at para 6.

(“*Bell 1989*”), the Supreme Court of Canada explicitly recognized that the power to order the return of improperly charged revenues is squarely within the Commission’s jurisdiction, finding that this power is a “necessary adjunct” to the “regulatory scheme established by” its governing statute.²¹⁷ TELUS actually concedes in its Petition that in *Bell 1989* “the Supreme Court of Canada confirmed the authority of the Commission to issue retroactive rate orders.”²¹⁸

203. By way of background, *Bell 1989* concerned an interim rate-setting by the Commission which took effect at the beginning of 1985. After final rates were set in October 1986, the Commission determined that Bell had earned excess revenues of approximately \$200 million over the course of the rate-setting process.²¹⁹ The Commission ordered Bell to return those excess revenues to its customers.²²⁰

204. The Supreme Court of Canada upheld this order, finding that the Commission’s power to fix just and reasonable rates “necessarily involves the regulation of the revenues of the regulated entity”,²²¹ and that its “very broad procedural powers” include “the power to make appropriate orders for the purpose of remedying interim rates which are not just and reasonable”.²²² The Supreme Court of Canada found that it would be “absurd” to hold that the Commission lacked the power to order the repayment of excess revenues.²²³

205. *Bell 1989* was decided predominantly under the *Railway Act* and the *National Transportation Act*, which has been superseded for this purpose by the *Telecommunications Act*. However, the former statutes reflected very similar language to the current *Telecommunications Act* with respect to interim and final rate-making and the Commission’s powers to review or vary any order or decision made by it.²²⁴ Notably, the Supreme Court of Canada in *Bell Canada v. Canadian Radio-Television & Telecommunications Commission* (“*Bell 2009*”)²²⁵ held that the inclusion of subsection 27(5), which permits the Commission to adopt “any method” in the setting

²¹⁷ *Bell Canada v. Canadian Radio-Television & Telecommunications Commission*, [1989] 1. S.C.R. 1722 [“*Bell 1989*”], para. 52.

²¹⁸ TELUS Petition, *supra* note 3, at para 52.

²¹⁹ *Bell 1989*, *supra* note 218, para. 8.

²²⁰ *Id.*, at para. 1.

²²¹ *Id.*, at para. 37.

²²² *Id.*, at para. 52.

²²³ *Id.*, at para. 59.

²²⁴ *Id.*, at paras 21 and 22.

²²⁵ *Bell Canada v. Canadian Radio-Television & Telecommunications Commission*, 2009 SCC 40, at para 38 [“*Bell 2009*”].

of rates, in the *Telecommunications Act* “further enhanced” the “CRTC’s already broad discretion in determining whether rates are just and reasonable”.²²⁶

206. Although some of the Petitioners seem to acknowledge the Commission’s jurisdiction to make retroactive adjustments to interim rates,²²⁷ they nonetheless claim that the Commission exercised improper discretion when establishing final rates as of 31 March 2016 in the case of Bell, Cogeco, Eastlink, Rogers, Videotron and TELUS and 1 January 2017 in the case of Shaw.²²⁸ Below, subsections 6.1 through 6.5 outline the various reasons why the Petitioners have failed to demonstrate any grounds that raise substantial doubt as to the correctness of the Commission’s retroactivity determinations.

207. On a final note, TELUS’ attempts to distinguish *Bell 1989* by noting that the Supreme Court of Canada found that “the added flexibility provided by the power to make [retroactive] interim orders is meant to foster financial stability throughout the regulatory process” [Emphasis added by TELUS] and that the Commission’s decision had the opposite effect, particularly as it came at the conclusion of a three year proceeding.²²⁹

208. These submissions are inconsistent with the actual determination of the Supreme Court of Canada with respect to interim rates and retroactive orders, which reads as follows:

...there should be no concern over the financial stability of regulated utility companies where one deals with the power to revisit interim rates. The very purpose of interim rates is to allay the prospect of financial instability which can be caused by the duration of proceedings before a regulatory tribunal.²³⁰

209. Indeed, CNOC submits that by making rates interim the Commission promoted financial stability in the telecommunications industry by putting all parties on notice that the previous rates had not been just and reasonable, as required by subsection 27(1) of the *Act*, and that there was a possibility that retroactive orders may be issued once final just and reasonable rates were established.

²²⁶ *Id.*, at para. 41.

²²⁷ See, for example, TELUS Petition, *supra* note 3, at para 52, Bell Petition, *supra* note 2, at para 117.

²²⁸ See for example, Bell Petition, *supra* note 2, at Section 7.0; Cable Carrier Petition, *supra* note 4 at para 71; TELUS Petition, *supra* note 3, at para 52.

²²⁹ TELUS Petition, *supra* note 3, at paras 52-54.

²³⁰ *Bell 1989*, *supra* note 218, at para 57.

210. CNOC therefore submits that the Petitioners have not presented any grounds to qualify or distinguish the Supreme Court of Canada’s ruling in *Bell 1989*, which constitutes an authoritative precedent in support of the Commission’s retroactivity determinations in the Order.

6.1 The Petitioners are Responsible for Delayed Approval of Final Rates

211. The Petitioners argue that the nearly three-year period of retroactivity is punitive, which raises substantial doubt as to the correctness of the Order.²³¹

212. However, it was in fact the Petitioners themselves that contributed significantly in terms of extending the period of retroactivity. As detailed in Part 2.0 of this intervention, the Petitioners demonstrated disregard for Phase II costing principles over the course of the regulatory history that ultimately culminated with the Order. The Commission confirmed this very fact in TO 2016-369, stating:

The Commission is concerned that certain wholesale HSA service providers have not conducted their cost studies in accordance with Phase II costing principles, as detailed in the Manual, and have not justified departures from the principles and methodologies set out in the Manual. The Commission has also identified several other costing issues that are addressed in this order.²³²

213. The Commission then made an identical statement with respect to Eastlink in TO 2016-448.²³³ The Commission’s finding that the Petitioners were conducting themselves in this manner came six months after: (1) the rates were made interim on the basis that the rates were likely not just and reasonable; and (2) the Commission directed the Petitioners to file new tariff applications for aggregated wholesale HSA services to reflect new costing parameters.²³⁴ The Petitioners’ non-conformance with Phase II principles at this critical juncture caused significant disruption and delay in establishing final rates. Further, as aforementioned, then Chair and CEO of the Commission described the Petitioners’ conduct as “very disturbing” and threatening to Canadians’ access to a choice of broadband Internet services.²³⁵

²³¹ See for example, Cable Carrier Petition, *supra* note 4, at para 71; See also TELUS Petition, *supra* note 3, at para 54; Bell is also critical of the retroactivity period in para 113 of the Bell Petition, *supra* note 2.

²³² TO 2016-396, *supra* note 31, at para 17.

²³³ TO 2016-448, *supra* note 66, at paras 9-13 and preamble.

²³⁴ TD 2016-117, *supra* note 40, at para 104.

²³⁵ Commission News Release October 6, 2016, *supra* note 42,

214. Disregard of Phase II principles was not the only cause of delay attributable to the Petitioners. The Petitioners took every opportunity to cast overly broad and unjustified designations of confidential information. This conduct was in direct contravention of the disclosure requirements of Telecom Regulatory Policy CRTC 2012-592²³⁶ and the Commission Staff Letter dated 13 September 2013.²³⁷ In addition, the Petitioners omitted critical information from their responses to requests for information and even outright refused to provide responses to the Commission's requests for information because they disagreed with the appropriateness, relevance or materiality of the **Commission's request**.²³⁸

215. CNOC submitted four letters to the Commission seeking appropriate levels of disclosure and production of information that was critical to the public record underpinning the Order.²³⁹

216. In one particularly egregious case, CNOC had to file a letter comprised of **thirty** pages describing the Petitioners' extensive failures to abide by the Commission's disclosure rules and worse, the Petitioners' outright refusals to respond to the Commission's requests for information.²⁴⁰ Having reviewed this letter and the Petitioners' reply to the same, the Commission identified no less than **fifty** instances where the Petitioners either did not justify a designation of confidential information or where additional information was required.²⁴¹ Worse yet, this failure came after the Commission **repeatedly** reminded the Petitioners to file cost studies with the detailed cost information outlined in the Commission Staff Letter dated 13 September 2013, with

²³⁶ *Confidentiality of information used to establish wholesale service rates*, Telecom Regulatory Policy CRTC 2012-592, 26 October 2012.

²³⁷ Commission staff letter dated 13 September 2013, Information to be provided in support of wholesale service tariff applications, Attachment 1, CRTC File 8638-C12-200805906, <https://crtc.gc.ca/eng/archive/2013/lt130913.htm>. ["CRTC Staff Letter September 13, 2013"].

²³⁸ See for example: Cogeco (CRTC)02Mar18 Question 6b); Cogeco (CRTC)02Mar18 Question 23d); Cogeco (CRTC)02Mar18 Question 23d); Cogeco (CRTC)02Mar18 Question 26; Bragg(CRTC)2Mar18-12 part d); Bragg(CRTC)2Mar18-14; Shaw(CRTC)2Mar18-15 part d); Shaw(CRTC)2Mar18-17 part h); Québec Média(CRTC)2mars18-5 groupé part b); Québec Média(CRTC)2mars18-21 groupé part a), <https://crtc.gc.ca/eng/archive/2019/2019-288.htm>.

²³⁹ CNOC letters dated 18 July 2016 and 7 October 2016 in *Follow-up to Telecom Decision CRTC 2016-117, Review of costing inputs and the application process for wholesale high-speed access service*; See also CNOC letters dated 21 June 2017 and 8 June 2018 in *Follow-up to Telecom Order CRTC 2016-396 and Telecom Order CRTC 2016-448 – Aggregated wholesale high-speed access*.

²⁴⁰ Issued on 8 June 2018 in *Follow-up to Telecom Order CRTC 2016-396 and Telecom Order CRTC 2016-448 – Aggregated wholesale high-speed access*.

²⁴¹ Commission staff letter dated 27 July 2018 in *Follow-up to Telecom Order CRTC 2016-396 and Telecom Order CRTC 2016-448 – aggregated wholesale high-speed access (HSA) service – Requests for disclosure and additional information*.

information publicly disclosed in a manner consistent with the confidentiality guidelines set out in TRP 2012-529.²⁴²

217. It also bears noting the Commission's determination in TO 2016-396²⁴³ and TO 2016-448²⁴⁴, that the Petitioners' proposed costs were not reasonable due to the lack of pertinent costing details.

218. In summary, the Petitioners disregarded costing and disclosure requirements throughout the entire proceeding leading up to the Order. At virtually every turn, they frustrated the ability of interested parties and the Commission to scrutinize their cost filings. This disruptive conduct significantly prolonged the proceeding and, therefore, the period of retroactivity. It is bewildering that the Petitioners are now claiming prejudice due to a period of retroactivity that was predominantly their own making.

219. CNOG suspects that the Petitions (and the concurrent appeals before the Federal Court of Appeal and to the Commission) are also purely motivated by the strong incentive to delay the coming into force of unfavorable rate decisions for as long as possible. By doing so, the Petitioners impose opportunity costs on service-based competitors. Interest does not accrue on retroactive rate adjustments. In addition, every dollar of retroactive adjustment that is withheld is a dollar that service-based competitors could invest to compete more effectively with the Petitioners.

220. The Petitioners have the legal and regulatory resources to aggressively delay, stall and frustrate the implementation of any Commission decisions that are unfavorable to them. The business case for deploying such tactics, when factoring the collateral harms to competition, is undoubtedly positive. It is therefore no surprise to CNOG that such tactics are at play in this process initiated by the Petitions.

221. Considering all the above, there is no merit whatsoever to the Petitioners' criticisms of the Commission's determinations regarding retroactivity. The Commission correctly determined that

²⁴² Commission Staff Letter dated 31 March 2016, Re: Information Associated with the Implementation of Telecom Decision CRTC 2016-117; See also Commission Staff Letter dated 16 December 2016, Re: Information Associated with the Implementation of Telecom Order CRTC 2016-396.

²⁴³ TO 2016-396, *supra* note 31, at para 19.

²⁴⁴ TO 2016-448, *supra* note 66, at para 13.

retroactive application of the final rates is necessary to ensure that wholesale HSA service providers use just and reasonable rates.²⁴⁵

6.2 The Petitioners were fully aware that the order would address the matter of retroactivity

222. The Cable Petition claims that the Commission’s retroactive rate reduction could not be anticipated and could not be accounted for in their financial statements “because the existence and amount of those payments was unknown”.²⁴⁶

223. This is truly a bizarre argument. At every milestone leading to the Order, the Commission explicitly stated that it would assess the extent to which retroactivity would apply when wholesale HSA services are set on a final basis.²⁴⁷ In fact, on the record leading to the Order, many of the Cable Carriers individually made representations regarding the matter of retroactivity.²⁴⁸ What’s more, many of those submissions are directly contradictory with the Cable Carriers’ new position that the Commission’s determinations regarding retroactivity were unanticipated. For example:

- Rogers Final Comments stated: “To summarize, Rogers believes that if retroactivity is applied, new rates should only be retroactive to the start date of the filed cost studies, specifically, April 1, 2016.”²⁴⁹
- Shaw’s final comments stated: “...under Shaw’s unique circumstances, retroactivity of final TPIA rates could only reasonably be applied back to January 1, 2017.”²⁵⁰
- Cogeco’s final reply stated: “Cogeco submits that the best compromise in this context would be to set retroactively final rates approved as a result of this proceeding at the date of the interim order issued in Telecom Order CRTC 2016-396, i.e., on 16 October 2016, and deemed approved on a final basis all existing wholesale HSA rates before the date of this Order.”²⁵¹

²⁴⁵ Order, *supra* note 1, at para 329.

²⁴⁶ Cable Carrier Petition, *supra* note 4, at para 71.

²⁴⁷ TD 2016-117, *supra* note 40, at para 105; TO 2016-396, *supra* note 31, at para 28; TO 2016-448, *supra* note 66 at para 18.

²⁴⁸ Rogers Final Comments dated 12 October 2018, at para 32; Shaw Final Comments dated 12 October 2018, at para 60; Cogeco Final Reply dated 16 November 2018, at para 101.

²⁴⁹ Rogers Final Comments dated 12 October 2018, at para 32.

²⁵⁰ Shaw Final Comments dated 12 October 2018, at para 60.

²⁵¹ Cogeco Final Reply dated 16 November 2018, at para 101.

224. It cannot be said that the period of retroactivity was unanticipated when Cable Carriers themselves advocated for either the same or a very similar period of retroactivity that was ultimately reflected in the Order.

225. CNOC also does not accept that the Cable Carriers could not have anticipated the level of rate adjustments that was made in the Order. For the better part of the last decade, CNOC consistently held the position that rates for aggregated wholesale HSA services were significantly inflated above just and reasonable levels. That position is communicated in every costing related submission that CNOC filed in the proceeding leading to the Order. Furthermore, that position was supported by incontrovertible evidence that the Petitioners' proposed costs reflected an incorrect application of the Phase II methodology, with a corresponding and significant upward influence on their proposed rates.

226. Even if the Petitioners disagreed with CNOC's submissions and evidence, they nonetheless had the ability to approximate the effect of CNOC's proposals on their individual costs and proposed rates. For example, CNOC notes that Bell speculated on the public record about the impact of retroactive rate adjustments in the range of \$100 million in response to requests for information from the Commission.²⁵² In fact, the Petitioners presumably conducted such analyses when responding to CNOC's proposals in their various submissions, including their final replies.

227. It therefore follows, that the Cable Carriers, could have easily foreseen the wholesale HSA rates that were included in the Order. In turn, those estimates could have been applied to the period of retroactivity that many of the Cable Carriers themselves supported. This simple hypothetical calculation would have allowed the Cable Carriers to approximate a range of retroactive adjustments that the Commission could require in its final determinations. The Cable Carriers' complaints that the rates were "unanticipated" are therefore without merit.

6.3 The refunds will have no impact on the market positions of the Petitioners

228. As CNOC has emphasized throughout this submission, the retroactive adjustments required by the Order represent the refund of amounts earned through the unjust enrichment that

²⁵² See Telecom Commission Letter Addressed to Philippe Gauvin (Bell Canada), 11 October 2018, CRTC File 8740-B2-201606873, at Footnote 3, available at: <https://crtc.gc.ca/eng/archive/2018/lt181011.htm>.

the Petitioners enjoyed due to wholesale HSA interim rates that were set above just and reasonable levels. The Petitioners were never entitled to these amounts. Accordingly, they have no right to claim prejudice now that they are required to return these amounts to their wholesale customers. The Petitioners' position is thus fatally flawed at its core. Each additional layer of argument that the Petitioners' overlay atop this premise is equally flawed. This Section 6.3 of CNOC's submission addresses the Petitioners' claim that the magnitude of the retroactive adjustment is punitive.

229. All the Petitioners lament the quantum of retroactive adjustment required by the Order.²⁵³ In reality, the amounts in question are insignificant relative to the size of the Petitioners. For instance, consider the following information drawn from public filings and information:²⁵⁴

- Bell alleges up to \$100 million in retroactive refunds resulting from the Order.²⁵⁵ This figure represents less than 0.004% of the Bell's parent company, BCE Inc.'s, \$23.5 billion in annual revenues for 2018.²⁵⁶
- Rogers reports retroactive refunds resulting from the CRTC Order totaling \$140 million.²⁵⁷ This figure represents less than 1% of Rogers' \$15.1 billion in revenues for 2018.²⁵⁸
- In the case of Quebecor Media Inc. ("Quebecor") on behalf of Videotron, the \$50 million²⁵⁹ in refunds resulting from the CRTC Order represent 1.2% of its \$4.18 billion in revenues for 2018.²⁶⁰
- In the case of Cogeco, \$25 million in refunds represents 1% of its \$2.43 billion in revenues for 2018.²⁶¹

²⁵³ See Bell Petition, *supra* note 1, at para 66; See Cable Carriers Petition, *supra* note 4, at para 71; TELUS Petition, *supra* note 3, at para 20.

²⁵⁴ Note: Eastlink has not disclosed the amount of refunds that it will be required to make. As a private company, Eastlink also does not publicly report its revenues. TELUS has not disclosed an estimate of the amount of retroactive refunds that it is required to pay in accordance with the Order.

²⁵⁵ Written Representations of Bell Canada, Bell MTS and MTS Inc. in Bell et al. vs British Columbia Broadband Association et al. (Court File No. 19-A-59), at para 55.

²⁵⁶ BCE Inc. 2018 Annual Report, p.5.

²⁵⁷ Affidavit of David James Watt sworn September 12, 2019 in Federal Court of Appeal Court File No. 19-A-58 ("Watt Affidavit"), at para 7.

²⁵⁸ Rogers Communications Inc. 2018 Annual Report, at p.15.

²⁵⁹ Watt Affidavit, *supra* note 258, at para 7.

²⁶⁰ Quebecor Inc. Consolidated Financial Statements 2018, at p.1.

²⁶¹ Cogeco Communications 2018 Annual Report, at p.3.

- Finally, in the case of Shaw, \$10 million²⁶² in refunds represents 0.2% of its \$5.2 billion in revenues for 2018.²⁶³

230. These comparisons plainly reveal the insignificance of the retroactive adjustments relative to the massive annual revenues of the Petitioners. It is thus no surprise that Rogers’s CFO Anthony Staffieri characterized Rogers’ refund obligation as “not significant on a go-forward basis”.²⁶⁴ Likewise, these comparisons are consistent with the near unanimous assessment by financial observers that the Order will have little, if any, impact on the Petitioners’ market share and competitive position in the broadband market.²⁶⁵

231. Quebecor’s financial reporting is especially revealing when it comes to assessing the impact of the Order on the Petitioners. Under the “Contingencies and legal disputes” section of Quebecor’s 2019 third quarter management discussion and analysis, Quebecor states the following:

Lawsuits were brought by and against the Corporation in connection with business disputes between the Corporation and a competitor. At this stage in the proceedings, management of the Corporation does not expect their outcome to have a material effect on Corporation’s results or financial position.²⁶⁶

232. One of these lawsuits happens to be a \$150 million dollar lawsuit brought by Bell against Quebecor.²⁶⁷ If a \$150 million dollar liability would not have a material effect on Quebecor’s financial position, how is it that a \$50 million in retroactive refunds would have a significant effect on the company?

233. Whereas the retroactive refund amounts are not material for the Petitioners, these sums are very significant from the perspective of service-based competitors, as detailed in the subsequent section.

²⁶² Watt Affidavit, *supra* note 258, at para 7.

²⁶³ Shaw Communications Inc. 2018 Annual Report, at p.8.

²⁶⁴ Rogers Communications Inc. BMO Media & Telecom Conference dated 10 September 2019, at p.9.

²⁶⁵ As summarized above in Section 5.1.5.

²⁶⁶ Quebecor Inc. 2019 Third Quarter Management Discussion and Analysis at p. 27.

²⁶⁷ As described in the Quebecor Press Release dated April 26, 2019 “More abuse of process by Bell” <https://www.quebecor.com/en/-/une-nouvelle-procedure-abusive-de-bell>.

6.4 The Petitioners have no basis to speculate on how service-based competitors will allocate the refunds

234. Just as the Petitioners mischaracterize their experience of retroactive adjustments as being punitive, they also mischaracterize service-based competitors' receipt of such amounts as a "windfall".²⁶⁸ They go farther still and boldly claim that service-based competitors will allocate the entirety of these amounts to the payment of dividends with no pass through benefits to end-users.²⁶⁹ This hyperbolic statement by the Cable Carriers is typical of the arguments of the Petitioners:

These retroactive payments must be made even though the CRTC Order does not impose any requirements on Resellers to refund to consumers all or any portion of those payments, or to use the funds to make investments in their own wireline networks. Rather, these extraordinary retroactive payments amount to windfall gains that the Resellers can simply pocket and distribute to their owners, or use for marketing purposes to increase their share of customers in a distorted market.²⁷⁰

235. The Petitioners have no basis to speculate whether service-based competitors would use retroactive refunds to fund one purpose or another. Their submissions on this matter constitute pure and unfounded speculation that should be accorded no weight by the Governor in Council.

236. More profoundly, the Petitioners' vapid claim misses the point of retroactive adjustments. As explained earlier in Section 5.1, the Petitioners each make their own financial decisions regarding dividends, repayment of debt, operational and administrative expenditures, various other categories of expenditures – and investment. The same is true for service-based competitors. The Order provides service-based competitors with an opportunity to make such financial decisions with respect to amounts that were wrongfully paid to the Petitioners due to rates that were in excess of just and reasonable levels. How service-based competitors decide to allocate those funds is up to them, as a right.

²⁶⁸ TELUS Petition, *supra* note 3, at para 51.

²⁶⁹ TELUS Petition, *supra* note 3, at para 51; Bell Petition, *supra* note 1, at paras 10, 117; Cable Carrier Petition, *supra* note 4, at para 70.

²⁷⁰ Cable Carrier Petition, *supra* note 4, at para 70.

237. The Petitioners' claims regarding service-based competitor dividend payments are also astonishingly ironic given that the Petitioners are increasing their own dividends while threatening investment reductions.²⁷¹

238. While service-based competitors necessarily have the freedom to allocate retroactive refunds as they see fit, there are strong indications that refunds will translate into significant benefits for Canadian consumers of broadband services. Indeed, the new rates approved in the Order caused an immediate and profound commercial response from many service-based competitors. These providers responded to a cost structure based on just and reasonable rates by lowering retail pricing.

239. In other words, the Order created immediate benefits for Canadian consumers going forward.²⁷² There is no reason to doubt that the application of rates retroactively would not also translate into significant consumer benefits going forward. Importantly, such benefits are not limited to significant retail pricing reductions. Retroactive refunds can help service-based competitors finance investment and innovation that ultimately benefits Canadians.

240. As already noted, more than 125,000 Canadians wrote letters to their Members of Parliament, the Chair of the CRTC, the Governor in Council, and the Minister of Innovation, Science, and Industry to support the Order. This level of public support demonstrates that Canadians are confident that the Order is in their best interest.

241. Overall, the Petitioners have no valid basis for making claims about: (1) how service-based competitors will allocate retroactive refunds; or (2) whether service-based competitors' financial decisions will benefit Canadians. Service-based competitors have already demonstrated that they are poised to respond to the Order in meaningful ways that benefit consumers.

6.5 Bell's report on retroactivity in other jurisdictions is irrelevant

242. Bell attached to its Petition a report from the firm Gilbert + Tobin ("Gilbert and Tobin Report") that examines the use of retroactive rate-setting in Australia, New Zealand, and the United Kingdom. The Gilbert and Tobin Report claims that the Commission's decision to use retroactive

²⁷¹ See Section 5.1.9.

²⁷² That is, until the Federal Court of Appeal's interlocutory injunction came into effect.

rate-setting in the Order is “out of step with international best practice”.²⁷³ However, the Gilbert and Tobin Report does not support its conclusion that the Order is somehow out of step with international best practice.

243. The fundamental problem with the Gilbert and Tobin Report is that all it actually demonstrates is that Canada, Australia, New Zealand, and the United Kingdom each have different regulatory regimes for telecommunications and that their respective telecommunications regulators operate under different enabling statutes that grant them different powers, including with respect to retroactive rate-setting.

244. For example, the Gilbert and Tobin Report states that the telecommunications regulator in the United Kingdom, Ofcom, is prohibited by law from varying rates retroactively.²⁷⁴ CNOC has no comment on whether this is an accurate statement of the law in the United Kingdom, but regardless of whether it is or it is not, it is irrelevant to a consideration of whether the Commission appropriately used lawfully granted, retroactive rate-setting in the Order. As noted above, the fact that the Commission is empowered to make use of retroactive rate-setting is well-established in Canadian law, having been confirmed by the Supreme Court of Canada in 1989.

245. The Gilbert and Tobin Report goes on to describe the state of the law in Australia, in which it claims that while the Australian telecommunications regulator, the Australian Competition and Consumer Commission (“ACCC”), may engage in retroactive rate-setting, it only does so “in a tightly structured framework which, consistent with the rationale of ex ante regulation, focuses on prospective rate setting.”²⁷⁵ The Gilbert and Tobin Report claims that the ACCC, due to its statutory constraints, would not have been able to set retroactive rates in the manner that the Commission did in the Order.²⁷⁶

246. As with the United Kingdom, CNOC will assume, for the sake of argument, that the description of Australian law provided in the Gilbert and Tobin Report is accurate. All that the

²⁷³ Bell Petition, *supra* note 2, Attachment, at p 3.

²⁷⁴ *Id.*, Attachment, at pp. 5-6.

²⁷⁵ *Id.*, Attachment, at p. 6.

²⁷⁶ *Id.*, Attachment, at pp. 7-8.

Gilbert and Tobin Report demonstrates is that the ACCC operates under a different statutory framework than the Commission, which, since the ACCC is an Australian regulator and the Commission is a Canadian regulator, is hardly surprising.

247. Finally, the Gilbert and Tobin Report describes the situation in New Zealand. Interestingly, the Gilbert and Tobin Report states that once a rate-setting decision has been made in New Zealand, it may be “reopened and varied if there has been a material change of circumstances or if the determination was made on the basis of information that was false or misleading in a material particular.”²⁷⁷ In addition, the Gilbert and Tobin Report affirms that the telecommunications regulator in New Zealand, the New Zealand Commerce Commission (“NZCC”) has “a legal power to backdate rate determinations, including to cover the period of an interim determination. However, the NZCC has exercised great caution in exercising this power.”²⁷⁸

248. Once again, CNOC is assuming that the description of the law in New Zealand by the Gilbert and Tobin Report is accurate. What is interesting about the example of the NZCC is that it seems very similar to how the Commission operates. The Commission also exercises caution with retroactivity and does not issue retroactive decisions as a matter of course, but only where it feels that retroactive rate-setting is justified by the circumstances.

249. Moreover, the Commission’s criteria for reviewing and/or varying one of its decision is very similar to the criteria that the NZCC appears to use. The Commission will exercise its power to review and/or vary a decision if an applicant can demonstrate that there that there is substantial doubt as to the correctness of the original decision, for example due to:²⁷⁹

- an error in law or in fact;
 - a fundamental change in circumstances or facts since the decision;
 - a failure to consider a basic principle which had been raised in the original proceeding;
- or
- a new principle which has arisen as a result of the decision.

²⁷⁷ *Id.*, Attachment, at p. 9.

²⁷⁸ *Id.*, Attachment, at p. 9.

²⁷⁹ Telecom Information Bulletin CRTC 2011-214, *Revised guidelines for review and vary applications*, 25 March 2011 at para 5.

250. All of that being said, as with the other two comparator jurisdictions cited in the Gilbert and Tobin Report, all that its analysis of the law of New Zealand shows is that the NZCC operates in its own unique context with a unique enabling statute, just as the Commission does. However, CNOC notes that, based on the description provided in the Gilbert and Tobin Report, the approach of the NZCC to retroactive rate-setting and varying past decisions does not actually appear that different than the approach of the Commission.

251. The Gilbert and Tobin Report also seems to make much of the fact that under the NZCC's approach, sometimes retroactive rates may actually be set higher for service-based competitors.²⁸⁰ CNOC is not sure why Bell or the Gilbert and Tobin Report think service-based competitors may be surprised by this fact. CNOC and service-based competitors have always understood that when wholesale rates are interim, there is a risk that the final wholesale rates may be higher, and that retroactivity may work against the interests of service-based competitors. The reason that this does not actually tend to occur is because Incumbents chronically overstate the costs used by the Commission to set interim rates, and only after a thorough analysis, does it become apparent that final rates must be set at lower levels in order to be just and reasonable.

252. The Gilbert and Tobin Report does not conduct any analysis of the merits of the different approaches to retroactive rate-setting and is primarily a descriptive report. Far from conducting any analysis of the outcomes achieved in the three jurisdictions examined, the Gilbert and Tobin Report merely describes the legal framework for retroactive rate-setting in the three jurisdictions, which only shows that different telecommunications regulators operate in different legal contexts. Moreover, at least one of these jurisdictions, New Zealand, appears to, based on the Gilbert and Tobin Report's description, approach retroactive rate-setting in a similar manner to the Commission. Regardless of the situation in New Zealand, the fact that regulators in three countries have different legal constraints imposed on them when it comes to retroactive rate-setting is hardly a basis for proclaiming an approach an "international best practice".²⁸¹

²⁸⁰ Bell Canada Petition, *supra* note 2, Attachment, at p. 10.

²⁸¹ *Id.*, Attachment, at p 3.

253. CNOC notes that far from proving that not using retroactive rate-setting is an international best practice, the limited sample size of the Gilbert and Tobin Report makes it entirely possible that other regulators look to Canada as a model of how to approach retroactive rate-setting.

254. As a result of these flaws, the Gilbert and Tobin Report's claim that the Commission somehow deviated from international best practice by including a retroactive component to the Order must be disregarded.

255. CNOC also wishes to highlight to the Governor in Council another facet of the regulatory regimes of Australia, New Zealand, and the United Kingdom that Bell and the Gilbert and Tobin Report appear to have overlooked and which will CNOC will discuss in greater detail below. All three of these jurisdictions have made use of functional and/or structural separation of their incumbent telecommunications operators as a remedy for insufficient competition.²⁸² As CNOC will demonstrate, functional and/or structural separation incentivizes wholesale providers to offer just and reasonable terms and conditions for access to service-based competitors. Thus, to the extent that retroactive rate-setting is relatively rare in all three jurisdictions, it may simply be because it is not needed due to the use of functional/structural separation as a more robust regulatory remedy.

7.0 COMPETITOR MARKET SHARES DO NOT JUSTIFY UNJUST AND UNREASONABLE RATES

256. The Petitions claim that since service-based competitors have gained market-share over the last decade, there was no reason to adjust wholesale rates.²⁸³ This argument does not withstand scrutiny.

257. Firstly, it is important to put the service-based competitor market share gain in context. According to the Commission's data, service-based competitors increased their overall share of

²⁸² OECD, *Structural Separation in regulated industries: Report on implementing the OECD Recommendation, 2016*, <https://www.oecd.org/daf/competition/Structural-separation-in-regulated-industries-2016report-en.pdf>, at p. 40-50 ["OECD Report on Structural Separation"].

²⁸³ Bell Canada Petition, *supra* note 2, at para 4; TELUS Petition, *supra* note 3, at para 46; Cable Carrier Petition, *supra* note 4, at p. 1.

the residential broadband market from 6.8% to 8.9% between 2014 and 2018.²⁸⁴ This is still an incredibly small portion of the overall broadband market, especially considering that this market-share is divided amongst hundreds of service-based competitors.

258. More importantly, simply because service-based competitors have been able to increase their market-share over the last few years is no justification for rates to not be just and reasonable. In fact, the Commission is required under subsection 27(1) of the *Act* to ensure that wholesale rates are just and reasonable. Once the Commission became aware that rates were inflated and had been set using inaccurate inputs, it was required to act to correct them.

259. Moreover, implicit in the argument of the Petitions is that service-based competitors have already reached a sufficient market share and thus no further action was warranted on the part of the Commission. However, there is no ‘optimal’ level of service-based competition, particularly as the Commission’s application of Phase II costing (inclusive of a reasonable mark-up) ensures that regardless of the amount of the market captured by service-based competitors, wholesale service providers are adequately compensated. As CNOC explains further below, in some jurisdictions, the retail market is required by law, using functional and/or structural separation, to only be serviced by service-based competitors.

260. Finally, CNOC notes that unless the Order is upheld, in all likelihood, the market shares of service-based competitors will quickly erode as they will be forced to pay rates that are not just and reasonable, thus hindering their ability to compete against the Incumbents.

261. Overall, there is absolutely no basis for the proposition that because service-based competitors have made moderate gains in market share over the year that the Commission should have knowingly permitted unjust and unreasonable rates to continue. In fact, such an approach would have been illegal pursuant to subsection 27(1) of the *Act*.

²⁸⁴ 2019 CMR, *supra* note 169, at p. 216.

8.0 THE CABLE CARRIERS ARE NOT UNDULY PREJUDICED BY THE ORDER

262. The Petitions all follow the same general script, down to the pervasive and incorrect use of the term “resellers” to describe service-based competitors. The script used in the Petitions is that the Order set wholesale rates too low, thus the Petitioners will earn less money, thus they will have no choice but to dramatically cut investment in infrastructure, particularly in rural and remote areas. CNOC has already addressed these spurious claims above.

263. However, the Cable Carriers make two other claims, arguing that they are somehow uniquely prejudiced, when compared to the ILECs, by the Order.

264. Firstly, the Cable Carriers claim that Phase II costing methodology does not accurately capture their costs because the Commission “has never approved a Costing Manual that takes into account the technologies that the Cable Companies use to deliver broadband internet access services to Canadian consumers.”²⁸⁵

265. Secondly, the Cable Carriers claim that the Order uniquely prejudices them because they are required to provide aggregated wholesale HSA service at speeds that are significantly greater than those that the ILECs are compelled to offer to service-based competitors.²⁸⁶

266. Both claims are misleading and must be rejected.

267. With respect to the first claim, the Cable Carriers have been subject to Phase II costing since the late 1990s and have participated in countless costing proceedings, including the present one, since that time. If the Cable Carriers had wanted to submit their own costing manual to the Commission for approval, there was nothing preventing them from doing so at any time over the last two decades. The fact that the Cable Carriers have chosen to never prepare a Costing Manual for use by the Commission should not now entitle them to denigrate Phase II costing when they disagree with its outcome in a proceeding. In fact, the Cable Carriers supported the use of Phase

²⁸⁵ Cable Carriers Petition, *supra* note 4, at para 37.

²⁸⁶ *Id.* at paras 84-85.

II costing as the appropriate methodology to determine their wholesale rates when they first became subject to the requirement to provide wholesale access to service-based competitors.²⁸⁷

268. More importantly, the ILEC costing manual is not bound by a network technology or architecture. Phase II methodology accounts for how network facilities are used in practice, whether they are ILEC or cable facilities. For this simple reason, the Cable Carriers do not need any separate Phase II methodology or manual. If they felt differently about this, they could have filed such a manual **decades ago**, as noted in the preceding paragraph.

269. As for the second claim, the Cable Carriers have left out vital context. It is true, that the Cable Carriers are required to provide aggregated wholesale HSA services a significantly greater download speeds than the ILECs. This is because the Commission has decided, at the present time, to only allow access to FTTP networks on a disaggregated basis. As CNOC mentioned above, the current disaggregated interim wholesale HSA regime is unworkable and needs to be corrected before significant demand for disaggregated HSA services, which support FTTP access, will increase.²⁸⁸

270. This delay in the implementation of the disaggregated wholesale regime explains the discrepancy in speeds that the ILECs and Cable Carriers are required to offer. As a general proposition, the ILECs have two types of network technologies currently deployed, FTTN and FTTP. As the Commission has decided, for the present, that service-based competitors may only access FTTP on a disaggregated basis, and this wholesale regime is not yet workable, this means that service-based competitors obtaining wholesale HSA service from the ILECs, must do so on their FTTN technology. Similarly, service-based competitors obtaining wholesale HSA service from the cable carriers, must do so using their traditional coaxial cable networks, not their FTTP networks.

²⁸⁷ *Regulation under the Telecommunications Act of Cable Carriers' Access Services*, Telecom Decision CRTC 99-8, 6 July 1999, at paras 7-10.

²⁸⁸ For a summary of some of these problems, see CNOC 2018 Part 1 Application, *supra* note 36, at Executive Summary.

271. The ILECs' FTTN technology is generally only capable of offering speeds of up to 50 Mbps download. By contrast, the Cable Carriers' traditional coaxial cable networks are capable of significantly greater download speeds than the ILECs' FTTN networks, but it is important to note that the disparity in upload speeds on both network technologies is relatively minor.

272. Thus, the reason that the Cable Carriers are currently required to offer wholesale HSA services at greater speeds than the ILECs has nothing to do with discriminatory treatment, but stems entirely from the fact that the Cable Carriers' coaxial cable networks are simply capable of offering greater download speeds than the ILECs' FTTN networks and the wholesale regime for access to wholesale HSA over FTTP has not yet been implemented in a workable manner by the Commission. This is a temporary situation. The industry is awaiting a Commission decision that could address the problems with the regulatory framework surrounding disaggregated HSA services, including services provisioned over ILEC FTTP networks.²⁸⁹

273. Finally, CNOC emphasizes that regardless of the fact that the Cable Carriers are currently, and temporarily required to offer wholesale HSA access at greater download speeds than the ILECs, Phase II costing ensure that they are properly compensated for their costs of doing so and given a sizeable mark-up on their costs to continue to incentivize them to invest.

274. For all these reasons, the Governor in Council should therefore reject the misleading statements of the Cable Carriers that the Order somehow uniquely prejudices their interests.

9.0 THE GOVERNOR IN COUNCIL SHOULD NOT MODIFY THE COMMISSION'S REGULATORY SCHEDULE

275. Each of the Petitions requests that the Governor in Council make modifications to the Commission's proposed regulatory schedule.

276. Bell requests that the Commission be directed to "conduct a review of the wholesale wireline framework before a review of its approach to wholesale rate-setting."²⁹⁰

²⁸⁹ *Ibid.* See also generally CRTC File 8662-C182-201809534.

²⁹⁰ Bell Canada Petition, *supra* note 2, at para 122(c).

277. TELUS requests that the Commission be directed to:

conduct its review of the wholesale high-speed access regulatory framework (the “Framework”) that it was already planning for 2020 before initiating any future review of wholesale wireline rates or issuing any decisions on wholesale wireline rate proceedings presently before the Commission.²⁹¹

278. The Cable Carriers request that the Order should be referred back to the Commission and that:

the final rates for wholesale high-speed access services (aggregated and disaggregated) should be established in conjunction with the CRTC’s pending broader review of the wholesale high-speed access regulatory framework, and not before that review is completed.²⁹²

279. The Governor in Council should reject these requests.

280. Firstly, CNOC submits that it is inappropriate, except in extenuating circumstances, for the Governor in Council to involve itself in the internal operations of the Commission, including how the Commission chooses to schedule proceedings. The role of the Governor in Council is to ensure that the Commission’s decisions advance Canada’s statutorily enacted telecommunications policy objectives in section 7 of the *Act* and are consistent with any applicable Policy Directions²⁹³, not to manage the dockets of the Commission.

281. More significantly, the proposals of the Petitioners would result in an intolerable delay in the establishment of final rates for aggregated wholesale HSA services. These rates have been under review since 2015, which means that the industry is now entering its fifth year in which these rates remain unsettled. As noted above, the situation has taken so long to resolve that several

²⁹¹ TELUS Petition, *supra* note 3, at para 65.

²⁹² Cable Carriers Petition, *supra* note 4, at para 136(a).

²⁹³ The two policy directions to the Commission currently in force are *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives*, SOR/2006-355 [“2006 Policy Direction”] and *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives to Promote Competition, Affordability, Consumer Interests and Innovation*, SOR/2019-227 [“2019 Policy Direction”].

(lower speed) wholesale services at issue are now in their final lifecycle. The Petitioners now seek to further delay the establishment of final rates by compelling the Commission to conduct further general policy reviews before returning to the subject of these rates.

282. To give the Governor in Council an idea of how much delay may be occasioned if it grants the Petitioners' scheduling requests, it is useful to look at the timeline associated with the completion of the last wholesale wireline review. That review was initiated on October 15, 2013 by Telecom Notice of Consultation 2013-551.²⁹⁴ It was not completed until Telecom Regulatory Policy 2015-326²⁹⁵ ("TRP 2015-326") was issued on July 22, 2015, a total of 646 days, and after that, there were a number of follow-up proceedings that stemmed from TRP 2015-326, including a number of proceedings relating to the implementation of the wholesale framework for access to FTTP services, a matter which is still ongoing.²⁹⁶

283. In a hypothetical scenario where the Commission is ordered to complete its wholesale wireline review before considering any issues with respect to wholesale rates, and assuming that wholesale wireline review commences on June 1, 2020, and wholesale wireline review takes as long as the previous one, the Commission would not complete its review before March 9, 2022.

284. Even if the Commission were to immediately, on March 9, 2022, turn its mind back towards setting wholesale rates, and assuming its planned review of its wholesale costing methodology did not necessitate further delays, it would presumably need at least 6 months to issue a decision, which would mean that final rates for wholesale HSA aggregated services would not be issued until September 9, 2022. CNOC notes that this is a best-case scenario and does not account for the possibility of other further process or appeals.

²⁹⁴ *Review of wholesale services and associated policies*, Telecom Notice of Consultation CRTC 2013-551, 15 October 2013.

²⁹⁵ TRP 2015-326, *supra* note 117.

²⁹⁶ See, for example, the proceeding leading to *Follow-up to Telecom Regulatory Policy 2015-326 – Implementation of a disaggregated wholesale high-speed access service, including over fibre-to-the premises access facilities*, Telecom Decision CRTC 2016-379, 20 September 2016; and the proceeding leading to Telecom Decision 2019-362, *CISC Network Working Group – Consensus report NTRE062 regarding the implementation of disaggregated wholesale high-speed access services*, 1 November 2019.

285. Therefore, under the proposals of the applicants, wholesale rates that have already been under review since 2015 would remain unsettled until at least late in 2022, if not later! A seven-year process to set wholesale rates simply cannot be allowed to occur.

286. There has already been enough delay. CNOC requests that the Governor in Council reject the scheduling changes proposed by the Petitioners, which are clearly designed to delay the implementation of just and reasonable wholesale rates for as long as possible. Instead the Order should be upheld in its entirety. In addition, as discussed further below, CNOC urges the Governor in Council to take measures to end the ability and incentive of the Petitioners to delay the introduction of just and reasonable wholesale rates using functional and/or structural separation.

10.0 THE ORDER ADVANCES CANADA'S TELECOMMUNICATIONS POLICY OBJECTIVES

287. The Order is fully consistent with, and advances, Canada's telecommunications policy objectives as they are articulated in the *Act*, the 2006 Policy Direction²⁹⁷, the 2019 Policy Direction²⁹⁸, and the mandate letter of the Minister for Innovation, Science, and Industry.

288. As described above, the Order, using Phase II costing, lowered wholesale rates for aggregated HSA services to just and reasonable levels while still ensuring that rates are set at a level where wholesale providers are incentivized to invest in telecommunications infrastructure. The Order also ensured that wholesale rates for aggregated HSA services are just and reasonable by requiring the Petitioners to refund to service-based competitors overpayments made by the latter since 2016.

289. The result of just and reasonable wholesale rates for aggregated wholesale HSA services is that service-based competitors are better able to compete against the Petitioners, other telecommunications service providers, and each other through offering affordable telecommunications services to all Canadians, including those in rural and remote areas, investing

²⁹⁷ 2006 Policy Direction, *supra* note 294.

²⁹⁸ 2019 Policy Direction, *supra* note 294.

in infrastructure where it makes economic sense to do so, and engaging in innovation. Enhanced levels of competition through a vibrant wholesale market also represents maximum reliance upon market forces when compared to the alternative of engaging in heavy-handed and economically inefficient retail price regulation. All these outcomes are fully consistent with and advance Canada's telecommunications policy objectives.

290. The outcomes of the Order advance several of Canada's telecommunications policy objectives that are articulated in section 7 of the *Act*, including:

- to facilitate the orderly development throughout Canada of a telecommunications system that serves to safeguard, enrich and strengthen the social and economic fabric of Canada and its regions;²⁹⁹
 - The Order advances this policy objective by ensuring that Canadians in all regions of the country have multiple choices for affordable broadband Internet access.
- to render reliable and affordable telecommunications services of high quality accessible to Canadians in both urban and rural areas in all regions of Canada;³⁰⁰
 - The Order advances this policy objective by ensuring that Canadians in both urban and rural areas can access high quality, and affordable, broadband Internet from service-based competitors. In addition, by providing service-based competitors with additional levels of capital and just and reasonable wholesale rates, it will enable service-based competitors to make a greater contribution towards investing in rural areas to help bridge the digital divide.
- to enhance the efficiency and competitiveness, at the national and international levels, of Canadian telecommunications;³⁰¹

²⁹⁹ Paragraph 7(a) of the *Act*.

³⁰⁰ Paragraph 7(b) of the *Act*.

³⁰¹ Paragraph 7(f) of the *Act*.

- The Order enhances the level of competitiveness in Canadian telecommunications by freeing service-based competitors from the requirement to pay unjust and unreasonable wholesale rates and refunding to them amounts that were overpaid to the Petitioners over the last three years. With just and reasonable wholesale rates, service-based competitors will be better able to compete against the Petitioners.
- to foster increased reliance on market forces for the provision of telecommunications services and to ensure that regulation, where required, is efficient and effective;³⁰²
 - The Order fosters increased reliance on market forces by setting proper wholesale rates for aggregated wholesale HSA, which will allow service-based competitors to focus on competing in the market against the Petitioners instead of seeking regulatory relief. Moreover, the creation of wholesale competition to ensure choice, innovation, and affordability, represents significantly greater reliance on market forces than the alternative of heavy-handed and economically inefficient retail rate regulation.
- to stimulate research and development in Canada in the field of telecommunications and to encourage innovation in the provision of telecommunications services;³⁰³
 - The Order stimulates research and development and encourages innovation by enhancing competition. Greater levels of competition in a market will spur greater levels of competition, by both incumbents and new entrants, as all competitors seek to differentiate themselves and battle for market share.
- to respond to the economic and social requirements of users of telecommunications services.³⁰⁴
 - As CNOC explained above, Canadians pay amongst the highest prices in the world for telecommunications services, including broadband Internet access.

³⁰² Paragraph 7(f) of the *Act*.

³⁰³ Paragraph 7(f) of the *Act*.

³⁰⁴ Paragraph 7(f) of the *Act*.

The Order will provide Canadians with more affordable choices for broadband Internet access, as demonstrated by the reductions in price made by CNOC members following the release of the Order.

291. The Order is also fully consistent with the Governor in Council's directions to the Commission articulated in the 2006 Policy Direction, including:

- the Commission should rely on market forces to the maximum extent feasible as the means of achieving the telecommunications policy objectives;³⁰⁵
 - The Order is consistent with this direction as it fosters increased reliance on market forces by setting proper wholesale rates for aggregated wholesale HSA, which will allow service-based competitors to focus on competing in the market against the Petitioners instead of seeking regulatory relief. Moreover, the creation of wholesale competition to ensure choice, innovation, and affordability, represents significantly greater reliance on market forces than the alternative of heavy-handed and economically inefficient retail rate regulation.
- the Commission should, when relying on regulation, use measures that are efficient and proportionate to their purpose and that interfere with the operation of competitive market forces to the minimum extent necessary to meet the policy objectives;³⁰⁶ and
 - The Order is consistent with this direction as the Commission used the minimum amount of regulation necessary to achieve the policy objectives set out in section 7 of the *Act*. More specifically, since a completely unregulated market would lead to anti-competitive outcomes and market dominance by the Incumbents, the Commission chose to create an effective wholesale market based upon just and reasonable wholesale rates, which interferes with the operation of competitive market forces far less than more intrusive forms of regulation such as retail rate regulation.

³⁰⁵ Subparagraph 1(a)(i) of the 2006 Policy Direction.

³⁰⁶ Subparagraph 1(a)(ii) of the 2006 Policy Direction.

- the Commission, when relying on regulation, should use measures that, if they are of an economic nature, neither deter economically efficient competitive entry into the market nor promote economically inefficient entry.³⁰⁷
 - The Order is consistent with this direction as it relies upon the Phase II costing methodology to ensure that wholesale rates are set at a level where competitors are able to enter the market and compete, while still ensuring that wholesale providers are incentivized to invest, thus ensuring that entry is economically efficient and does not create inefficiencies by negatively impacting investment incentives.

292. The Order is also fully consistent with the Governor in Council's directions to the Commission articulated in the 2019 Policy Direction, including:

- The Commission should encourage all forms of competition and investment,³⁰⁸
 - The Order is consistent with this direction as, using just and reasonable wholesale rates established using the Phase II costing methodology, it encourages both service-based competitors and the Petitioners to complete and invest.
- The Commission should foster affordability and lower prices, particularly when telecommunications service providers exercise market power,³⁰⁹
 - The Order is consistent with this direction as through setting just and reasonable wholesale rates it enabled service-based competitors, including CNOC members, to lower their prices.
- The Commission should ensure that affordable access to high-quality telecommunications services is available in all regions of Canada, including rural areas;³¹⁰

³⁰⁷ Subparagraph of the 2006 Policy Direction.

³⁰⁸ Subparagraph 1(a)(i) of the 2019 Policy Direction.

³⁰⁹ Subparagraphs 1(a)(ii) of the 2019 Policy Direction.

³¹⁰ Subparagraph 1(a)(iii) of the 2019 Policy Direction.

- The Order is consistent with this direction as through setting just and reasonable wholesale rates it enabled service-based competitors, including CNOC members, to lower their prices, including in rural areas.
- The Commission should enhance and protect the rights of consumers in their relationships with telecommunications service providers, including rights related to accessibility;³¹¹
 - The Order is consistent with this direction as by enhancing competition it also enhances the rights of consumers as in a truly competitive market, telecommunications service providers that do not respect the rights of consumers will find their customers switching to competitors.
- The Commission should reduce barriers to entry into the market and to competition for telecommunications service providers that are new, regional or smaller than the incumbent national service providers;³¹²
 - The Order is consistent with this direction as by setting just and reasonable wholesale rates it is reducing barriers to entry for service-based competitors.
- The Commission should enable innovation in telecommunications services, including new technologies and differentiated service offerings;³¹³
 - The Order is consistent with this direction as it stimulates research and development and encourages innovation by enhancing competition. Greater levels of competition in a market will spur greater levels of competition, by both incumbents and new entrants, as all competitors seek to differentiate themselves and battle for market share.
- The Commission should stimulate investment in research and development and in other intangible assets that support the offer and provision of telecommunications services.³¹⁴

³¹¹ Subparagraphs 1(a)(iv) of the 2019 Policy Direction.

³¹² Subparagraph 1(a)(v) of the 2019 Policy Direction.

³¹³ Subparagraph 1(a)(vi) of the 2019 Policy Direction.

³¹⁴ Subparagraph 1(a)(vii) of the 2019 Policy Direction

- The Order is consistent with this direction as it stimulates research and development and encourages innovation by enhancing competition. Greater levels of competition in a market will spur greater levels of competition, by both incumbents and new entrants, as all competitors seek to differentiate themselves and battle for market share.

293. Finally, the outcomes of the Order also advance several of the government's telecommunications policy objectives that are detailed in the mandate letter of the Minister of Innovation, Science, and Industry:

- “You will also take steps to support consumer choice and competition to make life more affordable for middle class families.”³¹⁵
 - The Order is consistent with this objective as through setting just and reasonable wholesale rates it enabled service-based competitors, including CNOC members, to lower their prices.
- “Work with the Minister of Infrastructure and Communities, the Minister for Women and Gender Equality and Rural Economic Development and the Minister of Canadian Heritage to deliver high-speed internet to 100 per cent of Canadian homes and businesses by 2030.”³¹⁶
 - The Order is consistent with this objective as by setting just and reasonable wholesale rates using the Phase II costing methodology, both service-based competitors and the Petitioners are incentivized to invest in telecommunications infrastructure.
- “Co-lead work with the Minister of Canadian Heritage to modernize the Broadcasting Act and the Telecommunications Act, examining how best to support

³¹⁵ Office of the Prime Minister, “Minister of Innovation, Science and Industry Mandate Letter”, 13 December 2019.

³¹⁶ *Ibid.*

Canadian content in English and French and ensure quality affordable internet, mobile and media access.” [Emphasis added]³¹⁷

- The Order is consistent with this objective as through setting just and reasonable wholesale rates it enabled service-based competitors, including CNOC members, to lower their prices.

294. Overall, the Order is fully consistent with and advances the government of Canada’s telecommunications policy objectives. In contrast, the relief request by the Petitioners would seriously undermine these options by reducing competition and the affordability of broadband Internet services.

11.0 ADDITIONAL MEASURES ARE NEEDED TO RESTRAIN CANADA’S INCUMBENTS

295. CNOC is dismayed by the fact that more than five years after the Commission announced it would review the wholesale rates for aggregated wholesale HSA service, final rates for these services have still not been determined due to a constant battle by the Petitioners to resist any and all wholesale regulation. The delay has been so long that the FTTN and coaxial cable infrastructure in question, while still important for competition, is increasingly obsolete and being replaced with FTTP, which service-based competitors are still fighting to access on reasonable terms and conditions.

296. The situation was already critical and now the Petitioners are seeking to further delay the finalization of these wholesale rates, as described above, until at least 2022. This is absurd and cannot be permitted to occur.

297. CNOC further notes that the aggregated wholesale HSA services at issue in the Order are just one of many wholesale services that the Petitioners steadfastly refuse to provide on reasonable terms and conditions. Other examples of services for which the Petitioners refuse to provide reasonable terms and conditions for wholesale access include wholesale HSA services provided over FTTP networks and wholesale access for mobile virtual network operators.

³¹⁷ *Ibid.*

298. The reality is that the Petitioners do not want service-based competitors to exist. They would prefer a return to the old days when they enjoyed unfettered regional monopolies and duopolies. As such, the Petitioners have an incentive to do everything in their power to delay, undermine, and hinder the development of service-based competition in Canada, particularly by hobbling wholesale regulation through interminable appeals, which, as currently drafted, the *Act* essentially allows them to launch in perpetuity. This situation cannot be allowed to continue indefinitely.

299. However, there are regulatory measures that can be taken to change the incentives of the Petitioners and make them more amenable to providing wholesale access on reasonable terms and conditions. These measures include functional and/or structural separation.

300. Functional and structural separation are regulatory remedies that have been used with great success in other jurisdictions, including, notably, Australia, New Zealand, and the United Kingdom³¹⁸, which Bell's own experts held up as examples of best practice when it comes to wholesale rate-setting.³¹⁹

301. With functional separation, an upstream wholesale provider is not permitted to compete directly in downstream retail markets, although it may do so through an affiliate that is under common ownership with the upstream wholesale provider. This is best illustrated through a hypothetical example. CNOC's example refers to Bell, but the concepts are applicable to any of the Petitioners.

302. If Bell were to be functionally separated it would be required to split into two companies, one of which would become a service-based competitor and compete in retail markets, similar to CNOC members, and one of which would continue to own and operate Bell's telecommunications infrastructure as a wholesale service-provider. For the purposes of this example, the retail arm of Bell will be referred to as Bell Retail and the wholesale arm referred to as Bell Wholesale.

³¹⁸ OECD Report on Structural Separation, *supra* note 238, at pp. 40-50.

³¹⁹ Bell Canada Petition, *supra* note 2, Attachment, at p 3.

303. In a functionally separated Bell, Bell Retail would need to obtain wholesale access from Bell Wholesale, just like any other service-based competitor. Importantly, Bell Wholesale would not be able to give any undue preference to Bell Retail and strict data barriers between the two companies would be established to prevent any undue preference or sharing of information. Under functional separation, it would still be permissible for both Bell Wholesale and Bell Retail to be owned by BCE Inc.

304. The only difference between functional and structural separation is that under structural separation, Bell Retail and Bell Wholesale would not be permitted to be owned by the same parent company.

305. With functional or structural separation, the Petitioners have radically different behavioral incentives than they currently have as, with functional separation, their retail arms must obtain wholesale access from an upstream wholesale provider in the same manner as all other service-based competitors, and with structural separation, whichever company ends up being a pure wholesale-provider has an incentive to maximize wholesale traffic since they are not permitted to sell directly to consumers. Therefore, the Petitioners would no longer have an incentive to delay wholesale regulation as much as possible or offer unreasonable terms and conditions for wholesale access that result in years of regulatory battles.

306. Functional and structural separation are not novel or extreme remedies. In fact, they have been used in each of the three jurisdictions cited by Bell's expert as examples of best practices for telecommunications regulation.

307. In the United Kingdom, the incumbent telephone company, British Telecom ("BT"), has been functionally separated into a wholesale arm, known as Openreach, and a retail arm, which operates in the retail market as BT.³²⁰ Both entities are still owned by BT.³²¹ Recently, in response

³²⁰ OECD Report on Structural Separation, *supra* note 283, at pp. 48-49.

³²¹ OECD Report on Structural Separation, *supra* note 283, at pp. 48-49. See also, Nic Fildes, "BT completes Ofcom-mandated staff transfer to Openreach", *Financial Times*, 30 September 2018, <https://www.ft.com/content/090178b4-c325-11e8-8d55-54197280d3f7> ["Fildes Report"].

to concerns that BT was still exerting undue influence over Openreach, the British telecommunications regulator, Ofcom, ordered BT to further legally separate Openreach from BT including through establishing an independent board for Openreach and transferring 31,000 BT employees to Openreach.³²²

308. In Australia, the federal government chose to create a national broadband network known as the National Broadband Network (“NBN”) to build out Australia’s next generation broadband network and from which all telecommunications service providers must obtain access.³²³ Australia is an example of structural separation as the NBN has no retail presence and only provides wholesale access to service-based competitors, which include former incumbent operators.³²⁴

309. Similarly, in New Zealand, the former incumbent telephone operator, Telecom New Zealand, was functionally separated in 2008 and structurally separated in 2011 into two separate companies.³²⁵ The wholesale company, which was spun off from Telecom New Zealand, is prohibited from selling directly to end-users.³²⁶

310. As a result of the ongoing intransigence of the Petitioners and the never-ending regulatory battles between service-based competitors and the Petitioners, as well as other Incumbents, which have no end in sight and are costly for all parties, including consumers, CNOC urges the Government of Canada to start to seriously consider adopting the same types of measures, namely functional or structural separation, that have been used in Australia, New Zealand, and the United Kingdom. Such measures will level the playing field between the Incumbents and new entrants, enhance competition, and reduce the regulatory burden on the Commission by incentivizing infrastructure owners to offer reasonable terms and conditions for wholesale access.

³²² Fildes Report, *supra* note 322.

³²³ OECD Report on Structural Separation, *supra* note 283, at pp. 40-43.

³²⁴ NBN Co., “About NBN Co”, <https://www1.nbnco.com.au/corporate-information/about-nbn-co>.

³²⁵ OECD Report on Structural Separation, *supra* note 283, at pp. 47-48; *The New Zealand Herald*, “Plenty of pomp as Chorus and Telecom part”, 1 December 2011, https://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10769994.

³²⁶ *Telecommunications Act 2001* (New Zealand), at section 69S, <http://www.legislation.govt.nz/act/public/2001/0103/latest/whole.html#DLM4187649>.

311. As a preliminary matter, the government of Canada should direct ISED to reach out to regulators in Australia, New Zealand, and the United Kingdom to learn about how functional and structural separation was implemented in those jurisdictions and how it has functioned.

312. CNOC will have more to say about the need for functional and/or structural separation during the Commission's upcoming wholesale wireline review.

12.0 CONCLUSION

313. It is unfortunate that the Petitioners are, despite years of delay that service-based competitors and Canadian consumers have already endured, further seeking to delay the introduction of just and reasonable wholesale rates for aggregated wholesale HSA services. This delay will directly result in Canadians continuing to pay far more for broadband Internet access than their peers in other industrialized countries, the negative effects of which will be felt by those least able to afford it, the middle class and those working hard to join the middle class. The anger of Canadians over this possibility is being expressed through the more than 125,000 letters sent by Canadians to their Members of Parliament calling upon their government to defend the Commission and evidence-based policy.

314. The Governor in Council should not believe the spurious claims made by the Petitioners in their Petitions that the wholesale rates established in the Order will somehow create catastrophic impacts on investment in telecommunications infrastructure, particularly in rural and remote areas. The Petitioners make this claim every time they are faced with greater levels of competition and it has never materialized. The Commission's application of Phase II costing to set wholesale HSA rates is explicitly designed to ensure that incentives to invest are maintained while still enabling service-based competitors to compete.

315. The Governor in Council also should not be persuaded by the claims in the Petitions that the retroactive application of the rates established in the Order is somehow unjust. In fact, the retroactive application of the rates established in the Order is the most just outcome. All that retroactivity does is to refund to service-based competitors money that never belonged to the Petitioners in the first place, as it was earned through the payment by service-based competitors of

inflated wholesale rates that had been improperly set as a result of the Petitioners' own conduct and failure to adhere to Phase II costing principles.

316. The fact that these Petitions are nothing more than a delaying tactic is demonstrated by the fact that they are completely moot. CNOC agrees with the Commission that the wholesale rates established by the Order are just and reasonable, as required by subsection 27(1) of the *Act*. Nonetheless, if errors were made by the Commission in the Order, they are already being reviewed as the Petitioners have also filed applications with the Commission seeking to review and vary the Order and alleging that certain specific costing errors were made by the Commission. Thus, the Governor in Council referring the Order back to the Commission for reconsideration serves absolutely no purpose since the Order is already being reconsidered by the Commission.

317. The other procedural relief requested by the Petitioners, namely delaying the issuance of final rates for aggregated wholesale HSA services until such time as the Commission completes its upcoming review of costing methodologies and the wholesale wireline framework, which will no doubt take until at least the second half of 2021, meaning that final rates would likely not be issued until 2022, if not later, is further evidence of the desire of the Petitioners to use the regulatory process as a means to prevent service-based competitors from accessing wholesale services at just and reasonable rates for as long as possible.

318. The Order was the product of years of careful analysis and investigation by the Commission and its expert staff. These wholesale rates are a significant step towards enabling service-based competitors to effectively compete against the Petitioners, and other telecommunications service providers, and deliver the affordable and innovative telecommunications services that Canadians want and deserve. The Order is evidence-based policy making that advances the government's telecommunications policy objectives of enhancing competition and improving the affordability of telecommunications services.

319. CNOC remains very concerned, even if the Petitions are rejected, by the ability of the Petitioners to indefinitely delay the introduction of just and reasonable wholesale rates through interminable appeals. CNOC urges the Governor in Council to continue to monitor the matter of establishing final wholesale rates, and, if the Petitioners continue to prove intransigent, to take any

measures the Governor in Council deems necessary, including introducing legislation to enshrine the rates in statute or recommending that the Commission investigate the functional or structural separation of some or all of the Petitioners.

320. For all the reasons set out in this submission, CNOC requests that the Governor in Council reject the Petitions in their entirety.

APPENDIX “A”

**Assessment of an Expert Report by the Brattle Group
Regarding Telecom Order CRTC 2019-288**

Prepared for
Canadian Network Operators Consortium Inc.

by
Zhiqi Chen, PhD

January 31, 2020

Executive Summary

- ES1. I have conducted an assessment of an expert report prepared by members of the Brattle Group (the “Brattle Report”) that analyzes the impact of final rates for aggregated wholesale high-speed access services (the “Final Wholesale Rates”) set out in Telecom Order CRTC 2019-288 (the “Order”) on the cash flows and investment incentive of five cable companies (the “Cablecos”). I have found that the differential cash flow analysis (the “cash flow analysis”) in the Brattle Report suffers from three significant deficiencies. They are: (i) inadequate disclosure of information about the method and data used in the analysis, (ii) unrealistic assumptions about the growth rates of service-based competitors’ market share and the Cablecos’ average revenue per user (ARPU), and (iii) failure to consider increases in the growth rate of Internet service subscriptions caused by (assumed) price changes.
- ES2. Specifically, the description of the method and data used in the cash flow analysis does not contain the level of details that would enable a reader to assess the validity of the procedures and the reasonableness of the assumptions in the analysis. The most significant omission is the lack of disclosure about the statistics associated with the *status quo* and the three scenarios considered in the cash flow analysis, specifically the growth rate of service-based competitors’ market share and the growth rate of the Cablecos’ ARPU. The absence of these statistics in the Brattle Report creates a barrier for a reader to assess the reasonableness of the assumptions embedded in the three scenarios.
- ES3. To help assess the reasonableness of these assumptions, I have calculated the growth rates implied by the *status quo* and the three scenarios using information in the Brattle Report and data from the 2018 Communications Monitoring Report. Based on these calculations, I have found the first of the three scenarios implicitly assumes that the growth rate of the Cablecos’ ARPU will be reduced by more than 72 percent from the *status quo* and that service-based competitors’ market share will grow at a rate more than twice the growth rate in the *status quo*. The other two scenarios implicitly assume an even larger reduction in the

- Cablecos' ARPU growth rate and/or an even higher growth rate of service-based competitors' market share. In my opinion, these assumptions are unrealistic.
- ES4. The cash flow analysis fails to take into consideration a basic economic principle that the demand for a good will increase when the price of the good falls. To be more specific, the analysis assumes that the retail prices of Internet services after the implementation of the Order will be lower than what would have prevailed in the *status quo*, yet it fails to take into account the resulting increases in the growth rate of subscriptions. This failure inflates the estimated loss in the Cablecos' operating cash flows. A more serious consequence of this failure is that it artificially rules out the possibility that the Order may actually increase the Cablecos' operating cash flows relative to that in the *status quo*, which could occur if the price elasticity of demand is greater than 1.
- ES5. The unrealistic assumptions embedded in the three scenarios and the failure to take into account increases in the rate of subscription growth lead to a vast overstatement of the potential negative impact of the Order on the Cablecos' operating cash flows. This calls into question the credibility of the estimates from the cash flow analysis.
- ES6. The Brattle Report claims that the Order will significantly diminish the Cablecos' incentive to invest in broadband networks. Yet it presents no evidence to demonstrate that the Final Wholesale Rates are too low to confer the Cablecos a fair return on their investments. What the cash flow analysis purports to show is that the Order will substantially reduce the Cablecos' operating cash flows relative to the *status quo*. While a reduction in operating cash flows could decrease the rate of return on investment, it does not necessarily mean that the lower rate of return is below the fair rate of return needed to ensure adequate investment incentive. Therefore, the cash flow analysis by itself cannot support the claim that the Order will diminish the Cablecos' investment incentive.
- ES7. The Brattle Report claims that the economics literature generally finds that mandated resale regulation discourages infrastructure investment by incumbents and has not led entrants to invest in their own facilities. This claim, however, is inconsistent with the findings in the articles that the report itself cites as the

sources of the claim. In particular, the findings in one of these articles, Briglauer, *et al.* (2016), imply that mandated resale access is likely to have no significant impact on the investment decisions of the Cablecos.

ES8. In its final concluding paragraph, the Brattle Report claims that the strongest reduction in investment caused by the Order is most likely to be felt in rural and remote areas where population is relatively sparser. However, it presents no credible evidence to substantiate this claim. Moreover, there is a reason to believe that the negative impact of the Order on the Cablecos' operating cash flows, if there is any, will be smaller in areas where population is sparser. The reason is that service-based competitors have tended to focus their marketing efforts on highly populated areas in Southern Ontario and Southern Quebec. This implies that service-based competitors have a much smaller presence or no presence at all in less populated areas. Therefore, the Order will likely have little impact on the Cablecos' operating cash flows in rural and remote areas where service-based competitors have little or no presence. It is expected that this factor, which favours investment in rural and remote areas, would be considered in the Cablecos' investment decisions.

I. Introduction

1. I have been retained by Canadian Network Operators Consortium Inc. (“CNOC”) to assess an expert report prepared by members of the Brattle Group, entitled “Analysis of CRTC’s Final Rates for Aggregated Wholesale High-Speed Access Services: Impact on Broadband Network Investment and Innovation” (the “Brattle Report”). The report conducts a differential cash flow analysis to estimate the impact of the final wholesale access rates (the “Final Wholesale Rates”) set out in *Telecom Order CRTC 2019-288* (the “Order”)¹ on the operating cash flows of five cable companies (the “Cablecos”).² The findings from this analysis, in conjunction with a review of the relevant economics literature, are then used to predict the impact of the Order on the Cablecos’ incentive and ability to invest in broadband networks. In addition, the report contains a discussion about the competitive landscape and trends of the Canadian broadband industry.
2. I am a professor of economics at Carleton University, where I have been a faculty member since 1991. My fields of specialization are industrial organization and international trade. Since receiving my PhD in economics from the University of Western Ontario in 1991, I have published more than 40 articles in refereed journals on topics in these and other fields of economics, including three articles on the telecommunications industry. Moreover, I have written numerous reports commissioned by the Government of Canada, specifically, by the Department of Industry (recently renamed as Innovation, Science and Industry Canada) and the Department of Foreign Affairs and International Trade (now Global Affairs Canada). These reports examined issues related to Canadian industries and international trade policies.
3. I have extensive experience in the application of economics to competition and trade issues. I twice served as the T.D. MacDonald Chair in Industrial

¹ CRTC, *Follow-up to Telecom Orders 2016-396 and 2016-448 – Final rates for aggregated wholesale high-speed access services*, August 15, 2019.

² These five cable companies are Bragg Communications Inc. (carrying on business as Eastlink), Cogeco Communications Inc., Rogers Communications Canada Inc., Shaw Cablesystems G.P., and Videotron Ltd.

Economics at the Canadian Competition Bureau, from September 1998 to August 1999 and from September 2004 to August 2005. I spent another six months as a visiting economist at the Competition Bureau from September 2011 to February 2012. In those roles, I provided expert economic advice on many competition cases involving mergers, abuse of dominance and price-fixing. My curriculum vitae is attached as Appendix B.

4. My report is organized as follows: Section II assesses the differential cash flow analysis in the Brattle Report. Section III critiques the report's prediction about the impact of the Order on the Cablecos' incentive and ability to invest in broadband networks. Section IV concludes.

II. Assessment of the Differential Cash Flow Analysis

5. The most important part of the Brattle Report is the differential cash flow analysis (the "cash flow analysis") that estimates the impact of the Final Wholesale Rates set out in the Order on the Cablecos' operating cash flows from their consumer internet businesses. To be more specific, this analysis calculates the Cablecos' incremental operating cash flows over the coming five-year period (2020 to 2024) under the prevailing interim rates established in Telecom Order CRTC 2016-396 and Telecom Order CRTC 2016-448 (the "Interim Rates") in comparison with those under the Final Wholesale Rates.³
6. In these calculations, the benchmark scenario under the Interim Rates (the "*status quo*") assumes that the market shares and the Cablecos' prices would continue to evolve according to recent market trends.⁴ Specifically, these trends are measured by the average year-over-year changes in market share and average revenue per user (ARPU) for the prior three-year period.⁵
7. To calculate the operating cash flows under the Final Wholesale Rates, the analysis considers three scenarios based on different assumptions about the

³ Brattle Report, para. 7.

⁴ Brattle Report, para. 38.

⁵ *Ibid*, footnote 42.

growth in the market share of service-based competitors⁶ and the growth rate of the Cablecos' ARPU.⁷ In the first scenario ("Scenario A"), service-based competitors are assumed to achieve a market share by 2024 that is 5 percentage points higher than it would have been in the *status quo* and Cableco ARPUs would grow at the rate of inflation of 1.9 percent. The second scenario ("Scenario B") assumes the same ARPU growth rate for the Cablecos as in Scenario A but a higher rate of service-based competitor growth such that they achieve a market share by 2024 that is 10 percentage points higher than it would have been in the *status quo*. The third scenario ("Scenario C") assumes the same high rate of service-based competitor growth as in Scenario B but reduces the Cablecos' ARPU growth rate to 0.⁸

8. According to the Brattle Report, the ARPU growth rate of 1.9 percent assumed in Scenarios A and B is "a slightly slower rate than recent historical growth".⁹ Moreover, the additional 5 percent in service-based competitor market share assumed in Scenario A is characterized as "moderate" service-based competitor growth.¹⁰
9. With these assumptions in the three scenarios, the cash flow analysis considers more than just the direct impact of the Order on the Cablecos' revenue from selling wholesale access to service-based competitors. It also accounts for the indirect impact of the Order on their revenue from the retail markets. The theory underlying the three scenarios is that lower wholesale rates will induce service-based competitors to become more aggressive with retail pricing in order to

⁶ Although the Brattle Report refers to non-facilities-based service providers as "resellers", that terminology does not accurately reflect what these service providers do. As noted in Competition Bureau, "Delivering Choice: A Study of Competition in Canada's Broadband Industry" (the "Competition Bureau Study"), August 7, 2019, pp.14-15: "There is some misunderstanding about exactly how wholesale-based competitors deliver services to the marketplace. Wholesale-based competitors are not simply 'resellers', who sell existing internet plans on behalf of a telephone or cable company. Instead, wholesale-based competitors, through their investments, control a significant range of service variables, including the capacity limits and prices of their internet plans. Although wholesale-based competitors are often referred to in the industry as resellers, this is an inaccurate term that can have negative connotations in the eyes of consumers" [Footnotes omitted]. For that reason, in this report, I refer to those entities called "resellers" in the Brattle Report" as "service-based competitors".

⁷ Brattle Report, para. 38.

⁸ *Ibid.*

⁹ *Ibid.*

¹⁰ *Ibid.*

capture additional market share, which results in larger retail market share for service-based competitors but lower ARPU for the Cablecos.¹¹

10. Based on an analysis of the three scenarios, the Brattle Report estimates that the Final Wholesale Rates will lead to a loss in the Cablecos' operating cash flows in the range of \$2.6 billion (in Scenario A) to \$3.7 billion (in Scenario C) over the coming five years. These estimates for lost operating cash flows represent 38 percent to 54 percent of planned broadband capital expenditures over the same time horizon.¹²
11. In my opinion, the cash flow analysis suffers from three significant deficiencies. They are: (i) inadequate disclosure of information about the method and data used in the analysis, (ii) unrealistic assumptions about the growth rates of service-based competitors' market share and the Cablecos' ARPU, and (iii) failure to consider increases in the growth rate of Internet service subscriptions caused by (assumed) price changes.

Inadequate Disclosure of Information

12. In addition to the discussion about the three scenarios and the *status quo* in paragraph 38 (including the footnotes therein), footnotes 8 and 9 in the Brattle Report describe the method and data used in the cash flow analysis. This description, however, is in broad terms. As such, it does not contain the level of details that will enable a reader to assess the validity of the procedures and the reasonableness of the assumptions used in the analysis.
13. For example, the report states that the operating cash flows are calculated on the basis of "costs that are incremental to broadband only."¹³ But it does not disclose any information about the cost items included in the calculations.¹⁴ Neither does it tell the reader what assumptions are used to estimate these costs in the 5-year period between 2020 and 2024. As a result, the reader has no way

¹¹ *Ibid.* Note that the Brattle Report offers no evidence to support this theory.

¹² Brattle Report, para. 41.

¹³ *Ibid.*, footnote 8.

¹⁴ To be clear, here I have in mind a qualitative description of the cost items included in the calculations of operating cash flows. I am not demanding the disclosure of the actual accounting data of individual cable companies. I understand that such data are confidential.

of assessing whether these cost items are indeed “incremental to broadband only” and whether the cost estimates for 2020-2024 are derived under reasonable assumptions.

14. The most significant omission, in my opinion, is the lack of disclosure about the statistics associated with the *status quo* and the three scenarios in the cash flow analysis, specifically the growth rate of the service-based competitors’ market share and the growth rate of the Cablecos’ ARPU. While the report provides a qualitative description about how these statistics are calculated in paragraph 38 (including footnote 42), it does not disclose the actual values used in the cash flow analysis.¹⁵
15. I would also note the absence of these statistics in the discussion of industry background in section III of the Brattle Report. Given the critical role these statistics play in the cash flow analysis, I would have expected that some comments would be made about them in the discussion of competitive landscape and industry trends in section III. I am particularly surprised by the absence of statistics on the subscriber shares of different types of Internet service providers, because (a) they are a critical input into the cash flow analysis, and (b) market share is a common statistic used to describe the competitive landscape of an industry.
16. The absence of these statistics in the Brattle Report creates a barrier for a reader to assess the reasonableness of the assumptions imbedded in the three scenarios. For example, the Brattle Report claims that the rate of 1.9 percent assumed for the Cablecos’ ARPU growth in Scenarios A and B is only “slightly slower” than recent historical growth.¹⁶ By not disclosing what the recent historical growth rate is, the report has made it difficult for a reader to judge whether the assumed rate of 1.9 percent is indeed only “slightly lower”. As I will demonstrate below, the 1.9 percent is, in fact, *substantially* below the recent trend of the Cablecos’ ARPU growth.

¹⁵ To be clear, here I am talking about aggregate statistics for service-based competitors and the Cablecos as two groups. They do not involve confidential data of individual companies.

¹⁶ Brattle Report, para. 38.

Unrealistic Assumptions

17. To help assess the reasonableness of the assumptions imbedded in the three scenarios, I have calculated the growth rates implied by the *status quo* and the three scenarios using information in the Brattle Report and data from the 2018 Communications Monitoring Report.¹⁷ To be more specific, I calculated the growth rate of the Cablecos' ARPU and the growth rate of service-based competitors' market share in the *status quo* using the formula described in footnote 42 of the Brattle Report, and I computed the growth rates of the same variables in each of the three scenarios using the definition of these scenarios presented in paragraph 38 of the report. Details of these calculations are presented in section 1 of Appendix A.

18. In these calculations, I have chosen to use the data in CMR 2018 instead of the recently published CMR 2019 because the latter was not available at the time when the Brattle Report was written. The purpose of these calculations is to uncover the growth rates of ARPU and market share assumed in the *status quo* and the three scenarios of the cash flow analysis. For this purpose, it is necessary that I use only information available at the time when the Brattle Report was written, so that it would have been feasible for the authors of the report to calculate the number presented below in Table 1.¹⁸

Table 1. Growth Rate in the *Status Quo* and the Three Scenarios

Growth Rate	<i>Status Quo</i>	Scenario A	Scenario B	Scenario C
Growth Rate of Cablecos' ARPU	6.85%	1.9%	1.9%	0%
Growth Rate of Service-Based Competitors' Market Share	3.93%	10.84%	16.65%	16.65%

Source: Author's calculations.

Note: Because CMR 2018 does not contain separate data for service-based competitors' number of subscribers, the growth rates of service-based competitors' market share were estimated under the assumption that their market share grew at the same rate as the "Other Service Providers" (which include both service-based competitors and other carriers).

¹⁷ CRTC, *Communications Monitoring Report 2018* ("CMR 2018"). The 2019 version of the report will be referred to as "CMR 2019".

¹⁸ To demonstrate the robustness of my conclusions, in section 2 of Appendix A I present the results of calculations that include the latest data from CMR 2019. These results reaffirm the conclusions presented in the main text.

19. Table 1 presents the results of my calculations. In particular, the second column in the table shows the growth rate of the Cablecos' ARPU and the growth rate of service-based competitors' market share in the *status quo*. Recall that the *status quo* in the Brattle Report represents a situation where "the market shares and the Cablecos' prices would continue to evolve according to recent market trends",¹⁹ and specifically the recent market trends are measured by "the average year-over-year changes in market share and ARPU for the prior three year period."²⁰
20. Comparing the growth rate of the Cablecos' ARPU in the three scenarios with that in the *status quo*, we see that the 1.9 percent growth rate assumed in Scenarios A and B are substantially below the recent market trend of 6.85 percent; in fact, it is at only 27.7 percent of the *status quo* growth rate. In other words, Scenarios A and B assume that the growth rate of the Cablecos' ARPU will be reduced by 4.95 percentage points, which is a reduction of more than 72 percent.
21. In my opinion, such a drastic reduction in the growth rate assumed in Scenarios A and B and the even larger reduction assumed in Scenario C are unrealistic, for two reasons. First, the magnitudes of service-based competitors' impact on the Cablecos' ARPU growth rate assumed in the three scenarios are grossly out of proportion with service-based competitors' relatively small market share. In 2018, the subscriber market share of service-based competitors is 8.9 percent.²¹ Yet the cash flow analysis assumes that the Final Wholesale Rates will enable the service-based competitors to drive down the growth rate of the Cablecos' ARPU by more than 72 percent.
22. Second, the decrease in ARPU (relative to the *status quo*) caused by declines in prices will be offset by increased usage per user. A basic economic principle is that quantity consumed will increase as price falls. If lower wholesale rates cause the retail prices of Internet services to fall, consumers will increase their usage by moving towards larger, faster packages, which will generate higher

¹⁹ Brattle Report, para.38.

²⁰ *Ibid*, footnote 42.

²¹ CMR 2019, Infographic 9.2.

ARPU for Internet service providers (including the Cablecos).²² Therefore, it is highly unlikely that the Final Wholesale Rates will cause the Cablecos' ARPU to fall by the order of magnitude assumed in the three scenarios.

23. Indeed, it appears that the Brattle Report does not expect a drastic decrease in the growth rate of the Cablecos' ARPU, either. The stated intention of using the 1.9 percent grow rate in Scenarios A and B is to assume a growth rate that is "slightly lower" than the recent trend. This can be seen from the following description of Scenario A: "This scenario is meant to reflect an evolution of the market under which resellers become more aggressive with pricing than under the status quo in order to capture additional market share than they otherwise would have under the interim rates, and in response the Cablecos *slightly lower* their rate of ARPU Growth" [emphasis added].²³

24. Next, I consider the growth rate of service-based competitors' market share implied by the three scenarios. Recall that Scenario A (respectively, Scenarios B and C) assumes that service-based competitors will achieve a market share by 2024 that is 5 (respectively, 10) percentage points higher than it would have been in the *status quo*. To achieve these levels by 2024, the market share of service-based competitors has to grow at certain rates between 2020 and 2024. In the third row of Table 1, I present these growth rates as implied by the assumptions in the three scenarios.

25. As we can see from Table 1, the assumptions in Scenario A imply that service-based competitors' market share will grow at an annual rate of 10.84 percent in the five-year period between 2020 and 2024. This is more than twice the growth rate in the *status quo* (which is 3.93 percent). Moreover, the assumptions in Scenarios B and C imply an annual growth rate of 16.65 percent, which is more than four times the growth rate in the *status quo*.

26. In my opinion, these high growth rates implicitly assumed in Scenarios B and C are unrealistic. While lower wholesale rates may indeed enable service-based

²² This is consistent with a general trend that has been observed by CRTC: "[w]hile some packages have experienced price declines, these declines have been offset by movement towards larger, faster packages." CRTC, *Communications Monitoring Report 2017*, p. 260. The reduction in retail prices assumed in the three scenarios should accelerate this trend.

²³ Brattle Report, para. 38.

competitors to lower their retail prices and capture a larger market share than they could otherwise, the facilities-based service providers (including the Cablecos) will not sit idly by as service-based competitors take their market shares. They will likely respond in a number of ways including lower prices and higher quality (e.g., faster upload and download speeds). In this regard, it is important to recognize that prices are not the only significant factor in a consumer's choice of Internet service providers and Internet packages. The Competition Bureau Study has found that other factors, including upload and download speeds, monthly download limits, and the type of service providers, are actually more important in aggregate.²⁴ A significant non-price advantage that the Cablecos (and the incumbent telephone companies) have over the service-based competitors is brand recognition. The Competition Bureau Study has found that a significant proportion of consumers are not aware of service-based competitors.²⁵ Therefore, there is a limit to how much market share the service-based competitors will be able to gain through lower retail prices.

27. Note also that the Brattle Report refers to Scenario A as a "moderate" service-based competitor growth scenario. This indicates that Scenario A is not intended to be one where service-based competitors' market share grows at a rate more than twice as high as that in the *status quo*.

28. As has been recognized in the Brattle Report, faster service-based competitor growth in market share and slower ARPU growth for the Cablecos increase the magnitude of estimated loss in the Cablecos' operating cash flows.²⁶ Therefore, the unrealistically large reductions in the growth rate of the Cablecos' ARPU and unrealistically large increases in the growth rate of service-based competitors' market share assumed in the three scenarios have led to a vast overstatement of the negative impact that the Order may have on the operating cash flows of the Cablecos.

29. I have done some calculations to estimate the magnitude of overstatement caused by the unrealistic assumptions embedded in the three scenarios. Since I

²⁴ Competition Bureau Study, *supra* note 6, p. 23.

²⁵ *Ibid.*

²⁶ Brattle Report, para. 8.

do not have access to the data used in the cash flow analysis, I am not able to calculate the precise magnitude of the overstatement. However, using the information in Figure 10 of the Brattle Report I was able to obtain a rough estimate of the overstatement caused by the unrealistic assumptions about the growth rate of the Cablecos' ARPU.

30. Details of these calculations are presented in section 1 of Appendix A. They show that the assumption of unrealistically large reduction in the growth rate of the Cablecos' ARPU in Scenario A has overstated the negative impact of the Order on their operating cash flows by approximately \$2 billion dollars over the five-year period between 2020 and 2024. This represents 79 percent of the estimated loss in the Cablecos' operating cash flows in Scenario A.
31. Note that this is an estimate of the overstatement caused by the unrealistic assumption about the Cablecos' ARPU growth rate alone. The actual magnitude of overstatement will be significantly larger because this estimate does not take into account the unrealistic assumption about the growth rate of service-based competitors' market share and the failure to consider increases in the rate of subscription growth.

Failure to Consider Increases in the Rate of Subscription Growth

32. A common assumption in all three scenarios considered in the cash flow analysis is that the Final Wholesale Rates will cause retail prices to fall (relative to the *status quo*). Economic principles suggest that the decrease in retail prices should lead to an increase in demand for Internet services. In the present context, part of this increase in demand will manifest itself through faster growth in the number of subscriptions. In other words, lower prices by the Cablecos will enable them to attract more subscriptions than they would otherwise. Given the growing trend in the number of subscriptions,²⁷ the decreases in retail prices assumed in the three scenarios should cause the Cablecos' number of subscriptions to grow at a rate higher than the recent trend.

²⁷ See, for example, Figure 6 in the Brattle Report.

33. However, the Brattle Report does not contain any discussion about what assumption it has made regarding the subscription growth in the three scenarios. This suggests that the cash flow analysis has been conducted under the default assumption that the number of subscriptions will grow at the same rate as in the *status quo*.
34. Recall from basic economic principles that a decrease in price has two opposing effects on the revenue of a firm. The direct effect of a lower price is to reduce its revenue. At the same time, the decrease in price increases the quantity sold. This second effect tends to raise the firm's revenue. The overall impact of a decrease in price on revenue depends on which of these two effects are stronger, which, in turn, depends on the price elasticity of demand. The firm's revenue will fall if the demand elasticity is less than 1. On the other hand, the firm's revenue will increase with a lower price if the demand elasticity is greater than 1.
35. Therefore, the failure to take into account the increase in the rate of subscription growth overstates the estimated loss in operating cash flows in the three scenarios. A more serious consequence of this failure is that it artificially rules out the possibility that the Order may actually increase the Cablecos' operating cash flows relative to that in the *status quo*, which could occur if the demand elasticity is greater than 1.
36. To summarize, the differential cash flow analysis in the Brattle Report suffers from a number of significant deficiencies. In particular, the unrealistic assumptions embedded in the three scenarios and the failure to take into account increases in the growth rate of subscriptions have led to a vast overstatement of the possible negative impact of the Order on the Cablecos' operating cash flows. This calls into question the credibility of the estimates from the cash flow analysis.

III. Critique of the Predictions Regarding Investment Incentive

37. The Brattle Report does not contain a systematic analysis on how the Order will affect the Cablecos' incentive to invest in broadband networks. Instead, it draws its conclusion about investment incentive from two sources. The first source is the differential cash flow analysis, and the second source is a review of academic literature that studies the impact of resale access regulations on investment decisions and innovation of facilities-based suppliers.
38. Regarding the first source, the Brattle Report observes that the estimates of lost operating cash flows for the Cablecos over the coming five-year period translate into a range of 38 percent to 54 percent of total planned broadband capital expenditures by the Cablecos over the same period. Based on this observation, it states, "This strongly suggests that the Order will significantly diminish the Cablecos' incentive and ability to invest in broadband networks to the detriment of service, innovation, and facilities-based competition."²⁸
39. Regarding the literature review, the Brattle Report claims, "This body of economics literature is consistent with the outcomes of our analyses, as well as our understanding of the positions of the Cablecos in their appeals of the Order."²⁹
40. Before I comment on these claims in the Brattle Report, I would note that the issue of diminished investment incentive would not be relevant if the Order should lead to an increase in the Cablecos' operating cash flows relative to the *status quo*.³⁰ Therefore, my discussions in this section will focus on the alternative case where the Order would lead to a decrease in the Cablecos' operating cash flows.

No Evidence to Support the Claim of Diminished Investment Incentive

41. To ensure adequate incentive for facilities-based providers to invest in broadband networks, the rates of wholesale high-speed access services have to

²⁸ Brattle Report, para. 11.

²⁹ Brattle Report, para. 12.

³⁰ As I have discussed above in paragraph 35, this possibility is artificially excluded from the cash flow analysis because of its failure to take into account higher rates of subscription growth.

be set at appropriate levels that will allow them to recover their costs and earn a fair return on their investments (including compensation for the risks associated with their investments). Therefore, to argue convincingly that the Order will diminish the Cablecos' incentive to invest in networks, it is necessary to show that the Final Wholesale Rates are not set at levels that confer the Cablecos a fair return on their investments.

42. This, however, is not done in the Brattle Report. The report presents no evidence to demonstrate that the Final Wholesale Rates are too low to allow the Cablecos to earn a fair return on their investments. What the cash flow analysis purports to show is that the Order will substantially reduce the Cablecos' operating cash flows relative to the *status quo*. While a reduction in operating cash flows could decrease the rate of return on investment, it does not necessarily mean that the lower rate of return is below the fair rate of return needed to ensure adequate investment incentive. Therefore, the cash flow analysis by itself cannot support the claim that the Order will diminish the Cablecos' investment incentive.

43. In this regard, it is relevant to consider whether the Interim Rates are set at levels that allow the Cablecos to earn a fair return on capital. If the Interim Rates do not confer a fair return on capital and consequently the Cablecos do not have sufficient incentive to invest at these rates, then the lower Final Wholesale Rates will exacerbate the problem. If, on the other hand, the Interim Rates are so high that the Cablecos can earn more than a fair return on capital, a reduction in operating cash flows caused by the lower Final Wholesale Rates will not necessarily lead to inadequate investment incentive.³¹ On this issue, however, the Brattle Report considers outside its scope to opine on any rates and accordingly, it does not analyze the reasonableness of the Interim Rates.³²

Therefore, given this limitation on the scope of its analysis, the Brattle Report is

³¹ Note that in the Order, the Canadian Radio-television and Telecommunications Commission set the Final Wholesale Rates for the Cablecos at levels significantly lower than their Interim Rates. This indicates that, in the view of the Commission, the Interim Rates were significantly inflated. A summary of the Interim Rates and the Final Wholesale Rates for the Cablecos can be found in Figure 7 of the Brattle Report.

³² Brattle Report, para. 5.

incapable of offering useful insights into the impact of the Order on the Cablecos' investment incentive.

44. The Brattle Report also claims that the Order will significantly diminish the Cablecos' ability to invest, but it offers no explanation for why reduced cash flows will have such an effect. One argument in support of this claim may be as follows. The reduction in operating cash flows resulted from lower wholesale rates will likely decrease the Cablecos' profits. This will reduce the internal funds available for network investment, thus weakening their ability to invest.
45. This argument, however, does not take into account the fact that a firm can raise the funds needed for investments externally by issuing debt or equity.³³ To raise capital from external sources, however, the firm has to offer investors a fair return on their investments. Therefore, ultimately the firm's ability to invest depends on whether it can earn a fair rate of return on capital. This brings us back to the question whether the Final Wholesale Rates will confer the Cablecos a fair return on capital. As noted above, the Brattle Report presents no evidence on this question.

Inaccurate Characterization of the Economics Literature

46. While the literature review in Appendix A of the Brattle Report covers a range of issues related to investment, the most relevant to the present discussion is the literature on the relationship between resale regulation and investment incentive reviewed in section C of the appendix. The review in Section C covers both the theoretical literature and the empirical literature on this topic.
47. The review of the theoretical literature focuses on arguments that support the view that resale regulation diminishes investment incentive for both incumbents

³³ See, for example, Gatchev, V.A., P.A. Spindt, and V. Tarhan, "How Do Firms Finance Their Investments? The Relative Importance of Equity Issuance and Debt Contracting Costs," *Journal of Corporate Finance*, 15(2009), 179-195. Note that I ignore here a situation where a firm is unable to raise capital from external sources because of a high risk of insolvency. Since the Brattle Report has not raised the issue of insolvency upon an examination of the Cablecos' cash flows, this situation is not relevant.

and entrants.³⁴ Yet in the introduction to section C, the report cites, perhaps inadvertently, an example that directly contradicts this view:³⁵

For example, some economists have found that by increasing demand, some degree of access-based pricing may encourage investment, but such results require that the access rates be high enough (perhaps unregulated) to allow the facilities-based competitors to capture a sufficient portion of the ensuing profits to compensate them for their investment.

In a nutshell, this passage says that mandated resale access may *encourage investment* if the access rates are high enough to compensate the facilities-based competitors for their investments.

48. The Brattle Report summarizes the empirical literature about the effects of mandated resale regulation on investment incentive in this way: “Generally, these studies find that mandated resale regulation discourages infrastructure investment by traditional facilities-based service providers and has not led entrants to invest in their own facilities.”³⁶ In the footnote attached to this sentence (*i.e.*, footnote 78), the report cites two articles as the sources for its claim: Cambini and Jiang (2009)³⁷ and Briglauer, *et al.* (2016).³⁸ My reading of these two articles, however, has led me to conclude that the above characterization of the empirical literature is inaccurate. In fact, the findings from the empirical literature show that the effects of mandated resale regulation on investment incentive are mixed.

49. Cambini and Jiang (2009) survey the theoretical and empirical literature on the relationship between regulation and investment in telecommunications infrastructures. Below is how they summarize the literature, in their own words: “The picture that emerges is not conclusive, and further research is still needed,

³⁴ Brattle Report, paras 60-61.

³⁵ *Ibid*, para. 58.

³⁶ *Ibid*, para 62.

³⁷ Cambini, C., and Y. Jiang, “Broadband Investment and Regulation: A Literature Review,” *Telecommunications Policy*, 33(2009), 559-574.

³⁸ Briglauer, W., K. Gugler, and A. Haxhimusa, “Facility- and Service-Based Competition and Investment in Fixed Broadband Networks: Lessons from a Decade of Access Regulations in the European Union Member States,” *Telecommunications Policy*, 40(2016), 729-742.

both theoretically and empirically, to better understand the real impact of regulatory incentives on investments.”³⁹

50. Since the survey by Cambini and Jiang is more than 10 years old, here I present a more recent summary of the empirical literature by Hounghbonon and Jeanjean (2016):⁴⁰

Several attempts have been made to uncover the relationship between competition and investment within specific industries. In the telecommunications industry, most papers have analysed the impact of competition on investment in the fixed broadband market. Cambini and Jiang (2009) review this literature and find that the impact is rather ambiguous. Likewise, Grajek [and Röller] (2012) finds that competition through access regulation negatively affects investment in fixed broadband networks, whereas Bacache, Bourreau, and Gaudin (2014) find that access regulation has no effect on new entrants’ investment in fixed broadband networks.

51. The other article cited by the Brattle Report as a source of its claim, Briglauer, *et al.* (2016), also finds mixed effects. It is an empirical study that examines the impact of service- and facility-based competition on firm-level investment in 23 European countries from 2003 to 2012. Of particular relevance to the present subject are its findings regarding the impact of service-based competition on investment. Specifically, the study finds that service-based competition has no significant impact on the investment decision of incumbents, and this finding is robust to all model specifications in its regression analysis.⁴¹ It also finds no significant impact of service-based competition on the investment decision of entrants.⁴² The latter finding, however, is not as robust. When the sample period is split into two phases, the study finds that service-based competition exerts a

³⁹ *Supra* note 37, p.559.

⁴⁰ Hounghbonon, G.V. and F. Jeanjean, “What Level of Competition Intensity Maximises Investment in the Wireless Industry,” *Telecommunications Policy*, 40(2016), p.776. Cited in this quote are: Cambini and Jiang (2009), *supra* note 37; Grajek, M., and I. Röller, “Regulation and Investment in Network Industries: Evidence from European Telecoms,” *Journal of Law and Economics*, 55(2012), 189-216; Bacache, M., M. Bourreau, and G. Gaudin, “Dynamic Entry and Investment in New Infrastructures: Empirical Evidence from the Fixed Broadband Industry,” *Review of Industrial Organization*, 44(2014), 179–209.

⁴¹ See Table 3 and columns (1) and (2) of Table 5 in Briglauer, *et al.* (2016), *supra* note 38.

⁴² See Table 4 in Briglauer, *et al.* (2016), *supra* note 38.

negative impact on entrants' investment in the second phase of the sample period.⁴³

52. Since the Cablecos in the present case are incumbents, the findings in Briglauer, *et al.* (2016) imply that mandated resale access is likely to have no significant impact on the investment decisions of the Cablecos.

53. In conclusion, I disagree with the general characterization of the literature in the Brattle Report. It is not accurate to characterize the literature as generally finding a negative impact of resale regulation on infrastructure investment. Rather, the findings from both the theoretical and empirical literature are mixed, showing that resale regulation may have a negative impact, no impact, or positive impact on investment.

Unsubstantiated Claim regarding Investment in Rural and Remote Areas

54. In its final concluding paragraph, the Brattle Report claims, by way of a quote from the Competition Bureau Study, that the strongest reduction in investment caused by the Order is most likely to be felt in rural and remote areas where population is relatively sparser.⁴⁴ However, the Brattle Report presents no evidence to substantiate this claim.

55. The passage from the Competition Bureau Study quoted by the Brattle Report is not specifically about the impact of the Order. Rather, in this passage the Competition Bureau makes a general observation that the negative impact caused by inappropriately set wholesale rates will most likely be strongest in areas where population is relatively sparser.⁴⁵ However, the Competition Bureau does not take a position on whether wholesale rates are set at appropriate levels.⁴⁶

⁴³ See columns (3) and (4) of Table 5 in Briglauer, *et al.* (2016), *supra* note 38.

⁴⁴ Brattle Report, para. 44.

⁴⁵ The passage quoted in the Brattle Report is from page 49 of the Competition Bureau Study. But to understand its full context, one should read both page 48 and page 49 of the study.

⁴⁶ About the debate over whether or not wholesale rates are set at appropriate levels, the Competition Bureau states, "On balance, with the information and expertise available to the Bureau, it is difficult to assess which side is correct." Competition Bureau Study, p.48.

56. Moreover, there is a reason to believe that the negative impact of the Order on the Cablecos' operating cash flows, if there is any, will be smaller in areas where population is sparser. Recall that the theory underlying the cash flow analysis in the Brattle Report is that lower wholesale rates will induce service-based competitors to become more aggressive with retail pricing, with the result of larger market share for service-based competitors and lower ARPU for the Cablecos. These, in turn, will lead to a reduction in the Cablecos' operating cash flows.
57. If we apply this theory to regions of different population densities, it will imply that the reduction in the Cablecos' operating cash flows will be smaller in areas where population is sparser. This is because, as noted in the Competition Bureau Study, service-based competitors have tended to "focus their marketing efforts on highly populated areas in Southern Ontario and Southern Quebec."⁴⁷ This implies that service-based competitors have a much smaller presence or no presence at all in less populated areas. Therefore, the Order will likely have little impact on the Cablecos' operating cash flows in rural and remote areas where service-based competitors have little or no presence. It is expected that this factor, which favours investment in rural and remote areas, would be considered in the Cablecos' investment decisions.

IV. Conclusions

58. I have conducted an assessment of the cash flow analysis and the predictions about investment incentive in the Brattle Report. I have found that the cash flow analysis suffers from three significant deficiencies. They are: (i) inadequate disclosure of information about the method and data used in the analysis, (ii) unrealistic assumptions about the growth rates of service-based competitors' market share and the Cablecos' ARPU, and (iii) failure to consider increases in the growth rate of Internet service subscriptions caused by (assumed) price changes. The unrealistic assumptions and the failure to take into account

⁴⁷ Competition Bureau Study, p.19.

increases in the rate of subscription growth lead to a vast overstatement of the potential negative impact of the Order on the Cablecos' operating cash flows.

This calls into question the credibility of the estimates from the cash flow analysis.

59. The prediction in the Brattle Report that the Order will significantly diminish the Cablecos' incentive to invest in broadband networks is not supported by evidence. The cash flow analysis does not demonstrate that the Final Wholesale Rates are too low to confer the Cablecos a fair return on their investments. While a reduction in operating cash flows could decrease the rate of return on investment, it does not necessarily mean that the lower rate of return is below the fair rate of return needed to ensure adequate investment incentive. Therefore, the cash flow analysis by itself cannot support the claim that the Order will diminish the Cablecos' investment incentive.
60. Similarly, there is no evidence to support the prediction in the Brattle Report that the strongest reduction in investment caused by the Order is most likely to be felt in rural and remote areas where population is relatively sparser. Moreover, there is a reason to believe that the negative impact of the Order on the Cablecos' operating cash flows, if there is any, will be smaller in areas where population is sparser. The reason is that service-based competitors have tended to focus their marketing efforts on highly populated areas. Therefore, the Order will likely have little impact on the Cablecos' operating cash flows in rural and remote areas where service-based competitors have little or no presence. It is expected that this factor, which favours investment in rural and remote areas, would be considered in the Cablecos' investment decisions.

Appendix A

Calculations of Growth Rates in the *Status Quo* and the Three Scenarios

1. Calculations Using Data from CMR 2018

With the exception of the Cablecos' ARPU growth rates in the three scenarios, the numbers in Table 1 were calculated using data from CMR 2018 and the definitions of the *status quo* and the three scenarios in the cash flow analysis of the Brattle Report. The Cablecos' ARPU growth rates in the three scenarios in Table 1 are from the report itself.

First, I discuss how I have calculated the growth rates in the *status quo* shown in the second column of Table 1. The Brattle Report states that the levels of market share and ARPU in the *status quo* were calculated using “the average year-over-year changes in market share and ARPU for the prior three year period.”⁴⁸ Since CMR 2018 contains data on residential Internet services for five years up to 2017, I used the data for the three-year period between 2015 and 2017 to calculate the average year-over-year changes in the ARPU of the Cablecos and the market share of service-based competitors.

Table A1. Growth Rate of the Cablecos' ARPU in the *Status Quo*

Cablecos' ARPU			Year-over-Year ARPU Growth Rate		Average Growth Rate
2015	2016	2017	2015-2016	2016-2017	2015-2017
50.94	54.82	58.16	7.617%	6.093%	6.85%

Sources: Table 5.10 of CMR 2018 Fixed Internet Open Data and the author's calculations.

Table A1 shows the input and output in the calculations of the Cablecos' ARPU growth rate in the *status quo*. The Cablecos' ARPUs in the first three columns of Table A1 are from Table 5.10 of CMR 2018 Fixed Internet Open Data. Using these statistics, I have calculated the year-over-year growth rate shown in the 4th and 5th columns of Table A1. Taking the average of these growth rates, I have obtained the Cablecos' ARPU growth rate in the *status quo*, shown in the last column.

⁴⁸ Brattle Report, footnote 42.

One problem I encountered in the calculation of service-based competitors' market share was that CMR 2018 does not contain separate data on their number of residential Internet service subscribers. What it contains is the number of subscribers for "Other Service Providers" which are comprised of both service-based competitors and other carriers.⁴⁹ On the other hand, the Brattle Report itself does not provide any information about what data it used to calculate the market share of service-based competitors in the *status quo*. Since service-based competitors were not among the sponsors of the Brattle Report, it appears unlikely that the authors of the report had access to the data on their number of subscribers.

Given the data limitation, I have estimated the market share growth rate in the *status quo* based on the assumption that the market share of serviced-based competitors grew at the same rate as that of the Other Service Providers in the three-year period between 2015 and 2017. Accordingly, I have used the data on the number of the Other Service Providers' subscribers to estimate the market share of service-based competitors.

Table A2. Growth Rate of Service-Based Competitors' Market Share in the *Status Quo*

Market Share of Other Service Providers			Year-over-Year Growth Rate of Market Share		Average Growth Rate
2015	2016	2017	2015-2016	2016-2017	2015-2017
12.04%	12.58%	13.01%	4.481%	3.387%	3.93%

Sources: Table 5.6 of CMR 2018 Fixed Internet Open Data and the author's calculations.

In the first three columns of Table A2 are levels of the Other Service Providers' market share calculated using the data in Table 5.6 of CMR 2018 Fixed Internet Open Data. In the next two columns are the year-over-year growth rates of the market share, which I have used as the estimate of the growth rates of service-based competitors' market share. Taking the average of these two growth rates, I obtained an estimated growth rate of service-based competitors' market share in the *status quo*, shown in the last column of Table A2.

⁴⁹ The definition of "Other Service Providers" can be found in CMR 2018 Fixed Internet Data Dictionary.

Second, I explain how I have calculated the growth rates of service-based competitors' market share implied by the three scenarios. To derive the growth rates, I need the estimated market shares in 2020 and 2024 in the three scenarios. The definition of the three scenarios in the Brattle Report only says that their market share by 2024 is assumed to be 5 or 10 percentage points higher than that in the *status quo*, but the report does not disclose the actual level of the *status quo* market share. An important step in my calculations, then, is to find an estimate for the market share in the *status quo*.

Table A3. Growth Rate of Service-Based Competitors' Market Share in the Three Scenarios

Market Share of Other Service Providers (%)				Annual Growth Rate of Market Share (%)		
2020	2024	Scenario A	Scenarios B & C	Status Quo	Scenario A	Scenarios B & C
14.60	17.04	22.04	27.04	3.93	10.84	16.65

Source: The author's calculations.

To do so, I have used the market share of the Other Service Providers in 2017 (13.01 percent) and its average growth rate between 2015 and 2017 (3.93 percent) to predict the levels of market share in 2020 and 2024. These levels of market share are presented in the first two columns of Table A3. Adding 5 (respectively, 10) percentage points to the level of market share in 2024, I obtained the market share assumed in Scenario A (respectively, Scenarios B and C). They are shown in the 3rd and 4th column of Table A3. Finally, I used these levels of market share to calculate the annual growth rates implied by these scenarios. These growth rates, along with the *status quo* growth rate from Table A2, are presented in the last three columns of Table A3. As assumed, I use these growth rates of the Other Service Providers as estimates of the growth rates of service-based competitors.⁵⁰

⁵⁰ As a robustness check, I also used data from CMR 2019 to calculate the growth rates assumed in the *status quo* and the three scenarios using the actual market share of service-based competitors. The actual average growth rate of service-based competitors' market share between 2015 and 2017 is 4.45 percent, and the corresponding growth rate implied by Scenario A (respectively, Scenarios B and C) is 14.53 percent (respectively, 22.49 percent). Since these growth rates implied by the three scenarios (relative to that in the *status quo*) are significantly larger than those in Table A3, they strengthen my conclusion that the growth rates of service-based competitors' market share assumed in the three scenarios are unrealistically high.

Third and finally, I discuss how I have estimated the magnitude of overstatement caused by the unrealistically large reduction in the Cablecos' ARPU growth rate assumed in Scenario A. The method I used for this estimation is based on the observation that the only difference between Scenario B and Scenario C is the Cablecos' ARPU growth rate, which is reduced from 1.9 percent in Scenario B to 0 in Scenario C. This implies that the difference in the estimated loss in operating cash flows between these two scenarios is entirely due to the 1.9 percent reduction in the ARPU growth rate. Using the data in Figure 10 of the Brattle Report, I find that this difference is \$816 million dollars. This implies that a reduction of 1 percentage point in the growth rate of the Cablecos' ARPU is associated with an increase in the estimated loss in the cash flow analysis by $\$816/1.9$ or \$429.47 million dollars.

Therefore, if the assumptions in Scenario A overstate the reduction in the growth rate of the Cablecos' ARPU by z percentage points, this will lead to an overstatement of the loss in the Cablecos' operating cash flows by $z \times 429.47$ million dollars.⁵¹ The next question is, then, what is the value of z ? To answer this question, I would note that Scenario A is intended to be one where "Cableco ARPUs would grow at a slightly slower rate than recent historical growth".⁵² While there is an element of subjectivity in determining what constitutes a "slightly slower" rate, I believe a reduction of a quarter of a percentage point from the recent growth trend is consistent with the notion of a "slightly slower" growth rate. Hence, this is what I have used in the determination of the value of z .

Recall from Table 1 that the growth rate of the Cablecos' ARPU in the *status quo*, calculated using the method for computing recent market trends in the Brattle Report,⁵³ is 6.85 percent. Accordingly, I estimate that a slightly lower growth rate below the recent trend is: $6.85 - 0.25 = 6.60$ percent. Since the corresponding growth rate assumed in Scenario A is 1.9 percent, this implies that Scenario A has overstated the reduction in the growth rate by $6.6 - 1.9 = 4.7$ percentage points, that is, $z = 4.7$.

⁵¹ This estimation method assumes that the loss in the Cablecos' operating cash flows is proportional to the reduction in the growth rate of their ARPU, *ceteris paribus*.

⁵² Brattle Report, para. 38.

⁵³ Brattle Report, footnote 42.

Therefore, the overstatement of the loss in the Cablecos' operating cash flows caused by the unrealistically large reduction in the growth rate assumed in Scenario A is: $4.7 \times 429.47 \approx 2,019$ million dollars, or 2 billion dollars. This represents 79 percent of the estimated total loss in the Cablecos' operating cash flows in Scenario A of the Brattle Report.

2. Calculations Using Data from CMR 2019

To verify the robustness of the conclusions from my assessment of the cash flow analysis, I have conducted an analysis using additional data in CMR 2019. Specifically, in the analysis I have included the new 2018 data in the calculations of the growth rates in the *status quo*. Moreover, the availability of data on the service-based competitors' numbers of subscribers has enabled me to calculate the actual growth rate of their market share in recent years (instead of estimating it using the growth rate of the Other Service Providers).

Other than these two changes, I have used the same analytical procedures as those described in Section 1 of this appendix. Therefore, I will not reiterate these procedures, and I will go straight to the presentation of the results from the analysis.

Table A4. Growth Rates of ARPU and Market Share in the *Status Quo*

	Year-over-Year Growth Rate			Average Growth Rate
	2015-2016	2016-2017	2017-2018	2015-2018
Cablecos' ARPU	7.617%	6.093%	4.986%	6.23%
Market Share of Service-Based Competitors	2.868%	6.038%	7.676%	5.53%

Source: The author's calculations.

In Table A4, the year-over-year growth rates of the Cablecos' ARPU are calculated using data from Table 9.10 of CMR 2019 Retail Fixed Internet Sector and Broadband Availability Open Data, while those of the service-based competitors' market share are computed using data from Table 9.7 of the same source. The averages of these growth rates over 2015-2018 are then used as the growth rates in the *status quo*.

Table A5. Growth Rate of Service-Based Competitors' Market Share in the Three Scenarios

Market Share of Service-Based Competitors (%)				Annual Growth Rate of Market Share (%)		
2020	2024	Scenario A	Scenarios B & C	Status Quo	Scenario A	Scenarios B & C
9.92	12.30	17.30	22.30	5.53	14.92	22.45

Source: The author's calculations.

Using the market share growth rates in Table A4, I have calculated the predicted market share in 2020 and 2024 as well as the market share assumed in the three scenarios, shown in the first four columns of Table A5. From these numbers, I have derived the implied annual growth rate of service-based competitors' market share in the three scenarios, shown in the last two columns of Table A5.

Based on the information in Tables A4 and A5, I assess again the reasonableness of the assumptions in the three scenarios. First, note in Table A4 that the average growth rate of the Cablecos' ARPU during the period 2015-2018 is 6.23 percent. This means that the assumption of 1.9 percent in Scenarios A and B represents a reduction in the growth rate by 70 percent from the recent trend. Second, Table A5 shows that the annual growth rate of service-based competitors' market share implied by the assumptions in Scenario A (respectively, in Scenarios B and C) is 14.92 percent (respectively, 22.45 percent). Compared with the recent growth trend of 5.53 percent, Scenario A implicitly assumes that the market share of service-based competitors will grow at a rate more than twice the recent trend, and Scenarios B and C implicitly assume that it will grow at more than four times the recent trend. Since these findings are qualitatively the same as those from the analysis based on data from CMR 2018, they reaffirm the conclusion that the assumptions embedded in the three scenarios are unrealistic.

Turning to the magnitude of overstatement caused by the unrealistically large reduction in the Cablecos' ARPU growth rate assumed in Scenario A, note that the average growth rate of the Cablecos' ARPU in Table A4 implies that Scenario A has overstated the reduction in the growth rate by $6.23 - 0.25 - 1.9 = 4.08$ percentage points. Accordingly, the overstatement of the loss in the Cablecos' operating cash flows caused by the unrealistically large reduction in the growth rate assumed in Scenario A is estimated to be: $4.08 \times 429.47 \approx 1,752$ million dollars, or 1.8 billion dollars, which

represents 68 percent of the estimated total loss in the Cablecos' operating cash flows in Scenario A of the Brattle Report. This result reaffirms the conclusion that the unrealistic assumptions in the three scenarios lead to a vast overstatement of the potential negative impact of the Order on the Cablecos' operating cash flows.

Appendix B

Curriculum Vitae

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PRESENT POSITION

Full Professor, Department of Economics, Carleton University, Ottawa, Ontario, since 2002

CAREER HIGHLIGHTS

- Published 49 articles in refereed journals, including top journals in economics such as *American Economic Review*, *Economic Journal*, *International Economic Review*, and *RAND Journal of Economics*
- Co-edited one book on Canadian industrial policy
- Received more than 2200 citations (Google Scholar data)
- RePEc world rankings (as of October 2019): Top 8% overall; Top 5% in terms of Number of Journal Pages (Weighted by Number of Authors), Top 5% in terms of Number of Distinct Works (Weighted by Number of Authors), Top 7% in terms of Number of Citations (Weighted by Number of Authors and Impact Factors)
- Received 15 external research grants, including seven SSHRC grants
- Served as a Co-Editor of *Journal of Economics and Management Strategy* since 2004
- Served as the Executive Editor of *Frontiers of Economics in China* since 2013
- Supervised 11 completed PhD theses (including one co-supervision)
- Twice served as the T.D. MacDonald Chair in Industrial Economics at the Canadian Competition Bureau
- Worked for public and private clients as an economics expert on more than 30 cases related to competition policy and other issues
- Listed in *Canadian Who's Who*, since 2001
- Listed in *Who's Who Legal: Competition*, since 2016

EDUCATION

Ph.D. (Economics), University of Western Ontario, 1991

Title of Dissertation: *Economic Growth: Dynamic Interactions with International Trade and Global Environment*

M.A. (Economics), Carleton University, 1987

B.A. Honours (Economics), Nanjing University, China, 1985

PREVIOUS POSITIONS

Visiting Economist, Competition Bureau, Government of Canada, September 2011 - February 2012

Director, Ottawa-Carleton Joint Doctoral Program in Economics, 2001 - 2004

T.D. MacDonald Chair in Industrial Economics, Competition Bureau, Government of Canada, September 1998 - August 1999, and September 2004 - August 2005

Associate Professor (1996 - 2002) and Assistant Professor (1991-1996), Department of Economics, Carleton University

Director, Carleton Industrial Organization Research Unit, 1996 - 1998

Senior Fellow, Department of Economics, National University of Singapore, 1997 - 1998

AWARDS AND PROFESSIONAL HONOURS

Department of Economics Research Excellence Award, Carleton University, 2018

Listed in *Who's Who Legal: Competition*, since 2016

Listed in *Who's Who Legal: Consulting Experts*, since 2016

Listed in *Who's Who Legal: Canada*, since 2016

CES-Chow Teaching Fellowship, 2010

Listed in *Canadian Who's Who*, since 2001

Research Achievement Award, Carleton University, 2000 - 2001

PUBLICATIONS

Articles in Refereed Journals

“Trade and Labour Standards: Will There Be a Race to the Bottom?” joint with Afshan Dar-Brodeur, accepted for publication by *Canadian Journal of Economics*

“Supplier Innovation in the Presence of Buyer Power,” *International Economic Review*, volume 60, issue 1 (February 2019), 329-353

“Horizontal Mergers in the Presence of Capacity Constraints,” joint with Gang Li, *Economic Inquiry*, volume 56, issue 2 (April 2018), 1346–1356

“Short-Term and Long-Term Margins of International Trade: Evidence from the Canada-Chile Free Trade Agreement,” joint with Marcel Voia, *Frontiers of Economics in China*, volume 13, issue 1 (March 2018), 93–115

“Do Merger Efficiencies Always Mitigate Price Increases?” joint with Gang Li, *Journal of Industrial Economics*, volume 66, issue 1 (March 2018), 95-125

“Product Market Competition and Innovation: What Can We Learn from Economic Theory?” *Frontiers of Economics in China*, volume 12, issue 3 (September 2017), 341-355

“Specific Investment and Supplier Vulnerability,” joint with Xiaoqiao Wang, *Economics Letters*, volume 151 (February 2017), 16-18

“Border Effects Before and After 9/11: Panel Data Evidence across Industries,” joint with Horatiu Rus and Anindya Sen, *World Economy*, volume 39, issue 10 (October 2016), 1456 - 1481 (lead article)

“Downstream Competition and the Effects of Buyer Power,” joint with Hong Ding and Zhiyang Liu, *Review of Industrial Organization*, volume 49, issue 1 (August 2016), 1 - 23 (lead article)

“Denying Leniency to Cartel Instigators: Costs and Benefits,” joint with Subhadip Ghosh and Thomas W. Ross, *International Journal of Industrial Organization*, Volume 41 (July 2015) 19 - 29

“Product Line Rivalry and Firm Asymmetry,” joint with Zhihong Chen, *Journal of Industrial Economics*, Volume 62, Issue 3 (September 2014), 417 - 435

“Venture Capital Networks and Investment Performance in China,” joint with Zhiyang Liu, *Australian Economic Papers*, Volume 53, Issue 1-2 (June 2014), 97 - 111

“Unemployment and Welfare Consequences of International Outsourcing under Monopolistic Competition,” joint with Richard Brecher, *Canadian Journal of Economics*, volume 47, Issue 2 (May 2014), 540 - 554

“Unemployment and Product Market Competition in a Cournot Model with Efficiency Wage,” joint with Bo Zhao, *Canadian Journal of Economics*, volume 47, Issue 2 (May 2014), 555-579

“The Trouble with Offshoring: Static and Dynamic Losses in the Presence of Unemployment,” joint with Richard Brecher and Zhihao Yu, *World Economy*, volume 36, Issue 1 (January 2013), 1 - 11 (lead article)

“Telephone Penetration and Economic Growth in the APEC Region: A Simultaneous Non-Linear GMM Approach,” joint with Eng Kooi Lim, *Frontiers of Economics in China*, volume 7, Issue 3 (September 2012), 339 - 362

“The Impact of Trade Liberalization in Telecommunications Services: The Case of APEC Countries,” joint with Eng Kooi Lim, *Telecommunications Policy*, volume 36 (May 2012), 274 - 281

“The Quiet Life of a Monopolist: The Efficiency Losses of Monopoly Reconsidered,” joint with Jun Chen, *Frontiers of Economics in China*, volume 6, Issue 3 (September 2011), 389 - 412

“Unemployment of Skilled and Unskilled Labor in an Open Economy: International Trade, Migration and Outsourcing,” joint with Richard Brecher, *Review of International Economics*, volume 18, Issue 5 (November 2010), 990 - 1000

“A Dynamic Model of Shirking and Unemployment: Private Saving, Public Debt and Optimal Taxation,” joint with Richard Brecher and Ehsan Choudhri, *Journal of Economic Dynamics and Control*, volume 34, Issue 8 (August 2010), 1392 - 1402

“Credible Retaliatory Entry and Strategic Toe-Holds,” joint with Thomas Ross, *Journal of Industrial Economics*, volume 57, Issue 2 (June 2009), 244 - 253

“Defining Buyer Power,” *Antitrust Bulletin*, volume 53, No. 2 (Summer 2008), 241 - 250

“Markets Linked by Rising Marginal Costs: Implications for Multimarket Contact, Recoupment and Retaliatory Entry,” joint with Thomas Ross, *Review of Industrial Organization*, volume 31 (2007): 1 – 21

“Buyer Power: Economic Theory and Antitrust Policy,” *Research in Law and Economics: A Journal of Policy*, volume 22 (2007): 17 - 40

“Nuisance Suits and Contingent Attorney Fees,” *Review of Law and Economics*, volume 2, issue 3 (October 2006), 363 - 370

“Dynamic Stability in a Two-Country Model of Optimal Growth and International Trade,” joint with Richard A. Brecher, and Ehsan U. Choudhri, *Journal of Economic Dynamics and Control*, volume 29 (2005): 583 - 594

“An International Trade Model of Currency Crisis,” *The Chinese Journal of Economic Theory*, volume 1 (2004): 36 - 44

“Price Dispersion in a Model of Identical Agents with Perfect Information,” joint with Ying Kong, *Pacific Economic Review*, volume 9, No. 1 (February 2004), 29 - 44

“Dominant Retailers and the Countervailing Power Hypothesis,” *RAND Journal of Economics*, volume 34, No. 4 (Winter 2003), 612 - 625

“A Theory of International Strategic Alliance,” *Review of International Economics*, volume 11, November 2003, 758 - 769

“Cooperating Upstream while Competing Downstream: A Theory of Input Joint Ventures,” joint with Thomas Ross, *International Journal of Industrial Organization*, volume 21 (2003), 381 - 397

“Absolute and Comparative Advantage, Reconsidered: The Pattern of International Trade with Optimal Saving,” joint with Richard Brecher and Ehsan Choudhri, *Review of International Economics*, volume 10, November 2002, 645 - 656

“Unemployment and Growth in the Long-Run: An Efficiency-Wage Model with Optimal Savings,” joint with Richard Brecher and Ehsan Choudhri, *International Economic Review*, volume 43, August 2002, 875 - 894

“A Cournot-Nash Model of Family Decision Making,” joint with Frances Woolley, *Economic Journal*, volume 111, October 2001, 722 - 748

“Selective versus Universal Vouchers: Modelling Median Voter Preferences in Education,” joint with Edwin West, *American Economic Review*, volume 90, December 2000, 1520 - 1534. Reprinted in L. Zhou, Z. Tao, D. Xie and M. Song eds., *Essays in Modern Economics Research in Honour of Professor Gregory Chow*, Gelin Press, 2008

“Strategic Alliances, Shared Facilities and Entry Deterrence,” joint with Thomas Ross, *RAND Journal of Economics*, volume 31, Summer 2000, 326 - 344

“Adoption of New Technology by a Lagging Country: Leapfrogging or No Leapfrogging?” *Pacific Economic Review*, volume 4, February 1999, 43 - 57

“A Theory of Tenure for the Teaching University,” joint with Steve Ferris, *Australian Economic Papers*, volume 38, March 1999, 9 - 25

“Refusals to Deal and Orders to Supply in Competitive Markets,” joint with Thomas Ross, *International Journal of Industrial Organization*, volume 17 (1999), 399 - 417

“International Comparisons of Biotechnology Policies,” joint with Alison McDermott, *Journal of Consumer Policy*, volume 21, December 1998, 527 - 550. Reprinted in A. Mathias and B.M. Knoppers eds., *Biotechnology and the Consumer*, Kluwer Academic, 1999

“Orders to Supply as Substitutes for Commitments to Aftermarkets,” joint with Thomas Ross, *Canadian Journal of Economics*, volume 31, November 1998, 1204 - 24

“Refusals to Deal and Aftermarkets,” joint with Thomas Ross and William Stanbury, *Review of Industrial Organization*, volume 13, No. 1-2, April 1998, 131-51

“Can Economic Activities Lead to Climatic Chaos? An Economic Analysis on Global Warming,” *Canadian Journal of Economics*, volume 30, No.2, May 1997, 349-66. Reprinted in J.B. Rosser, Jr and K. L. Kramer, Jr. eds., *Complexity in Economics*, volume 174 in the International Library of Critical Writings in Economics series, Edward Elgar Publishing, 2004

“Negotiating an Agreement on Global Warming: A Theoretical Analysis,” *Journal of Environmental Economics and Management*, Volume 32, No.2, February 1997, 170-88. Reprinted in *The Economics of International Environmental Agreements*, edited by A.A. Batabyal, Ashgate Publishers, 1999

“New Technology, Subsidies, and Competitive Advantage,” *Southern Economic Journal*, Volume 63, No. 1, July 1996, 124-39

“The Heckscher-Ohlin Theorem with Endogenous Labour Supply,” *Bulletin of Economic Research*, volume 47, No.4, October 1995, 275-83

“How Low is a Guaranteed-Lowest-Price?” *Canadian Journal of Economics*, volume 28, No.3, August 1995, 683-701

“Why Are Extended Warranties So Expensive?” joint with Thomas Ross, *Economics Letters*, volume 45, No.2, June 1994, 253-257

“Refusal to Deal, Price Discrimination and Independent Service Organizations,” joint with Thomas Ross, *Journal of Economics and Management Strategy*, volume 2, No.4, Winter 1993, 593-614

“Long-run Equilibria in a Dynamic Heckscher-Ohlin Model,” *Canadian Journal of Economics*, Volume 25, No.4, November 1992, 923-43

Chapters in Books

“Recent Developments in Industrial Organization Theory,” joint with Guofu Tan, in S. Song and Z. Pan (eds.), *The Frontier of Western Social Sciences and Humanities Research: Economics*, Chinese Renmin University Press, 2008

“Liberalization of Trade and Investment in Telecommunication Services: A Canadian Perspective,” in R.G. Lipsey and A.O. Nakamura eds, *Services Industries and the Knowledge-Based Economy*, University of Calgary Press, 2006

“Measuring the Barriers to Trade in Services: Literature and Methodologies,” joint with Lawrence Schembri, *Trade Policy Research* (published by Department of Foreign Affairs and International Trade, Government of Canada), 2002

Books

Industrial Organization in Canada: Empirical Evidence and Policy Challenges, Co-editor (with Marc Duhamel), McGill-Queen’s University Press, 2011

OTHER SCHOLARLY OR PROFESSIONAL ACTIVITIES

Research Grants and Contracts

“Consumer Protection in the Age of Internet Commerce and Big Data,” Social Sciences and Humanities Research Council of Canada (SSHRC) Insight Grant, 2019 - 2024.

“Price Impact of Merger Efficiencies,” FPA Research Productivity Bursary, Carleton University, 2016

“Measurement of Non-Tariff Barriers,” for Department of Foreign Affairs and International Trade, Government of Canada, 2011 - 2012

“Barriers to Competition in Canada,” for Industry Canada, Government of Canada, 2010 - 2012

“Capital Investment, Cooperative R&D, and Product Market Rivalry,” Social Sciences and Humanities Research Council of Canada (SSHRC) strategic research grant, 2008 - 2011

“Product Market Competition in Chinese Industries,” Social Sciences and Humanities Research Council of Canada (SSHRC) strategic development grant, 2009 - 2010

“Productive Inefficiency and Unemployment: The Efficiency Consequences of Monopoly Reconsidered,” Social Sciences and Humanities Research Council of Canada (SSHRC) standard research grant, 2006 - 2009

“Rivalry, Market Structure, and Industrial Competitiveness: Issues and Evidence,” for Industry Canada, Government of Canada, 2006

“The Consideration of Buyer Power and Cooperation among Competitors in Antitrust Analysis,” for the Competition Bureau, Government of Canada, 2004 - 2005

“Slotting Allowances, Private Label Products, and Buyer Power,” Social Sciences and Humanities Research Council of Canada (SSHRC) standard research grant, April 2002 - March 2005

“E-Commerce and Canada’s Competition Policy,” Social Sciences and Humanities Research Council of Canada (SSHRC) Initiative on the New Economy (INE) Development Grant, 2002 - 2003

“Competition among Firms: Prices and Qualities,” Social Sciences and Humanities Research Council of Canada (SSHRC) standard research grant, April 1999 - March 2002

Director of Ottawa-Carleton Joint Program Research Grant, from the Office of Research Services, Carleton University, 2001 - 2004

“Price Guarantees and Tacit Collusion,” research grant from the Vice President (Academic) and Dean of Faculty of Public Affairs and Management, Carleton University, 2001

“International Trade in Services,” joint with Lawrence Schembri, for Department of Foreign Affairs and International Trade, Government of Canada, December 2000 - June 2001

“Impact of the North America Free Trade Agreement on Canada-Taiwan Trade,” joint with Lawrence Schembri, for Council of Economic Development and Planning, Taiwan, October 1999 - August 2000

“Issues in Anti-Trust Economics,” research grant from the Competition Bureau, Industry Canada, Government of Canada, 1998 - 1999

“Consumers and Biotechnology,” for the Office of Consumer Affairs, Industry Canada, Government of Canada, 1997

“Carleton Industrial Organization Conference,” a conference grant from the Office of Research Services, Carleton University, 1996

Research on a variety of topics, funded by Carleton University GR6 grants, 1991 -1992, 1992 - 1993, 1993 - 1994

Scholarly Work in Progress

“Specific Investment, Supplier Vulnerability and Profit Risks,” joint with Xiaoqiao Wang, revised and resubmitted to *Journal of Business Finance and Accounting*

“Strategic Corporate Social Responsibility under Demand Uncertainty,” joint with Zhihong Chen and Heng Xu

“Buffer Strategic Alliances,” joint with Thomas Ross, submitted to the *International Journal of Industrial Organization*

“Colluding on Surcharges”

“Private Label and Product Quality under Asymmetric information,” joint with Heng Xu

Papers Presented (Since 2003)

“Retailer Buyer Power and Pricing Mechanisms of Generic Drugs in Canada,” presented at Health Economics & Simulation Modelling Methods Cluster, University of British Columbia, November 2018

“Colluding on Surcharges,” presented at University of California, Santa Barbara (October 2016), Hong Kong University of Science and Technology (March 2017), The 2017 Workshop on Anti-Monopoly Law and Competition Economics, Shanghai (May 2017), Peking University (June 2017), Renming University (May 2018), Canadian Economics Association Meetings, Montreal (June 2018), Hohai University (June 2018)

“Buyer Power: Economic Theory and Competition Policy,” presented at Tianjin University of Finance and Economics (April 2015), ICN-OECD KPC Competition Economics Workshop for Chief and Senior Economists, Seoul (May 2018), and Dongbei University of Finance and Economics (June 2018)

“Short-Term and Long-Term Margins of International Trade: Evidence from the Canada-Chile Free Trade Agreement,” presented at Forum on Free Trade Zone and New Openness in China, Shanghai (May 2015), International Forum on Silk Road Economy, Xi’an (May 2017), and Chinese Economists Society annual conference, Nanjing (June 2017)

“Role of Economists and Economic Analysis in Antitrust Enforcement,” presented at Hong Kong University of Science and Technology (March 2017)

“Horizontal Cooperation Agreements: Economic Theory and Competition Policy,” presented at Tianjin University of Finance and Economics (June 2016)

“Canada’s Enforcement Approach to Collaboration among Competitors,” presented at the 2016 Workshop on Antitrust and Industrial Organization, Shanghai (May 2016), and the 2016 Conference on Frontier Issues in Industrial Organization, Dalian (June 2016)

“Do Merger Efficiencies Always Mitigate Price Increases?” presented at Shanghai University of Finance and Economics (May 2015), and at University of Manitoba (March 2016)

“Supplier Innovation in the Presence of Buyer Power,” presented at Queen’s University (March 2014), Nanjing University (June 2016)

“Denying Leniency to Cartel Instigators: Costs and Benefits,” presented at Shanghai University of Finance and Economics (June 2013) and the Canadian Economic Association Meetings, Toronto (May 2015)

“Supplier Incentives in the Presence of Buyer Power: A General Theory with Applications”, at Nanjing University (June 2012), the 8th Conference on Industrial Economics and Economic Theory (Jinan, June 2013), University of Victoria (October 2012)

“Horizontal Mergers in the Presence of Capacity Constraints,” presented at Shanghai Jiaotong University (June 2012), at the International Conference on Game Theory and Economic Behaviour (Qindao, June 2012), and at the Shanghai Workshop on Industrial Organization and Competition Policy (Shanghai, June 2011)

“Unemployment and Welfare Consequences of International Outsourcing under Monopolistic Competition,” presented at Shanxi University of Finance and Economics (May 2012), and at the 2012 Microeconomics Workshop (Shanghai, June 2012)

“Downstream Competition and the Effects of Buyer Power,” presented (jointly with Hong Ding) at the Annual Meetings of the Canadian Economics Association (Ottawa, June 2011), and at the International Conference on Frontier Issues in Industrial Organization (Dalian, June 2011)

“Product Line Rivalry and Firm Asymmetry,” presented at the 2011 International Conference on Industrial Economics (Hangzhou, June 2011), and at Dongbei University of Finance and Economics (June 2011)

“The Trouble with Offshoring: Static and Dynamic Losses in the Presence of Unemployment,” presented at Shanghai University of Finance and Economics (April 2011)

“The Quiet Life of a Monopolist: The Efficiency Losses of Monopoly Reconsidered,” presented at Shanghai University of Finance and Economics (December 2010), and at Nanjing University (December 2010)

“Unemployment and Product Market Competition in a Cournot Model with Efficiency Wage,” presented at the 6th Conference on Industrial Economics and Economic Theory (Jinan, June 2011), at the 71st International Atlantic Economic Conference (Athens, March 2011), at Shanghai University of Finance and Economics (June 2010), at the 2010 International Conference on Economic Theory (Hangzhou, June 2010), at Dongbei University of Finance and Economics (June 2010), Nanjing University (July 2010), and McGill University (September 2010)

“Strategic Alliances and Other Forms of Horizontal Cooperation Agreements: Theory and Competition Policy,” presented at the International Conference for Academic Disciplines, (Orlando, February 2009)

“Unemployment of Skilled and Unskilled Labor in an Open Economy: International Trade, Migration and Outsourcing,” presented at University of Waterloo (September 2008), Xiamen University (December 2008), University of Manitoba (March 2009), Shanghai University of Economics and Finance (May 2009), Zhejiang University (June 2009), University of International Business and Economics (June 2009)

"Strategic Alliances and Other Forms of Horizontal Cooperation," presented at the conference on China's Competition Policy and Anti-Monopoly Law (Beijing, October 2007)

“Defining Buyer Power,” presented at the American Antitrust Institute (AAI) Invitational Symposium on Buyer Power (Washington DC, June 2007)

“Monopoly and Unemployment: Perspective from an Efficiency Wage Model,” joint with Bo Zhao, presented at Summer Workshop on Industrial Organization and Business Strategy (Shanghai, May 2007)

“Rivalry, Market Structure and Industrial Competitiveness: Issues and Evidence,” presented at the Research Workshop on Rivalry, Market Structure, Entrepreneurship and Competitiveness (Montreal, November 2006) and Xiamen University (April 2007)

“Strategic Alliances and Competition,” presented at Xiamen University (May 2006) and University of International Business and Economics (July 2006)

“Markets Linked by Rising Marginal Costs: Implications for Multimarket Contact, Recoupment and Retaliatory Entry,” presented at the 2005 Singapore Economic Review Conference (August 2005), and Xiamen University (June 2007)

“Monopoly and Product Diversity: The Role of Retailer Countervailing Power,” presented at the Canadian Competition Bureau (September 2004), University of British Columbia (October 2004), University of Montreal (March 2006), International Industrial Organization Conference (Boston, April 2006), Xiamen University (April 2006), Summer Workshop on Industrial Organization and Business Strategy (Beijing, July 2006)

“Countervailing Power and Product Diversity,” presented at the North American Econometric Society meetings, San Diego, January 2004

“Liberalization of Trade and Investment in Telecommunication Services: A Canadian Perspective,” presented at the conference on Service Industries and Knowledge-Based Economy (Winnipeg, October 2003)

Prior to 2003, I presented papers at the following venues:

- The American Economic Association meetings
- The Canadian Economics Association meetings
- The Canadian Resource and Environmental Economics Study Group Conference
- The Competition Bureau, Government of Canada
- The Far Eastern Meeting of Econometrics Society
- The GREEN Conference
- Hitotsubashi University
- The Midwest Conference on International Trade Theory
- McGill University
- National Central University, Taiwan
- National Chengchi University, Taiwan
- National Chengkuan University, Taiwan
- National University of Singapore
- Queen’s University
- Simon Fraser University
- University of Alberta
- University of British Columbia
- University of Calgary
- University of Laval
- University of Victoria
- University of Windsor

Consultancy

Senior consultant, Delta Economics Group, since 2002

Affiliate, Law & Economics Consulting Group (LECG), 1999 - 2002

Worked for public and private clients as an economics expert on more than 30 cases related to competition policy and other issues

Other Professional Activities

Member of Program Selection Committee, annual meetings of the Canadian Economics Association, 2017, 2018 and 2019

Advisor, Specialized Committee on Competition Policy, Chinese Association of Industrial Economics (since 2017)

Executive Editor, *Frontiers of Economics in China*, since 2013, (Co-Editor from 2011 to 2013)

Co-Editor, *Journal of Economics and Management Strategy*, since 2004

Guest editor, *China Economic Review*, CES 2010 Special Issue, Volume 23, Issue 3, September 2012

Adjunct Research Professor, Nanjing University, since 2011

Adjunct Professor, Shanghai University of Finance and Economics, since 2007

Organizer, Carleton Library Series Workshop on Industrial Organization and Market Structure in Canada, March 2010

Vice President, Chinese Economists Society, 2009 - 2010. In this capacity, I acted as the program chair of the 2010 Annual Conference of the Society, held in Xiamen in June 2010

Member of Working Group on Making and Marketing Costs for the Patented Medicine Prices Review Board, 2008

Changjiang Scholar, Xiamen University, 2007 - 2010

External reviewer of *Global Competitive Advantage*, by Daniel F. Spulber, Cambridge University Press, 2007

Editorial advisor, *Canadian Journal of Economics*, 2002 - 2005

Member of Grant Application Adjudication Committee, Social Sciences and Humanities Research Council (SSHRC), 2003 - 2005

Director, Ottawa Economics Association, 2003 - 2010

Invited speaker, Shanghai International Forum on Human Capital, October 2000

Organizer, Carleton Industrial Organization Conference, June 1996

External referee for the following journals: *American Economic Journal: Microeconomics*, *American Economic Review*, *Australian Economic Papers*, *B.E. Journal of Economic Analysis & Policy*, *Canadian Journal of Economics*, *Contemporary Economic Policy*, *Economic Inquiry*, *Economics Letters*, *Economic Modelling*, *Economics of Education Review*, *European Economics Review*, *International Economic Review*, *International Journal of Industrial Organization*, *International Review of Law and Economics*, *Journal of Economic Integration*, *Journal of Economics and Business*, *Journal of Economics and Management Strategy*, *Journal of Environmental Economics and Management*, *Journal of Environmental Management*, *Journal of Industrial Economics*, *Journal of Industry, Competition and Trade*, *Journal of International Economics*, *Journal of Population Economics*, *Pacific Economic Review*, *Public Finance and Management*, *Quarterly Journal of Economics*, *RAND Journal of Economics*, *Resource and Energy Economics*, *Review of Industrial Organization*, *Review of International Economics*

External assessor for Social Sciences and Humanities Research Council (SSHRC), numerous applications

External referee for the University Grants Committee in Hong Kong, numerous applications

External examiner of PhD theses for
University of British Columbia (two PhD theses)
Concordia University (one PhD thesis)
Queen's University (two PhD theses)

TEACHING

Undergraduate Courses

“Introduction to International Trade”
“Industrial Organization I, Theory and Evidence” (fourth year level)
“Intermediate Microeconomics”
“Intermediate Macroeconomics”
“Advanced Microeconomic Theory” (fourth year level)
“Honours Seminar: Microeconomics”
“Honours Capstone Seminar”

Graduate Courses

“Topics in Industrial Organization” (MA and PhD level)
“Microeconomic Theory” (PhD level)
“Industrial Organization I” (formerly “Firms and Markets”, MA and PhD level)
“Microeconomic Theory” (MA level)
“Mathematical Methods for Economists”

Taught graduate courses at University of Havana in 1994, 1995, and 1996, at Xiamen University

in 2006 - 2010, and at Shanghai University of Finance and Economics in 2007 - 2009

Supervised numerous MA and PhD students Directed Readings courses

Member of numerous examination boards of PhD comprehensive exams, since 1992

Thesis Supervision

Supervisor of three ongoing PhD theses (Matthew Strathearn, Yufan Hu, Kewei Diao)

Supervisor of 10 completed PhD theses:

Xiguang Liu (1997), Ying Kong (2000), Angela Zeiler (2003), Liping Zhang (2005), Jun Chen (2008), Eng Kooi Lim (2008), Bo Zhao (2009), Hong Ding (2013), Gang Li (2013), Heng Xu (2016)

Co-supervisor of one completed PhD thesis: Afshan Dar-Brodeur (2013)

Committee member of 17 completed PhD theses since 2009:

Guohan Zhu (2009), Reza Ghazal (2009), Rashid Nikzad (2009), Sui Sui (2009), Ahmed Nasim Sydee (2010), Jeffrey Peter (2011), Hong Thi-Dieu To (2011), Chahreddine Abbes (2011), Elias Collette (2012), Derek Olmstead (2012), Olayinka Williams (2015), Armaghan Rahimi (2015), Bao Anh Nguyen (2016), Steve Martin (2017), Alexander Maslov (2018), Parisa Pourkarimi (2018), Chenyu Wang (2019)

Supervisor of one completed MA thesis: Laura Sonley (2015)

ADMINISTRATIVE RESPONSIBILITIES

Supervisor of PhD Studies, Department of Economics, July 2000 - 2004

Member of:

Carleton University Board of Governor Committee on Student Affordability, 2014 - 2015
Carleton University Research Achievement Award Selection Committee, 2005, 2006, 2010

Carleton University Senate, 2003 - 2004

Carleton University Graduate Faculty Board, 2000 - 2004

Departmental Tenure and Promotion Committee, 1996 - 1997, 2008 - 2011, 2015 - 2018

Departmental Graduate Committee, 1992 - 1996, 1999 - 2004, 2005 - 2010, 2012 - 2016

Departmental Appointment Committee, 1993 - 1995, 2005 - 2007, 2009 - 2011, 2012 - 2013

BGInS (Bachelor of Global and International Studies) Appointment Committee, 2015-16

Departmental Undergraduate Committee, 1992 - 1993, 2016 - 2017

Program Committee of the OCGSE Conference, March 2017

Departmental Ad Hoc Hiring Committee, 2017 - 2018

Departmental Planning Committee, 2017 - 2018